Helping shape the landscape since 1954

For more than half a century, Elanco has helped shape the animal health industry around the world — from the pastures of Nebraska to the pampas of Argentina, and in dozens of nations spanning the global horizon.

Wherever they raise animals, food producers count on Elanco for groundbreaking products that keep animals comfortable and healthy so they can perform to their full potential. We are known for a service philosophy founded on integrity, and for sharing reliable advice based on decades of experience and exploration.

Looking ahead, we remain devoted to transforming animal agriculture through superior products and services—supported by people who care.
Welcome to the 2007 Joint Meeting of ADSA™-PSA-AMPA-ASAS

Gary Hartnell
ADSA President

Drew Giesen
PSA President

Claudio Arzola-Alvarez
AMPA President

Maynard Hogberg
ASAS President

We’re pleased you’ve joined us here in San Antonio to see old friends and make new ones and to exchange information with other scientists. The program committee’s intent is to provide the very best in professional networking and educational opportunities for dairy, poultry, and animal scientists. This joint meeting is the first four-society meeting for ADSA, PSA, AMPA, ASAS, and we encourage each attendee to take advantage of the numerous cross-species, cross-discipline, and cross-cultural opportunities available.

This year’s program is outstanding and promises something for everyone, including two pre-meeting symposia: the Triennial Growth symposium and Informal Nutrition symposium. The opening session will highlight Trent Loos as he delivers his positive perspectives on the state of agriculture today. Trent is respected for his general agriculture knowledge as well as his enthusiasm and passion. You don’t want to miss his unique presentation as he sets the stage for the remainder of the week. During the joint meeting there will be 999 oral presentations, 1,117 posters, and more than 40 symposia. Our program committees did a tremendous job organizing symposia covering a wide range of important topics including food safety; bioethics; foodstuffs; nutrition; teaching/undergraduate and graduate education; breeding and genetics; physiology and endocrinology; animal behavior and well-being; growth and development; international animal agriculture; production, management, and environment; and a session on ongoing changes in the ingredient arena.

Poster presentations will be held from 7:30 to 9:30 am on Monday, Tuesday, and Wednesday. Oral scientific sessions will follow from 9:30 am to 12:30 pm on Monday and Tuesday, 10:30 am to 12:30 pm on Wednesday, 8:30 am to 12:30 pm on Thursday, and from 2:00 to 5:00 pm on Monday, Tuesday, and Wednesday.

The award ceremonies are certain to be on the list of highlights again this year. Award ceremonies have been staged to avoid conflicts among the respective societies. The ASAS awards ceremony will be held on Monday, July 9, ADSA’s ceremony will be held on Tuesday, July 10, and the PSA banquet and awards ceremony will be held on Wednesday, July 11. Ideally, this allows you to attend one or all award ceremonies. In addition, AMPA will have a dinner on Wednesday night. An old-fashioned ice cream social open to all attendees will be held on Tuesday night after the ADSA award ceremony. Be sure to join us.

We invite all meeting attendees and their families to attend the closing reception on Wednesday, July 11. The agenda for this year’s meeting is a testament to the program organizers, who have invested enormous amounts of time and effort to bring distinguished scientists in animal agriculture and animal food products from around the world for this special event. Our thanks go out to the ADSA-PSA-AMPA-ASAS program committees and especially the staff of ADSA, PSA, ASAS, and FASS for their hard work. Our program committee, Murray Bakst (Chair), Maurice Eastridge, Ron Pearson, Steven Lonergan, Jim Oltjen, Muquarrab Qureshi, Mary Beck, and Claudio Arzola-Alvarez along with FASS staff members Jennifer Gavel, Joy McClougherty, Keely Roy, Louise Audrieth, Louise Adam, Judy McClughen, Vicki Paden, Mary Swenson, Cara Tharp, Ted Veatch, Mark Budden, and Kevin Wolter (to name just a few), have done a fantastic job. As well, we must extend special thanks to the Executive and Associate Executive Directors of ADSA, PSA, and ASAS—Peter Studney, Jim Kessler, Meghan Kulster-Radcliffe, and Paula Schultz—for working hard to keep everything headed in the right direction.

Thank you for participating in the ADSA-PSA-AMPA-ASAS joint meeting and for making it a success.
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Important Message

In the event that protestors interrupt your meetings, please ignore them. Their goal is to attract attention. Any attention you give them will only help them. Please ignore them and continue your regular business. Convention staff has a plan in place to handle these situations and they depend on your cooperation. If the media approaches you for an interview, please politely refuse and direct them to the convention’s media room, where spokespersons are available.

Thank you for your cooperation.
General Meeting Information

Location
The Henry B. Gonzalez Convention Center is nestled in the heart of historic downtown San Antonio along the banks of the world-famous River Walk. The River Walk has multiple personalities—quiet and park-like in some stretches and full of activity with European-style sidewalk cafés, specialty boutiques, nightclubs, and gleaming high-rise hotels in other areas. The River Walk stretches for approximately 2½ miles from the Convention Center on the north end to the King William Historic District on the south end. The River Walk offers attendees easy access to shopping, restaurants, and hotels.

Schedule of Events
The meeting will kick off Sunday evening with the opening session and reception and then continue with 3½ days of scientific sessions, ending at noon on Thursday. The 2007 opening session will feature Trent Loos as keynote speaker. The complete schedule of events can be found on page 55 of this program, or online at http://adsa.psa.ampa.asas.org/2007.

Program Format for 2007
Poster sessions: 7:30 am - 9:30 am
Scientific sessions: 9:30 am - 12:30 pm
Lunch breaks: 12:30 pm - 2:00 pm
Scientific sessions: 2:00 pm - 5:00 pm

Registration Hours
Registration will be located in front of Exhibit Hall C of the Henry B. Gonzalez Convention Center in San Antonio. Registration hours for the 2007 ADSA-PSA-AMPA-ASAS Joint Meeting, including special symposia and other events, will be as follows:

Saturday, July 7 (pre-registered only) 12:00 pm - 5:00 pm
Sunday, July 8 7:00 am - 7:00 pm
Monday, July 9 6:30 am - 4:00 pm
Tuesday, July 10 7:00 am - 3:30 pm
Wednesday, July 11 7:00 am - 3:00 pm
Thursday, July 12 8:00 am - 10:00 am

Important Phone Numbers
Registration Desk 210-582-7011
Drury Plaza Hotel 210-270-7799
Hilton Palacio del Rio 210-222-1400
Hotel Valencia 210-227-9700
Hyatt Regency 210-222-1234
Marriott Rivercenter 210-223-1000
Marriott Riverwalk 210-224-4555
Westin Riverwalk 210-224-6500
Henry B. Gonzalez Convention Center 210-207-8500
San Antonio Convention and Visitors Bureau 800-447-3372
Time, Temperature & Weather 210-225-0404
Online weather information is available at: http://www.sanantoniocvb.com/visitors/com_weather.asp
Media Check-In
Please check in at the Registration Desk outside Exhibit Hall C of the Convention Center.

Speaker Ready Room
The Speaker Ready Room is located in Room 211 on the 2nd level of the Convention Center. This room will be available for speakers from 7:00 am to 5:00 pm on each day of the meeting.

Business Center
For your convenience, The UPS Store is located on the main level of the Convention Center between the lobby area and the registration area. The store is open Monday through Friday from 8:00 am to 6:30 pm and on Saturday from 9:00 am to 5:00 pm.

Hospitality Lounge
The Hospitality Lounge will be located in Room 208 on the 2nd level of the Convention Center. This lounge will offer attendees an area to relax, network, and catch up with old friends.

Notice to Oral Presenters and Invited Speakers
Please note that all session rooms will be equipped with a computer and LCD projector. All oral presentations and invited speaker presentations will be preloaded before the meeting.

Poster Presentations
We have dedicated a two-hour block each morning to poster presentations. The “open posters” will be from 7:30 am to 9:30 am on Monday, Tuesday, and Wednesday in the Convention Center, Exhibit Hall C. Oral sessions will begin at 9:30 am on Monday and Tuesday, 10:30 am on Wednesday, and 8:30 am on Thursday.

Each poster presentation will be available for public viewing for the entire day, with the presenting authors present during the “open posters” time (7:30 am to 9:30 am). All posters must be mounted on the board 30 minutes before the beginning of the day’s session. Poster sessions open at 7:30 am, so posters must be mounted on boards by 7:00 am. The exhibit hall will open at 6:15 am, Monday through Wednesday. Posters must be removed between 5:00 pm and 5:30 pm each day. Any posters remaining after 5:30 pm will be removed by the convention center staff and discarded.

The poster board surface area is 48 inches high and 96 inches wide; use of this space is dictated by the presenter with the following exceptions: the top of the poster space should include the abstract number, title, authors, and affiliations. The lettering for this section should be at least 1 inch high.

Locating the Correct Poster Board
Each poster board number corresponds to the abstract number as noted in the program. Monday posters will have an “M”, Tuesday posters a “T”, and Wednesday posters a “W” preceding the board number.

Camera, Video Camera, and Cell Phone Policy (NEW)
Use of cameras, video cameras, and cell phones (for calls or as cameras) is prohibited during oral and poster presentations to minimize disruption and unauthorized dissemination of data. Anyone found in violation of this policy will be asked to leave the session.

ARPAS Continuing Education Units
The 2007 ADSA-PSA-AMPA-ASAS Joint Annual Meeting has been approved for up to 21 continuing education units (CEUs) for the American Registry of Professional Animal Scientists certification requirements. Check the schedule of events for times and location of the ARPAS exams.
Continuing Education Credits for Veterinarians - RACE

Many of the symposia at the 2007 ADSA-PSA-AMPA-ASAS Joint Annual Meeting will be approved for RACE credits. Symposia approved for RACE credits will be posted online at http://adsa.psa.ampa.asas.org/2007. Information regarding the RACE program can be found at www.aavsb.org.

Job Resource Center


Cyber Café

Keep in touch with work, family, and friends during the ADSA-PSA-AMPA-ASAS Joint Annual Meeting at the Cyber Café. Located in Exhibit Hall C of the Henry B. Gonzales Convention Center, the Cyber Café is available to all meeting attendees.

Official Meeting Hotels

**Hilton Palacio del Rio – PSA HQ**
200 South Alamo Street
San Antonio, Texas 78205
Phone: 210-222-1400; Fax: 210-270-0761

**Marriott Rivercenter – ADSA/ASAS HQ**
101 Bowie Street
San Antonio, Texas 78205
Phone: 210-223-1000; Fax: 210-223-6239

**Marriott Riverwalk – ADSA/ASAS HQ**
711 East Riverwalk
San Antonio, Texas 78205
Phone: 210-224-4555; Fax: 210-224-2754

**Hyatt Regency San Antonio – Student HQ**
123 Losoya
San Antonio, Texas 78205
Phone: 210-222-1234; Fax: 210-227-4925

**Westin Riverwalk – overflow hotel**
420 W Market Street
San Antonio, Texas 78205
Phone: 210-224-6500; Fax: 210-444-6000

**Drury Plaza Hotel – overflow hotel**
105 S. St. Mary’s Street
San Antonio, Texas 78205
Phone: 210-270-7799; Fax: 210-222-8863

**Hotel Valencia Riverwalk – overflow hotel**
150 E. Houston Street
San Antonio, Texas 78205
Phone: 210-227-9700; Fax: 210-227-9701
Welcome to San Antonio

San Antonio captures the spirit of Texas. Now the eighth-largest city in the United States, the city has retained its sense of history and tradition, while carefully blending in cosmopolitan progress. Sounds and flavors of Native Americans, Old Mexico, Germans, the Wild West, African-Americans, and the Deep South mingle and merge. Each year, almost twenty million visitors delight in the discovery of San Antonio’s charms.

Texas History 101

For history buffs, San Antonio is a mecca. Native Americans first lived along the San Antonio River, calling the area “Yanaguana,” which means “refreshing waters,” or “clear waters.” A band of Spanish explorers and missionaries came upon the river in 1691, and because it was the feast day of St. Anthony, they named the river “San Antonio.”

The actual founding of the city came in 1718 by Father Antonio Olivares, when he established Mission San Antonio de Valero, which became permanently etched in the annals of history in 1836 as the Alamo, where 189 defenders held the old mission against some 4,000 Mexican troops for 13 days. The cry “Remember the Alamo!” became the rallying point of the Texan revolution against Mexico. Located in the heart of downtown, today the Alamo is a shrine and museum.
The Alamo
300 Alamo Plaza, San Antonio
Phone: 210-225-1391 x34
www.thealamo.org

On the east side of Alamo Plaza is the most famous spot in Texas, where 189 defenders fell on March 6, 1836, after repeated attacks by Mexican General Santa Anna’s army. Mission San Antonio de Valero (the Alamo) was established in 1718 as the city’s first mission. The chapel, one of the most photographed façades in the nation, and the Long Barracks are all that remain of the original fort. Hours: 9 am to 5:30 pm, Monday to Saturday; 10 am to 5:30 pm, Sunday. Admission free; donations accepted.

Aztec on the River
201 E. Commerce Street, Suite 300, San Antonio
Phone: 210-227-3930; Toll free: 800-432-9832
www.aztecontheriver.com

The Aztec On The River™ is the River Walk’s newest and most exciting attraction. This historic 1926 movie palace has been meticulously restored, complete with a Mighty Wurlitzer theatre organ. Enjoy a free multi-million dollar special effects show in the Grand Lobby every 90 minutes, a giant screen theatre with incredible surround-sound, plus unique shopping and dining. Open daily; call for show times. Group, senior, and military discounts available. On the River Walk at the corner of E. Commerce and N. St. Mary’s Streets.

La Villita
418 Villita #900, San Antonio
Phone: 210-207-8612
www.lavillita.com

A unique arts and crafts community with shops, working artists, restaurants, and a post office. The Old San Antonio Exhibit (located in Bolivar Hall) houses a collection of art objects, artifacts, and symbols relevant to the history. Shops open daily 10 am to 6 pm; closed on holidays. Free admission.

Market Square-El Mercado
514 W. Commerce, San Antonio
Phone: 210-207-8600
www.marketsquaresa.com

From early morning until late at night, Market Square is alive with activity. Visitors browse through the 32 shops at “El Mercado,” an area patterned after an authentic Mexican market. In addition, there are 80 specialty shops in Farmer’s Market Plaza. Hours: 10 am to 8 pm. Free admission.

River Walk (Paseo Del Rio)
110 Broadway, Suite 440, San Antonio
Phone: 210-227-4262
www.thesanantoniowerwalk.com

Lush green foliage lines the banks of this peaceful, historic river. Cobblestone walkways lead visitors to the river-level restaurants and shops. The river bubbles to the surface on the grounds of the University of the Incarnate Word and flows to downtown, threading its way through the city one level below the hustle and bustle of city streets.
**San Antonio Botanical Garden**  
555 Funston, San Antonio  
Phone: 210-207-3250  
www.sabot.org

At this 33-acre living museum, one can enjoy colorful seasonal floral displays, a serene native forest walk, exotic plant specimens from around the world, modernistic glass pyramids, and even an authentic log cabin. The historic Carriage House, your entry point to the garden, also includes the gift shop and restaurant (kitchen closed on Mondays). Garden is open every day from 9 am to 5 pm. Admission: adults $6.00; children (3-13) $3.00; seniors (55 and up) $4.00; student/military (with ID card) $4.00.

**San Antonio IMAX Theatre Rivercenter**  
849 E Commerce, #285, San Antonio  
Phone: 210-247-4629; Toll free: 800-354-4629  
www.imax-sa.com

“Alamo-The Price of Freedom,” is a 45-minute docudrama about the 13-day siege and fall of the Alamo. Watch the battle unfold, where 189 defenders who fought and died for the cause of Texas liberty. Other IMAX features, including IMAX 3D, also show. Shows daily from 9 am to 10 pm. Admission: adults $9.25; children (3-11) $6.24; senior (65+) and youth (12-17) $8.33 (plus tax). Advance reservations and assigned seating are available.
San Antonio Missions National Historical Park
2202 Roosevelt Ave., San Antonio
Phone: 210-534-8833
www.nps.gov/ saan

Representing both church and state, these missions were charged with converting the local Native Americans, collectively called Coahuiltecs, into devout Catholics and productive members of Spanish society. This was the greatest concentration of Catholic missions in North America. The visitor center is located next to Mission San Jose and includes a theater showing a 20-minute depiction of early life at the mission as well as a museum and book shop. Hours: 9 am to 5 pm daily. Free admission.

San Antonio Zoological Gardens and Aquarium
3903 N. St. Mary’s St., San Antonio
Phone: 210-734-7184
www.sazoo-aq.org

Ranked as one of the best zoos in the nation exhibiting more than 3,500 animals of 750 species. At the headwaters of the San Antonio River, the zoo encompasses 35 landscaped acres and includes one of the largest bird collections in the world. The zoo has a magnificent mini-zoo designed specifically for children under 5. Open 365 days a year. Hours: 9 am to 6 pm. Admission: adults $9; seniors (62+) and children (3-11) $7; military $8; under 2 free.
Spanish Governor's Palace
105 Plaza de Armas, San Antonio
Phone: 210-224-0601
www.sanantonio.gov/sapar

A national historic landmark labeled “the most beautiful building in San Antonio” by the National Geographic Society, the palace once housed the officials of the Spanish Province of Texas. Hours: 9 am to 5 pm, Monday to Saturday; 10 am to 5 pm, Sunday. Admission: adults $1.50, children (7-13) 75 cents.

Sunset Station
1174 E Commerce, San Antonio
Phone: 210-474-7640
www.sunset-station.com

Sunset Station, nestled in the historic St. Paul district, offers you a unique experience in downtown San Antonio. Enjoy dining at Aldaco’s Mexican Cuisine or Ruth’s Chris Steak House or experience a self-paced walking tour to marvel at the turn-of-the-century architecture. Free evening shuttle service is available (just ask your concierge), and Sunset Station is also a stop on the yellow trolley line. Sunset Station blends the romance of the Hispanic culture with the charm of South Texas.
**Tower of the Americas**  
600 HemisFair Park, San Antonio  
Phone: 210-223-3101  
[www.toweroftheamericas.com](http://www.toweroftheamericas.com)

Built in honor of the 1968 World’s Fair celebrating San Antonio’s 250th anniversary, the 750-foot-tall Tower of the Americas has offered residents and tourists of San Antonio the most breathtaking view of the Alamo City for more than 35 years.

- The Eyes Over Texas restaurant treats guests to pure dining pleasure with a delectable menu, sophisticated atmosphere, and 360-degree revolving vistas.

- The Skies Over Texas is a sophisticated ride that takes visitors on a high-flying trip across the Lone Star State. The 4-D theater zooms in on such scenes as a Friday night high-school football game, a space shuttle at NASA, and more.

A ground-level café and retail shop give visitors more ways to enjoy their day. Additional amusements, attractions, and food vendors greet guests at the base of the Tower.

---

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Currency Exchange

Bank of America
300 Convent, San Antonio
Phone: 800-299-2265
Hours: 9 am - 4 pm, Monday to Thursday; 9 am - 5 pm, Friday
Languages: English and Spanish
Currencies: major
Traveler’s checks: accept foreign up to $500; sell foreign in exchange for US currency only (ask for guidelines).

Frost Bank
100 W. Houston, San Antonio
Phone: 210-220-5651
Hours: 9 am - 4 pm, Monday to Thursday; 9 am - 5 pm, Friday
Languages: English and Spanish
Currencies: 18
Traveler’s checks: accept and sell selected foreign traveler’s checks.

Transportation

Accessibility
San Antonio is accessible by car from three major interstate highways: I-35, I-10, and I-37. The San Antonio International Airport is approximately eight miles from downtown and is directly linked via US Hwy 281.

Transportation in San Antonio
Shuttle service from the airport to downtown San Antonio is available for $14 one-way and $24 round-trip through SATRANS Airport Shuttle (phone: 210-281-9900; http://www.saairportshuttle.com/).

Cab fare between the airport and downtown San Antonio is approximately $20 each way. The trip takes approximately 15 to 20 minutes. Taxicabs can be hailed at the airport or from your hotel in minutes.

Downtown travel is a breeze on the VIA Streetcar, an open-air authentic reproduction of a rail streetcar that traveled the streets of San Antonio more than 50 years ago. There is convenient access to all routes from the downtown streetcar station on Convention Plaza. Fare is $1.00.
Special Events
Scheduling and locations are subject to change without notice.

William Chalupa Recognition Symposium, Reception & Dinner*
Saturday, July 7
1:00 pm - 6:00 pm Symposium
Convention Center, 006CD

6:00 pm - 10:00 pm Reception & Dinner
Convention Center, Grotto & 008AB
*Pre-registration required for these events

Throughout his 40-year career in academia and the pharmaceutical industry, Dr. Chalupa has made important contributions to the dairy industry. Join us for the afternoon symposium, which will cover highlights of his career presented by colleagues and industry associates, and then stay for the evening reception and dinner for an enjoyable opportunity to mix and mingle with the many friends and fans of Dr. Chalupa.

Dairy Quiz Bowl
Sunday, July 8
5:00 pm - 5:30 pm
Convention Center, 007D

On Sunday, university teams from across the US will compete in the ADSA Dairy Quiz Bowl. The event gives schools an opportunity to demonstrate their knowledge about dairy production, processing, and ADSA history. The Student Affiliate Division invites you to join them for the excitement of the final round of competition as the top two schools go head-to-head for the title of 2007 Dairy Quiz Bowl Winning Team.

Opening Session
Sunday, July 8
7:00 pm - 8:00 pm
Convention Center, Ballroom C

Join us for an unforgettable opening session as Trent Loos delivers his positive perspectives on the state of agriculture today. Host of the daily radio programs “Loos Tales” and “Rural Route” as well as other broadcasts, Trent is well-known for his agricultural activism. He has traveled the United States (and, cyberly, the world) to share his passion for an industry he truly believes in. This program serves as the perfect upbeat lead-in to the informative and challenging sessions ahead.
Opening Reception  
**Sunday, July 8**  
**8:00 pm - 10:00 pm**  
**Convention Center, Ballroom C**

Wind down the evening by joining us in the Ballroom foyer after the opening session for some long-awaited socializing with colleagues and friends.

**ASAS Graduate Student Business Meeting**  
**Monday, July 9**  
**12:30 pm - 1:00 pm**  
**Convention Center, 207A**

The ASAS Graduate Directors invite all ASAS graduate student members to a business meeting on Monday, July 9, from 12:30 pm to 1:00 pm. This business meeting has been established in response to a direct request from several graduate student members. It serves as an opportunity for graduate students to voice their opinions and concerns. The ASAS Graduate Directors are seeking graduate student members’ opinions on the direction of ASAS and how the society can meet their needs. All registrants interested in opportunities for ASAS and graduate students are welcome to attend.

**ADSA Town Hall Meeting**  
**Monday, July 9**  
**5:00 pm - 6:00 pm**  
**Convention Center, 206A**

The ADSA Board of Directors invites attendees to a town hall meeting on Monday, July 9, from 5:00 pm to 6:00 pm in the Convention Center. This year’s meeting will focus on progress made in implementing ADSA’s 2006 Strategic Plan. A report on the ADSA Foundation will also be made. All registrants interested in ADSA are welcome.

**ASAS Awards Program**  
**Monday, July 9**  
**7:00 pm - 8:30 pm**  
**Marriott Rivercenter, Salon E**

All meeting participants, families, and friends are welcome to attend the 2007 ASAS Awards Program. Please join us at this special event to recognize and congratulate the 2007 ASAS award winners at the Marriott Rivercenter on Monday, July 9.

**Graduate Student Mixer***  
**Monday, July 9**  
**9:00 pm - Closing**  
**Steers & Beers Steakhouse & Saloon**  
**Rivercenter Mall**  
***Pre-registration recommended***

Join your fellow graduate students from ASAS, ADSA, PSA, and AMPA at a mixer at Steers & Beers steakhouse and saloon (http://www.steersandbeers.net). Located on the River Walk in the heart of the entertainment district, Steers & Beers is a down-home Texas establishment where you can kick back and relax in a Western environment. This event will provide an opportunity to catch up with old friends and make new ones, so don’t miss it. Pre-registration is highly recommended.
Exhibitor Reception  
Monday, July 9  
4:00 pm - 6:00 pm  
Convention Center, Exhibit Hall C

Relax after a high-energy first day of meeting with drinks and snacks in the Exhibit Hall. While there, take some time to peruse the exhibits to learn more about the latest products and services in our industries.

5K Fun Run*  
Tuesday, July 10  
6:15 am  
Meet at the San Antonio Convention Center  
*Pre-registration required

Join in the fun on Tuesday, July 10, at 6:15 am. Enjoy beautiful downtown San Antonio while running this 5-km course. T-shirts and refreshments will be provided.
Spouse Events*
Tuesday, July 10

10:30 am - 11:30 am
City Trolley Tour, meet in front of the Alamo
*Pre-registration required; attendance is limited

See the San Antonio sites as they did in days gone by—with a view from the Alamo Trolley. Beginning at the Alamo, this fully narrated one-hour trolley tour takes you through the heart of San Antonio’s historic and cultural districts to give you an insider’s perspective on this Texas landmark city.

11:30 am - 1:30 pm
Luncheon at the historic Menger Hotel; meet in the Menger lobby
*Pre-registration is required; attendance is limited

At the conclusion of the trolley tour, step next door to experience the unique charms of the Menger Hotel. You’ll enjoy a satisfying buffet lunch while a long-time hotel employee regales you with fascinating stories from the hotel’s past…including a few ghost sightings.

SAD Awards Luncheon*
Tuesday, July 10
11:45 am - 2:00 pm
Convention Center, 008AB
*Pre-registration required

Plan to attend this year’s SAD Awards Luncheon. The afternoon will be capped with presentation of student awards and announcement of the new SAD officers. Both students and professionals are encouraged to attend. This is a wonderful chance to get to know the next generation of the dairy industry.

Poultry Science Student Luncheon*
Tuesday, July 10
12:30 pm - 2:00 pm
Hilton Palacio del Rio, El Mirador
*Pre-registration required

Poultry science students—don’t miss this opportunity to meet and interact with your peers from other universities while creating your own “taste of San Antonio” taco extraordinaire! Hang out, make friends, and enjoy the company of the future of poultry science.
NE ASAS/ADSA Business Meeting & Awards Luncheon*
Tuesday, July 10
12:30 pm - 2:00 pm
Convention Center, 007B
*Pre-registration required

The ASAS Northeast Section and ADSA Northeast Branch will hold their annual business meeting and awards luncheon on Tuesday, July 10. Members are invited to attend and catch up with other members of the section. This is a good time to honor the NE award winners and the Graduate Student Competition winners.

San Antonio River Talk: The ASAS Open Forum
Tuesday, July 10
5:00 pm - 6:00 pm
Convention Center, 203

Attendees are invited to the San Antonio River Talk: The ASAS Open Forum on Tuesday, July 10, from 5:00 pm to 6:00 pm in Room 203 of the Convention Center. You will have the opportunity to join in on discussions on current ASAS issues including Open Access and on the new ASAS Strategic Plan that is scheduled to be presented to the membership in 2008.
ADSA Awards Program  
*Tuesday, July 10  
7:00 pm - 8:00 pm  
Marriott Rivercenter, Salons A-B*

All meeting participants, families, and friends are welcome to attend the 2007 ADSA Awards Program. Please join us at this special event to recognize and congratulate the 2007 award winners at the Marriott Rivercenter.

2007 ADSA-PSA-AMPA-ASAS Ice Cream Social  
*Tuesday, July 10  
8:15 pm - 9:30 pm  
Marriott Rivercenter, Salon I*

Ice cream—we’re going to eat ice cream! All meeting participants, families, friends, and award donors are invited to join us for the time-honored Ice Cream Social.

ADSA Foundation Auction and Raffle  
*Tuesday, July 10  
8:15 pm - 9:30 pm  
Marriott Rivercenter, Salon E*

This year, the ADSA Foundation Auction and Raffle will offer a wide array of items including dairy antiques, valued collectibles, trips, and much more. To donate an item or view the latest list of items, visit the auction web site at: [http://www.adsa.org/FoundationAuction2007/](http://www.adsa.org/FoundationAuction2007/)

Closing Reception  
*Wednesday, July 11  
4:30 pm - 6:00 pm  
Convention Center, 006*

All meeting participants, families, and friends are welcome to attend the closing reception, highlighting this year’s involvement of AMPA, on Wednesday evening. Again this year, attendees will have the opportunity to indicate their home affiliation on a world map; check the Exhibit Hall for the poster board before the reception.

PSA Awards Banquet*  
*Wednesday, July 11  
6:00 pm - 10:00 pm  
Hilton Palacio del Rio, Salon del Rey  
*Pre-registration required*

Please join us for a celebratory evening honoring the 2007 award winners. All meeting participants, spouses, and friends are welcome at this event. The banquet will be at the Hilton Palacio del Rio (the PSA headquarters hotel). The evening is sure to be a good time for all. Please make sure to purchase your ticket in advance; a limited number of tickets will be available for purchase at the registration desk.
Please join us and visit with Mexican friends. All meeting participants, spouses, and friends are welcome at this event. Please make sure to purchase your ticket in advance. A limited number of tickets will be available for purchase at the registration desk.
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Exhibit Schedule

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ADSA-PSA-AMPA-ASAS 07
July 8-12, 2007
Henry B Gonzales Convention Center
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San Antonio, Texas
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315.986.8091 fax
2008 ADSA-ASAS Joint Annual Meeting
July 7–11, Indianapolis, IN
www.adsa.org; www.asas.org
Booth(s): 403

Discover the fun that awaits you in Indy during the 2008 Joint Annual Meeting. A representative from the city of Indianapolis will be on hand to give you the inside scoop. Don’t wait until the last minute—start planning next year’s trip now!

AAALAC International
5283 Corporate Drive, Suite 203
Frederick, MD 21703
Phone: 301-696-9626; fax: 301-696-9627
www.aaalac.org
Booth(s): 309

AAALAC International offers accreditation, assessment and education services for agricultural animal research programs. Earning accreditation demonstrates dedication to responsible animal care, and assures research partners, funding sources, and the public of a commitment to quality research and good science. More than 700 institutions in 29 countries have earned AAALAC accreditation.

Acadian AgriTech
30 Brown Avenue
Dartmouth, Nova Scotia, B3B 1X8, Canada
Phone: 902-468-2840; fax: 902-468-3474
www.tasco.ca
Booth(s): 109

Tasco is a natural feed ingredient made of proprietary processed *Ascophyllum nodosum*. Tasco is generally regarded as safe (GRAS) in animal feeds and it is legal to feed in all classes of livestock. Over 15 years of research shows that feeding Tasco to livestock can improve production and producer profitability.

Adisseo
One Point Royal
4400 North Point Parkway, Ste. 275
Alpharetta, GA 30022
Phone: 678-339-1500; fax: 678-339-1600
www.Adisseo.com
Booth(s): 117, 119, 216, 218

Adisseo offers a wide range of feed additives in various forms, adapted for all types of feed and for all species. Our products include Microvit (full line of vitamins), Rhodimet (methionine in both powder and liquid analog forms), MetaSmart and Smartamine (ruminant methionine), and Robabio (enzymes in both liquid and powder forms).

ADM Alliance Nutrition
1000 North 30th
Quincy, IL 62301
Phone: 800-775-3295; fax: 217-222-9278
www.admani.com
Booth(s): 208

ADM Alliance Nutrition, a wholly owned subsidiary of the global Archer Daniels Midland Company (ADM), is a provider of custom blending services and natural-source ingredients. ADM is recognized as an industry leader in the research, development, and manufacturing of innovative products and providing solution-based ingredients. ADM Alliance Nutrition is your source for feed ingredient solutions.

ADSA (American Dairy Science Association)
1111 N. Dunlap Ave.
Savoy, IL 61874
Phone: 217-356-5146; fax: 217-398-4119
www.adsa.org
Booth(s): 402

Established in 1906, ADSA is an international organization of educators, scientists, industry, and government representatives who are committed to advancing the dairy industry. All are keenly aware of the vital role the dairy sciences play in fulfilling the economic, nutritive, and health requirements of the world’s population. Together, ADSA members have discovered new methods and technologies that have revolutionized the dairy industry. Please visit www.adsa.org for more information.

Ag Processing, Inc.
PO Box 2047
Omaha, NE 68103
Phone: 402-492-3309; fax: 402-496-6686
www.agp.com
Booth(s): 518

AminoPlus is a natural all soybean based ingredient used to enhance the productivity of dairy cattle. This bypass protein provides dairy producers a feed source that can help ensure superior performance and yield. Our patented technology takes advantage of palatable soy proteins to supply a high level of highly digestible essential amino acids to the small intestine without the addition of chemicals or any non-soybean components. AminoPlus appearance is that of a toasted soybean meal with a reddish-brown color and a sweet, toasted aroma. Flowability, handling, and storage characteristics of the product are excellent.
Agri-Nutrients Technology Group (ANTG) is a research and development and process engineering company that serves a variety of industries. ANTG develops novel life-science products encompassing granulation, encapsulation, and controlled-release technologies, manipulates physical and chemical properties of products through proprietary technologies, and designs or improves production processes. Pilot plant, laboratory, consulting, project design and review, process engineering, and patent services are available.

Albion Advanced Nutrition
101 N. Main Street
Clearfield, UT 84015
Phone: 801-773-4631; fax: 801-773-4633
www.albion-an.com
Booth(s): 326

Albion Advanced Nutrition is the pioneer in development of metal amino acid chelates, (highly absorbable chelated minerals). Albion’s first patent was granted in 1965. Albion continues to provide chelated minerals with high bioavailability, the ability to avoid common nutritional interferences, and the ability to improve biological efficiency of supplemental minerals.

Alltech, Inc.
3031 Catnip Hill Pike
Nicholasville, KY 40356
Phone: 859-885-9613; fax: 859-885-6736
www.alltech.com
Booth(s): 435, 437, 439, 534, 536, 538

For more than 25 years, Alltech has been researching and providing all-natural nutritional solutions that benefit animal health, performance, and productivity. Alltech’s cutting-edge brands—Yea-Sacc, Sel-Plex, Bio-Mos, MTB-100, Bioplex, and Sil-All—set a unique example of how all-natural technologies backed by dedicated research can move the industry forward. Alltech is the proud and first-ever title sponsor of the World Equestrian Games. The Alltech FEI World Equestrian Games 2010 will be held in Lexington, Kentucky, September 25-October 10, 2010. These world-class events showcase the world’s most exceptional equine athletes at the zenith of their performance. For more information, visit www.alltech.com.

BIOMIN USA Inc. 1846 Lockhill Selma, Suite 101, San Antonio, TX 78213 U.S.A.
Tel: +1 210 342 9555, Fax: +1 210 342 9575, e-Mail: office.usa@biomin.net
www.biomin.net
Aloka Ultrasound
10 Fairfield Boulevard
Wallingford, CT 06492
Phone: 203-269-5088; 800-872-5652; fax: 203-269-6075
e-mail: inquiry@aloka.com
www.aloka.com
Booth(s): 334

Aloka, the innovator in ultrasound, offers a full line of veterinary ultrasound systems. The Alpha 10 and Alpha 5 offer superb image quality for the most challenging cases. More cost-effective solutions are the SSD-3500 and SSD-4000. Our two portables, the SSD-500 and SSD-900, are reliable and rugged systems.

Alternative Design Mfg.
PO Box 6330
Siloam Springs, AR 72761
Phone: 479-524-4343; fax: 479-524-4125
www.altdesign.com
Booth(s): 235

Alternative Design Mfg. manufactures a complete line of caging systems for the research and commercial poultry industry. Super brooders, brood grow, laying hen, and artificial insemination cages are available in various sizes and configurations. ALTDESIGN produces a feed bin lid that permits feed truck drivers to open, fill, and close feed bins inside the vehicle for convenience. The company also makes a replacement heater system for Petersime brooders.

AMPA (Asociación Mexicana de Producción Animal)
Facultad de Zootecnia, Universidad Autónoma de Chihuahua
Periférico Fco. R. Almada km. 1
Apartado Postal 4-28
Chihuahua, Chihuahua CP 31031, México
Phone: 01-614-434-0303
www.agropecstar.com/usuarios/ampa/index.htm
Booth(s): 408

AMPA aspires to be the national association in animal production that has the highest technical interaction with national and international scientists and producers. The organization’s mission is to promote animal science research and education through the exchange of scientific and technical information and applications to animal agriculture, public policy, and public understanding.

Analab
18246 Waller Rd., PO Box 208
Fulton, IL 61252
Phone: 800-435-9560; fax: 815-589-4565
www.analabtest.com
Booth(s): 318

Analab Laboratory had been providing testing services since 1972. As a fully certified laboratory, Analab offers a full range of chemical, biological, and microbiological testing to the livestock and seed industries. Samples tested at Analab include animal feeds, forages, silages, grains, manure, and urine. Analab is dedicated to satisfying our clients through accurate, precise, and timely analysis.
Established in 1908, ASAS is a professional organization for animal scientists designed to help members provide effective leadership through research, extension, teaching, and service for the dynamic and rapidly changing livestock and meat industries. Please visit www.asas.org for more information.

ASAS Centennial Celebration 2008
Joint Annual Meeting, July 7-11, 2008,
Indianapolis, Indiana
Phone: 217-356-9050; fax: 217-398-4119
http://www.asas.org/100years/
Booth(s): 411

100 years of service through Animal Agriculture. Play your part in the next 100 years.

The Journal of Animal Science (JAS) is the premier journal for animal science and serves as the leading source of new knowledge and perspective in this area. JAS publishes more than 400 peer-reviewed research articles, invited reviews, technical notes, and letters to the editor each year. According to the Institute for Scientific Information (ISI), JAS consistently ranks as one of the top journals (among 43 titles) in the category of Agriculture, Dairy, and Animal Sciences in terms of impact factor, immediacy index, and cited half-life and is in the top 1% of STM publishing (50,000+ titles) by total ISI citations.
Balchem Corporation
52 Sunrise Park Road
PO Box 600
New Hampton, NY 10958
Phone: 845-326-5600; fax: 845-326-5742
www.balchem.com
Booth(s): 311, 410

Balchem’s Animal Nutrition and Health Division brings the benefits of patented proprietary encapsulation and chelated trace mineral technology to the livestock, poultry, and companion animal industries. Encapsulation and chelation technologies offer “protection nutrition” to sensitive compounds. Hence, these compounds become available when and where they offer the most benefit to the animal. Thanks to quality research, product testing, and manufacturing, these technologies are available today.

Bar Diamond, Inc.
PO Box 60
Parma, ID 83660
Phone: 208-722-6761; fax: 208-722-6686
www.bardiamond.com
Booth(s): 137

Bar Diamond, Inc. provides the world with rumen cannulae and accessories. New in 2007 is a 5-inch (center diameter) rumen cannula for use when the fistula just continues to stretch.

Biomin America, Inc.
1846 Lockhill-Selma Road, Suite 101
San Antonio, TX 78213
Phone: 210-342-9555; fax: 210-342-9575
www.biomin.net
Booth(s): 421, 423, 520, 522

Biomin is a leader in healthy animal nutrition. We use state-of-the-art research and technology to produce natural feed additives that enhance productivity and unlock the performance potential of livestock the natural way. Biomin is a customer-oriented company that has a significant market share in more than 100 countries worldwide.

Blackwell Publishing
2121 State Avenue
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www.blackwellpublishing.com
Booth(s): 101

Blackwell Publishing Professional is one of the world’s leading publishers in animal science, veterinary medicine, agriculture, and food science. We have a vast selection of books, manuals, and references, which cover every area.
Exhibit Directory

CABI (Commonwealth Agricultural Bureaux International)
Nosworthy Way
Wallingford, OX10 8DE, United Kingdom
Phone: +44 (0) 1491 829374; fax: +44 (0) 1491 832111
www.cabi.org
Booth(s): 329

CABI is a leading publisher of authoritative and unbiased scientific information on agriculture and the environment. Our products include the world-renowned CAB Abstracts along with other specialist databases, encyclopedic compendia, journals, and books.

CAST (Council for Agricultural Science & Technology)
4420 W. Lincoln Way
Ames, IA 50014
Phone: 515-292-2125; fax: 515-292-4512
www.cast-science.org
Booth(s): 203

CAST is a nonprofit organization composed of 37 scientific societies and many individual, student, company, nonprofit, and associate society members. CAST’s Board of Directors is composed of 38 representatives of the scientific societies and individual members representing over 170,000 member scientists, and an eight-member Executive Committee. Established in 1972, the primary work of CAST is the publication of task-force reports, commentary papers, and issue papers written by scientists from many disciplines.

Chr. Hansen, Inc.
9015 W. Maple St.
Milwaukee, WI 53214
Phone: 414-607-5800; fax: 414-607-5701
www.chr-hansen.com
Booth(s): 217, 219

Chr. Hansen Animal Health & Nutrition has been ranked by dairy nutritionists as the most trusted direct-fed microbial source. As the “World’s Microbial Experts,” Chr. Hansen has been the leading supplier of lactic acid bacteria and other ingredients since 1874. A history rich in science, research, and quality has produced products such as Probios, Biomate, Biomax, and BioPlus.

Classic Ultrasound Equipment
19900 Mona Road, Suite 105
Tequesta, FL 33469
Phone: 800-722-6838; fax: 561-746-4212
www.classicmedical.com
Booth(s): 207

Classic Ultrasound introduces a new notebook computer-based ultrasound system. The TelaVet 1000, now with the 17-cm animal science probe, also features the new ultra-portable Palm Scan Enhanced and the self-contained Classic InSight for external ruminant imaging. Visit www.classicmedical.com for the latest information on our new portable and notebook ultrasound systems.

EAAP is the European Federation for Animal Science federating national member organisations from 40 countries in Europe and the Mediterranean area. The member organisations represent the professional interests of scientists, academics, professionals and producers, technicians, extension officers, government departments and farmer organisations.

Invitation

On behalf of the Irish Organising Committee, we are pleased to invite you to the 58th Annual Meeting of the European Association for Animal Production in Dublin from the 26th to the 29th August 2007.

The main theme of the meeting is: “Sustainable Animal Production-Meeting the Challenges for Quality Food”

We are aware of the prominence of the EAAP meeting in the calendar of agri-food research events and will ensure that the 2007 meeting is keenly focused and topical. Our industry must continue to meet new challenges and opportunities in which we all have significant roles to play. We have planned a very extensive Conference Programme and assembled an excellent panel of Guest Speakers to examine the issues and plot a course for the future.

Ireland last hosted the EAAP Annual Meeting in 1989. Since then, many changes have taken place on Irish farms and in particular relating to animal production. We look forward to showing you the state of animal production in Ireland in 2007 and indeed have planned field excursions that we hope you will enjoy and benefit from. Ireland is known as the “Country of one hundred thousand welcomes Cead Mile Failte” and we look forward to enabling you to sample the social side of Dublin and indeed Ireland. We have planned a special programme of social events and events for accompanying persons.

We look forward to seeing you in Dublin in August 2007
Cumberland Valley Analytical Services, Inc.
14515 Industry Drive
Hagerstown, MD 21742
www.foragelab.com
Booth(s): 105

Cumberland Valley Analytical Services, Inc. is a full-service forage testing laboratory that serves clients nationally and internationally. We are one of the largest providers of chemistry services including in vitro fiber digestibility, in situ evaluations, and forage fermentation analysis. We routinely perform work on research samples for universities and private companies, including plot evaluation work for hybrid evaluation.

Dairy Records Management Systems
313 Chapanoke Rd., Suite 100
Raleigh, NC 27603
Phone: 919-661-3100; fax: 919-661-3145
www.drms.org
Booth(s): 401

DRMS' PCDART software has served the nation’s most intensively managed dairy farms for over 25 years. With features like timed AI, a comprehensive protocols/chores system with treatment regimes, RFID, handheld input and review, and real-time networking, PCDART delivers well-designed solutions for herd managers and consultants. DRMS provides top-notch support by animal and dairy science graduates with on-farm experience at no additional charge.

Dalex Livestock Solutions, LLC
240 Industrial Blvd.
Waconia, MN 55387
Phone: 800-421-3834; fax: 952-442-2543
www.dalex.com
Booth(s): 227

Dalex Livestock Solutions provides ration formulation, feeding management, animal performance, and nutrient management solutions for the livestock industry. Dalex has long been synonymous with ration balancing and is the home of the “consulting nutritionist.” Using the most up-to-date scientific data and models, we provide a complete solution to formulate, monitor, and assess accurate livestock feeding situations.
DASCOR, Inc.
PO Box 462885
Escondido, CA 92046
Phone: 760-796-7788; fax: 760-796-7785
www.dascor.com
Booth(s): 305

DASCOR specializes in the design, development, and production of custom instrumentation and control products for OEM and private-label clients as well as marketing a proprietary line of data loggers, signal conditioners, and related products. Working closely with Sensorex as a distributor of their pH and ORP sensors, and with eminent researchers with the University of Alberta and Lethbridge Research Centre, DASCOR has developed an autonomous datalogger for monitoring rumen pH, ORP, and temperature for extended periods in cannulated cattle. Systems in development will include provisions for additional sensors (such as pressure or motion), true wireless communication, extended memory, and reduced size for esophageal insertion. On-going field investigations are also leading to a custom pH sensor designed specifically for long-term survivability in the rumen. Please visit DASCOR at booth 305.

Degussa Corporation
1701 Barrett Lakes Blvd., Suite 340
Kennesaw, GA 30144
Phone: 678-797-4311; fax: 678-797-4313
www.aminoacidsandmore.com
www.makemilknotmanure.com
Booth(s): 237, 239

Degussa is the only company in the world to supply, from a single source, all four of the important amino acids for animal nutrition: DL-methionine, L-lysine (Biolys), L-threonine, and L-tryptophan. Mepron, a rumen-protected DL-methionine, rounds off the company’s product range as part of its “one-source” strategy.

DHHS-FDA-CVM
7519 Standish Place, Suite #3508
Rockville, MD 20855
Phone: 240-276-9301; fax: 240-276-9115
www.fda.gov/cvm
Booth(s): 426

The US Food and Drug Administration, Center for Veterinary Medicine is a public health consumer protection organization. We foster public and animal health by approving safe and effective drugs, devices, and food additives given to over one hundred million companion animals, and millions of poultry, cattle, swine, and minor animal species.

Diamond V
838 1st St. NW
Cedar Rapids, IA 52407
Phone: 319-366-0745; fax: 319-366-6333
www.diamondv.com
Booth(s): 209, 211, 308, 310

Diamond V is the world’s leading manufacturer of fermented yeast culture products. For over 60 years, we have provided customers with YC, XP, XPC Concentrate, and XP DFM (a direct-fed microbial blend for ruminants). SelenoSource AF is our premier organic selenium yeast. We now introduce DV Aqua, our premier yeast culture designed and manufactured specifically for aquaculture.

Distillers Grains Technology Council (DGTC)
University of Louisville
435 Lutz Hall
Louisville, KY 40292
Phone: 800-759-3448; fax: 502-852-1577
www.distillersgrains.org
Booth(s): 429

DGTC is a non-profit association that has been in existence since 1945. At the DGTC booth, we will have information on feeding wet and dry distillers grains to dairy and beef cattle, calves, sheep, goats, and horses as well as information on combining it with other feed ingredients to reduce corn usage and costs.

DSM Nutritional Products
45 Waterview Blvd.
Parsippany, NJ 07054
Phone: 800-677-6243; fax: 971-257-8653
www.nutraaccess.com
Booth(s): 316

DSM Nutritional Products is the global leader in micro-ingredients solutions. DSM Nutritional Products is proud to offer the most comprehensive line of vitamins available in the marketplace, along with enzymes and direct-fed microbials. With our network of 34 premix plants globally, DSM Nutritional Products can deliver customized nutrition solutions anywhere in the world.

Elanco Animal Health
2001 West Main Street, PO Box 708
Greenfield, IN 46140
Phone: 317-276-4124; fax: 317-276-4471
www.elanco.com
Booth(s): 202, 204

Elanco is a global research-based company that develops and markets products to improve the health and production of animals in more than 100 countries. Elanco is a division of Eli Lilly and Company, a leading innovation-driven pharmaceutical corporation. Elanco products enhance animal health, wellness, welfare, and performance to help the food industry produce an abundant supply of safe and affordable food.
Elsevier is the leading publisher in veterinary medicine and animal science, and publishes journals such as *Livestock Science*, *Applied Animal Behaviour Science*, and *Animal Feed Science and Technology*. Visit our exhibit booth for sample copies and more information on these and our other journals.

FASS (Federation of Animal Science Societies)
1111 N. Dunlap Ave.
Savoy, IL 61874
Phone: 217-356-3182; fax: 217-398-4119
www.fass.org
Booth(s): 407, 409

FASS was formed on January 1, 1998, by mutual consent and for the mutual benefit of three founding member societies: the American Dairy Science Association (ADSA), the American Society of Animal Science (ASAS), and the Poultry Science Association (PSA). Currently, FASS provides services to more than 10,000 professionals from animal agriculture. The Congressional Science Fellowship Program was established by FASFAS in 1990 and continued by FASS. Each year, PhD scientists in animal science compete for the opportunity to represent FASS in Congress. Many of these individuals stay on the Washington scene after their fellowship year and continue to serve animal agriculture in significant ways.

Feed Management Systems is the leading software solutions provider linking critical information for feed manufacturers with our Feed Mill Manager, Brill Formulation, Feed Ration Balancer, and Feed Tags software. Ensure the safety, quality, and affordability of your feed supply by automating and optimizing formulas, pricing, ordering, labeling, delivery, and compliance.

FeedAC (Feed Analysis Consortium)
1111 N. Dunlap Ave.
Savoy, IL 61874
Phone: 217-356-3182, x28; fax: 217-398-4119
FeedAC@assochq.org
Booth(s): 504

The Feed Analysis Consortium, Inc. (FeedAC) is a membership-based nonprofit organization dedicated to the advancement of feed analysis and nutritional modeling. The mission of FeedAC is to serve the animal feed industry by building and maintaining a Feed Information System for all farm animals, developing improved methods of feed analysis, and encouraging the development of improved diet formulation and evaluation models. FeedAC replaces the previously established Ruminant Feed Analysis Consortium (RFAC). Please visit www.feedac.org for membership information.
Feedstuffs
12400 Whitewater Dr., Suite #160
Minnetonka, MN 55343
Phone: 952-931-0211; fax: 952-938-1832
www.feedstuffs.com
Booth(s): 121

*Feedstuffs* is the only weekly paid news source for agribusiness. Every week, we keep our subscribers informed on the important issues affecting the business of producing food for the world.

GrowSafe Systems, Ltd.
280105 Range Road 22, RR#1, Site #1, Box 19
Airdrie, Alberta, T4B 2A3, Canada
Phone: 403-912-1879; fax: 403-398-1327
Booth(s): 230

GrowSafe technology continuously measures individual animal feed intake, weight, and feeding behavior in research and commercial environments. This year we began piloting new “in-pen” technology to manage feedlot cattle. We will release preliminary results during the 2007 ADSA-PSA-AMPA-ASAS Joint Annual Meeting in San Antonio. Visit us at Booth 230 to receive an invitation to this presentation.

GTC Nutrition
600 Corporate Circle, Suite H
Golden, CO 80401
Phone: 303-216-2489; fax: 303-216-2477
www.gtcnutrition.com
Booth(s): 103

GTC Nutrition is a recognized leader in providing innovative, science-based ingredient solutions for the pet food and animal feed industries. The company’s flagship animal ingredient, FortiFeed short-chain fructooligosaccharides (scFOS) prebiotic fiber, offers numerous health and functional benefits. For more information, call 800-522-4682 or visit www.fortifeed.com.
PRO-LAK, from H.J. Baker & Bro., Inc., is a multi-source marine and animal by-pass protein designed to complement the protein from rumen microbial activity and is specially formulated for today’s high-producing dairy cow. The desired nutrient balance is accomplished by 72% of the protein bypassing rumen degradation and delivering the essential amino acid profile to support maximum milk production. Research has been conducted to evaluate milk production, digestibility, and feed efficiency of PRO-LAK and can be found on our website (www.bakerbro.com).

IceRobotics develops and manufactures the IceTag and IceSampler devices for use in livestock research. The IceTag activity monitor enables second-by-second recording of animal activity, recording both step count and lying time. The IceSampler blood-sampling device enables automated collection of blood samples from cattle.
International Ingredient Corporation
150 Larkin Williams Ind. Ct.
Fenton, MO 63026
Phone: 636-343-4111; fax: 636-349-4845
www.iicag.com
Booth(s): 500

International Ingredient Corporation (IIC) is a manufacturer of high-quality ingredients for the feed, pet food, and aquaculture industry. IIC has nine plant locations and a dedicated staff to meet your quality standards and expectations.

Lallemand Animal Nutrition
6120 W. Douglas Ave.
Milwaukee, WI 53218
Phone: 414-464-6440; fax: 414-464-6430
www.lallemand.com
Booth(s): 131

Lallemand Animal Nutrition is the only major supplier of yeast and bacteria that is a primary producer of both. Core products for dairy cattle are Levucell SC and SB (probiotic active dry yeasts), Alkosel mineral-enriched yeast, Agrimos (a manno-oligosaccharide), and Biotail forage inoculants. For more information, visit www.qualitysilage.com.

MSC Specialty Nutrition
PO Box 278, Illinois & Water St.
Dundee, IL 60118
Phone: 847-426-3411; fax: 847-426-3636
www.msccompany.com
Booth(s): 322

MSC Specialty Nutrition is a leading, research-driven supplier of nutrition and health products designed to optimize animal performance. Major brands for dairy producers include Excelerate and KwikMix (calf milk replacers) and Energy Booster 100 (rumen inert-fat). MSC Specialty Nutrition serves both national and international customers. For more information, visit www.msccompany.com or call 1-800-343-4274.

National Institute for Animal Agriculture (NIAA)
1910 Lyda Ave.
Bowling Green, KY 42104
Phone: 270-782-9798; fax: 270-782-0188
www.animalagriculture.org
Booth(s): 306

The NIAA is a forum for building consensus and advancing solutions for animal agriculture and for providing continuing education and communications linkages to animal agriculture professionals. Our mission truly reflects NIAA—where it’s been, where it is, and where it’s going. NIAA is the only forum where producers/owners (cattle, equine, poultry, small ruminants, and swine), scientists (corporate, academic, and government), veterinarians (private practice, industrial, and government), regulators (state and federal), and business executives (corporate and association) meet in a common effort to deal with shared issues and opportunities. Visit our web site at www.animalagriculture.org.

Novus International, Inc.
530 Maryville Centre Drive
St. Louis, MO 63141
Phone: 314-576-4411; fax: 314-576-4635
www.novusint.com
Booth(s): 229, 328

Novus International is a global leader in the animal health and nutrition industries. Through a worldwide network, Novus markets more than 60 products in six key categories: amino acids, nutrition and health, minerals, energy metabolism, specialty products, and feed quality. Brand names include Alimet, Mintrex, Agrado, Activate, Cryspan, and Zorien.

Omega Protein, Inc.
2101 CityWest Blvd., Bldg. 3, Suite 500
Houston, TX 77042
Phone: 800-345-8805, fax: 713-940-6169
www.omegaproteininc.com
Booth(s): 307

Omega Protein is the nation’s largest producer of omega-3 fish oil, protein-rich fishmeal, and fish solubles. The company markets a variety of products derived from menhaden, an inedible fish found in abundant quantities in coastal waters off the US mid-Atlantic and Gulf coasts.

PetAg, Inc.
255 Keyes Ave.
Hampshire, IL 60140
Phone: 847-683-2288; fax: 847-683-2343
www.petag.com
Booth(s): 300

Fermacto is an aspergillus mycelium product for monogastrics. It has been shown in poultry to demonstrate increased maturity levels of the gastrointestinal tract of the immature bird. During the first three weeks, the gastrointestinal tract matures both microbiologically as well as physically, including villi length, short-chain fatty acid concentrations, and motility to maximize uniformity in flock development. Of critical importance is the increase in lactocin-producing lactobacilli, which tend to reduce the foci of pathogen development. Please stop by and meet us.
For farm animals such as cattle and swine, Pfizer Animal Health offers the broadest line of products in the world to improve their health and quality of life. We are also pleased to provide outstanding technical support and service throughout the United States to help beef, dairy, and pork producers (and their veterinarians) improve the safety, quality, and productivity of their livestock by taking full advantage of Pfizer Animal Health products. Because our goal is to do more than any other company to further animal health, we are the worldwide leaders in animal health research.

Poultry Protein & Fat Council
1530 Coolidge Road
Tucker, GA 30084
Phone: 770-493-9401; fax: 770-493-9257
www.poultryegg.org
Booth(s): 210

The Poultry Protein & Fat Council is a consortium of 13 member companies that produce high-quality poultry meal, feather meal, and poultry fat. Request our free video or CD at www.poultryegg.org.

Prentice Hall
One Lake Street
Upper Saddle River, NJ 07458
Phone: 201-236-5889; fax: 201-236-5888
www.prenhall.com
Booth(s): 107

Prentice Hall is proud to be the leading provider of educational products for your agriculture courses. Please stop by our booth or visit our website at www.prenhall.com to see what is new and to see what we have planned.

Prince Agri Products
PO Box 1009
Quincy, IL 62306
Phone: 217-222-8854; fax: 217-222-5098
www.princeagri.com
Booth(s): 317, 416

A global provider of proven and science-based ingredients for the animal feed industry, Prince Agri Products has long been successful by helping customers meet their goals through product solutions and innovation, the highest standards for quality and credibility, and with unmatched customer service and dedication. Put the Prince team to work for you by calling 217-222-8854.

Probiotech International, Inc.
6225 Choquette Street
St-Hyacinthe, Quebec, J2S 8L2, Canada
Phone: 450-771-7252; fax: 450-771-4509
www.probiotech.com
Booth(s): 139

Probiotech International, Inc. develops and provides the animal nutrition industry with natural solutions. Our line of products was designed using the principles of biotechnology to promote animal health and maximize agriculture production with the respect of our environment in mind. Products range from patented rumen-protected choline for dairy cows to organic acidifiers for swine and poultry.

PSA (Poultry Science Association)
1111 N. Dunlap Ave.
Savoy, IL 61874
Phone: 217-356-5285; fax: 217-398-4119
www.poultryscience.org
Booth(s): 406

PSA is a professional organization consisting of approximately 3,500 educators, scientists, extension specialists, administrators, and producers committed to advancing the poultry industry. The association is dedicated to discovery and dissemination of knowledge generated by poultry research that enhances human and animal health and wellbeing and provides for the ethical and sustainable production of food. Since 1908, the PSA has maintained a level of prestige that ranks it among the top professional organizations in the field. Please visit www.poultryscience.org for more information.

Quality Technology International, Inc.
2250 Point Blvd., Suite #322
Elgin, IL 60123
Phone: 217-847-9300
www.qtitech.com
Booth(s): 327

Quality Technology International (QTI) specializes in innovative technologies and solutions for the agricultural marketplace. It is a leader in ethanol co-products, identity preserved grains, and animal health. QTI markets and distributes Calsporin, the world’s leading *Bacillus*-based direct-fed microbial for the poultry industry.

Remote Animal Monitoring Solutions, LLC (RAMS)
Box 1361
Starkville, MS 39760-1361
Phone: 662-312-1795; fax: 662-323-3293
www.rams-online.com
Booth(s): 234

RAMS strives to provide exceptional service to our clientele through advanced imaging capabilities and is working to become a recognized leader in the marketing and development of unique sampling and monitoring devices for both research and field-based large animal applications.
As the national trade association for the US ethanol industry, the Renewable Fuels Association (RFA) promotes policies, regulations, and research and development initiatives that will lead to the increased production and use of fuel ethanol. RFA membership includes a broad cross-section of businesses, individuals, and organizations dedicated to the expansion of the US fuel ethanol industry.

Ross University
School of Veterinary Medicine
499 Thornall St., 10th floor
Edison, NJ 08837
Phone: 877-ROSS-EDU; fax: 732-978-5304
www.rossu.edu
Booth(s): 304

Ross University offers doctor of medicine and doctor of veterinary medicine degree programs. Ross University School of Medicine was founded in 1978 and is located in the Caribbean country of Dominica. Ross University School of Veterinary Medicine was founded in 1982 and is located on the Caribbean island of St. Kitts.

S.A.E. Afikim
Kibbutz Afikim
Jordan Valley 15148
Israel
Phone: 972-4-6754812; fax: 972-4-6751862
www.afimilk.com
Booth(s): 530

S.A.E. Afikim was founded in the early 1970s and was a pioneer in introducing electronics into the milking parlor. Since then, S.A.E. Afikim has been committed to develop, manufacture, and market computerized dairy management systems. The Afimilk brand name consists of milk meters, individual cow identification, pedometers, and management and analysis software.

Saf Agri/Lesaffre Feed Additives
7475 W. Main St.
Milwaukee, WI 53214
Phone: 414-615-4138; fax: 414-615-4003
www.saf-agri.com
Booth(s): 302

Saf Agri provides innovative products produced by the Lesaffre Group, the world’s oldest and largest yeast manufacturer, to livestock feed producers and pet food manufacturers throughout the Americas. The product line includes active dry yeast for pelleted and nonpelleted feeds, inactive dry yeast, mineral yeast (Se, Cr, Mn, Zn), enzymes, and mannooligosaccharides.

Soy Best
PO Box 157
West Point, NE 68788
Phone: 402-372-2429; fax: 402-372-3305
www.soybest.com
Booth(s): 301, 400

Soy Best High Bypass Soybean Meal is bypass protein for dairy cows. Manufactured by a mechanical process, it contains no chemical solvents and is all natural. Soy Best now includes fresh soy gums with lecithin and phosphatidylcholine. Research shows these nutrients behave like rumen-protected fat, resulting in even more bypass protein with excellent intestinal digestibility.

Soybean Meal INFOcenter
4554 NW 114th St.
Urbandale, IA 50322-5410
Phone: 515-251-8640; fax: 515-251-8657
www.soymeal.org
Booth(s): 303

Soybean Meal INFOcenter provides technical information on soybean meal to the feed manufacturer, professional nutritionist, feed formulator, livestock and poultry producer, and the public. Its website (www.soymeal.org), fact sheets, and bimonthly newsletters highlight new information on this important supplemental protein for livestock, poultry, aquaculture, and companion animals.

SoyPLUS/SoyChlor (West Central)
406 First Street, PO Box 68
Ralston, IA 51459
Phone: 712-667-3200; fax: 712-667-3215
www.soyplus.com; www.soychlor.com
Booth(s): 200

For decades, SoyPLUS and SoyChlor have stood as the gold standards of dairy feed ingredients. SoyPLUS is a bypass industry leader, consistently delivering dairy bypass protein and demonstrating unbeatable protein quality and intestinal digestibility. SoyPLUS contains research-proven higher energy and rumen-inert fat than its competition. SoyChlor has proven itself as a valuable tool in efficiently and effectively balancing DCAD in herd health. SoyChlor’s key ingredient, hydrochloric acid, is the most palatable source of chloride available. SoyChlor offers dairy cows low 19% protein, low potassium and sodium, low phosphorus, beneficial amounts of calcium and magnesium, and consistent flowability.
Trouw Nutrition USA
115 Executive Dr.
Highland, IL 62249
Phone: 618-654-2070; fax: 618-654-6700
www.trouwnutritionusa.com
Booth(s): 123, 222

Trouw Nutrition USA offers innovative nutrition solutions, specialty products, and premixes for the livestock, poultry, and pet food industries, including Optimin Chelated Minerals, Protimax Specialized Egg Globulin, TNbetalain, Selko Mold Inhibitors/Preservatives, and NovaSil Plus. Trouw offers custom blending and manufacturing of premixes, trace mineral packs, vitamin packs, supplements, and customer formula products.

Unity Scientific, Inc.
PO Box 1030
Purcellville, VA 20134
Phone: 540-338-8991; fax: 540-338-8992
www.unityscientific.com
Booth(s): 431

Unity Scientific manufactures and sells a complete line of cost-effective, network-ready NIR (near infrared) and NIT analyzers for a wide variety of laboratory at-line and process applications. Unity offers a wide range of applications for the food, feed, pet food, dairy, tobacco, pharmaceutical, and general industrial markets. Unity also offers a complete line of sample preparation equipment that includes auto distillation, solvent extraction, and block digestion.

USDA - Agricultural Research Service (ARS)
5601 Sunnyside Ave.
Beltsville, MD 20705-5144
Phone: 301-504-3271; fax: 301-504-1740
www.ars.usda.gov
Booth(s): 508

ARS is the principal in-house research agency of USDA responsible for solving problems of national importance related to food agriculture. ARS employs about 8,000 people at more than 100 research facilities strategically located in major farm and rangeland ecosystems throughout the US and in several foreign countries.

USDAs - Animal Welfare Information Center
10301 Baltimore Ave, Room 410
Beltsville, MD 20705
Phone: 301-504-6212; fax: 301-504-7125
awic.nal.usda.gov
Booth(s): 506

The Animal Welfare Information Center (AWIC) teaches a one-and-a-half-day workshop at the National Agricultural Library in Beltsville, Maryland, for individuals who are responsible for providing information to meet the requirements of the Animal Welfare Act (AWA).

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**Contact your Alpharma Animal Health representative for additional details on how BMD can benefit your bottom line.**
Varied Industries Corporation
905 S. Carolina Ave., PO Box 1483
Mason City, IA 50401
Phone: 641-423-1460; fax: 641-423-0832
www.vi-cor.com
Booth(s): 336, 338

In 1974, a patent was issued to a small company in Mason City, Iowa, for a fermentation process for animal feeds. This process became the foundation technology upon which Varied Industries Corporation (Vi-COR) was founded. Vi-COR has expanded to a company with a global focus, a manufacturer of world-class fermentation products providing custom manufacturing services.

Western Yeast Company
305 W. Ash St.
Chillicothe, IL 61523
Phone: 309-274-3160; fax: 309-274-5393
www.westernyeast.com
Booth(s): 428

Western Yeast Company was founded in 1932 and uses the Newhaven process for making yeast culture. Western Yeast Culture is an active, all-natural feed supplement designed to improve animal nutrition. It consists of live yeast cells plus the media on which they were grown, carefully dried to maintain the fermentation activity of the cells.

Zinpro
10400 Vicking Drive, Suite 240
Eden Prairie, MN 55344
Phone: 800-445-6145; fax: 952-944-2749
www.zinpro.com
Booth(s): 321, 323, 420, 422

Zinpro Performance Minerals, the premier source of trace minerals in the industry, deliver consistent, performance-driven results. Performance minerals must meet essential, measurable criteria based on return, response, repeatability, research, and reassurance.
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In a single dose, EXCEDE (ceftiofur crystalline free acid) Sterile Suspension delivers the kind of BRD therapy that used to require 3 to 5 doses.

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Ask about EXCEDE. No matter how you add it up, it equals more disease treatment with less handling.

As with all drugs, the use of EXCEDE is contraindicated in animals previously found to be hypersensitive to the drug. Though safe in cattle when properly given, inadvertent intra-arterial injection in the ear is possible and is fatal. EXCEDE has a pre-slaughter withdrawal time of 13 days.

EXCEDE® (Ceftiofur Crystalline Free Acid) Sterile Suspension

Pfizer Animal Health

No other dose goes so far."
For subcutaneous injection in the posterior aspect of the ear where it attaches to the head (base of the ear) in lactating dairy cattle. For subcutaneous injection in the middle third of the posterior aspect of the ear or in the posterior aspect of the ear where it attaches to the head (base of the ear) in beef and non-lactating dairy cattle.

**CAUTION**
Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

**INDICATIONS**
EXCEDE Sterile Suspension is indicated for treatment of bovine respiratory disease (BRD), shipping fever, pneumonia associated with Mannheimia haemolytica, Pasteurella multocida, and Actinobacillus suis in beef, non-lactating dairy, and lactating dairy cattle. EXCEDE Sterile Suspension is also indicated for the control of respiratory disease in beef and non-lactating dairy cattle when there is a high risk of developing BRD associated with M. haemolytica, P. multocida, and A. suis.

**CONTRAINDICATIONS**
As with all drugs, the use of EXCEDE Sterile Suspension is contraindicated in animals previously found to be hypersensitive to the drug.

**WARNINGS FOR USE IN ANIMALS ONLY. NOT FOR HUMAN USE.**
Keep out of reach of children.

Penicillins and cephalosporins can cause allergic reactions in sensitized individuals. Topical exposures to such antimicrobials, including cetodac, may elicit mild to severe allergic reactions in some individuals. Repeated or prolonged exposure may lead to sensitization. Avoid direct contact of the product with the skin, eyes, mouth and clothing. Sensitization of the skin may be alleviated by wearing latex gloves.

Persons with a known hypersensitivity to penicillin or cephalosporins should avoid exposure to this product.

In case of accidental eye exposure, flush with water for 15 minutes. In case of accidental skin exposure, wash with soap and water. Remove contaminated clothing. If allergic reaction occurs (e.g., skin rash, hives, difficulty breathing), seek medical attention.

The material safety data sheet contains more detailed occupational safety information. To obtain a material safety data sheet (MSDS) please call 1-800-733-6500. To report any adverse event please call 1-800-366-5286.

Injection of EXCEDE Sterile Suspension into the arteries of the ear is likely to result in sudden death to the animal.

**RESIDUE WARNINGS**
- Following label use as a single treatment, a 13-day pre-slaughter withdrawal period is required.
- Following label use as a single treatment, no milk discard period is required for this product.
- Use of dosage in excess of 6.8 mg CE36g or administration by unapproved routes (subcutaneous injection in the neck or intramuscular injection) may cause viscous residues.
- A withdrawal period has not been established for this product in pre-ruminating calves.
- Do not use in calves to be processed for veal.

**PRECAUTIONS**
Following subcutaneous injection in the middle third of the posterior aspect of the ear to the head (base of the ear), localized post-injection bacterial abscesses may result in abscesses formation. Attention to hygienic procedures can minimize their occurrence.

Following injections at the posterior aspect of the ear where it attaches to the head (base of the ear), areas of discoloration and signs of inflammation may persist at least 13 days post administration resulting in thin loss of eddyline tissue at slaughter.

Injection of volumes greater than 25 mL, in the middle third of the ear, may result in open draining lesions in a small percentage of cattle.

The effects of cetodac on bovine reproductive performance, pregnancy, and lactation have not been determined.

**ADVERSE EFFECTS**
Administration of EXCEDE Sterile Suspension into the ear arteries is likely to result in sudden death in cattle. During the conduct of clinical studies, there was a low incidence of acute death (none out of approximately 6000 animals). Three of these deaths were confirmed to be the result of inadvertent intra-arterial injection. No other adverse systemic effects were noted for either the antibiotic or formulation during any of the clinical and target animal studies.

**STORAGE CONDITIONS**
Store at controlled room temperature 20° to 25°C (68° to 77°F) (see USP). Shake well before using. Contents should be used within 12 weeks after the first dose is removed.

**HOW SUPPLIED**
EXCEDE Sterile Suspension is available in the following package size: 100 mL, vile.
U.S. Patent No. 5,721,359 and other patents pending. NADA 14111209. Approved by FDA.

Distributed by:
Pharmacia & Upjohn Company Division of Pfizer Inc., N.Y. N.Y. 10017

www.EXCEDE.com or call 1-866-387-2287
818 188-004
626-132
4725-23-000

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• Repeatability
• Research
• Reassurance

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(as of May 10, 2007)

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The Sheppard
United Feed Co-op, Inc.
Western Milling Quality Feeds
Schedule of Events

Scheduling and locations are subject to change without notice.

Friday, July 6

8:30 am - 4:30 pm  PSA Board of Directors Training  .  .  .  .  .  . Hilton Palacio del Rio, Corte Real
4:00 pm - 6:00 pm  ASAS Membership Committee Meeting  .  .  .  . Marriott Rivercenter, Conf. Rm. 10
7:00 pm - 9:00 pm  ASAS New Board Orientation Meeting/Dinner  .  .  .  . Marriott Rivercenter, Conf. Rm. 11

Saturday, July 7

7:30 am - 5:00 pm  ADSA Board of Directors Meeting  .  .  .  .  . Marriott Rivercenter, Conf. Rm. 5 & 18
8:00 am - 5:00 pm  PSA Board of Directors Meeting  .  .  .  .  . Hilton Palacio del Rio, La Corona
8:00 am - 5:00 pm  ASAS Board of Directors Meeting  .  .  .  .  . Marriott Rivercenter, Conf. Rm. 6 & 17
12:00 pm - 5:00 pm  Registration Open  .  .  .  .  .  . (Pre-registered, badge and material pick-up only)  .  .  . Convention Center, East Registration
1:00 pm - 5:00 pm  William Chalupa Recognition Symposium  .  .  .  . Convention Center, Room 006CD
3:15 pm - 4:30 pm  SAD Tour: The Alamo  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . Meet in the Hyatt lobby
5:00 pm - 6:00 pm  William Chalupa Recognition Reception  .  .  .  . Convention Center, Grotto
5:15 pm - 7:00 pm  SAD Undergraduate Informal Mixer: Café Olé Riverwalk Cruise  .  .  .  .  .  .  .  . Meet in the Hyatt lobby
7:00 pm - 9:00 pm  William Chalupa Recognition Dinner  .  .  .  .  .  . Convention Center, Room 008AB
7:30 pm - 9:00 pm  ARPAS Executive Committee Meeting  .  .  .  .  . Marriott Rivercenter, Conf. Suite 514

Sunday, July 8

7:00 am - 7:00 pm  Registration Open  .  .  .  .  .  .  .  .  .  .  .  .  .  . Convention Center, East Registration
7:30 am - 10:00 am  ADSA New Board Orientation  .  .  .  .  .  .  . Marriott Rivercenter, Conf. Rm. 16
8:00 am - 12:00 pm  ASAS Board of Directors Meeting  .  .  .  .  . Marriott Rivercenter, Salon J
8:00 am - 5:00 pm  PSA Board of Directors Meeting  .  .  .  .  . Hilton Palacio del Rio, La Corona
8:00 am - 5:00 pm  Commercial Exhibit Set-Up  .  .  .  .  .  .  .  . Convention Center, Exhibit Hall C
8:00 am - 5:00 pm  Student Dairy Clubs Set Up Exhibits  .  .  .  .  . Convention Center, Exhibit Hall C
8:00 am - 5:00 pm  ARPAS Governing Board Meeting  .  .  .  .  .  .  . Marriott Rivercenter, Conf. Rm. 11
8:00 am - 5:00 pm  Hospitality Lounge  .  .  .  .  .  .  .  .  .  .  .  .  .  . Convention Center, Room 208
8:00 am - 5:00 pm  Triennial Growth Symposium  .  .  .  .  .  .  .  . Convention Center, Room 214D
11:00 am - 12:00 pm  SAD Officers and Advisor Meeting  .  .  .  .  . Convention Center, Room 007B
12:00 pm - 1:00 pm  ADSA-SAD Midday Mixer and Taco Bar  .  .  .  . Convention Center, Room 008AB
12:00 pm - 1:00 pm  ADSA JDS Editors and Journal Management Committee Luncheon  .  .  .  .  . Marriott Rivercenter, Conf. Rm. 7
1:00 pm - 3:00 pm  ASAS Foundation Board of Trustees Meeting  .  .  .  . Marriott Rivercenter, Conf. Rm. 16
1:00 pm - 5:00 pm  ADSA Journal Management Committee Meeting  .  .  . Marriott Rivercenter, Conf. Rm. 7
1:00 pm - 5:00 pm  ADSA-SAD Quiz Bowl Seating/Preliminary Rounds  .  .  . Convention Center, Rooms 007C & D
1:00 pm - 5:00 pm  Informal Nutrition Symposium  .  .  .  .  .  .  .  . Convention Center, Room 214A
2:00 pm - 3:00 pm  ADSA Production Division Council Meeting  .  .  . Convention Center, Room 204A
2:00 pm - 3:30 pm  ADSA Foundation Board of Trustees Meeting  .  .  . Marriott Rivercenter, Conf. Rm. 5
3:00 pm - 4:00 pm  ADSA Production Division Nominating Committee  .  . Convention Center, Room 204A
3:00 pm - 5:00 pm  2007 and 2008 Program Committee Meeting  

4:30 pm - 6:30 pm  Plenary Session—The DC Connection: Science Policy, Research Support, and the Professional Animal Scientist  

5:00 pm - 6:00 pm  ADSA Dairy Foods Division Council Meeting  

5:00 pm - 5:30 pm  ADSA-SAD Quiz Bowl Final Round  

5:30 pm - 7:00 pm  Triennial Growth Symposium Reception  

7:00 pm - 8:30 pm  2007 ADSA-PSA-AMPA-ASAS Opening Session  

8:30 pm - 10:00 pm  2007 ADSA-PSA-AMPA-ASAS Opening Reception  

Monday, July 9

6:30 am - 9:00 am  ADSA Production Division Extension Breakfast  

6:30 am - 8:00 am  Quadrennial Poultry Extension Workshop Breakfast  

6:30 am - 4:00 pm  Registration Open  

7:00 am - 8:15 am  ADSA-SAD Exhibit Set-up  

7:30 am - 9:30 am  Poster Presentations  

7:30 am - 6:00 pm  Commercial Exhibits and ADSA-SAD Exhibits Open  

7:30 am - 5:00 pm  Job Resource Center  

8:00 am - 5:00 pm  Hospitality Lounge  

8:30 am - 9:15 am  ADSA-SAD Business Meeting  

9:30 am - 10:30 am  ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports  

9:30 am - 10:45 am  ADSA-SAD Activities Symposium  

9:30 am - 5:00 pm  Scientific Sessions  

10:00 am - 11:00 am  ASAS Retirees Gathering  

10:30 am - 12:30 pm  ARPAS Exam  

11:00 am - 5:00 pm  ADSA-SAD Undergraduate Paper Presentations  

12:30 pm - 2:00 pm  ASAS Past Presidents’ Luncheon  

12:30 pm - 1:00 pm  ASAS Graduate Student Business Meeting  

12:30 pm - 2:00 pm  ADSA Past Presidents’ Luncheon  

12:30 pm - 2:00 pm  ACAN Annual Meeting  

12:30 pm - 2:00 pm  ASAS Publications Committee Luncheon  

12:30 pm - 2:00 pm  USDA-ARS Staff Update Luncheon  

12:30 pm - 2:00 pm  Michigan State Lunch  

2:00 pm - 4:00 pm  ARPAS Exam  

2:00 pm - 3:30 pm  DISCOVER Steering Committee Meeting  

2:00 pm - 5:30 pm  Southern Branch ADSA Symposium and Business Meeting  

4:00 pm - 6:00 pm  Exhibitor Reception  

5:00 pm - 7:00 pm  Informal Calf Gathering  

5:00 pm - 6:00 pm  ADSA Town Hall Meeting  

5:30 pm - 7:00 pm  ASAS Award Winners Reception and Photo Session  

6:00 pm - 9:00 pm  SAD Informal Mixer: Picnic in the Park  

7:00 pm - 8:30 pm  ASAS Awards Program  

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Schedule of Events

Tuesday, July 10

8:00 pm - 11:00 pm  
Iowa State Reception  
Marriott Rivercenter, Conf. Rm. 17-18

9:00 pm - Closing  
Graduate Student Mixer  
Steers & Beers Steakhouse and Saloon

6:15 am  
5K Fun Run  
Meet at the Convention Center

6:30 am - 8:00 am  
ADSA Dairy Foods Division Extension Breakfast  
Marriott Rivercenter, Conf. Rm. 5

6:30 am - 8:00 am  
JDS Editorial Board Breakfast/Meeting  
Marriott Rivercenter, Conf. Rm. 6

6:30 am - 8:00 am  
Penn State Breakfast  
Marriott Rivercenter, Conf. Rm. 1-2

6:30 am - 8:00 am  
University of Illinois Breakfast  
Marriott Rivercenter, Conf. Rm. 3-4

6:30 am - 8:00 am  
National Poultry Waste Organization Committee Breakfast  
Convention Center, Room 007A

7:00 am - 8:00 am  
Kentucky Breakfast  
Marriott Rivercenter, Conf. Rm. 12

7:00 am - 3:30 pm  
Registration Open  
Convention Center, East Registration

7:30 am - 9:30 am  
Poster Presentations  
Convention Center, Exhibit Hall C

7:30 am - 5:00 pm  
Commercial Exhibits and ADSA-SAD Exhibits Open  
Convention Center, Exhibit Hall C

7:30 am - 5:00 pm  
Job Resource Center  
Convention Center, Exhibit Hall C

8:00 am - 5:00 pm  
Hospitality Lounge  
Convention Center, Room 208

8:30 am - 9:30 am  
ADSA-SAD Business Meeting - Election of Officers  
Convention Center, Room 007C

9:30 am - 5:00 pm  
Scientific Sessions  
Convention Center

9:30 am - 10:15 am  
ADSA-SAD Student Career Symposium  
Convention Center, Room 007C

10:30 am - 11:00 am  
ADSA-SAD Job Fair  
Convention Center, Room 007D

10:30 am - 11:30 am  
Spouse Event-Trolley Tour  
The Alamo

11:30 am - 12:30 pm  
ADSA Dairy Foods Division Business Meeting  
Convention Center, Room 201

11:30 am - 12:30 pm  
ARPAS Business Meeting  
Convention Center, Room 207A

11:30 am - 12:30 pm  
ADSA-SAD Award and Club Photos  
Convention Center, Room 007C

11:30 am - 12:30 pm  
ASAS Editors’ Luncheon  
Hilton Palacio del Rio, El Mirador

12:00 pm - 2:00 pm  
ADSA Dairy Foods Division Milk Proteins and Enzyme Committee  
Convention Center, Room 201

12:30 pm - 2:00 pm  
ADSA-SAD Awards Luncheon  
Convention Center, Room 007B

12:30 pm - 2:00 pm  
ADSA Dairy Foods Division Business Meeting  
Convention Center, Room 207A

12:30 pm - 2:00 pm  
ASAS Editors’ Luncheon  
Hilton Palacio del Rio, El Mirador

12:30 pm - 2:00 pm  
Poultry Extension Luncheon  
Convention Center, Room 007A

2:00 pm - 3:00 pm  
WPSA Lecture  
Convention Center, Room 205

3:00 pm - 5:00 pm  
PSA Business Meeting  
Convention Center, Room 205

2:00 pm - 4:00 pm  
ARPAS Exam  
Convention Center, Room 218

2:00 pm - 3:00 pm  
ADSA-SAD Award and Club Photos  
Convention Center, Room 007C

2:30 pm - 3:30 pm  
ADSA-SAD Committee Meeting - Old and New Officers and Advisors  
Convention Center, Room 007D

3:30 pm - 5:00 pm  
ASAS JAS Forum (Division/Associate Editors and Authors)  
Convention Center, Room 206A

4:00 pm - 4:30 pm  
CAST Issue Paper  
Convention Center, Room 207A

4:30 pm - 5:00 pm  
Three I’s and U: A CAST Town Hall Meeting  
Convention Center, Room 207A
**Wednesday, July 11**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>6:30 am - 8:00 am</td>
<td><em>Poultry Science</em> Editors’ Meeting and Breakfast</td>
<td>Hilton Palacio del Rio, La Princesa</td>
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<tr>
<td>6:30 am - 8:00 am</td>
<td>Purdue University Breakfast</td>
<td>Marriott Rivercenter, Conf. Rm. 17-18</td>
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<tr>
<td>6:30 am - 8:00 am</td>
<td>Virginia Tech Breakfast</td>
<td>Marriott Rivercenter, Conf. Rm. 7</td>
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<td>7:00 am - 3:00 pm</td>
<td>Registration Open</td>
<td>Convention Center, East Registration</td>
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<tr>
<td>7:30 am - 9:30 am</td>
<td>Poster Presentations</td>
<td>Convention Center, Exhibit Hall C</td>
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<tr>
<td>7:30 am - 5:00 pm</td>
<td>Job Resource Center</td>
<td>Convention Center, Exhibit Hall C</td>
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<tr>
<td>7:30 am - 3:00 pm</td>
<td>Commercial Exhibits Open</td>
<td>Convention Center, Exhibit Hall C</td>
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<tr>
<td>8:00 am - 5:00 pm</td>
<td>Hospitality Lounge</td>
<td>Convention Center, Room 208</td>
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<tr>
<td>8:00 am - 10:00 am</td>
<td>PSA 2008 Committee Chairs Meeting</td>
<td>Hilton Palacio del Rio, La Duquesa</td>
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<tr>
<td>9:30 am - 10:00 am</td>
<td>Joint ADSA-ASAS Business Meeting</td>
<td>Convention Center, Room 206B</td>
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<tr>
<td>10:00 am - 10:30 am</td>
<td>ADSA Business Meeting</td>
<td>Convention Center, Room 206A</td>
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<tr>
<td>10:00 am - 10:30 am</td>
<td>ASAS Business Meeting</td>
<td>Convention Center, Room 207A</td>
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<tr>
<td>10:00 am - 10:30 am</td>
<td>AMPA Business Meeting</td>
<td>Convention Center, Room 207B</td>
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<tr>
<td>10:30 am - 5:00 pm</td>
<td>Scientific Sessions</td>
<td>Convention Center</td>
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<tr>
<td>12:30 pm - 2:00 pm</td>
<td>ADSA Board of Directors Meeting</td>
<td>Marriott Rivercenter, Conf. Rm. 18</td>
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<td>12:30 pm - 2:00 pm</td>
<td>American Poultry Historical Society Luncheon</td>
<td>Hilton Palacio del Rio, Ibiza Restaurant</td>
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<td>12:30 pm - 2:00 pm</td>
<td>JAPR Editors’ Meeting and Luncheon</td>
<td>Hilton Palacio del Rio, La Princesa</td>
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<td>12:30 pm - 2:00 pm</td>
<td>PSA New Board Luncheon</td>
<td>Hilton Palacio del Rio, La Corona</td>
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<td>12:30 pm - 2:00 pm</td>
<td>Feed Analysis Consortium</td>
<td>Convention Center, Room 205</td>
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<tr>
<td>1:00 pm - 2:30 pm</td>
<td>ASAS Board of Directors Meeting</td>
<td>Marriott Rivercenter, Conf. Rm. 17</td>
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<td>2:00 pm - 4:00 pm</td>
<td>ARPAS Exam</td>
<td>Convention Center, Room 218</td>
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<td>3:00 pm - 6:00 pm</td>
<td>Commercial Exhibits Dismantle</td>
<td>Convention Center, Exhibit Hall C</td>
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<td>4:30 pm - 6:00 pm</td>
<td>2007 Closing Reception</td>
<td>Convention Center, Room 006</td>
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<td>3:00 pm - 5:00 pm</td>
<td>GrowSafe User Group Meeting</td>
<td>Convention Center, Room 204A</td>
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<td>5:30 pm - 7:00 pm</td>
<td>Distillers Grains Symposium Reception</td>
<td>Convention Center, Tower View Lobby</td>
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<td>6:00 pm - 10:00 pm</td>
<td>PSA Awards Banquet</td>
<td>Hilton Palacio del Rio, Salon del Rey</td>
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<tr>
<td>6:30 pm - 10:30 pm</td>
<td>AMPA Dinner</td>
<td>Marriott Rivercenter, Conf. Rm. 17-18</td>
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**Thursday, July 12**

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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>8:00 am - 10:30 am</td>
<td>ADSA-ASAS-PSA Joint Executive</td>
<td>Marriott Rivercenter, Conf. Rm. 18</td>
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<tr>
<td>8:00 am - 10:00 am</td>
<td>Registration Open</td>
<td>Convention Center, East Registration</td>
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<tr>
<td>8:30 am - 11:30 am</td>
<td>Scientific Sessions</td>
<td>Convention Center</td>
</tr>
</tbody>
</table>
ADSA Student Affiliate Division Program

SAD Special Events

Scheduling and locations are subject to change without notice.

Saturday, July 7

SAD Tour: The Alamo*
3:30 pm – 4:30 pm
The Alamo, 300 Alamo Plaza in downtown San Antonio
Meet in the Hyatt lobby by 3:15 pm to walk as a group
*Pre-registration required

More than 2.5 million people a year visit the 4.2-acre complex known worldwide as “The Alamo.” Most come to see the old mission where a small band of Texans held out for 13 days against the Centralist army of General Antonio López de Santa Anna. Located on Alamo Plaza in downtown San Antonio, the Alamo represents nearly 300 years of history. Three buildings—the Shrine, Long Barrack Museum and Gift Museum—house exhibits on the Texas Revolution and Texas history. Visitors are welcome to stroll through the beautiful Alamo Gardens. Just a short distance from the River Walk and the Hyatt (the student hotel), the Alamo is a “must see” for all who come to San Antonio.

SAD Undergraduate Evening Informal Mixer: Café Olé Riverwalk Cruise*
5:30 pm – 7:00 pm
Café Olé, 521 Riverwalk (located at the corner of Losoya and Commerce Streets)
Meet in the Hyatt lobby by 5:15 pm to walk as a group (approx. two blocks)
*Pre-registration required

No trip to San Antonio is complete without a beautiful cruise along the San Antonio River. The River Walk is one of the largest tourist attractions in San Antonio. Located in the city’s downtown area, the San Antonio River Walk is three miles of riverfront walking area winding under the busy streets and bridges of San Antonio. The Café Olé Riverwalk Cruise offers onboard soft drinks and cocktails. This will be a great opportunity to get acquainted with the area and discover the many fine shops, restaurants, cafés, clubs, and hotels that line the San Antonio River Walk.

Sunday, July 8

SAD Midday Mixer and Taco Bar*
12:00 pm – 1:00 pm
Convention Center, 008AB
*Pre-registration required

Plan to join us for the first official event of the Student Affiliate Division Meetings. The mixer is a great way to have a free lunch and become acquainted with undergrads from other clubs who will be participating in the meetings. Registration is limited to undergraduate students and advisors.
Dairy Quiz Bowl  
1:00 pm – 5:30 pm  
Convention Center, 007C-007D

The Dairy Quiz Bowl invites teams from all universities to participate in this year’s event. Seating test will be held immediately following the Midday Mixer and Pizza Party. Once teams are placed, competition will begin and continue throughout the afternoon. The top teams will move onto the final round, which will be held on Sunday evening at 5:00 pm. To enter your club’s team, go the meetings section of the ADSA-SAD web site at www.adsa.org/sad.asp/.

Monday, July 9

SAD Informal Mixer: Picnic in the Park*  
6:00 pm – 9:00 pm  
HemisFair Park (200 South Alamo Street)  
Go South on Losoya past Rivercenter Mall, approximately 0.9 miles  
Meet in the Hyatt lobby by 5:45 pm to walk as a group  
*Pre-registration required

Get ready for a mix of Southern hospitality and Southern home cookin’—a taste of Louisiana in the heart of Texas! This picnic features Louisiana jambalaya, white beans, and salad, and is set in one of San Antonio’s outdoor jewels, HemisFair Park. Originally created as the grounds for the 1968 World’s Fair, this park is a favorite of locals and visitors alike. Stroll through the park’s 12 acres of fountains, pools, and beautifully landscaped grounds.

Tuesday, July 10

SAD Career Symposium: Student Job Fair  
9:30 am – 11:30 am  
Convention Center, Exhibit Hall C

This two-part program will begin with a career panel of professionals representing various facets of the animal agriculture industry. Students will have the opportunity to visit with the panelists and learn about careers in the industry, get useful tips on career planning, and much more. After the panel, students will attend the Student Job Fair in the Exhibit Hall. More than 70 companies related to the dairy and animal science industry will be in the Exhibit Hall, so students will have ample opportunity to visit with company reps, and inquire about careers and internships that may be available to undergraduate students. Students are encouraged to dress professionally (business casual or better) and bring several copies of their resumes.

SAD Awards Luncheon*  
11:45 am – 2:00 pm  
Convention Center, 008AB  
*Pre-registration required

Plan to attend this year’s SAD Awards Luncheon. Back by popular demand—be entertained as the student officers go head-to-head with ADSA Board members in a mini dairy quiz bowl! See who really knows more about the history of ADSA and the dairy industry! There are sure to be a few surprises and plenty of laughs along the way. The afternoon will culminate with the presentation of student awards and announcement of new SAD officers. Both students and professionals are encouraged to attend. This is a wonderful chance to get to know the next generation of the dairy industry.
SAD Schedule of Events

Scheduling and locations are subject to change without notice.

Saturday, July 7

12:00 pm - 5:00 pm  
Registration Open  
(Pre-registered, badge and material pick-up only)  
Convention Center, East Registration

3:15 pm - 4:30 pm  
SAD Tour: The Alamo  
Meet in the Hyatt lobby

5:15 pm - 7:00 pm  
SAD Undergraduate Informal Mixer:  
Café Olé Riverwalk Cruise  
Meet in the Hyatt lobby

Sunday, July 8

7:00 am - 7:00 pm  
Registration Open  
Convention Center, East Registration

8:00 am - 5:00 pm  
Student Dairy Clubs Exhibit Set-Up  
Convention Center, Exhibit Hall C

11:00 am - 12:00 pm  
SAD Officers and Advisor Meeting  
Convention Center, Room 007B

12:00 pm - 1:00 pm  
ADSA-SAD Midday Mixer and Taco Bar  
Convention Center, Room 008AB

1:00 pm - 5:00 pm  
ADSA-SAD Quiz Bowl Seating/Preliminary Rounds  
Convention Center, Rooms 007C & 007D

5:00 pm - 5:30 pm  
ADSA-SAD Quiz Bowl Final Round  
Convention Center, Room 007C

7:00 pm - 8:30 pm  
2007 ADSA-PSA-AMPA-ASAS Opening Session  
Convention Center, Ballroom C

8:30 pm - 10:00 pm  
2007 ADSA-PSA-AMPA-ASAS Opening Reception  
Convention Center, Ballroom C

Monday, July 9

6:30 am - 4:00 pm  
Registration Open  
Convention Center, East Registration

7:00 am - 8:15 am  
ADSA-SAD Exhibit Set-Up  
Convention Center, Exhibit Hall C

7:30 am - 9:30 am  
Poster Presentations  
Convention Center, Exhibit Hall C

7:30 am - 6:00 pm  
Commercial Exhibits and ADSA-SAD Exhibits Open  
Convention Center, Exhibit Hall C

8:30 am - 9:15 am  
ADSA-SAD Business Meeting  
Convention Center, Room 007C

9:30 am - 10:30 am  
ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports  
Convention Center, Room 007D

9:30 am - 10:30 am  
ADSA-SAD Interviews for Outstanding Student and Advisor Awards  
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9:30 am - 10:45 am  
ADSA-SAD Activities Symposium  
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11:00 am - 5:00 pm  
ADSA-SAD Undergraduate Paper Presentations  
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4:00 pm - 6:00 pm  
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6:00 pm - 9:00 pm  
SAD Informal Mixer: Picnic in the Park  
HemisFair Park
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<td>ADSA Awards Program</td>
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<tr>
<td>7:30 am - 9:30 am</td>
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2:00 pm – 5:00 pm  Dairy Foods: Cheese I, Convention Center, Room 201 (page 118)

Tuesday, July 10
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9:30 am – 10:30 am  ADSA Foundation Scholar Lecture - Dairy Foods, Convention Center, Room 201 (page 166)
10:30 am – 11:30 am  Danisco International Dairy Science Award Lecture, Convention Center, Room 201 (page 167)
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2:00 pm – 5:00 pm  Dairy Foods: Chemistry and Microbiology, Convention Center, Room 201
2:00 pm – 5:00 pm  SYMPOSIUM: Dairy Foods: On the Road From Analysis and Discovery of Functional Milk Bioactives to New Products and Health Outcomes, Convention Center, Room 202 (page 171)

Wednesday, July 11
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2:00 pm – 5:00 pm  SYMPOSIUM: Dairy Foods: Milk Proteins and Enzymes: Proteomics and Milk, Convention Center, Room 202 (page 217)
Sunday, July 8

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM
Triennial Growth Symposium
Interface Between Growth and Immunology (Morning Session)

Chairs: Don Mulvaney, Auburn University and Mark Mirando, USDA-CSREES-NRI
Sponsors: EAAP, Prince Agri Products, Inc., USDA-CSREES
214 D

8:00 AM  Introduction. N. E. Forsberg*, Oregon State University, Corvallis.

8:05 AM  Welcome from the Sponsors. K. Purser¹ and M. Mirando², ¹Prince-Agri Products, ²USDA-CSREES-NRI.

8:15 AM  1  Brain-immune-periphery cross talk: Shared signals that link pathogen sensing and growth biology. J. L. Burton*, Michigan State University, East Lansing.

9:05 AM  Integrating the immune system with the regulation of growth and efficiency. M. Spurlock*, Iowa State University, Ames.

9:55 AM  Break

10:15 AM  2  Interleukin-15: A cytokine which modulates fat:lean body composition. L. S. Quinn*¹², ¹University of Washington, Seattle, ²VA Puget Sound Health Care System, Seattle, WA.

11:05 AM  3  Regulation of muscle growth by pathogen associated molecules. R. A. Frost* and C. H. Lang, Pennsylvania State University, Hershey.

SYMPOSIUM
Triennial Growth Symposium
Interface Between Growth and Immunology (Afternoon Session)

Chair: Jamie Matthews, University of Kentucky
Sponsors: EAAP, Prince Agri Products, Inc., USDA-CSREES
214 D

1:00 PM  4  Insulin resistance by TNF-alpha in skeletal muscle and fat. M. Lorenzo*, S. Fernandez-Veledo, R. Vila-Bedmar, L. Garcia-Guerra, and I. Nieto-Vazquez, Biochemistry Department, Pharmacy Faculty, Complutense University, Madrid, Spain.

1:50 PM  5  Proinflammatory changes in adipose tissue: Effects of diet-induced obesity. D. K. Brake, H. Wu, C. M. Ballantyne, and C. W. Smith*, Baylor College of Medicine, Houston, TX.

2:40 PM  Break

3:00 PM  6  Critical control points in the impact of proinflammatory immune response on growth and metabolism. T. H. Elsasser*¹, S. Kahl², and J. L. Sartin², ¹USDA-ARS-Growth Bio Lab, Beltsville, MD, ²Auburn University, Auburn, AL.

3:50 PM  7  Bi-directional communication: Growth and immunity in domestic animals. J. A. Carroll*, USDA-ARS Livestock Issues Research Unit, Lubbock, TX.
SYMPOSIUM
Informal Nutrition Symposium
The Impact of Imprinting on Biological and Economic Performance of Animals
Chair: Mamduh Sifri, ADM Alliance Nutrition, Inc.
214 A

1:00 PM  Symbolism for the advisor and the mentor - remembering Dr. David Sklan. M. Sifri*, ADM Alliance Nutrition, Inc., Quincy, IL.

1:15 PM  Embryonic and neonatal (parinatal) imprinting: (a team presentation): 1. Introductions, definitions and overview. P. R. Ferket*, North Carolina State University, Raleigh.


2:00 PM  Embryonic and neonatal (parinatal) imprinting: (a team presentation): 3. Maternal and developmental impact. Z. Uni*, Hebrew University of Jerusalem, Rehovot, Israel.

2:30 PM  Break

2:40 PM  Awards and Recognitions.

3:00 PM  Embryonic and neonatal (parinatal) imprinting: (a team presentation): 4. Embryonic and neonatal nutritional and environmental status. P. R. Ferket*, North Carolina State University, Raleigh.

3:30 PM  Oral immune tolerance in birds and mammals: the digestive tract development determines the strategy. A. Friedman*, Hebrew University of Jerusalem, Rehovot, Israel.

4:00 PM  Microbial imprinting in gut development and health. J. Dibner*, Novus International, St. Charles, MO.

4:30 PM  Discussions, conclusions, messages and recommendations. W. Guenter*1 and M. E. Cook2, 1University of Manitoba, Canada, 2University of Wisconsin, Madison.

5:15 PM  Adjourn with a meaningful message.

PLENARY SESSION
The DC Connection: Science Policy, Research Support, and The Professional Animal Scientist
Chair: Jerry Baker, FASS
4:30 pm - 6:30 pm
Sponsors: FASS, Monsanto Company
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In the last few months leading up to the 2007 ADSA-PSA-AMPA-ASAS Joint Annual Meeting, considerable discussion has taken place in Washington, DC, concerning research funding. These discussions have direct implications for animal scientists working at federal, state, and corporate research and educational facilities. Topics have included: federal “earmarks,” authorization vs. appropriation bills, 2007 Farm Bill, 2007 and 2008 Budgets, National Institute of Food and Agriculture (NIFA), American Competitiveness Initiative (ACI), and other innovation proposals.

This plenary session will help you discover the impacts of the federal budget proposals on major R&D agencies, examine historical R&D trends and their impact on US science and engineering, and discuss the political outlook for R&D in the appropriations process.

Speakers include: Ashley Peterson, Congressional Science Fellow; Lowell Randel, USDA Deputy Assistant Secretary for Congressional Relations; and Kei Koizumi, Director R&D Budget and Policy Program Directorate for Science and Policy Programs at AAAS; and additional representatives from the executive and legislative branches of the US government as well as other specialists outside the federal agencies.
Monday, July 9

POSTER PRESENTATIONS
Animal Behavior & Well-Being - Livestock and Poultry I
Exhibit Hall C

M1 Analysis of the association of parity, body condition and lactation feed intake with claw lesions in breeding sows. S. S. Anil*, L. Anil, and J. Deen, University of Minnesota, St Paul.

M2 Analysis of the association of claw lesions with lameness in breeding sows. L. Anil*, S. S. Anil, and J. Deen, University of Minnesota, St Paul.

M3 Analysis of the association of periparturient risk factors with sow longevity. L. Anil*, S. S Anil, and J. Deen, University of Minnesota, St Paul.


M7 Comparison of beak trimming methods on early broiler breeder performance. S. N. Henderson*, J. T. Barton2, W. J. Kuenzel1, A. D. Wolfenden1, S. E. Higgins1, J. P. Higgins1, C. A. Lester1, G. I. Tellez1, and B. M. Hargis1, 1University of Arkansas, Fayetteville, 2Tyson Foods, Springdale, AR.

M8 Analysis of the incidence of claw lesions in breeding sows. S. S. Anil*, L. Anil, and J. Deen, University of Minnesota, St Paul.

M9 Effect of the presence of hungry conspecifics in the stress and weight gains of recently weaned lambs. J. Rojas, R. Vázquez, F. I. Flores-Pérez, V. Aguirre, and A. Orihuela*, Universidad Autónoma del Estado de Morelos, Morelos, México.

M10 Bone quality, behavioural repertoire, and physical condition of laying hens housed in conventional, modified and furnished colony battery cages. M. J. Jendral*, D. R. Korver1, J. S. Church2, and J. R. Feddes1, 1University of Alberta, Edmonton, Canada, 2Alberta Agriculture, Food and Rural Development, Edmonton, Canada.

Animal Health - Livestock and Poultry
Bovine I
Exhibit Hall C

M11 Osteopontin expression during the periparturient period in dairy cows naturally infected with Mycobacterium avium subsp. paratuberculosis infection. E. L. Karcher*, D. C. Beitz1, and J. R. Stabel2, 1Iowa State University, Ames, 2USDA-ARS-National Animal Disease Center, Ames, IA.

M12 Development of a novel enzyme-linked immunosorbent assay for the diagnosis of Johne's disease. S. Eda*, A. J. Branscum2, Y. Kaneko1, M. C. Scott1, and C. A. Speer1, 1University of Tennessee, Knoxville, 2University of Kentucky, Lexington.


M15 Changes in protein expression in Escherichia coli as a consequence of growth in milk whey. J. D. Lippolis* and T. A. Reinhard, National Animal Disease Center / ARS/ USDA, Ames, IA.


Effect of vitamin E and selenium administration on concentration of malondialdehyde in udder milk. P. Wicheanson¹, V. Harpanichpum², V. Chupia³, P. Vinitchaikul⁴, and W. Suriyasathaporn⁵. ¹Sixth year student, Faculty of Veterinary Medicine, Chiang Mai University, Muang, Chiang Mai, Thailand, ²Dairy Product Research and Development Unit, Chiang Mai, Muang, Chiang Mai, Thailand, ³Faculty of Veterinary Medicine, Chiang Mai University, Muang, Chiang Mai, Thailand.

Effect of feeding an immunostimulant feed supplement (OmniGen-AF) during the dry period on somatic cell scores (SCS) in early lactation Holstein cows. H. T. Ballantine*¹, J. D. Chapman², Y.-Q Wang³, and N. E. Forsberg⁴, ¹Ballantine Consulting, Hiram, GA, ²Prince Agri Products, Quincy, IL, ³Oregon State University, Corvallis, ⁴OmniGen Research, Corvallis, OR.


The effect of uterine infusion of ceftiofur in the immediate postpartum on lactation and reproduction in dairy cows. R. G. Bruno*, M. F. Sa Filho, F. S. Lima, V. J. A. Magalhaes, and J. E. P. Santos, *Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare.*


Reduction of mortality and morbidity and increase in milk production in dairy livestock by plasmid-mediated growth hormone releasing hormone treatment during a period of high temperatures and humidity. P. A. Brown*, A. S. Khan, and R. Draghia-Akli, ADViSYS Inc, *The Woodlands, TX.*

Factors affecting death rate of lactating cows in Dairy Herd Improvement herds. R. H. Miller, H. D. Norman*, M. T. Kuhn, and J. R. Wright, *Agricultural Research Service, USDA, Beltsville, MD.*

Identification of *Monascus purpurea* (red yeast) contamination of silages in the mid-West. G. Seiler¹, Y. Wang², and N. E. Forsberg³, ¹Fermentation Science and Engineering, University of California Davis, ²University College Dublin, Belfield, Dublin, Ireland, ³Beltsville, MD.

*Neotyphodium coenophialum* exposure reduces carcass mass and ribeye area, but not meat quality of growing steers grazing high versus low endophyte infected forages. K. R. Brown*, R. B. Cox¹, G. A. Anderson¹, G. K. Rentfrow¹, L. P. Bush¹, J. R. Strickland², J. A. Boling¹, and J. C. Matthews³, ¹University of Kentucky, Lexington, ²Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY.

Plasma metabolite and mineral levels of dry cows out–wintered on brassica forages. P. Gazzola*¹, ², L. Boyle¹, P. French¹, A. Hanlon², and F. Mulligan², ¹Teagasc, Fermoy, County Cork, Ireland, ²University College Dublin, Belfield, Dublin, Ireland.

Grazing high versus low endophyte-infected tall fescue reduces contractility of bovine lateral saphenous veins. J. L. Klotz*, K. R. Brown¹, L. P. Bush², J. C. Matthews², J. A. Boling², and J. R. Strickland¹, ¹USDA-ARS, FAPRU, Lexington, KY, ²University of Kentucky, Lexington.

Ergocryptine and ergonovine induced contractile responses in fescue naïve bovine lateral saphenous veins. J. L. Klotz*, B. H. Kirch¹, G. E. Aiken¹, L. P. Bush², B. C. Arrington², and J. R. Strickland¹, ¹USDA-ARS, FAPRU, Lexington, KY, ²University of Kentucky, Lexington.

Defining cutoff points for subclinical endometritis at different stages of lactation. K. N. Galvão*, S. B. Brittin, M. Frajblat, and R. O. Gilbert, *Cornell University, Ithaca, NY.*

**Breeding and Genetics - Livestock and Poultry I**

**Exhibit C**

Effects of selection for post-weaning BW gain on carcass characteristics of *Bos indicus* and tropical adapted *Bos taurus* breeds. S. F. M. Bonilha*¹, ², L. O. Tedeschi¹, I. U. Packer¹, A. G. Razook¹, G. F. Alleoni¹, F. D. Resende¹, R. F. Nardon¹, and L. A. Figueiredo³, ¹Texas A&M University, College Station, ²ESALQ/USP, Piracicaba, SP, Brazil, ³Instituto de Zootecnia, Sertãozinho, SP, Brazil, ⁴Instituto de Zootecnia, Nova Odessa, SP, Brazil, ⁵APTA, Colina, SP, Brazil.
M32  Gene expression analysis of pig muscle associated to cholesterol and fat parameters. A. Cánovas1, J. Casellas*1, L. Varona1, I. Díaz2, R. Quintanilla1, and R. N. Pena1, 1Genètica i Millora Animal. IRTA-Lleida, Lleida, Spain, 2Tecnologia dels Aliments. IRTA-Monells, Monells, Spain.

M33  Positive association between porcine PTHLH gene and teat number in a F1 Meishan and Iberian crossbreed. M. Martínez*1, J.L. Noguera1, O. Ramírez2, E. Alves1, and R.N. Pena1, 1Genètica i Millora Animal. IRTA-Lleida, Lleida, Spain, 2Departament de Ciència Animal i dels Aliments. UAB, Bellaterra. Spain, 3Departamento de Mejora Genética Animal. SGIT-INIA, Madrid, Spain.

M34  Rapid characterization of radiation hybrid panel DNA by SYBR® Green I-based dissociation curve analysis and application for river buffalo gene mapping. K. J. Kochan1, M. E. J. Amaral2, and P. K. Riggs*1, 1Texas A&M University, College Station, 2IBILCE, UNESP, São José do Rio Preto, Brasil.

M35  Comparison of ribosomal protein gene distribution between full-length enriched cDNA libraries from multiple stages of porcine early embryo. R. S. Wu*, E.-C. Lin, C. C. Hsu, and W. T. K. Cheng, Department of Animal Science and Technology, National Taiwan University, Taipei, Taiwan.

M36  Use of random regression model in the milk yield analysis of water buffaloes. A. A. Ramos*1, C. V. Araújo2, S. I. Araújo2, and D. C. P. Pereira1, 1Sao Paulo State University, Botucatu, SP, Brazil, 2Federal Rural University of Amazonia, Belém, PA, Brazil.

M37  Effects of cytoplasmic line on scrotal circumference and semen quality traits in Angus bulls. A. G. Garmyn* and D. W. Moser, Kansas State University, Manhattan.


M40  Genomic structure and polymorphisms of the bovine c21orf66 gene. K. R. Wunderlich*, C. A. Abbey, and C. A. Gill, Texas A&M University, College Station.

M41  Application of the Sleeping Beauty transposon system to avian cells. B-W. Kong*1, L. K. Foster2, and D. N. Foster2, 1University of Arkansas, Fayetteville, 2University of Minnesota, St. Paul.

M42  Evaluation of growth traits of Brazilian herefords using multivariate analysis. J. C. Souza*1, L. T. Campos3, J. A. Freitas2, R. Weaber1, and W. R. Lamberson4, 1Scholarship of CNPq, Brazil, 2Parana Federal University, Palotina, Brazil, 3Engenheiro Agromon, Brazil, 4University of Missouri, Columbia.

M43  Molecular evidence that turkey varieties belong to a single breed. E. Smith*, J. Xu, X. Guan, T. Geng, and D. Kamara, Virginia Polytechnic Institute and State University, Blacksburg.

M44  Evaluation of nucleolar proliferating protein 1 as a candidate gene for beef carcass characteristics. J. H. Bosques-Méndez*1, M. Pagan1, E. Casas2, A. Casas1, and D. Cianzio1, 1University of Puerto Rico, Mayagüez, Puerto Rico, 2Roman L. Hruska USDA MARC, Clay Center, NE.

M45  Application of Wilmink’s function to Bayesian inference of heritability for monthly test day milk yields in Iranian Holsteins. H. Farhangfar*, Birjand University, Birjand, Iran.

M46  Bivariate genetic analysis of monthly test day milk yield and protein percentage for Holstein heifers in Khorasan province of Iran. H. Farhangfar*, R. Lotfi, and H. Naeemipour, Birjand University, Birjand, Iran.


M48  Genetic trends for dairy traits in the Holstein x Other Breeds multibreed dairy cattle population in tropical central Thailand. S. Koonawootritiriron1, M. A. Elzo*2, and T. Tongprapi1, 1 Kasetsart University, Bangkok, Thailand, 2University of Florida, Gainesville, 3Dairy Farming Promotion Organization, Saraburi, Thailand.

Estimation of genetic parameters for milk and fat yields in Holstein cattle of Khorasan province of Iran. H. Naeemipour*1, H. Farhangfar1, H. Moravej2, M. Rokooi3, and M. B. Sayyadnejad4, 1Birjand University, Birjand, Khorasan, Iran, 2Tehran University, Tehran, Tehran, Iran, 3Zabol University, Zabol, Sistan va Baluchestan, Iran, 4Animal Breeding Center, Karaj, Tehran, Iran.

REML heritability and repeatability estimates of net energy for lactation trait for Holstein heifers in Khorasan province of Iran. H. Farhangfar*1, H. Naeemipour1, R. Lotfi1, and M. Pajaz2, 1Birjand University, Birjand, Iran, 2Jihade Agriculture of Razavi Khorasan, Mashhad, Iran.

Genetic evaluation of lactation persistency estimated by best prediction for Ayrshire, Brown Swiss, Guernsey, and Milking Shorthorn dairy cattle. J. B. Cole and D. J. Null*, Animal Improvement Programs Laboratory, USDA, Beltsville, MD.


Egg and Meat Science and Muscle Biology - Livestock and Poultry I
Exhibit Hall C

Performance and egg quality of four quail genetic groups. C. Móri1, E. A. Garcia1, A. C. Pavan1, C. C. Pizzolante2, R. M. S. Emediato*3, S. A. Maestá1, and D. A. Berto1, 1São Paulo State University, Botucatu, São Paulo, Brazil, 2São Paulo Agency of Agribusiness Tecnology, Brotas, São Paulo, Brazil.

Relationship between calpastatin activity and lamb carcass characteristics. J. A. Gevin*4, H. N. Zerby1, P. S. Kuber1, S. J. Moeller1, M. P. Wick2, D. R. Notter3, T. D. Leeds3, and M. R. Mousel1, 1The Ohio State University, Columbus, 2Virginia Polytechnic Institute and State University, Blacksburg, 3USDA-ARS, U.S. Sheep Experiment Station, Dubois, ID.


Predicting beef tenderness using proteomic analysis of 36 hour postmortem muscle. M. S. Updike*, I. Zapata, H. Zerby, and M. Wick, The Ohio State University, Columbus.

Evaluation of different fatty acid methyl ester preparation procedures for analysis of egg fat with emphasis on omega-3, omega-6 and conjugated linoleic acids. G. Cherian*, A. S. Abd El-Hakim, and M. P. Goeger, Oregon State University, Corvallis.

Effect of animal, transportation, and slaughterhouse variables on beef behavior at the slaughterhouse. N. Mach*5, A. Bach1, A. Velarde2, and M. Devant1, 1IRTA, Barcelona, Spain, 2ICREA, Barcelona, Spain, 3IRTA, Girona, Spain.


Influence of α-adrenergic agonist (Metaproterenol) and lysine on growth, carcass quality in broiler chickens. A. M. Tahmasbi*1, E. Kasefi2, G. Moghadam3, A. Taghizadeh2, and H. A. Ghasemi1, 1University of Mashhad, Iran, 2University of Tabriz, Iran.

Effect of deboning time and muscle type on dielectric properties of uncooked chicken breast meat at 5°C. H. Zhuang*, S. Nelson, S. Trabelsi, and E. Savage, Agriculture Research Service, USDA, Athens, GA.


Fatty acid profile of Longissimus by steers finishing at Brachiaria brizantha cv. Stapf. pasture, under tropical conditions. D. M. Lambertucci*1, R. H. T. Buschinelli de Goes2, A. B. Mancio1, C. Mistura1, and R. P. Lana1, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil, 2Universidade Federal da Grande Dourados, Dourados, Mato Grosso do Sul, Brasil, 3Universidade do Estado da Bahia, Juazeiro, Bahia, Brasil.
M66 Phenotypic correlation of egg weight and egg morphometric measures. O. T. F. Abanikannda¹, A. O. Leigh¹, O. Olutogun², L. A. Ajayi¹, and M. Orumuyi³. ¹Lagos State University, Ojo, Lagos State, Nigeria, ²University of Ibadan, Oyo State, Nigeria, ³Ahmadu Bello University, Zaria, Kaduna State, Nigeria.

M67 Effect of vitamin D supplementation on plasma and muscle calcium levels, tenderness and sensory characteristics of crossbred grazing steers in the tropics. J. Gutierrez, L. Machado, O. E. Moron-Fuenmayor, O. E. Araujo-Febres⁴, and S. Pietrosemoli, La Universidad del Zulia, Maracaibo, Estado Zulia, Venezuela.

M68 Evaluation of freshness of egg yolks and shell eggs stored under the super chilled temperature through analyses of changes of volatiles and lipoprotein conformation. T. Yanagisawa⁵, C. Watanuki¹, M. Ariizumi¹, Y. Shigematsu¹, H. Kobayashi¹, M. Hasegawa¹, and K. Watanabe². ¹Q.P. Corporation, Tokyo, Japan, ²Tokyo University of Agriculture, Kanagawa, Japan.

Extension Education - Livestock and Poultry
Exhibit Hall C

M69 StockPlan: Decision support tools for exploring management options for drought. M. J. McPhee⁵, G. Meaker⁵, P. M. Graham⁵, B. L. Davies¹, and M. B. Whelan². ¹NSW DPI, Armidale, Australia, ²Southern Cross University, Lismore, NSW, Australia.

M70 Characterization of claw lesions associated with lameness in the University of Arkansas sow herd. C. L. Bradley⁶, J. W. Frank¹, C. V. Maxwell³, Z. B. Johnson¹, J. G. Powell¹, S. R. Van Amstel¹, and T. L. Ward¹. ¹University of Arkansas, Fayetteville, ²University of Tennessee, Knoxville, ³Zinpro Inc., Eden Prairie, MN.


M73 Field evaluation of laboratory assays to assess starch and fiber digestibility in corn grain and silage. M. D. Tassoul¹, R. D. Shaver¹, J. A. Barmore², D. Taysom³, and P. C. Hoffman¹. ¹University of Wisconsin, Madison, ²Five-Star Dairy Consulting LLC, Verona, WI, ³Dairyland Laboratories, Inc., Arcadia, WI.

M74 Job satisfaction and interest in testing more cows: A survey of DHIA supervisors. J. C. Dalton*, University of Idaho, Caldwell.

M75 Use of real-farm case studies to teach nutrient management planners the value of feed management as part of whole farm nutrient management. R. A. White⁴, G. E. Erickson⁵, R. K. Koelsch⁵, R. E. Massey⁵, V. R. Bremer⁵, M. Fox⁵, and J. H. Harrison⁵. ¹Washington State University, Puyallup, ²University of Nebraska, Lincoln, ³University of Missouri, Columbia, ⁴KLA Environmental Services, Inc., Salina, KS.

M76 Comparison of somatic cell counts from fresh and frozen milk samples using the DeLaval DCC. W. D. Gilson*, L. O. Ely, and S. P. Nickerson, University of Georgia, Athens.

M77 A milk quality management survey of Minnesota DHI dairies with consistently low somatic cell counts. J. K. Reneau*, T. Bartholomay, and J. M. Lukas, University of Minnesota, St Paul.

M78 Poultry nutrition and disease knowledge in California exhibition poultry owners: A survey. B. A. McCrea⁴, T. Y. Morishita², and F. A. Bradley¹. ¹University of California, Davis, ²Western University of Health Sciences, Pomona, CA.

M79 Cull cow and calf marketing methods employed by Idaho dairies. M. Chahine and J. B. Glaze, Jr.*, University of Idaho, Twin Falls.

M80 Financial performance of dairies in Florida and Georgia in 2005. L. O. Ely⁴, R. Giesy², B. Broaddus², C. Vann², A. Bell², and A. deVries². ¹University of Georgia, Athens, ²University of Florida, Gainesville.
Food Safety - Livestock and Poultry
Exhibit Hall C


M82 Effects of transport stress on subclinical infection in an Escherichia coli-Listeria monocytogenes challenge model. G. R. Huff1, W. E. Huff2, V. Dutta3, R. Nannapaneni3, and M. G. Johnson1,1 USDA/ARS/PPPSRU, Fayetteville, AR, 2University of Arkansas, Fayetteville, 3Center for Food Safety & Microbiology-IFSE, University of Arkansas, Fayetteville, AR.

M83 A dual system based on the use of electronic identification and molecular markers to ensure lamb traceability. G. Caja*, J. J. Ghirardi, M. Hernández-Jover, and A. Sánchez, Universitat Autònoma de Barcelona, Bellaterra, Spain.

M84 Reduction of cecal Campylobacter spp. in broiler chickens by egg powder, mannanbiose, or their combination. Y. Han, G. I. Page*, and J. J. Brennan, Maple Leaf Foods Agresearch, Guelph, Ontario, Canada.

M85 Development of a polymerase chain reaction-based method to identify poultry, ruminants, and equine components in fish meal. A. Heravi Moussavi1, M. Nassiri1, G. Pourseifi1, M. Soltani1, A. Javadmanesh1, and R. Noorbakhsh2, 1Dept of Animal Science, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavy, Iran, 2Standards and Industrial Research, Khorasan Razavy Head Office, Mashhad, Khorasan Razavy, Iran.

M86 Detection of Escherichia coli O157:H7 using Au nanoparticles mediator on an electrochemical amperometric immunobiosensor. S.-H. Chen1, Y.-H. Lin2,3, Y.-C. Chuang1, Y.-R. Lin1, C. A. Chang1, T. Y. Shen2, and C.-S. Lin1, National Chiao Tung University, Hsinchu, Taiwan, R.O.C, 2Apex Biotechnology Corporation, Hsinchu, Taiwan, R.O.C.

M87 Effect of heat treatments on stability of β-lactams in milk. M. Roca1, M. A. Zorraquino2, C. Igualada1, R. L. Alhous4, and M. P. Molina1, 1Universidad Politecnica de Valencia, Valencia, Spain, 2Universidad Publica de Navarra, Pamplona, Spain, 3Generalitat Valenciana, Valencia, Spain, 4Universidad Nacional del Litoral, Esperanza, Republica Argentina.

M88 Effects of feed withdrawal times prior to slaughter on cecal fermentation and Salmonella shedding at the abattoir. S. Martín-Peláez1, E. Creus1, B. Peralta1, J. F. Pérez1, E. Mateu2, and S. M. Martín–Orúe1, 1Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Spain, 2Departament de Sanitat i Anatomia Animals, Universitat Autònoma de Barcelona, Spain.

M89 Efficacy of a micro-encapsulated or non-encapsulated blend of lactic and formic acid to reduce the prevalence of Salmonella in finishing pigs. J. dos Santos1, E. Creus1, J. F. Pérez1, E. Mateu2, and S. M. Martín–Orúe1, 1Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Spain, 2Departament de Sanitat i Anatomia Animals, Universitat Autònoma de Barcelona, Spain.

M90 Effects of feed withdrawal and lairage time prior to slaughter on the gut environment and cecal Enterobacteriaceae in finishing pigs. S. Martín-Peláez1, S. M. Martín–Orúe1, J. F. Pérez1, A. Dalmay1, E. Fábrega1, A. Vegarde2, J. Tibau2, and J. Gasa1, 1Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Spain, 2Departament de Sanitat i Anatomia Animals, Universitat Autònoma de Barcelona, Spain.

M91 The relationship between Salmonella detection from milk filters and bulk milk and fecal shedding of Salmonella in a dairy herd. J. S. Van Kessel1, J. S. Korns1, D. R. Wolfgang2, E. Hovingh2, and Y. Schukken1, 1USDA-ARS-EMSL, Beltsville, MD, 2Pennsylvania State University, University Park, 3Cornell University, Ithaca, NY.

M92 Validation of peracetic acid as an antimicrobial for poultry chillers. S. R. McKee*, L. J. Bauermeister, and J. W. Bowers, Auburn University, Auburn, AL.

M93 Evaluation of rep-PCR and denatured gradient gel electrophoresis (DGGE) in identifying Salmonella serotypes isolated from processed turkeys. P. N. Anderson1, M. E. Hum1,2, J. A. Byrd1,2, and D. J. Caldwell1, 1Texas A & M University, College Station, 2USDA-ARS, FFISRU, College Station, Texas.

M94 Association between on-farm milk and wash water temperature variations and bulk milk coliform counts. J. C. F. Pantoja, C. Hulland, G. J. M. Rosa, D. J. Reinemann, and P. L. Ruegg*, University of Wisconsin, Madison.

M95 Meat quality and microbial shelf life of chicken breast fillets from air or immersion chilled processing systems and packaged under modified atmospheres. D. Monsalve1, H. Chipperfield1, and S. Russell1, 1University of Nebraska, Lincoln, 2University of Georgia, Athens.
Characterization and potential human health risks of Shiga toxin-producing *Escherichia coli* isolated from California dairy cattle over one year. L. M. Bollinger¹, H. S. Hussein¹, M. R. Hall¹, and E. R. Atwill², ¹University of Nevada, Reno, ²University of California, Davis.

Characterization and potential human health risks of Shiga toxin-producing *Escherichia coli* isolated from feedlot cattle. H. S. Hussein²¹, L. M. Bollinger¹, M. R. Hall¹, S. F. Khaiboullina¹, and E. R. Atwill², ¹University of Nevada, Reno, ²University of California, Davis.

Prevalence and pre-harvest control factors affecting Shiga toxin-producing *Escherichia coli* in cattle grazing rangeland forages. L. M. Bollinger²¹, H. S. Hussein¹, and E. R. Atwill², ¹University of Nevada, Reno, ²University of California, Davis.

Forages and Pastures - Livestock and Poultry

Forage Quality and Nutritive Value

Exhibit Hall C


The economics of liming coastal dairy pastures. T. W. Downing* and J. Hart, Oregon State University, Corvallis.


Nutritive value of low DCAD timothy forage produced with Cl fertilization. G. F. Tremblay*, S. Pelletier¹, G. Bélanger¹, P. Seguin², R. Drapeau¹, and G. Allard¹, Agriculture and Agri-Food Canada, QC, Canada. ²McGill University, Ste-Anne-de-Bellevue, QC, Canada. ³Université Laval, Québec, QC, Canada.

Nutritive quality of a species-rich, extensively managed pasture exposed to elevated ozone in a free-air fumigation system. J. C. Lin*, K. Nadarajah¹, M. Volk², R. B. Muntifering¹, and J. Fuhrer², ¹Auburn University, Auburn, AL, ²Swiss Federal Research Station for Agroecology and Agriculture, Zurich, Switzerland.

Evaluation of forage quality, grazing capacity and intake of cool season grasses. C. I. Ward*¹ and H. A. Lardner¹², ¹University of Saskatchewan, Saskatoon, Canada. ²Western Beef Development Center, Humboldt, Saskatchewan, Canada.

Productivity and nutritive quality of dallisgrass (*Paspalum dilatatum*) as influenced by rate of fertilization with poultry litter or commercial fertilizer. E. J. Bungenstab*, J. C. Lin, J. L. Holliman, A. C. Pereira, and R. B. Muntifering, Auburn University, Auburn, AL.

Effect of clipping on the stolon elongation rate and stolon survival of cultivars *Chloris gayana* Kunth in conditions of salinity. M. V. Cornacchione²¹, H. E. Pérez², and A. F. Fumagalli¹³, ¹Instituto Nacional de Tecnología Agropecuaria, Santiago del Estero, Argentina. ²Instituto Nacional de Tecnología Agropecuaria, Leales, Tucumán, Argentina. ³Universidad Nacional de Santiago del Estero, Santiago del Estero, Argentina.


Effects of harvest timing on estimates of rumen degradable protein from alfalfa forages. W. K. Coblenz²¹, G. E. Brink², N. P. Martin², and D. J. Undersander¹, ¹US Dairy Forage Research Center, Marshfield, WI. ²US Dairy Forage Research Center, Madison, WI. ³University of Wisconsin, Madison.
Effects of planting density, cultivar and growing day on the dry matter yield and forage quality of Kenaf (Hibiscus cannabinus L,) in the northern area of South Korea. B. W. Kim* and K. I. Sung, Kangwon National University, Chuncheon, Kangwon-Do, South Korea.


Lineweaver-Burke data transformation to evaluate interaction between nutrients in fertilization of tropical forages. H. J. Fernandes1,5, R. P. Lana2, C. E. S. Baroni2, L. M. Paiva3,4, and J. C. Souza4,5, 1University of Mato Grosso do Sul, Brazil, 2Federal University of Vicsao, Brazil, 3Parana Federal University, Palotina, PR Brazil, 4Scholarship of FUNDECT, Campo Grande, MS, Brazil, 5University of Missouri, Columbia.

Lineweaver-Burke data transformation to evaluate the production of tropical forages. H. J. Fernandes1,5, R. P. Lana2, C. E. S. Baroni2, L. M. Paiva3,4, and J. C. Souza4,5, 1State University of Mato Grosso do Sul, Brazil, 2Federal University of Vicsao, Brazil, 3Parana Federal University, Brazil, 4University of Missouri, Columbia, 5FUNDECT, Campo Grande, MS, Brazil.

Effect of planting date on starch accumulation of whole crop barley. L. E. McKeown*, M. A. Bal1, M. Ob aussi, and V. S. Baron2, *University of Alberta, Edmonton, AB, Canada. 1Agriculture and Agri-Food Canada, Lacombe, AB, Canada.

Seed quality effects on yield, stover nutritional value, and maize grain. C. Perez-Mendoza1, M. R. Tovar-Gomez2, G. Garcia-Santos1, A. Hernandez-Livera4, and A. Carballo-Carballo4, 1Colegio de Postgraduados, Texcoco, State Mexico, Mexico, 2INIFAP-CEVAMEX, Texcoco, State Mexico, Mexico.


Green-chop maize forage production in temperate Mexico. H. Crespo-Lira1, R. D. Améndola-Massiotti1, and J. A. Burgueño-Ferreira1, Universidad Autónoma Chapingo, Chapingo, México, México, 3CIMMYT, El Batán, México.

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**Goat Species I**

**Exhibit Hall C**

Identification of ATP binding cassette transporter G2 (ABCG2) gene in mammary gland of Xinong Saanen Goat and its expression profile during lactation. H. J. Wu1, J. Luo1, N. Wu2, K. Matand1, L. J. Zhang1, B. J. Yang1, X. F. Han1, H. B. Wang1, N. Zhang1, G. Yu1, and C. Y. Shan1, Northwest A&F University, Yangling, Shanxi, P. R. China, 2Langston University, Langston, OK.

Differentially expressed gene profile during dairy goat whole lactation period. H. J. Wu1, J. Luo2, N. Wu2, K. Matand2, L. J. Zhang1, B. J. Yang1, X. F. Han1, H. B. Wang1, N. Zhang1, G. Yu1, and C. Y. Shan1, Northwest A&F University, Yangling, Shanxi, P. R. China, 2Langston University, Langston, OK.

Initial gene expression analysis of Chinese Xinong Saanen goat mammary gland. X. F. Han1, J. Luo1, N. Wu2, K. Matand2, B. J. Yang1, H. J. Wu1, L. J. Zhang1, and H. B. Wang1, Northwest A&F University, Yangling, Shanxi, P. R. China, 2Langston University, Langston, OK.

Lactation curve characteristics of the Sarda goat breed. R. Steri1, N. Bacciu1, P. Fresi2, A. Cappio-Borlino1, and N. P. P. Macciotta3, 1Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italia, 2Associazione Nazionale della Pastorizia, Roma, Italia.


In vivo prediction of body composition in goat dams 2) Relationship between IGF-I, body weight and body composition. C. A. Mejía*, G. Dominguez2, E. Villagomez2, M. Montaño2, R. Basurto2, H. Jimenez2, and H. Vera2, 1Cenid-Fisiologia INIFAP, Queretaro, Mexico, 2FESC-UNAM, Queretaro, Mexico, 3Cenid-Microbiologia INIFAP, D.F., Mexico.
M126 Evaluation of the FAMACHA© system in lactating goats. M. Rovai*1, T. A. Gipson1, and L. J. Dawson1,2, 1E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, USA, 2Oklahoma State University. College of Veterinary Medicine, Stillwater.

M127 Protein and/or energy supplementation does not change forage digestibility in growing meat goat kids. J. M. Patterson*1,2, B. D. Lambert1,2, and J. P. Muir1, 1Texas Agricultural Experiment Station, Stephenville, 2Tarleton State University, Stephenville, TX.

M128 In situ dry matter degradation of cacti and fruits commonly selected by goats in the semi-arid region of North México. M. Guerrero-Cervantes1, R. G. Ramírez-Lozano2, R. Montoya-Escalante1, A. S. Juárez-Reyes1, and M. A. Cerrillo-Soto*1, 1Universidad Juárez del Estado de Durango, Durango, Durango, Mexico, 2Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, Mexico.

M129 In vitro gas production parameters of fruits commonly selected by grazing goats. M. Guerrero-Cervantes1, R. G. Ramírez-Lozano2, R. Montoya-Escalante1, A. S. Juárez-Reyes1, and M. A. Cerrillo-Soto*1, 1Universidad Juárez del Estado de Durango, Durango, Dgo., Mexico, 2Universidad Autónoma de Nuevo León, Monterrey, N.L., Mexico.

M130 Effects of dietary concentrate level on tissue and organ mass of Alpine does at different stages of lactation. A. T. Ngwa1, L. J. Dawson2, R. Puchala1, G. Detweiler1, R. C. Merkel1, T. Sahlu1, C. L. Ferrell3, and A. L. Goetsch*1, 1American Institute for Goat Research, Langston University, Langston, OK, 2College of Veterinary Medicine, Oklahoma State University, Stillwater, 3US Meat Animal Research Center, Clay Center, NE.


M134 Ingestive behavior of goats fed with urea in the diet. L. S. Amorim*1,4, C. A. A. Torres1, E. A. M. Amorim1,4, J. F. Fonseca2, J. H. Bruschi3, and M. T. Rodrigues1, 1Federal University of Vicosa, MG, Brazil, 2Embrapa Small Ruminant Research Center, Sobral, CE, Brazil, 3Embrapa Dairy Cattle Research Center, Juiz de Fora, MG, Brazil, 4Colorado State University, Fort Collins, CO.

M135 Lysophosphatidic acid (LPA) stimulates activation of ERK-1/2 and proliferation of C2C12 cells but does not result in a significant increase in total DNA. J. M. Scheffler*, A. K. Batie, and S. J. Jones, University of Nebraska, Lincoln.

M136 Phospho-MAPK as a marker of myogenic satellite cell responsiveness to growth factors. D. C. McFarland* and J. E. Pesall, South Dakota State University, Brookings.

M137 Mapping the glucocorticoid responsive element of the growth hormone gene in chicken embryonic somatotrophs. K. A. Heuck* and T. E. Porter, University of Maryland, College Park.

M138 Intestinal morphology and gene expression differences between broiler chicken lines selected for divergent growth rates. E. R. Feierstein*, E. R. Gilbert1, M. E. Persia1, E. A. Wong2, W. W. Saylor1, and C. J. Schmidt1, 1University of Delaware, Newark, 2Virginia Polytechnic Institute and State University, Blacksburg.

M139 Cloning of chicken ras-dva: Glucocorticoid regulation in the embryonic anterior pituitary. L. E. Ellestad*1,2, S. A. Jenkins1, and T. E. Porter1,2, 1Department of Animal and Avian Sciences, University of Maryland, College Park, 2Molecular and Cell Biology Program, University of Maryland, College Park.

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Growth and Development - Livestock and Poultry I
Exhibit Hall C

M135 Lysophosphatidic acid (LPA) stimulates activation of ERK-1/2 and proliferation of C2C12 cells but does not result in a significant increase in total DNA. J. M. Scheffler*, A. K. Batie, and S. J. Jones, University of Nebraska, Lincoln.

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M139 Cloning of chicken ras-dva: Glucocorticoid regulation in the embryonic anterior pituitary. L. E. Ellestad*1,2, S. A. Jenkins1, and T. E. Porter1,2, 1Department of Animal and Avian Sciences, University of Maryland, College Park, 2Molecular and Cell Biology Program, University of Maryland, College Park.
Identification of potential feed efficiency biomarkers. C. P. Ojano-Dirain*1, N. R. Pumford1, T. Wing1, M. Cooper2, J. Lay3, R. Liyanage1, and W. G. Bottje1, 1Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, 2Cobb-Vantress, Inc., Siloam Springs, AR, 3State Wide Mass Spectrometry Laboratory, University of Arkansas, Fayetteville.

Physiological function of butoxybutyl alcohol a novel compound in broilers. S. Inada*, A. Ohtsuka, and K. Hayashi, Kagoshima University, Kagoshima city, Korimoto, Japan.

Bone mineralization in nine pedigree lines of meat-type chickens. P. Talaty*, M. N. Katanbaf2, and P. Y. Hester1, 1Purdue University, West Lafayette, IN, 2Cobb-Vantress, Inc., Monticello, KY.

The expression of neutral amino acid transporter B0 and mTOR proteins along the gut mucosal crypt-villus axis in the formula-fed neonatal pig. C. Yang1, X. Yang1, D. Lackeyram1, Y. L. Yin1, K. Swanson1, F. Verrey3, and M. Z. Fan*1, 1University of Guelph, Guelph, ON, Canada, 2Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, Hunan, China, 3Institute of Physiology, University of Zurich, CH-8057 Zurich, Switzerland.


Impact of different doses of ractopamine in swine carcass and meat characteristics from Large White and Duroc breeds. E. F. Leonardo1, I. L. Stella1, A. C. M. S. Pedreira2, G. B. Mourão1, and E. F. Delgado*1, 1Escola Superior de Agricultura “Luiz de Queiroz”, Piracicaba, SP, Brazil, 2Agência Paulista de Tecnologia do Agronegócio, Piracicaba, SP, Brazil.

Pro-inflammatory response of chicken thrombocytes to lipopolysaccharide. T. R. Scott* and M. D. Owens, Clemson University, Clemson, SC.

Pro-inflammatory response of broiler chick thrombocytes. F. Ferdous*, D. V. Maurice, and T. R. Scott, Clemson University, Clemson, SC.

Identification of antimicrobial peptides in avian heterophils using whole cell MALDI-TOF. L. Kannan*1,2, N. C. Rath1, R. Liyanage2, and J. O. Lay2, 1USDA/Agricultural Research Service, Fayetteville, AR, 2University of Arkansas, Fayetteville.

Adjuvants containing diverse peptidoglycan structures modulate hen antibody response to immunization. D. L. Trott*, E. M. Hellestad, and M. E. Cook, University of Wisconsin, Madison.

Immunocytochemical demonstration of neuroendocrine cells in chicken Peyer’s Patches. C. H. Chen* and L. R. Berghman, Texas A&M University, College Station.

Altered monocyte/macrophage numbers in blood and organs of chickens injected i.v with LPS. O. T. Bowen*, R. F. Wideman, and G. F. Erf, University of Arkansas, Fayetteville.

Oxidative stress and immune response in the chicken. S. Bush*1,2, K. Gyenai1, X. Guan1, and T. Geng1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2University of North Dakota, Fargo.

Effects of immunoglobulin binding on signal transduction in bovine polymorphonuclear neutrophils. M. J. Paape* and Y. Wang, Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD.

Evaluation of a bovine respiratory pathogen exposure model on immune response and short-term performance of finishing cattle. B. McLaughlin*1, L. O. Burciaga-Robles1, D. L. Step3, C. R. Krehbiel1, M. Montelongo2, A. W. Confer2, R. W. Fulton2, C. J. Richards1, U. DeSilva1, and G. Zhang1, 1Department of Animal Science, Oklahoma State University, Stillwater, 2Center for Veterinary Health Sciences, Oklahoma State University, Stillwater.


M157 Campylobacter infection in day-old chickens. K. J. Genovese*, H. He, D. J. Nisbet, and M. H. Kogut, USDA-ARS, FFSRU, College Station, TX.

International Animal Agriculture - Livestock and Poultry
Exhibit Hall C

M158 Genetic and phenotypic factors influencing milk, protein and fat yields of dairy cows in Tasmania, Australia. S. A. Adediran1, P. Nish1, D. J. Donaghy1, J. R. Roche1, and A. E. O. Malau-Aduli1*, 1University of Tasmania, Hobart, Tasmania, Australia, 2Tasherd Pty Ltd, Hadspon, Tasmania, Australia.


M160 Metabolizable energy content and in vitro gas production characteristics of subtropical grasses of Northeastern Mexico. H. Bernal-Barragán1, E. Gutiérrez-Ornelas1, E. M. Romero-Treviño2, J. Colin-Negrete1, M. A. Cerrillo-Soto3*, and A. S. Juárez-Reyes3, 1Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, México, 2Instituto Tecnológico, Altamira, Tamaulipas, México, 3Universidad Juárez del Estado de Durango, Durango, Durango, México.


M162 Quality of vetch lines for hay and spring grazing. A. Larbi1*, S. Rihawi1, and S. Hassan1, 1International Center for Agricultural Research in the Dry Areas, Aleppo, Syria, 2General Commission for Scientific Agricultural Research, Damascus, Syria.


M164 Effects of the addition of Saccharomyces cerevisiae to sheep diets on productive performance and ruminal fermentation. I. Mejia-Haro1*, E. Ortega-Perez2, G. Tirado-Estrada1, J. Mejia-Haro2, and I. Castillo-Zuñiga1, 1ITEL, AGUASCALIENTES, Aguascalientes, Ags. Mexico, 2Universidad de Guanajuato, Irapuato, Gto. Mexico.


M166 Effects of supplementation of two selenium sources in productive performance of growing sheep. I. Mejia-Haro1*, A. R. Rodríguez-Murillo1, G. Tirado-Estrada1, R. Bañuelos-Valenzuela2, J. Mejia-Haro1, and J. A. Nungaray-Ornelas1, 1ITEL, Ags., Aguascalientes, Ags. Mexico, 2Unidad Academica de Medicina veterinaria y Zoot., UAZ, Calera, Zac., Mexico, 3Universidad de Guanajuato, Irapuato, Gto., Mexico.


M168 Characterization of a negative halothane gene commercial multibreed swine population for growth and conformation traits in tropical western Thailand. S. Koonawootrittriron1, M. A. Elzo*2, and T. Suwanasopee1, 1Kasetsart University, Bangkok, Thailand, 2University of Florida, Gainesville.

Lactation Biology
Mechanisms Regulating Lactation and Mammary Function
Sponsor: Monsanto Company
Exhibit Hall C

M169 Effects of dietary supplementation with flax during prepuberty on mammary development and circulating prolactin and estradiol concentrations. C. Farmer1*, H. V. Petit1, and A. V. Capuco2, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2USDA-ARS, Beltsville, MD.
Developmental changes in the milk fat globule membrane proteome during the transition from colostrum to milk. T. A. Reinhardt* and J. D. Lippolis, National Animal Disease Center, ARS, USDA, Ames, IA.

Temporal effect of trans-10, cis-12 conjugated linoleic acid on mammary lipogenic gene expression. J. K. Kay¹,², C. E. Moore¹, D. E. Bauman¹, R. P. Rhoads¹, S. R. Sanders¹, A. F. Keating¹, and L. H. Baumgard⁴,¹, University of Arizona, Tucson, Deexcel, Hamilton, New Zealand, Cornell University, Ithaca.

Expression profiling of proteins involved in CLA metabolism in mammary tissue and mammary gland epithelial cells. Y. C. Jin¹, H. G. Lee*¹,², J. A. Han¹, J. H. Li¹, K. H. Kim¹, N. K. Lee¹, Y. J. Kim², M. K. Song¹, and Y. J. Choi¹, School of Agricultural Biotechnology, Seoul National University, Seoul, Korea, Department of Food Science & Biotechnology, Korea University, Chochiwon, Department of Animal Science, Chungbuk National University, Chungbuk, Korea.


Expression of PPAR and LXR nuclear hormone receptor families are not modified during milk fat depression induced by diet or treatment with trans-10, cis-12 conjugated linoleic acid (CLA). K. J. Harvatine* and D. E. Bauman, Cornell University, Ithaca, NY.


Milk from cows at involution reduces MAC-T cell survival. G. Tremblay*¹, P. Bernier-Dodier¹, L. Delbecchi², G. F. Wagner¹, B. G. Talbot¹, and P. Lacasse², Université de Sherbrooke, Sherbrooke, QC, Canada, AAFC-Dairy and Swine R&D Center, Sherbrooke, QC, Canada, University of Western Ontario, London, ON, Canada.

Different milking frequencies alter stanniocalcin content in cow’s milk. P. Bernier-Dodier*¹, P. Lacasse², G. F. Wagner¹, B. G. Talbot¹, and L. Delbecchi², Université de Sherbrooke, Sherbrooke, QC, Canada, AAFC-Dairy and Swine R&D Center, Sherbrooke, QC, Canada, University of Western Ontario, London, ON, Canada.

Reduced nursing frequency decreases milk output and alters SOCS and TPH1 gene expression in the mouse mammary gland. W. Otea*, D. Torres, J. George, and D. L. Hadsell, Baylor College of Medicine, Houston, TX.

Gene expression profiling in bovine mammary gland during onset of lactation. K. A. Finucane¹, T. B. McFadden¹, J. P. Bond¹, J. J. Kennelly², and F.-Q. Zhao*, University of Vermont, Burlington, University of Alberta, Edmonton, Alberta, Canada.

Co-localization of glucose transporter-1 and hexokinase-1 in response to lactogenic hormones and media glucose concentration in bovine mammary epithelial cells. M. Dai² and J. P. Cant, University of Guelph, Ontario, Canada.

Presence of functional phosphodiesterases in dairy cow’s mammary gland. V. Dostaler-Touchette*¹, C. Guillemette², F. J. Richard², and P. Y. Chouinard¹, Institut des nutraceutiques et des aliments fonctionnels, Université Laval, Québec, Québec, Canada, Centre de recherche en biologie de la reproduction, Université Laval, Québec, Canada.

Modulation of cellular activity of glutathione peroxidase by L-selenomethionine in primary cultures of bovine mammary gland epithelial cells. S. G. Miranda*¹,², Y. J. Wang², N. G. Purdie², V. Osborne², B. L. Coomber², and J. P. Cant¹, University of Zulia, Maracaibo, Zulia, Venezuela, University of Guelph, Guelph, Ontario, Canada.

Prostaglandins A1 (PGA1) and E1 (PGE1) alter heat shock protein 70 (HSP-70) gene expression in bovine mammary epithelial cells (BMEC). J. L. Collier*¹, M. B. Abdallah¹, L. L. Hernandez¹, J. V. Norgaard², and R. J. Collier¹, University of Arizona, Tucson, Danish Institute of Agricultural Sciences, Tjele, Denmark.

Suitability of foremilk somatic cell counts to estimate total quarter somatic cell count. O. Wellnitz¹, M. Woloszyn¹, and R. M. Bruckmaier*¹, University of Bern, Bern, Switzerland, DeLaval International AB, Tumba, Sweden.

17β-hydroxysteroid dehydrogenase and β-casein transcripts detected in bovine milk somatic cells. D. A. Pape-Zambito*¹, C. A. Gifford³, T. L. Ott¹, and R. S. Kensinger¹, Pennsylvania State University, University Park, University of Idaho, Moscow.

Estimation of heritability, repeatability and genetic trend for milk yield of Iranian buffalo in Khuzestan province of Iran using a univariate repeatability animal model. H. Farhangfar*¹, B. Zinvand², and F. Amirlou Abolfathi³, University of Birjand, Birjand, Iran, Azad University of Shooshtar, Shooshtar, Iran, Jihade Agriculture of Khuzestan, Iran.


M190  Evaluation of in situ indigestible neutral detergent fiber as an internal marker to determine digestibility of nutrients. L. O. Chow*, C. Silveira, and M. Oba, University of Alberta, Edmonton, Alberta, Canada.


M192  Out wintering pad design affects woodchip condition. K. O’Driscoll* 1, L. Boyle1, P. French1, B. Meaney1, and A. Hanlon1, 1Moorepark Dairy Production Research Centre, Fermoy, Co. Cork, Ireland, 2University College Dublin, Dublin, Ireland.

M193  Effect of metabolizable protein and energy intake on amino acid metabolism in growing dairy calves. A. G. Rius* 1, J. Cyriac1, B. J. Bequette2, and M. D. Hanigan1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2University of Maryland, College Park.

M194  Evaluation of antimicrobial effects on monogastric gut microflora by plant waste products. S. Stella, D. Tedesco*, C. Barbieri, L. Garavaglia, and D. Cattaneo, University of Milan, Italy.

M195  Microlocalization of digestion-resistant aromatic lignin and cellulosic compounds in feeds at cellular and subcellular levels with the synchrotron: A novel approach. P. Yu*, University of Saskatchewan, Saskatoon, SK, Canada.

M196  Effects of feeding lactic acid bacteria-based direct-fed microbial complex on growth performance, diarrhea appearance and blood characteristics in pigs. J. S. Yoo*1, Y. J. Chen1, J. H. Cho1, B. C. Park2, and I. H. Kim1, 1Dankook University, Cheonan, Choognam, Korea, 2CJ Feed Inc, Incheon, Gyeonggi, Korea.

M197  Cupric methionate affect nutrients digestibility and fecal pH and Cu concentration. Y. Huang*1, Q. Wang1, Y. Wang1, J. H. Cho1, Y. J. Chen1, J. S. Yoo1, Y. K. Han1, and I. H. Kim1, 1Dankook University, Cheonan, Choognam, Korea, 2Sungkyunkwan University, Suwon, Korea.


M199  Effects of Bio-Mos® on growth and survival of channel catfish challenged with Edwardsiella ictaluri. B. C. Peterson*1, S. Quiniou1, B. B. Manning2, and T. C. Bramble3, 1USDA/ARS, Stoneville, MS, 2MSU, Stoneville, MS, 3Alltech Biotechnology, Nicholasville, KY.

M200  The effect of plant tannins and yucca extracts on in vitro ruminal fermentation and methane gas production. B. R. Min*1, W. E. Pinchak1, R. C. Anderson2, and R. Puchala1, 1Texas Agricultural Research Center, Vernon, TX, 2USDA/ARS, College Station, TX, 3E (Kida) dela garza American Institute for Goat Research, Langston, OK.

M201  Evaluation of the efficacy of a commercial purified phyllosilicate to reduce the estrogenic effects of zearalenone in gilts. B. Malone1, C. Bond1, C. Maue1, Z. Scheitegger1, and D. Zaviezo*2, 1Triology Analytical Laboratory, Washington, MO, 2Special Nutrients, Miami, FL.
Nonruminant Nutrition

Poultry Nutrition I

Exhibit Hall C

M202  Response of market turkey toms to dietary protein and threonine levels in diets containing corn distillers dried grains. S. L. Noll* and J. Brannon, University of Minnesota, St. Paul.

M203  Influence of feed form and fiber inclusion in the diet on performance of broilers from one to twenty one days of age. E. Jiménez-Moreno, J. M. González-Alvarado, A. P. Bonilla, R. Lázaro, and G. G. Mateos*, 1Universidad Politécnica de Madrid, Spain, 2Universidad Autónoma de Tlaxcala, México.


M206  Nutrient digestibility of high protein corn distillers dried grains with solubles, dehydrated corn germ and bran. A. Batal*, University of Georgia, Athens.


M210  Evaluation of NutriDense® corn compared to conventional corn fed to laying hens. P. Utterback*, E. Kim, C. Jacobs, C. Utterback, C. Parsons, J. Snow, and J. Weigel, University of Illinois, Urbana, BASF Plant Science, Research Triangle Park, NC.


M215  Effects of selection for mold resistance on nutritional value of sorghum grain in broiler chicks. C. R. Monge*, J. D. Hancock, C. Feoli, W. L. Rooney, S. R. Bean, and S. Beyer, University of Illinois, Urbana, Texas A&M University, College Station, USDA/ARS, Manhattan.

M216  Influence of fish meal processing on performance of broilers from 1 to 28 days of age. A. P. Bonilla, A. de Coca-Sinova, E. Jiménez-Moreno, R. Lázaro, and G. G. Mateos*, Universidad Politécnica de Madrid, Spain, University of Maryland, College Park, North Carolina State University, Raleigh.

M217  Improved phosphorus utilization in broilers fed phosphorus deficient diets early in life. R. Angel and C. M. Ashwell, University of Maryland, College Park, North Carolina State University, Raleigh.
Dietary supplementation with Chinese herbal formula affects serum concentrations of amino acids in weaned pigs. X. F. Kong*


Nonruminant Nutrition
Weanling Pig Nutrition and Physiology
Sponsor: Lucta
Exhibit Hall C


The effect of soybean oil, tallow and coconut oil supplementation on growth performance, serum lipid changes and nutrient digestibility in weaned pigs. J. H. Cho*1, H. J. Kim1, Y. J. Chen1, J. S. Yoo1, B. J. Min1, J. D. Kim2, and I. H. Kim1, *Dankook Univ, Cheonan, Choongnam, Korea, 1CF Feed Co. Ltd, Incheon, gyeong gi, Korea.

Dietary supplementation with *atractylis macrocephala koidz* polysaccharides enhances growth performance in weaned pigs. Z. Bin*1, L. L. Li1, Y. L. Yin2, H. Z. Peng1, K. M. Yang1, T. J. Li2, Z. P. Hou2, P. Zhang2, and G. Y. Wu1,2, *Hunan Agricultural University, Changsha, Hunan, China, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Hunan Zhenghong Science and Technology Co., Changsha, Hunan, China, 3Texas A&M University, College Station.

Dietary supplementation with Chinese herbal formula affects serum concentrations of amino acids in weaned pigs. X. F. Kong*1, Y. L. Yin1, F. G. Yin1, H. J. Liu1, F. F. Xing1, T. J. Li1, R. L. Huang1, and G. Y. Wu1,2, *Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 1Texas A&M University, College Station.

Effects of feeding resistant starch on glucose and hormone levels in plasma of weaned pigs. X. Wu*1, S. Y. Bin1, G. Y. Wu1,2, X. F. Kong1, Y. L. Yin1, T. J. Li1, and R. L. Huang1, *Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 1Texas A&M University, College Station.

Effect of adding a wheat dextrin on growth performance of nursery pigs. H. Yang 1, J. Less2, D. Holzgrafe1, M. Cecava1, T. Radke1, M. Franklin*1, and C. Sparks1, *ADM Animal Nutrition Research, Decatur, IL, 1ADM Specialty Feed Ingredients, Decatur, IL, 1ADM Alliance Nutrition, Quincy, IL.

Effects of 5-aminolevulinic acid on growth performance, nutrients digestibility, blood characteristics and immune responses of weanling pigs challenged with lipopolysaccharide. Y. J. Chen*1, J. H. Cho1, Y. Wang1, Y. Huang1, Y. Hyun2, T. G. Ko2, and I. H. Kim1, *Dankook University, Cheonan, Choongnam, Korea, 1Easy Bio System Inc, Cheonan, Choongnam, Korea.

Animal performance as influenced by organic acid supplementation into the diet of post-weaning piglets. C. Lückstädt*1, S. Nitsch1, N. Kvietkute2, A. Stupeliene2, V. Sasyte2, and R. Gruzauskas2, *Biomin GmbH, Herzogenburg, Austria, 1Veterinary Academy of Lithuania, Kaunas, Lithuania.


Relationship between texture and preference of cereal based diets in piglets. D. Solá-Oriol1, E. Roura∗2, and D. Torrallardona1, *IRTA, Mas de Bover, Constanti (Tarragona), Spain, 1Lucta SA, Barcelona, Spain.

Effect of processing cereals on feed digestibility and meal retention in piglets. D. Solá–Oriol* and D. Torrallardona, *IRTA. Mas de Bover, Constanti (Tarragona), Spain.

Storage affects the palatability of protein sources in piglet diets. D. Solá-Oriol1, E. Roura∗2, and D. Torrallardona1, *IRTA. Mas de Bover, Constanti (Tarragona), Spain, 1Lucta SA, Barcelona, Spain.

Cereal nutrient composition correlates with feed oro-sensorial perception in piglets. D. Solá-Oriol1, E. Roura∗2, and D. Torrallardona1, *IRTA. Mas de Bover, Constanti (Tarragona), Spain, 1Lucta SA, Barcelona, Spain.

M234  In vitro screening of plant materials as anti-adhesive agents against E. coli K88. S. Galletti\textsuperscript{1,2}, P. G. van Wikselaar\textsuperscript{2}, D. Tedesco\textsuperscript{1}, and P. M. Becker\textsuperscript{2}, 1University of Milan, Milan, Italy, 2Animal Sciences Group of Wageningen UR, Lelystad, The Netherlands.

M235  Dose response trials of an enhanced milky flavor in a pig nursery program 1: linear and quadratic effects on piglet performance. E. Roura\textsuperscript{*1}, I. R. Ipharraguerre\textsuperscript{1}, and D. Torrallardon\textsuperscript{a2}, 1Lucta S.A., Barcelona, Spain, 2IRTA, Centre Mas de Bover, Constanti, Spain.

M236  Dose response trials of an enhanced milky flavor in a pig nursery program 2: benefits of flavoring water up to 14 d. E. Roura\textsuperscript{*1}, I. R. Ipharraguerre\textsuperscript{1}, and D. Torrallardon\textsuperscript{a2}, 1Lucta S.A., Barcelona, Spain, 2IRTA, Centre Mas de Bover, Constanti, Spain.

M237  Response of enterotoxigenic Escherichia coli K88 infected piglet jejunal segments to extracts derived from degradation of soybean and canola meal polysaccharides by carbohydrate enzymes. E. Kiarie\textsuperscript{*}, B. A. Slominski, and C. M. Nyachoti, University of Manitoba, Winnipeg, MB, Canada.

M238  Performance, immune response and intestinal microbial populations of weanling pigs fed diets containing a specially prepared potato protein. Z. Jin\textsuperscript{1}, Y. X. Yang\textsuperscript{1}, J. Y. Choi\textsuperscript{1}, P. L. Shinde\textsuperscript{1}, T. W. Hahn\textsuperscript{1}, H. T. Lim\textsuperscript{1}, Y. K. Park\textsuperscript{2}, K. S. Hahn\textsuperscript{2}, and B. J. Chae\textsuperscript{*1}, 1Kangwon National University, Chuncheon, Kangwon-Do, Republic of Korea, 2Chosun University, Kwangju, Republic of Korea.

M239  Decreasing postnatal skeletal muscle protein synthetic activity is associated with a reduction in the expression of S6K1 in fed young pigs. X Yang\textsuperscript{*} and M. Z. Fan, Centre for Nutrition Modelling, University of Guelph, Guelph, Ontario, Canada.

M240  Effect of plant extracts on growth performance and immune status in weaning pigs. H. J. Jung\textsuperscript{*1}, J. C. Park\textsuperscript{1}, Y. H. Kim\textsuperscript{1}, S. Y. Lee\textsuperscript{1}, S. D. Lee\textsuperscript{1}, H. D. Jang\textsuperscript{1}, H. J. Kim\textsuperscript{2}, I. H. Kim\textsuperscript{2}, H. K. Moon\textsuperscript{1}, S. W. Kim\textsuperscript{1}, I. C. Kim\textsuperscript{1}, and S. J. Lee\textsuperscript{1}, 1National Livestock Research Institute, Cheoan, Chungnam, Republic of Korea, 2Dankook University, Cheoan, Chungnam, Republic of Korea, Texas Tech University, Lubbock.

M241  Effect of probiotics in lactating sows diets on sows and litter performance. A. Castellanos A\textsuperscript{*1}, J. A. Renteria F\textsuperscript{2,1}, J. M. Silva Filho\textsuperscript{2}, J. D. Guimaraes\textsuperscript{1}, M. M. N. F. Oliveira\textsuperscript{3}, K. Zorzi\textsuperscript{1}, and G. R. Carvalho\textsuperscript{1}, 1Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany, 2University of São Paulo, Pirassununga, SP, Brazil, 3University of São Paulo, Piracicaba, SP, Brazil.

M242  Evaluation of Concept PR 100 in diets for nursery pigs. J. M. DeRouchey\textsuperscript{*1}, E. J. Wiedmann\textsuperscript{1}, M. D. Tokach\textsuperscript{1}, R. D. Goodband\textsuperscript{1}, J. L. Nelssen\textsuperscript{1}, S. S. Dritz\textsuperscript{1}, and J. Whitehead\textsuperscript{2}, 1Kansas State University, Manhattan, KS, 2Concept Nutrition, Ltd, Preston, UK.


M244  Post-weaning development of the microbiota composition and activity in piglets fed diets with wheat bran, wheat middlings or sugar beet pulp. F. Molist\textsuperscript{*}, A. Gómez de Segura, E. G. Manzanilla, J. Gasa, R. G. Hermes, and J. F. Pérez, Universitat Autònoma de Barcelona, Barcelona, Spain.

M245  Dietary preference for methionine sources in 8 to 25-kg nursery pigs. T. Ettle\textsuperscript{1}, M. Rademacher\textsuperscript{2}, F. X. Roth\textsuperscript{1}, and R. L. Payne\textsuperscript{*2}, 1BOKU University, Vienna, Austria, 2Degussa, Hanau, Germany, 3Technical University of Munich, Munich, Germany.

Physiology & Endocrinology - Livestock and Poultry
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Exhibit Hall C

M246  Hormonal response of bulls to glucose challenge in a segregating family structure. R. Pfuhl\textsuperscript{*}, O. Bellmann, F. Schneider, C. Kühn, and K. Ender, Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany.

M247  Growth hormone on metabolic profile of Nellore bulls of two different ages. L. S. Amorim\textsuperscript{*1,4}, C. A. A. Torres\textsuperscript{1}, E. A. M. Amorim\textsuperscript{1,4}, J. M. Silva Filho\textsuperscript{1}, J. D. Guimaraes\textsuperscript{1}, M. M. N. F. Oliveira\textsuperscript{1}, K. Zorzi\textsuperscript{1}, and G. R. Carvalho\textsuperscript{1}, 1Federal University of Vicosa, MG, Brazil, 2Federal University of Minas Gerais, Belo Horizonte, MG, Brazil, 3University of Diamantina, MG, Brazil, 4Colorado State University, Fort Collins.

M248  Leptin expression in early- and late-maturing Bos indicus heifers. L. F. P. Silva\textsuperscript{*1}, A. Vaiciunas\textsuperscript{1}, and L. L. Coutinho\textsuperscript{2}, 1University of São Paulo, Pirassununga, SP, Brazil, 2University of São Paulo, Piracicaba, SP, Brazil.


Monday, July 9, 2007
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M250 Plasma ghrelin concentrations of beef cattle consuming a similar amount of dietary energy supplied by different dietary ingredients. A. E. Wertz-Lutz*, J. A. Clapper1, J. S. Thurlow1, D. C. Beitz2, and A. Trenkle3, 1South Dakota State University, Brookings, 2Iowa State University, Ames.

M251 Impact of metabolic acidosis on amino acid metabolism in lambs. S. L. Greenwood*, T. C. Wright1, J. Gilmore1, J. E. Las1, N. E. Odongo1, O. AlZahali1, A. K. Shoveller1, J. C. Matthews2, and B. W. McBride1, 1University of Guelph, Guelph, Ontario, Canada, 2University of Kentucky, Lexington.

M252 Palmitate and CLA isomer effects on gene expression in MDBK cells. B. J. Thering*, M. Bionaz, and J. J. Loor, University of Illinois, Urbana.


M254 Effect of growth hormone on expression of metabolic genes in adipose tissue of dairy cows. M. Baik2, J. L. Liesman1, B. E. Etchebarne1, J. Bong2, and M. J. VandeHaar2, 1Michigan State University, East Lansing, 2Chonnam National University, Gwangju, South Korea.

M255 Growth hormone receptor expression in two dairy breeds during the periparturient period. C. S. Okamura, J. F. Bader, T. C. Cantley, and M. C. Lucy*, University of Missouri, Columbia.


M259 Hepatic gene expression profiling in postpubertal Holstein dairy heifers. J. Doelman*, N. G. Purdie, H. Cao, L. E. Wright, N. A. Karrow, and J. P. Cant, University of Guelph, Guelph, Ontario, Canada.


M261 Purification of Japanese quail prolactin and detection of multiple glycosylated isoforms. N. Kansaku*, G. Hiyama1, T. Murata2, T. Sasamami2, and D. Zadworny3, 1Azabu University, Sagamihara, Japan, 2Shizuoka University, Shizuoka, Japan, 3McGill University, St. Anne de Bellevue, Canada.

M262 Developmental gene expression of preprocholecystokinin (CCK) in lines of chickens divergently selected for high or low juvenile body weight. J. C. Gould*, C. R. Miller, P. B. Siegel, and E. A. Wong, Virginia Polytechnic Institute and State University, Blacksburg.


M264 Effects of feeding blends of grains naturally contaminated with Fusarium mycotoxins on small intestinal morphology of turkeys. C. K. Girish* and T. K. Smith, University of Guelph, Guelph, Ontario, Canada.

M265 Age-specific species variation in oxidative stress in birds. X. Guan*, K. Gyenai, C. Larson, and E. Smith, Virginia Polytechnic Institute and State University, Blacksburg.

M266 Effect of maternal stress on the stress hormone and growth response of pigs to a lipopolysaccharide (LPS) challenge. P. N. Williams*, J. A. Carroll1, J. W. Dailey1, and T. H. Welsh Jr., 1Texas A&M University-Kingsville, Kingville, 2USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, USA, 3Texas A&M University, College Station.

M267 Expression of porcine intestinal alkaline phosphatase during the early postnatal development. T. Li1,2, C. Yang3, D. Lackeyram3, Y. L. Yin1, C. F. M. de Lange1, and M. Z. Fan*, 1The Chinese Academy of Sciences, Changsha, Hunan, China, 2University of Guelph, Guelph, Ontario, Canada.
M268 Changes of physiological and biochemical parameters in weaned pigs. X. F. Kong\textsuperscript{*1}, Y. L. Yin\textsuperscript{1}, F. G. Yin\textsuperscript{1}, H. J. Liu\textsuperscript{1}, F. F. Xing\textsuperscript{1}, Q. H. He\textsuperscript{1}, T. J. Li\textsuperscript{1}, R. L. Huang\textsuperscript{1}, P. Zhang\textsuperscript{1}, M. Z. Fan\textsuperscript{1}, S. W. Kim\textsuperscript{1,4}, and G. Y. Wu\textsuperscript{1,4}. \textsuperscript{1}The Chinese Academy of Sciences, Changsha, Hunan, China, \textsuperscript{2}University of Guelph, Guelph, Ontario, Canada, \textsuperscript{3}Texas Tech University, Lubbock, \textsuperscript{4}Texas A&M University, College Station.

M269 Omega-3-fatty acid supplementation and the IGF system in early pregnancy in pigs. A. Brazle\textsuperscript{*}, T. Rathbun, B. Johnson, and D. Davis, Kansas State University, Manhattan.

M270 Serum and anterior pituitary (AP) concentrations of IGF-I and relative amounts of AP IGF binding proteins throughout the estrous cycle in gilts. A. R. Taylor\textsuperscript{*} and J. A. Clapper, South Dakota State University, Brookings.


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**Production, Management & the Environment - Livestock and Poultry I**

Exhibit Hall C

M273 Effect of ProAgri\textsuperscript{TM} amendment, before and after cleanout, on broiler litter moisture, calcium, nitrogen, and total and soluble phosphorus. N. G. Zimmermann\textsuperscript{*1}, R. Angel\textsuperscript{1}, and W. Saylor\textsuperscript{2}, \textsuperscript{1}University of Maryland, College Park, \textsuperscript{2}University of Delaware, Newark.

M274 Genotype analysis of \textit{Campylobacter} spp. isolated from various internal organs and unabsorbed yolks of commercial broiler and roaster chickens. K. L. Hiett, R. J. Buhr\textsuperscript{*}, N. A. Cox, L. J. Richardson, P. J. Fedorka-Cray, J. S. Bailey, and J. K. Northcutt, USDA-ARS, Russell Research Center, Athens, GA.

M275 Recovery of naturally occurring \textit{Campylobacter} from the circulating blood of market age commercial broilers. L. J. Richardson\textsuperscript{1}, N. A. Cox\textsuperscript{1}, R. J. Buhr\textsuperscript{*1}, and M. A. Harrison\textsuperscript{1}, \textsuperscript{1}USDA-ARS-PMSRU, Russell Research Center, Athens, GA, \textsuperscript{2}Department of Food Science and Technology, University of Georgia, Athens.

M276 Effect of a \textit{Lactobacillus} spp-based probiotic culture product on broiler chick performance under commercial conditions. A. D. Wolfenden\textsuperscript{*1}, J. L. Vicente\textsuperscript{2,3}, L. Aviña\textsuperscript{2}, A. Torres-Rodriguez\textsuperscript{1}, G. Tellez\textsuperscript{1}, and B. M. Hargis\textsuperscript{1}, \textsuperscript{1}University of Arkansas, Fayetteville, \textsuperscript{2}Sigrah Zellet de Mexico S.A. de C.V., Cuernavaca Morelos, Mexico, \textsuperscript{3}Cobb-Vantress, Siloam Springs, AR.

M277 Factors affecting the eggshell thickness on laying hens in Tepatitlan, Jalisco. R. G. Ramírez\textsuperscript{*}, A. J. Zárate, M. G. Alcorta, and J. A. C. Meneses, Universidad Autónoma Chapingo, Texcoco, Estado de México, México.

M278 Effects of feeding blends of grains naturally contaminated with Fusarium mycotoxins on performance, hematology and blood chemistry of turkeys. C. K. Girish\textsuperscript{*}, T. K. Smith, H. J. Boermans, and N. A. Karrow, University of Guelph, Guelph, Ontario, Canada.

M279 Impacts of raising season and phytase addition to standard and vegetable diets on broilers performance and litter physical characteristics. N. Bergeron\textsuperscript{*1}, A. Ouyed\textsuperscript{2}, and M. Lefrançois\textsuperscript{1}, \textsuperscript{1}Université Laval, Québec, Québec, Canada, \textsuperscript{2}Centre de recherche en sciences animales de Deschambault, Deschambault, Québec, Canada.

M280 Reduction of emissions from in vitro swine manure using monensin. T. R. Whitehead\textsuperscript{*} and M. A. Cotta, USDA-ARS-NCAUR, Peoria, IL.


M282 Differentiation of fecal alkane and fatty alcohol markers of diet composition of cattle and sheep grazing a complex heathland sward. J. M. Moorbry\textsuperscript{*}, M. D. Fraser, V. J. Theobald, and S. M. Morris, Institute of Grassland and Environmental Research, Aberystwyth, UK.
M283 Predicting the retention of ruminal boluses for the electronic identification of goats. S. Carné*, G. Caja, J. J. Ghirardi, and A. A. K. Salama, Universitat Autònoma de Barcelona, Bellaterra, Spain.


M285 Performance of milk recording procedures based on visual or electronic identification in dairy goats. A. Ait-Saidi, G. Caja*, S. Carné, and A. A. K. Salama, Universitat Autònoma de Barcelona, Bellaterra, Spain.

M286 Is ethanol production sustainable? An animal science approach. H. Koknaroglu¹, T. Purevjav*¹, T. Akumal², and M. P. Hoffman¹, ¹Suleyman Demirel University, Isparta, Turkey, ²Iowa State University, Ames.


M288 The effect of dehorning at twenty-eight days of age on calf growth and health. B. L. Miller*, T. J. Earleywine, and T. E. Johnson, Land O’Lakes, Inc., Webster City, IA USA.

M289 Temperament and chute exit velocity scores of Senepol calves after weaning. R. W. Godfrey and R. C. Ketring*, University of the Virgin Islands, Agricultural Experiment Station, St. Croix, US Virgin Islands.

M290 The effect of calf ear infection (otitis media) on calf growth and health. B. L. Miller*, T. J. Earleywine, and T. E. Johnson, Land O’Lakes, Inc., Webster City, IA.

M291 Feeding behavior and weight gain of calves fed low or high quantities of milk using an automated feeding system. T. F. Borderas*¹,², A. M. dePassillé¹, and J. Rushen¹, ¹Agriculture and Agri-Food Canada, Agassiz, B.C., Canada, ²University of British Columbia, Vancouver, B.C., Canada.

M292 Effect of palm kernel meal plus urea on finishing of Brown Swiss young bulls. J. H. Avellaneda-Cevallos*¹, T. A. Cedeño-Cedeño¹, A. Suárez-Chiquito¹, O. Montaño-Valdez¹, C. D. Cepeda-Cantos¹, R. Luna-Murillo¹, I. Espinoza-Guerra¹, J. Quintana-Zamora¹, and L. Casanova-Ferrín¹, ¹Facultad de Ciencias Pecuarias, Unidad de Investigación Científica y Tecnológica, Universidad Técnica Estatal de Quevedo, Quevedo, Los Ríos, Ecuador, ²División de Bienestar y Desarrollo Regional, Departamento de Desarrollo Regional, Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México.

M293 Effect of heat processing on ruminal and post-ruminal disappearance of individual amino acids of Iranian whole soybeans. M. H. Fathi Nasri*¹ and M. Danesh Mesgaran², ¹University of Birjand, Birjand, Iran, ²University of Mashad, Mashhad, Iran.

M294 In situ ruminal degradability of dry matter and crude protein of cottonseed meal containing different fat concentrations. M. Danesh Mesgaran*, A. Heravi Moussavi, and S. Danesh Mesgaran, Departmetn of Animal Science (Excellence Center for Animal Science), Ferdowsi University of Mashhad, Mashhad, Iran.

M295 The effect of fat content on ruminal and post-ruminal protein disappearance of cottonseed meal using in situ mobile bag and alternative enzymatic procedures. M. Danesh Mesgaran*, A. Heravi Moussavi, and S. Danesh Mesgaran, Department of Animal Science (Excellence Center for Animal Science), Ferdowsi University of Mashhad, Mashhad, Iran.

M296 A comparison of synchrotron and globar Fourier transform infra-red microspectroscopy (FTIRM) use in predicting cereal grain rumen degradation characteristics. A. M. Walker*, C. R. Christensen, D. A. Christensen, P. Yu, H. C. Block, and J. J. McKinnon, University of Saskatchewan, Saskatoon, SK, Canada.

M297 In situ ruminal disappearance of acid detergent insoluble nitrogen (ADIN) of various feeds. H. Jahani-Azizabadi, M. Danesh Mesgaran*, R. Valizadeh, and H. Nasirimoghadam, Ferdowsi University of Mashhad, Mashhad, Iran.

M298 Feed intake and digestibility response of ram lambs fed olive cake ensiled with different feed supplements. F. T. Sleiman*¹, R. E. Issa¹, S. H. Ibrahim², M. G. Uwayjan¹, S. K. Hamadeh¹, I. Toufeili¹, and M. T. Farran¹, ¹American University of Beirut, Beirut, Lebanon, ²University of Dohuk, Dohuk, Kurdistan, Iraq.
Effects of microwave irradiation on protein degradation of safflower meal in the rumen. P. Shawrang*1 and A. A. Sadeghi1, 1Animal Science Research Section, Research Center for Agriculture and Medicine, Atomic Energy Organization of Iran, Karaj, Iran, 2Department of Animal Science, Faculty of Agriculture, Science and Research Branch, Islamic Azad University, Tehran, Iran.


Pistachio hull tannin affected digestibility of soybean meal and alfalfa during in vitro digestion. A. Bohluli and A. A. Naserian*, Ferdowsi University, Mashhad, Iran.

Comparison of ruminal in situ crude protein degradability of selected feedstuffs in growing goats. Y. Hu*1, Z. L. Tan1, S. X. Tang1, Z. H. Sun1, M. Wang1, and G. O. Tayo1,2, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R. China, 2Babcock University, Ikaeja Lagos, Nigeria.


Urea-nitrogen recycling in growing lambs fed diets differing in rumen degradable protein and carbohydrate. D. Kiran* and T. Mutsvangwa, University of Saskatchewan, Saskatchewan, Canada.

Ruminal and intestinal protein and amino acid digestibility of feather meal and feather meal with blood products. K. W. Cotanch*1, R. J. Grant1, D. Darrhal1, M. E. VanAmburgh2, D. A. Ross2, and J. Haid1, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Cornell University, Ithaca, NY, 3U.S. Poultry & Egg Association, Tucker, GA.

Milk production, milk composition, digestion, and feed intake of cows fed different concentrations of flaxseed meal. H. V. Petit*1 and P. S. Mir2, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

Interactions between oilseed supplementation and barley grain processing on urea-nitrogen recycling and nitrogen metabolism in dairy cows. G. N. Gozho*, M. Hobi, and T. Mutsvangwa, University of Saskatchewan, Saskatchewan, Canada.

Influence of carbohydrate source on nitrogen metabolism and microbial protein synthesis in dairy cows. G. N. Gozho* and T. Mutsvangwa, University of Saskatchewan, Saskatchewan, Canada.

Supplementation of lactating cows receiving high citrus pulp diets with heated soybeans. G. S. Dias Júnior1, A. van Vugt2, G. Warringa1, C. A. Mello, Jr.1, and M. N. Pereira*1, 1Universidade Federal de Lavras, Brazil, 2Wageningen University, Holland, 3Naton Alimentos, Brazil.

Comparison of protein disappearance of alfalfa hay and barley grain by in vivo, mobile bag and 3-step methods. H. Jahani-Azizabadi, M. Danesh Mesgaran*, R. Valizadeh, and H. Nasirimoghadam, Ferdowsi University of Mashhad, Mashhad, Iran.

Evaluation of a rumen undegradable soybean product for lactating dairy cattle. S. S. Donkin*1, S. L. Koser1, E. M. Barnes1, P. H. Doane2, J. L. Dunn2, and M. J. Cecava2, 1Purdue University, West Lafayette, IN, 2ADM Animal Nutrition Research, Decatur, IN.

The effects of controlled feeding a high concentrate or high forage diet at four nitrogen intakes on digestibility in dairy heifers. G. I. Zanton* and A. J. Heinrichs, The Pennsylvania State University, University Park.

Evaluation of the fermentation dynamics of the soluble protein fraction of three protein sources in continuous culture fermenters. M. Ruiz Moreno*1, A. Bach1,2, M. Thrune1, and M. D. Stern1, 1University of Minnesota, Saint Paul, 2ICREA, Barcelona, Spain, 3IRTA-Unitat de Remugants, Barcelona, Spain.


M318 Effects of garlic and juniper berry essential oils on site and extent of digestion by dairy cows. W. Z. Yang, C. Benchaar, A. V. Chaves, M. L. He, T. A. McCollister, 1Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Lennoxville, QC, Canada.


M320 Adding rare earth elements to beef cattle diets improved in situ digestibility in the rumen and digestibility in the total tract. Q. Liu, W. Z. Yang, C. Wang, Y. X. Huang, K. H. Dong, and H. Wang, 1College of Animal Sciences and Veterinary Medicines, Shanxi Agricultural University, Taiyuan, Shanxi, China, 2Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.


M322 Ruminal bacterial diversity in cattle grazing wheat and supplemented with condensed tannins. B. R. Min, W. E. Pinchak, M. E. Hume, and R. C. Anderson, 1Texas Agricultural Research Center, Vernon, TX, 2USDA/ARS, Food and Feed Safety Research Unit, College Station, TX.

M323 In vitro manipulation of rumen fermentation by propolis flavonoids and monensin. S. M. J. Yaghoubi, G. R. Ghorbani, H. R. Rahmani, and A. Nikkhah, 1Isfahan University of Technology, Isfahan, Iran, 2University of Manitoba, Winnipeg, MB, Canada.


M327 Feed intake, nutrient digestibility and animal growth performance in sheep and goats fed wheat straw ad lib. in presence of ZADO as direct feed of anaerobic enzymes and bacteria. A. Z. M. Salem, M. El-Adawy, H. Gado, and M. Khalil, 1Department of Animal Production, Faculty of Agriculture (El-Shatby), Alexandria University, Alexandria, Egypt, 2Department of Animal Production, Faculty of Agriculture, Ain Shams University, Cairo, Egypt, 3Animal Production Research Institute, Ministry of Agriculture, Dokki, Giza, Egypt.

M328 Performance of Holstein cows fed diets containing either alfalfa hay or Tifton 85 bermudagrass with or without a cellulase enzyme. J. K. Bernard, J. W. West, and A. T. Adesogan, 1The University of Georgia, Tifton, 2The University of Florida, Grainesville.

M329 Effects of enzyme formulations on roasted grains and rations that contain them. K. F. Wilson, G. V. Pollard, and C. R. Richardson, 1Animal Feed Technologies, Greeley, CO, 2Texas State University, San Marcos, 3Texas Tech University, Lubbock.


M331 Effects of monensin and Yucca schidigera extract on metabolism by ruminal microbes in dual flow continuous culture fermenters. M. Ruiz Moreno and M. D. Stern, University of Minnesota, St. Paul.
M332 Effects of Yea-Sacc1026 supplementation on rumen pH of loose-housed dairy cattle. A. Bach*1 and S. Andrieu1, 1Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Barcelona, Spain, 2Alltech Biotechnology Centre, Dunboyne, Ireland.

M333 Rumen fermentation patterns of dairy heifers fed restricted amounts of high, medium, and low concentrate diets and the addition of Saccharomyces cerevisiae. G. J. Lascano* and A. J. Heinrichs, The Pennsylvania State University, University Park.

M334 Addition of three yeast cultures to diets for dairy cows in mid-lactation. K. E. Cowles*1, M. R. Murphy1, and J. W. Jones2, 1University of Illinois, Urbana, 2Western Yeast Co., Chillicothe, IL.

M335 Effects of dietary yeast culture supplementation on milk production and somatic cell counts at a commercial dairy. C. R. Richardson*1, D. W. Boyle1, D. B. Wester1, H. P. Hagaman1,3, J. E. Vander Dussen1,3, and G. V. Pollard4, 1The Center for Feed Industry Research and Education, Lubbock, 2LDJ Nutrition, Lubbock, TX, 3Texas Tech University, Lubbock, 4Texas State University, San Marcos.

M336 Blood metabolites in Holstein steers fed diets with different concentrate to alfalfa hay ratios. A. R. Vakili, M. Danesh Mesgaran*, A. Heravi Moussavi, and R. Valizadeh, Ferdowsi University, Mashhad, Khorasan, Iran.

M337 Effects of corn and alfalfa particle size on ruminal fermentation, digestibility and chewing activity of dairy cows in midlactation. Z. J. Cao*, S. L. Li, M. Ma, and L. L. Wang, China Agricultural University, Beijing, China.

M338 Effect of feeding pistachio by-product on milk yield, apparent nutrient digestibility and chewing activity of early lactation Holstein cows. A. Bohiuli, A. A. Naserian*, R. Valizadeh, and F. Eftekharshahroodi, Ferdowsi University, Mashhad, Iran.

M339 Probiotics in growing pre-ruminant calves. J. B. Cannon*1, D. L. Harman1, K. R. McLeod1, and A. J. Gallegos2, 1University of Kentucky, Lexington, 2synBior, SA de CV Queretaro, Mexico.

M340 The performance of calves fed starter feeds containing distillers grains. A. B. Chestnut* and D. L. Carr, Vigortone Ag Products, Hiawatha, IA.

M341 Effect of feeding yeast culture on performance, health, and immunocompetence of dairy Calves. V. J. A. Magalhaes*1, F. Susca1, A. F. Branco2, I. Yoon3, and J. E. P. Santos1, 1Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare, 2Univesidad Estadual de Maringa, Maringa, Brazil, 3Diamond V Mills, Inc., Cedar Rapids, IA.

M342 The effect of feeding different milk replacer programs on calf growth, health and serum glucose. T. J. Earleywine*1, T. E. Johnson1, B. J. Nonnecke2, and B. L. Miller1, 1Land O’ Lakes, Inc., Webster City, IA, 2USDA, ARS, National Disease Center, Ames, IA.


M344 Effects of early intensified nutrition on growth and metabolism of neonatal dairy calves. C. C. Williams*1, D. T. Gantt1, C. F. Hutchison1, C. C. Stanley1, and M. A. Froetschel1, 1Louisiana State University Agricultural Center, Baton Rouge, 2University of Georgia, Athens.

M345 Partial replacement of whole milk with soymilk stimulates early calf starter intake, saves milk, and reduces weaning age and costs. G. R. Ghorbani1, R. Kowsarzar*, M. Alikhani1, and A. Nikkhah2, 1Isfahan University of Technology, Isfahan, Iran, 2University of Manitoba, Manitoba, Canada.


M347 Pre- and post weaning performance and health of dairy heifer calves fed milk replacers supplemented with oligosaccharides. B. Ziegler*1, R. Larson1, S. Hayes1, H. Chester-Jones1, D. Ziegler1, J. Linn1, M. Raeth-Knight1, and G. Golombeski1, 1Hubbard Feeds, Mankato, MN, 2Milk Products, Chilton, WI, 3University of Minnesota Southern Research and Outreach Center, Waseca, 4University of Minnesota, St. Paul.

M348 Pre- and post weaning performance and health of dairy heifer calves fed milk replacers with different protein sources. S. Hayes1, B. Ziegler1, R. Larson1, H. Chester-Jones1, D. Ziegler1, J. Linn1, M. Raeth-Knight1, and G. Golombesk1, 1Milk Products, Chilton, WI, 2Hubbard Feeds, Mankato, MN, 3University of Minnesota Southern Research and Outreach Center, Waseca, 4University of Minnesota, St. Paul.

M349 Comparison of three analytical methods to assess urea nitrogen in colostrum. N. E. Lobos*, M. A. Wattiaux1, and G. A. Broderick1,2, 1University of Wisconsin, Madison, 2US Dairy Forage Research Center, Madison, WI.
M350 Influence of fish/soybean oil supplementation on milk conjugated linoleic acid and mammary gland SCD gene expression in dairy cows. D. P. Bu¹, J. Q. Wang², T. R. Dhiman², and S. J. Liu¹. ¹State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China; ²Department of Animal, Dairy and Veterinary Sciences, Utah State University, Logan.

M351 Flow of fatty acids to the duodenum and fatty acid profile of milk from cows fed diets differing in forage fiber level. D. P. Bu¹, J. Q. Wang², T. R. Dhiman², S. C. Li¹, and S. J. Liu¹. ¹State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China; ²Department of Animal, Dairy and Veterinary Sciences, Utah State University, Logan.

M352 Fatty acids composition of milk from cows fed oilseeds. S. J. Liu¹, J. Q. Wang², D. P. Bu¹, and T. R. Dhiman². ¹State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China; ²Department of Animal, Dairy and Veterinary Sciences, Utah State University, Logan.


M354 Yields of fatty acids in milk of dairy cows fed a high- or low-forage diet supplemented with either flaxseed or flaxseed oil. C. Benchareas¹, H. V. Petit¹, T. A. McAllister², and P. Y. Chouinard¹. ¹Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Sherbrooke, QC, Canada; ²Agriculture and Agri-Food Canada, Lethbridge, AB, Canada. ¹Université Laval, Quebec, QC, Canada.


M356 Evaluation of LYSOFORTE™ PF brand biosurfactant toward enhancing digestion of supplemental dietary fat in animal diets. D. Sapienza¹, F. R. Valdez², A. S. Suleman³, and W. Rounds¹. ¹Sapienza Analytica LLC, Slater, IA; ²Kemin Industries, Inc., Des Moines, IA.

M357 Optimizing the levels of linseed oil in grazing cow diets to maximize conjugated linoleic acid in milk. G. D. Flowers*, A. A. AbuGhazaleh¹, and S. Ibrahim³. ¹Southern Illinois University Carbondale, Carbondale, ²North Carolina Agricultural and Technical State University, Greensboro.

M358 Effect of ruminal infusion of sunflower oil (SO) or seeds (SS) combined or not with fish oil (FO) on conjugated linoleic acid (CLA) in milk. G. A. Gagliostro¹, M. A. Rodriguez², P. Pellegrini², G. Muset², P. Gatti², D. A. Garciarena¹, H. H. Fernández¹, M. Oporto¹, A. Ferlay³, and Y. Chilliard³. ¹Instituto Nacional de Tecnología Agropecuaria (INTA), Balcarce, Buenos Aires, Argentina; ²Instituto Nacional de Tecnología Industrial (INTI), Buenos Aires, Argentina; ³Institut National de la Recherche Agronomique (INRA), Theix, France.

M359 Effects of high oil corn grain supplementation on milk yield and composition and milk fatty acid profile in grazing dairy cows in early lactation. F. Luparia¹, D. A. Garciarena¹, C. A. Cangiano¹, P. Pellegrini², M. A. Rodriguez², H. H. Fernández¹, and G. A. Gagliostro¹. ¹Instituto Nacional de Tecnología Agropecuaria, INTA, Balcarce, Buenos Aires, Argentina; ²Instituto Nacional de Tecnología Industrial, INTI, Buenos Aires, Argentina.


M361 Milk conjugated linoleic acid response to fish oil and sunflower oil supplementation to dairy cows managed under two feeding systems. D. O. Felton* and A. A. AbuGhazaleh, Southern Illinois University, Carbondale.

M362 Effects of feeding increasing amounts of a lipid-encapsulated conjugated linoleic acid (CLA) supplement on periparturient cows. J. W. Wheelock*, L. L. Hernandez¹, S. R. Sanders¹, M. J. de Veth², and L. H. Baumgard¹. ¹University of Arizona; ²BASF AG, Germany.


M364 The expression of genes regulating lipolysis in the adipose tissue of pregnant and lactating dairy cattle. J. M. Sumner* and J. P. McNamara, Washington State University, Pullman.

M366 Effect of vitamin E or vitamin C on in vitro biohydrogenation of linolenic and linoleic acid in the presence of unesterified DHA. C. Boeckaert*, K. Ardvisson*, N. Boon*, and V. Fieuze*, 1Ghent University, Melle, Belgium, 2Swedish University of Agricultural Sciences, Umeå, Sweden.


M368 Effect of vitamin E or vitamin C on in vitro biohydrogenation of linolenic and linoleic acid in the presence of unesterified DHA. C. Boeckaert*, K. Ardvisson*, N. Boon*, and V. Fieuze*, 1Ghent University, Melle, Belgium, 2Swedish University of Agricultural Sciences, Umeå, Sweden.

M369 Delta 9 desaturase gene expression in muscle, adipose tissue and liver of beef heifers following supplementation of grass with a concentrate containing sunflower seed and fish oil. S. A. McGettrick*, A. P. Maloney, F. J. Monahan*, T. Sweeney*, and F. J. Mulligan*, 1Veterinary Sciences Centre, School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, 2Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland.


M372 Modeling fatty acid kinetics in plasma and immune cells of neonatal calves in response to increasing levels of dietary fish oil. M. A. Ballou*, J. G. Fadel, and E. J. DePeters, University of California, Davis.

M373 Effects of soybean oil plus additional forage and anabolic implant on performance, carcass quality, and meat CLA content in finished steers. V. Poulin*, A. Fournier*, J. Jacob*, C. Gariépy*, C. Avezard*, N. Durand*, J. Fortin*, and P. Y. Chouinard*, 1Institut des nutraceutiques et des aliments fonctionnels, Université Laval, Québec, Qc, Canada, 2MAPAQ, Nicolet, Qc, Canada, 3MAPAQ, St-Narcisse, Qc, Canada, 4CRDA, Agriculture and AgriFood Canada, St-Hyacinthe, Qc, Canada.

SYMPOSIA AND ORAL SESSIONS
ADSA Southern Branch Graduate Student Competition
Chair: Cathleen C. Williams, Louisiana State University
204 B


SYMPOSIUM
Alpharma Beef Cattle Nutrition Symposium
Chair: Clint Krehbiel, Oklahoma State University
Sponsors: Alpharma, ASAS Foundation, EAAP
217 A

9:30 AM  Introduction. C. R. Krehbiel, Oklahoma State University.


10:15 AM  11 Nitrogen recycling and the nitrogen economy of ruminants – asynchronous symbiosis. C. K. Reynolds*, and N. B. Kristensen, 1The University of Reading, England, 2University of Aarhus, Denmark.

10:50 AM  Break

11:15 AM  12 Opportunities to enhance performance and efficiency through nutrient synchrony in forage-fed ruminants. M. J. Hersom*, University of Florida, Gainesville.

11:50 AM  13 Opportunities to enhance performance and efficiency through nutrient synchrony in concentrate-fed ruminants. N. A. Cole*, USDA-ARS-CPRL, Bushland, TX.

Animal Behavior & Well-Being - Livestock and Poultry I
Chair: Marcia I. Endres, University of Minnesota
205

9:30 AM  14 Does flavored sow’s milk matched with the same flavored post-weaning feed improve performance, reduce post-weaning aggression, and establish an odor preference in piglets? N. Krebs* and J. J. McGlone, Texas Tech University, Lubbock.


10:30 AM 18 Separating the effects of group size, stocking density and pen size in broilers. E. H. Leone* and I. Estevez, University of Maryland, College Park.

10:45 AM Break

11:00 AM 19 Reducing stress at the packing plant using prior training and conditioning to odors in finishing pigs. N. Krebs*, M. A. Sutherland, and J. J. McGlone, Texas Tech University, Lubbock.

11:15 AM 20 The efficacy of Meloxicam at relieving the pain response to dehorning in dairy calves. A. Heinrich*1,3, T. Duffield1,3, K. Lissemore2,3, E. J. Squires1,3, and S. T. Millman1,3, 1Ontario Veterinary College, Guelph, ON, Canada, 2Ontario Agricultural College, Guelph, ON, Canada, 3University of Guelph, Guelph, ON, Canada.


Animal Health - Livestock and Poultry
Poultry and Swine I
Chair: Kim Cole, The Ohio State University
Sponsor: Pfizer Animal Health
214 B

9:30 AM 24 Over-supplementation of Vitamin D as a risk factor for chronic heart failure in fast growing commercial broilers. S. Nain*, B. Laarveld, and A. A. Olkowski, University of Saskatchewan, Saskatoon, SK, Canada.

9:45 AM 25 Evaluation of Vitamin U on Salmonella typhimurium in broilers. A. L. Shaw*, K. S. Macklin, and J. P. Blake, Auburn University, Auburn, AL.

10:00 AM 26 Arginine and vitamin E modulate the subpopulations of T-lymphocytes in broiler chickens. S. T. Abdukalykova* and C. A. Ruiz-Feria, McGill University, Montreal, QC, Canada.

10:15 AM 27 Effects of arginine and vitamin E on antibody production against sheep red blood cells and immune bursal disease virus. S. T. Abdukalykova* and C. A. Ruiz-Feria, McGill University, Montreal, QC, Canada.


11:00 AM 30 Acquisition of immunity to Eimeria maxima in newly hatched chickens reared on new or reused litter. S. Rayavarapu* and H. D. Chapman, University of Arkansas, Fayetteville.

11:15 AM 31 Evaluation of Coccicvac-B® and Bio-Cox® (salinomycin) for control of 3 species of Eimeria in broilers. C. Brown*, R. G. Teeter1, A. Beker1, M. Singh1, C. Broussard2, S. Fitz-Coy2, and J. Radu2, 1Oklahoma State University, Stillwater, 2Schering-Plough Animal Health, Union, NJ.


Identification of *Eimeria* species using Denaturing Gradient Gel Electrophoresis. A. Martynova-Van Kley¹, A. Svyyk*, A. Nalian¹, I. Teplova¹, and M. Hume², ¹Steven F. Austin State University, Nacogdoches, TX, ²USDA, ARS, SPARC, Food and Feed Safety Research Unit, College Station, TX.

Eimeria acervulina and *E. mivati*: Are they one and the same? S. Fitz-Coy*, Schering-Plough AH, Summit, NJ.

**SYMPOSIUM**

**Bio Ethics - Livestock and Poultry**

**The Ethics of Food Animal Production, Processing and Marketing**

Chair: Gary Comstock, North Carolina State University

206 B


10:20 AM  Changing social dynamics and questions of ethics. W. Jamison*, Dordt College, Sioux Center, IA.

10:50 AM  Discussion.

11:00 AM  38  Ethical aspects of regulating production. J. C. Swanson*, Kansas State University, Manhattan.


12:00 PM  Discussion.

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**Breeding and Genetics - Livestock and Poultry**

**Poultry**

Chair: Janice Fulton, Hyline

217 B

9:30 AM  40  Genetic variations in chicken aggressive behavior: the role of serotonergic system. R. L. Dennis*,² ¹, Z. Q. Chen¹, and H. W. Cheng¹, ¹Livestock Behavior Research Unit, USDA-ARS, West Lafayette, IN, ²Purdue University, West Lafayette, IN, ³Zhejiang University, School of Animal Science, Hangzhou, Zhejiang Province, China.

9:45 AM  41  Association between SNPs and mortality in commercial broilers: a machine learning approach. N. Long*,¹ D. Gianola¹, K. A. Weigel¹, G. J. M. Rosa¹, and S. Avendano², ¹University of Wisconsin, Madison, ²Aviagen Ltd., Newbridge, Scotland.

10:00 AM  42  Non-major histocompatibility complex effects on the outcome of Rous sarcoma virus in Arkansas Progressor and Regressor chicken lines. M. Spanakos*,¹ S. M. Sullivan¹, L. K. Stamps¹, R. Kopulos², J. Thompson¹, G. F. Erf¹, and N. B. Anthony¹, ¹University of Arkansas, Fayetteville, ²Northern Illinois University, DeKalb, IL.

10:15 AM  43  Animal model estimation of (Co) variance components and genetic parameters for most important economic traits in Iranian native fowl. A. Ghazi Khani Shad*,¹ A. Nejati Javaremi¹, and H. Mehraban Yeganeh², ¹Azad University of Science and Research, Tehran, Iran, ²University of Tehran, Iran.

10:30 AM  44  Effects of competition on expected response to selection for ADG. C. Y. Chen*,¹ R. K. Johnson¹, S. D. Kachman¹, and L. D. Van Vleck¹², ¹University of Nebraska, Lincoln, ²ARS, USDA, U.S. Meat Animal Research Center, Clay Center, NE.
10:45 AM 45 Effect of sex and sire on the intramuscular fatty acid profile in pigs. S. De Smet*, M. Ntawubizi, K. Raes, and N. Buys, Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Melle, Belgium, Centre for Animal Genetics and Selection, Catholic University Leuven, Heverlee, Belgium, University College of West-Flanders, Department PIH, Kortrijk, Belgium.

11:00 AM Break


11:30 AM 47 Characterization of newly developed chicken 44K Agilent microarray. X. Y. Li*, H. I. Chiang, J. Zhu, and H. Zhou, Texas A&M University, College Station.


12:00 PM 49 Using a web-based economic model to examine investment decisions in the turkey industry for both integrated and non-integrated companies. B. J. Wood* and N. Buddiger, Hybrid Turkeys, Kitchener, Ontario, Canada.

12:15 PM 50 Quantitative and biological issues of feed utilization efficiency. S. E. Aggrey*, University of Georgia, Athens.

SYMPOSIUM
Egg and Meat Science and Muscle Biology - Livestock and Poultry
Meat Packaging and Shelf Life
Chair: Mark Miller, Texas Tech University
207 B


11:00 AM Break

11:20 AM 53 Is there a link between food safety and food spoilage? J. C. Brooks*, M. M. Brashears, and M. F. Miller, Texas Tech University, Lubbock.

SYMPOSIUM
Food Safety - Livestock and Poultry
Current and Future Salmonella Challenges
Chair: Hussein S. Hussein, University of Nevada-Reno
ASAS Early Career Achievement Award Sponsored by the ASAS Foundation
206 A

9:30 AM Introduction. H. S. Hussein*, University of Nevada, Reno.


9:40 AM 54 Gastrointestinal microbial ecology and the safety of our food supply as related to Salmonella. T. R. Callaway*, T. S. Edrington, J. A. Byrd, R. C. Anderson, R. B. Harvey, K. J. Genovese, J. L. McReynolds, and D. J. Nisbet, Food and Feed Safety Research Unit, College Station, TX.
Current and future *Salmonella* challenges: Background, serotypes, pathogenicity, and drug resistance. S. L. Foley*, Marshfield Clinic Research Foundation, Marshfield, WI.


Current and future *Salmonella* challenges: Prevalence in swine and poultry and potential pathogenicity of their isolates. S. L. Foley*, Marshfield Clinic Research Foundation, Marshfield, WI.

**Horse Species**

**Chair:** Sarah Ralston, Rutgers University

207 A

9:30 AM 58 Temporal variables of the Quarter Horse hunter trot and canter. M. Nicodemus*, Mississippi State University, Mississippi State.

9:45 AM 59 Survey of working conditions and management of donkeys in Niono and Segou. M. M. Diarra1, A. Doumbia1, and A. K. McLean*2, 1Institut Polytechnique Rural de Formation et de Recherche Appliquée, Katibougou, Mali, 2Michigan State University, East Lansing.


10:30 AM 62 Metabolic and digestive profiles of horses grazing spring pasture. B. McIntosh*1,2, D. Kronfeld1, R. Geor1, W. Staniar1, and P. Harris1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Blue Seal Feeds, Inc, Londonderry, NH, 3WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom.

10:45 AM 63 Fatty acid content of grass and legume hays commonly fed to horses. L. K. Warren* and J. Kivipelto, University of Florida, Gainesville.

11:00 AM 64 Effect of season, forage maturity and grazing on the fatty acid composition of bahiagrass pasture. L. K. Warren* and J. Kivipelto, University of Florida, Gainesville.

**Immunology - Livestock and Poultry I**

**Chair:** Gisela F. Erf, University of Arkansas

203

9:30 AM 65 An initial evaluation of the pathogenesis of Turkey-origin avian reovirus in poults. C. Stephens*1, M. Pantin-Jackwood2, E. Spackman2, and J. M. Day2, 1University of Georgia, Athens, 2Southeast Poultry Research Labs, USDA, Athens, GA.

9:45 AM 66 Characters and functions of anterior pituitary progenitor cells that are identified by a novel monoclonal antibody. Y. Nagai*, H. Aso, H. Ogasawara, S. Tanaka, K. Watanabe, S. Ohwada, and T. Yamaguchi, Laboratory of Functional Morphology, Graduate School of Agricultural Science, Tohoku University, Sendai, Japan.

10:00 AM 67 Effect of photoperiod on immune function in broiler chickens. S. Dalal*, K. Schwean-Lardner, B. Laarveld, H. L. Classen, and A. G. Van Kessel, University of Saskatchewan, Saskatoon, SK, CANADA.

10:15 AM 68 Gene expression profiling in heterophils from *Salmonella*-resistant and -susceptible chicken lines using a chicken 44K Agilent microarray. H. I. Chiang*, C. L. Swaggerty2, M. H. Kogut3, X. Y. Li1, and H. Zhou3, 1Texas A&M University, College Station, 2United States Department of Agriculture, College Station, TX.

10:45 AM 70  The feather as an in vivo test tube for tissue immune responses. G. F. Erf*, B. Lockhart, K. Bateman, R. Finley, and O. T. Bowen, University of Arkansas, Fayetteville.

11:00 AM 71  Risk factors for avian developmental immunotoxicity (DIT): potential role of sex, hormone status, and age. R. R. Dietert*, Cornell University, Ithaca, NY.


Graduate Student Paper Competition: National ADSA Dairy Foods Division
Chair: Nagendra Shah, Victoria University, Melbourne, Australia

201

9:30 AM 73  Use of HTST pasteurization combined with other nonthermal processes to improve fluid milk shelf life. Z. P. Caplan* and D. M. Barbano, Cornell University, Ithaca, NY.


10:00 AM 75  Effect of different stabilizers on the textural and rheological properties of cream cheese. M. Brighenti*1, S. Govindasamy-Lucey2, J. J. Jaeggi2, M. E. Johnson2, and J. A. Lucey3, 1University of Wisconsin, Madison, 2Wisconsin Center for Dairy Research, Madison, WI.

10:15 AM 76  Effect of stabilizers on fat agglomeration and melting resistance of ice cream. I. Herlambang*1, W. J. Harper1, and B. W. Tharp2, 1The Ohio State University, Columbus, 2Tharp's Food Technology, Wayne, PA.

10:30 AM 77  Optical measurement of curd shrinkage during cheese manufacturing. C. C. Fagan*a2,1, M Castillo1, C. P. O'Donnell2, D. J. O'Callaghan1, and F A Payne1, 1University of Kentucky, Lexington, 2University College Dublin, Ireland, 3Moorepark, Teagasc, Cork, Ireland.

10:45 AM 78  Impact of different curd-washing methods on the insoluble Ca content and rheological properties of Colby cheese. M.-R. Lee*1, M. E. Johnson2, S. Govindasamy-Lucey1, J. Jaeggi2, and J. A. Lucey3, 1University of Wisconsin, Madison, 2Center for Dairy Research, Madison, WI.


9:45 AM 82  Dietary addition of mannoiose, beta glucan, or mannan-oligosaccharides on growth performance and immune response in early-weaned pigs raised at two locations. Y. Han*, J. J. Brennan1, and M. Vignola2, *Maple Leaf Foods Agresearch, Guelph, Ontario, Canada, 1Maple Leaf Foods Agresearch, St-Romuald, Quebec, Canada.

10:00 AM 83  Evaluation of plant materials for alternative adhesion of *E. coli* K88 (ETEC) in weaning pigs. R. Maiorano*, A. W. Jongbloed1, C. M. F. Wagenaars1, P. G. Van Wikselaar1, and P. M. Becker1, 1Animal Sciences Group, Lelystad, The Netherlands, 2University of Milan, Milan, Italy.

10:15 AM 84  Effect of fermentable carbohydrates on the intestinal microbial ecosystem in growing pigs fed low-P diets. B. U. Metzler*, W. Vahjen2, T. Baumgärtel3, M. Rodehutscord3, and R. Mosenthin1, 1Institute of Animal Nutrition, University of Hohenheim, Stuttgart, Germany, 2Institute of Animal Nutrition, Free University of Berlin, Berlin, Germany, 3Institute of Agricultural and Nutritional Sciences, Martin-Luther-University Halle-Wittenberg, Halle (Saale), Germany.


10:45 AM 86  Effects of adding saturated fat to diets with sorghum-based distillers dried grains with solubles on growth performance and carcass characteristics in finishing pigs. C. Feoli*, S. Issa1, J. D. Hancock1, T. L. Gugle1, S. D. Carter2, and N. A. Cole1, 1Texas Tech University, Lubbock, 2USDA-ARS-Livestock Lissues Research Unit, Lubbock, TX, USA.

11:00 AM 87  Effect of feeding fermented soybean meal on plasma concentration of cortisol in LPS-challenged nursery pigs. D. A. Monson*, J. A. Carroll2, R. D. Mateo1, and S. W. Kim1, 1Texas Tech University, Lubbock, 2USDA-ARS-Livestock Lissues Research Unit, Lubbock, TX, USA.


11:30 AM 89  Dietary supplementation with the Lactobacillus pentosus and/or inulin influences pH and volatile fatty acid characteristics in the colon. Z. McHugh, T. Sweeney, J. J. Callan, M. Ryan, and J. V. O’Doherty*, University College Dublin, Ireland.

11:45 AM 90  Response of nursery pigs to a synbiotic based on starch (prebiotic) and an anti-*Escherichia coli* K88 colicinogenic probiotic. S. K. Bhandari*, A. Setia, D. O. Krause, and C. M. Nyachoti, *University of Manitoba, Winnipeg, MB, Canada.

12:00 PM 91  Dosage and efficacy of a novel *Saccharomyces cerevisiae* strain to enhance piglets productivity. M. Lucero P*, G. E. Lanz A1, A. A. Martinez A2, and J. A.- Cuaron P3, 1PAIEPEME A.C., Querétaro, México, 2CNID-Microbiología, México, 3CNID-Fisiología Animal, INIFAP, Queretaro, México, 4FESC UNAM, Ajuchitlan, Queretaro, Mexico.

Nonruminant Nutrition
Poultry Nutrition - Protein and Amino Acids
Chair: Randy Mitchell, Perdue Farms

214 C

9:30 AM  93  Ileal amino acid digestibility of protein feed ingredients at 5 and 21 days of age by broiler chickens. J. M. Rynsburger*1, D. Hoehler1, and H. L. Classen1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Degussa Corporation, Kennesaw, GA.

9:45 AM  94  Effects of a reduction of dietary crude protein on performance and economics in commercial Ross 708 broilers. E. A. Guaiume*1, J. D. Firman1, D. Hoehler1, P. B. Tillman1, D. Burnham4, J. Parcell1, L. B. Linares1, and A. Kamyab1, 1University of Missouri, Columbia, 2Degussa Corporation, Kennesaw, GA, 3Ajinomoto Heartland LLC, Chicago, IL, 4Aviagen Inc., Huntsville, AL.

10:00 AM  95  Effects of dietary protein concentration and age on gut morphology, crude mucin, and sialic acid contents of ileal digesta of turkey poults. S. A. Adedokun*, D. M. Karcher, and T. J. Applegate, Purdue University, West Lafayette, IN.

10:15 AM  96  Protein and amino acid retention in growing White Pekin ducks receiving graded levels of dietary crude protein. N. L. Horn* and O. Adeola, Purdue University, West Lafayette, IN.

10:30 AM  97  Effect of strain and immune status on dietary lysine requirements in broilers as determined by indicator amino acid oxidation. R. D. Kirschenman* and D. R. Korver, University of Alberta, Edmonton AB, Canada.

10:45 AM  98  Dietary protein quality and feed restriction influence abundance of PepT1 mRNA in the small intestine of two lines of broilers. E. Gilbert*1, H. Li1, D. Emmerson2, K. Webb, Jr.1, and E. Wong1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Ajiagen*, Huntsville, AL.

11:00 AM  99  Cysteine toxicity in chicks. R. N. Dilger* and D. H. Baker, University of Illinois, Urbana.

11:15 AM 100  Digestibility and availability of the creatine source guanidino acetic acid in broilers. A. Lemme*1, J. Tossenberger2, and J. Ringel1, 1Degussa GmbH - Feed Additives, Hanau, Germany, 2University of Kaposvar, Kaposvar, Hungary.

11:30 AM 101  Effect of amino acid formulation and synthetic amino acid supplementation on turkey tom performance. T. Applegate*1, W. Powers2, and R. Angel1, 1Purdue University, West Lafayette, IN, 2Michigan State University, East Lansing, 3University of Maryland, College Park.

11:45 AM 102  Increased dietary balanced protein levels at varying length of application during the starter period of broilers. A. Lemme*1, M. G. T. Janssen2, P. J. A. Wijtten2, J. K. W. M. Sparla2, and M. S. Redshaw1, 1Degussa GmbH - Feed Additives, Hanau, Germany, 2Provimi B. V., Rotterdam, The Netherlands.

12:00 PM 103  Response of vaccinated starting broilers to the inclusion of NEAA as gelatin to high and low CP feed while maintaining EAA requirements. R. Lehman* and E. T. Moran, Auburn University, Auburn, AL.

12:15 PM 104  Evaluation of isoleucine and valine limitation in diets for heavy high-yield broilers. A. Corzo*1, M. T. Kidd1, J. Collier1, W. A. Dozier, III2, and D. Hoehler3, 1Mississippi State University, Mississippi State, 2USDA-ARS, Mississippi State, MS, 3Degussa Corporation, Kennesaw, GA.
Nonruminant Nutrition
Swine Mineral Nutrition and Metabolism
Chair: Olayiwola Adeola, Purdue University


9:45 AM 106 Copper can be absorbed as a Cu-peptide chelate through the PepT1 transporter in the jejunum of weanling pigs. B. E. Aldridge*, K. L. Saddoris, and J. S. Radcliffe, Purdue University, West Lafayette, IN.

10:00 AM 107 The feeding of low-P diets to weanling pigs stimulates Na+-dependent phosphate transport by a post-translational mechanism in the jejunum. K. L. Saddoris* and J. S. Radcliffe, Purdue University, West Lafayette, IN.

10:15 AM 108 Dietary supplementation with zinc oxide decreases the expression of the stem-cell factor in the small intestine of weanling pigs. D. Y. Ou1, D. F. Li*1, Y. H. Cao1, X. L. Li1, J. D. Yin1, S. Y. Qiao1, and G. Y. Wu2, 1China Agricultural University, Beijing, China, 2Texas A&M University, College Station.

10:30 AM 109 Net portal absorption of inorganic zinc and zinc-amino acid chelates by growing pigs. R. D. Mateo*1, M. I. Perret-Gentil2, M. W. Hart3, R. A. Samford3, and S. W. Kim4, 1Texas Tech University, Lubbock, 2Texas Tech Health Sciences Center, Lubbock, 3Albion Advanced Nutrition, Clearfield, UT.

10:45 AM 110 The effect of varied levels of E. Coli. phytase on phosphorus balance in weanling pigs. T. C. Tsai*1, C. R. Dove1, M. J. Azain1, and M. Bedford1, 1University of Georgia, Athens, 2Syngenta Animal Nutrient, RTP, NC.

11:00 AM 111 Effects of different available-phosphorus levels in diets on nitrogen and phosphorus digestibilities in growing pigs. X. Wu1, Y. L. Yin1, G. Y. Wu1,2, T. J. Li1, Y. G. Zhang1, F. Y. Yan1, R. L. Huang1, and M. Z. Fan*1, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Huazhong Agricultural University, Wuhan, Hubei, China, 3Texas A&M University, College Station, 4University of Guelph, Guelph, Ontario, Canada.


11:30 AM 113 Exogenous glutathione reduces cadmium toxicity to giant freshwater prawns Macrobrachium rosenbergii. W. Y. Chu*1, Y. L. Yin1, K. Yao1, T. J. Li1, R. L. Huang1, and G. Y. Wu1,2, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Texas A&M University, College Station.

11:45 AM 114 Factors affecting phytase activity: implication for assay development. M. F. Isaksen*1,2 and S. Dalsgaard1,2, 1Danisco Innovations, Brabrand, Denmark, 2Danisco Animal Nutrition, Marlborough, Wiltshire, UK.

Physiology & Endocrinology - Livestock and Poultry

Estrous Synchronization

Chair: Raymond Nebel, Select Sires

214 D

9:30 AM 116  Factors affecting pre-ovulatory follicular diameter and ovulation rate following GnRH administration in anestrous beef cows. J. A. Atkins*, T. W. Geary¹, K. J. Wells¹, M. C. Lucy¹, and M. F. Smith¹, ¹University of Missouri, Columbia, ²USDA ARS Fort Keogh, Miles City, MT, ³Michigan State University, East Lansing.

9:45 AM 117  Comparison of protocols to synchronize estrus and ovulation I: Estrous cycling beef heifers. N. R. Leitman*, D. C. Busch, J. F. Bader, D. J. Wilson, M. R. Ellersieck, M. F. Smith, and D. J. Patterson, University of Missouri, Columbia.

10:00 AM 118  Comparison of protocols to synchronize estrus and ovulation II: Prepubertal beef heifers. N. R. Leitman*, D. C. Busch, J. F. Bader, D. J. Wilson, M. R. Ellersieck, M. F. Smith, and D. J. Patterson, University of Missouri, Columbia.

10:15 AM 119  Pregnancy rates following fixed-time AI in beef heifers after administration of CIDR-based protocols to synchronize estrus and ovulation. D. C. Busch¹, D. J. Wilson¹, D. J. Schafer², N. R. Leitman¹, J. K. Haden², M. R. Ellersieck¹, M. F. Smith¹, and D. J. Patterson¹, ¹University of Missouri, Columbia, ²MFA Inc., Columbia, MO.

10:30 AM 120  Timing of fixed-time AI in beef cows following the CO-Synch + CIDR protocol. D. C. Busch¹, D. J. Schafer², N. R. Leitman¹, D. J. Wilson¹, J. K. Haden², M. F. Smith¹, and D. J. Patterson¹, ¹University of Missouri, Columbia, ²MFA Inc., Columbia, MO.

10:45 AM 121  Comparison of the 7-11 estrous synchronization protocol between suckled Angus (AN) and Brangus (BN) cows. R. D. Esterman*, B. R. Austin, S. A. Woodall, and J. V. Yelich, University of Florida, Gainesville.

11:00 AM  Break

11:15 AM 122  The use of estrus synchronization, resynchronization, and ultrasound to facilitate two timed artificial inseminations without heat detection in beef cattle. W. E. Beal*, M. D. Utt, and T. E. Wiseman, Virginia Polytechnic Institute and State University, Blacksburg.


11:45 AM 124  Effect of pretreatment with prostaglandin F₂α 12 days before initiation of Resynch on fertility of lactating dairy cows. E. Silva¹, R. A. Sterry¹, D. Kolb², M. C. Wiltbank¹, and P.M. Fricke¹, ¹University of Wisconsin, Madison, ²Lodi Veterinary Clinic, Lodi, WI.

12:00 PM 125  Reducing the interval from Presynchronization to initiation of timed AI improves fertility in dairy cows. K. N. Galvao*, M. F. Sa Filho, and J. E.P. Santos, School of Veterinary Medicine, University of California Davis, Tulare.

Production, Management & the Environment - Livestock and Poultry

Dairy Production and Management I

Chair: Paul Fricke, University of Wisconsin

214 A

9:30 AM 126  Effects of dim light at night on milk yield, milk composition and endocrine profile of lactating dairy cows. M. A. Bal¹, G. B. Penner¹, M. Oba¹, and A. D. Kennedy², ¹University of Alberta, Edmonton, AB, Canada, ²University of Manitoba, Winnipeg, MB, Canada.

9:45 AM 127  Effects of dairy dry lot corral management on air emissions. L. M. Nuckles* and F. M. Mitloehner, University of California, Davis.
<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>10:00 AM</td>
<td>Characterization and quantification of emissions from dairies. N. M. Marcillac, F. M. Schwander, R. F. Follett, J. L. Colletti, and N. P. Hanan, <em>Colorado State University, Fort Collins, USDA/ARS, Fort Collins, CO.</em></td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Prediction of DHI udder health values from bulk tank information. A. J. Young and S. P. Tripp, <em>Utah State University, Logan,</em> DH-Provo Computing Service, Provo, UT.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Waste milk supply and pasteurizer performance on California dairy farms and calf ranches. M. C. Scott, R. E. James, and M. L. McGilliard, <em>Virginia Polytechnic Institute and State University, Blacksburg, VA.</em></td>
</tr>
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<td>12:00 PM</td>
<td>Waste milk supply and pasteurizer performance on California dairy farms and calf ranches. M. C. Scott, R. E. James, and M. L. McGilliard, <em>Virginia Polytechnic Institute and State University, Blacksburg, VA.</em></td>
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### Production, Management & the Environment - Livestock and Poultry

**Poultry Production, Management and Environment**

**Chair: William B. Roush, USDA ARS Poultry Research Unit**

#### 213

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>9:30 AM</td>
<td>Increasing lighting program effects on production characteristics of modern broilers. K. Schwean-Lardner, H. L. Classen, and B. I. Fancher, <em>University of Saskatchewan, Saskatoon, Saskatchewan Canada,</em> Aviagen North America, Huntsville, AL.</td>
</tr>
</tbody>
</table>

11:15 AM 144  Feeding broiler breeder hens twice a day after photostimulation improves reproductive performance. J. M. Spradley*, M. E. Freeman, J. L. Wilson, and A. J. Davis, University of Georgia, Athens.


12:00 PM 147  The relationship between female feather cover, mating frequency and male–to–female aggression in Broiler Breeders. D. E. Holm*, R. A. Renema, F. E. Robinson, and M. J. Zuidhof, University of Alberta, Edmonton, Alberta, Canada, 2Alberta Agriculture and Food, Edmonton, Alberta, Canada.


Ruminant Nutrition
Feedstuff Modification and Growing/Finishing Nutrition
Chair: Cathy Bandyk, Quality Liquid Feeds
217 C

9:30 AM 149  Effects of chemical treatment of canola meal on nutrients ruminal degradation in Zel sheep using in situ methods. A Teimouri Yansari and H. MohammadZadeh, University of Agriculture and Bioresource, Sari, Mazandaran, Iran, 2University of Agriculture and Bioresource, Sari, Mazandaran, Iran.


11:00 AM 155  Effects of roughage level and Fibrinolyme™ supplementation on site and extent of digestion by finishing beef steers. J. J. Cranston and C. R. Krehbiel, Oklahoma State University, Stillwater.

11:15 AM 156  The effect of delaying initial implant on finishing performance and carcass characteristics. W. A. Griffin, D. C. Adams, and R. N. Funston, University of Nebraska West Central Research and Extension Center, North Platte.
Ruminant Nutrition
Ruminal Fermentation - Dairy
Chair: William Sanchez, Diamond V Mills, Inc.
Sponsor: Lallemand Animal Nutrition

217 D

9:30 AM 161 Effects of *Saccharomyces cerevisiae* on ruminal pH and microbial fermentation in lactating dairy cows. M. Thrane¹, A. Bach², M. Ruiz-Moreno¹, M. D. Stern³, and J. G. Linn¹, ¹University of Minnesota, St. Paul, ²IRTA-Unitat de Remugants, Spain.

9:45 AM 162 Impacts of a *Yucca schidigera* extract on rumen fermentation and *in vitro* gas production and NDF digestion. M. D. Singer¹, P. H. Robinson¹, A. Z. M Salem², and E. J. DePeters¹, ¹University of California, Davis, ²University of Alexandria, Alexandria, Egypt.

10:00 AM 163 Yeast culture supplementation prevented milk fat depression from a fermentable carbohydrate challenge. R. A. Longuski¹, Y. Ying, and M. S. Allen, Michigan State University, East Lansing.

10:15 AM 164 The effect of yeast culture and enzymatically hydrolyzed yeast supplementation on performance of dairy cattle. J. E. Nocek¹, J. Oppy², and M. G. Holt², ¹Spruce Haven Farm and Research Cir, Auburn, NY, ²Varied Industries Corporation, Mason City, IA.

10:30 AM 165 Effect of pasteurized waste milk, medicated milk replacer, mannan oligosaccharide and enzymatically hydrolyzed yeast on neonatal calf performance. J. E. Nocek¹, J. Oppy², and M. G. Holt², ¹Spruce Haven Farm and Research Cir, Auburn, NY, ²Varied Industries Corporation, Mason City, IA.

10:45 AM 166 Effects of feeding rumen-protected choline (RPC) on lactation and metabolism. F. S. Lima¹, M. F. Sa Filho¹, L. F. Greco¹, F. Susca¹, V. J. A. Magalhaes¹, J. Garrett², and J. E. P. Santos¹, ¹Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare, ²Balchem Corporation, Animal Nutrition & Health, New Hampton, NY.

11:00 AM 167 Effect of feeding Fermenten® on the productivity of cows fed different concentrations of sucrose. G. B. Penner¹ and M. Oba, University of Alberta, Edmonton, Alberta, Canada.

11:15 AM 168 Effect of monensin feeding and withdrawal on ruminal populations of individual bacterial species in cows fed high-starch diets. P. J. Weimer¹,², D. M. Stevenson¹, D. R. Mertens¹, and E. E. Thomas³, ¹United States Department of Agriculture, Madison, WI, ²University of Wisconsin, Madison, ³Elanco Animal Health, Inc., Greenfield, IN.

11:30 AM 169 Effects of nitroethane and monensin on ruminal CH₄ production and nitro-degrading bacterial populations in vitro. H. Gutierrez-Bañuelos¹, R. C. Anderson¹, G. E. Carstens¹, L. O. Tedeschi¹, E. Cabrera-Diaz¹, T. R. Callaway², and D. J. Nisbet², ¹Texas A&M University, College Station, ²USDA/ARS, Food & Feed Safety Research Unit, College Station, TX.

Deactivation of aflatoxin B1 in animal feed by using a selected bentonite. G. Schatzmayr*, S. Fruhau*, E. Vekiru*, BLOMIN Research Center, Tulln, Austria, Christian Doppler Laboratory for Mycotoxin Research, Tulln, Austria.

Adding liquid feed while reducing non-fiber carbohydrates (NFC) enhances feed intake and milk fat production. J. L. Firkins*, C. Reveneau, L. E. Gilligan, and A. Sprunger, Ohio State University, Columbus.

SYMPOSIUM
Teaching/Undergraduate & Graduate Education
Visual Learning in Animal Science
Chair: Patricia Schoknecht, Wagner College
Sponsor: ASAS

9:30 AM Introductory Remarks.

9:35 AM The role of the NSF/National Science Digital Library in the dissemination of science, technology, engineering and mathematics information and in support of innovations in teaching and learning. L. Salisbury*, University of Arkansas Libraries, Fayetteville. National Science Digital Library.

10:05 AM The importance of images to the pork industry. D. J. Meisinger*, US Pork Center of Excellence, Ames, IA.


11:25 AM ASAS operational structure for the animal science image gallery. M. C. Wulster-Radcliffe*, American Society of Animal Science, Savoy, IL.


178 The OSU Breeds of Livestock Library. D. S. Buchanan*, Oklahoma State University, Stillwater.


Graduate Student Competition ADSA-ASAS Northeastern Branch
Chair: Steven Zinn, University of Connecticut


10:30 AM 182  Trans-7-octadecenoic acid decreased milk fat and altered CLA composition in milk of lactating mice. A. K. G. Kadegowda*, B. B. Teter1, J. Sampugna1, P. Delmonte1, L. S. Piperova1, and R. A. Erdman1, 1University of Maryland, College Park, 2Food and Drug Administration, College Park, MD.

10:45 AM 183  An evaluation of two methods to cover bunker silos to maintain the nutritive value of silage. E. E. McDonell*, C. M. Klingerman, R. J. Schmidt, W. Hu, and L. Kung, Jr., University of Delaware, Newark.

11:00 AM 184  Effect of level of fermentable NDF on feed intake and production of lactating ewes. M. A. Schotthofer*, M. L. Thonney, and D. E. Hogue, Cornell University, Ithaca, NY.

11:15 AM 185  The effect of Lactobacillus buchneri 40788 with or without Pediococcus pentosaceus on the fermentation and aerobic stability of corn silage made at different locations. R. J. Schmidt*, W. Hu, C. M. Klingerman, E. E. McDonell, and L. Kung Jr., University of Delaware, Newark.

11:30 AM 186  Effect of weight gain and diet on insulin sensitivity in Thoroughbred geldings. R. W. Quinn*, A. O. Burk1, T. G. Hartsock1, K. H. Treiber2, and R. C. Boston3, 1University of Maryland, College Park, 2Virginia Polytechnic Institute and State University, Blacksburg, 3University of Pennsylvania, Kennett Square.

11:45 AM 187  Digestibility of limit fed high and low concentrate diets with corn silage as the sole forage for dairy heifers with Saccharomyces cerevisiae. G. J. Lascano* and A. J. Heinrichs, The Pennsylvania State University, University Park.

ADSA-SAD Undergraduate Competition - Dairy Production
Chair: Steven Kelm, University of Wisconsin - River Falls
007 C

11:00 AM 188  The potential for use of sexed semen technology in the dairy industry. S. N. Van Exel*, California Polytechnic State University, San Luis Obispo.

11:15 AM 189  Management considerations for automated milking systems. S. J. Miller*, Pennsylvania State University, University Park.

11:30 AM 190  The sale and consumption of raw milk. T. Webb* and D. Winston, Virginia Polytechnic Institute and State University, Blacksburg.


12:00 PM 192  Waste milk vs. milk replacer. J. Downing* and C. C. Williams, Louisiana State University, Baton Rouge.

SYMPOSIUM
Dairy Foods
Chair: Jeff Kondo, Dairy Management, Inc.
Sponsor: Dairy Management, Inc.

202


1:40 PM 194  Manufacture and application of casein concentrates. L. E. Metzger*, South Dakota State University, Brookings.

2:30 PM  196  Defining the flavor of dairy products. M. A. Drake*, North Carolina State University, Raleigh.

2:55 PM  197  Improving the quality of low fat cheese. D. J. McMahon*, Western Dairy Center, Nutrition & Food Sciences Dept., Utah State University, Logan, UT.

3:20 PM  198  Process techniques to enhance the utilization of whey ingredients. J. A. Lucey*, S. Damodaran¹, and K. Smith², ¹University of Wisconsin, Madison, ²Wisconsin Center for Dairy Research, Madison.

3:45 PM  199  Breaking the 21 to 28 day shelf-life barrier on refrigerated HTST pasteurized milk. D. M. Barbano* and K. J. Boor, Cornell University, Northeast Dairy Foods Research Center, Department of Food Science, Ithaca, NY.

4:10 PM  200  Specialized starter cultures for enhancing the properties of pasteurized Hispanic-style cheeses. D. Van Hekken*, USDA/ARS/ERRS, Dairy Processing and Products Research Unit, Wyndmoor, PA.

4:35 PM  Discussion.

5:00 PM  Adjourn.

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**SYMPOSIUM**

**ADSA Southern Section Symposium**

**Keeping Dairy Going and Growing**

Chair: William M. Graves, University of Georgia

210

2:00 PM  Introductions and welcome. W. M. Graves, University of Georgia, Athens.

2:05 PM  200  Structural shifts in the dairy industry. G. A. Benson*, North Carolina State University, Raleigh.

2:35 PM  Attracting dairies to your market. P. D. Stroup*, Hilmar Cheese Company, Hilmar, CA.

3:05 PM  201  Problems associated with a dairy expansion effort. J. F. Keown*, University of Nebraska, Lincoln.

3:35 PM  Southern Section Honors Award. J. K. Bernard*, University of Georgia, Tifton.

3:45 PM  Southern Section Graduate Student Paper Competition Awards. C. C. Williams*, Louisiana State University, Baton Rouge.

3:50 PM  Break

4:00 PM  The custom dairy heifer rearing industry. D. L. Gardner*, Huddleston, VA.

4:30 PM  202  Adopting a management focus. R. A. Milligan*, ¹Dairy Strategies, LLC., St. Paul, MN, ²Cornell University, Ithaca, NY.

5:00 PM  Questions for speakers and discussions.

5:20 PM  Southern Section ADSA Business Meeting.

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Monday, July 9, 2007
ADSA-SAD Undergraduate Competition - Dairy Foods
Chair: Steven Kelm, University of Wisconsin - River Falls

007 C

2:00 PM 203 Dairy products shown to help reduce blood pressure. L. Gaver* and D. Winston, Virginia Polytechnic Institute and State University, Blacksburg.


2:30 PM 205 Role of dairy products in combating childhood obesity. J. A. Tekippe*, Iowa State University, Ames.

2:45 PM 206 The significance of phospholipids and their emerging importance in dairy foods. R. L. Clarke*, California Polytechnic State University, San Luis Obispo.

SYMPOSIUM
Bio Ethics - Livestock and Poultry
The Ethics of Food
Chair: Janice Siegford, Michigan State University

206 B

2:00 PM 207 The ethics of food. J. M. Regenstein*, Cornell University, Ithaca, NY.

2:10 PM 208 The ethics of semantics: do we clarify or obfuscate reality to influence perceptions of food animal production? C. C. Croney*1 and R. D. Reynnells2, 1Oregon State University, Corvallis, 2US Department of Agriculture, Cooperative State Research, Washington, DC.

2:30 PM 209 What would the world be like without animals for food, fiber, and labor? Are we morally obligated to do without them? S. L. Davis*, Oregon State University, Corvallis.

3:00 PM 210 Ethics and the role of academics, scientists and veterinarians in the formation of public attitudes and societal decisions. W. R. Stricklin*, University of Maryland, College Park.

3:30 PM Production, processing and marketing: An advocate's view of ethical issues. K. Laughlin*, Humane Farm Animal Care, Herdon, VA.

4:00 PM 211 Production, processing and marketing: an integrated industry's view of ethical issues. C. Klippen*, Klippen & Associates, LLC, Audubon, PA.

4:30 PM Discussion.

Breeding and Genetics - Livestock and Poultry
Beef Cattle
Chair: Janice Rumph, Montana State University

217 C

2:00 PM 212 Identification and characterization of microRNA from the bovine adipose tissue and mammary gland. Z. Gu*, S. Eleswarapu, and H. Jiang, Virginia Polytechnic Institute and State University, Blacksburg.

2:15 PM 213 Feed efficiency of tropically adapted breed and breed cross steers when fed in the southern plains. S. W. Coleman*, W. A. Phillips*, C. C. Chase, Jr., and D. G. Riley, 1USDA ARS Subtropical Agricultural Research Station, Brooksville, FL, 2USDA ARS Grazinglands Research Laboratory, El Reno, OK.
Genetic evaluation of growth in a multibreed beef cattle population using random regression linear spline models.
J. P. Sanchez*1,2, I. Misztal1, I. Aguilar1, and J. K. Bertrand1, 1University of Georgia, Athens, 2University of Leon, Leon, Spain.

Growth and carcass characteristics of lot-fed Wagyu beef cattle and the estimation of homozygosity from band sharing patterns of random amplified polymorphic DNA markers. A. E. O. Malau-Aduli*1, S. Inoue2, T. Richards2, A. Howard3, and A. Thompson2, 1University of Tasmania, Hobart, Tasmania, Australia, 2Tasmania Feedlot Pty Ltd, Perth, TAS, Australia.

Examination of residual feed intake with post-weaning growth and carcass traits in central test bulls. G. S. Hecht* and L. A. Kriese-Anderson, Auburn University, Auburn, AL.

Genotype by environment interactions estimated by using reaction norms in Brazilian Nellore cattle. E. A. Maricle*1, J. C. Souza2, L. O. Campos de Silva3, A. Gondo3, R. L. Weaber4, and W. R. Lamberson1, 1University of Missouri, Columbia, 2Parana Federal Univeristy, Palotina, PR, Brazil, 3Embrapa, Campo Grande, MS, Brazil.

Genetic parameter estimates for two measures of disposition. F. E. Creason* and R. L. Weaber, University of Missouri, Columbia.

Segregation of polymorphisms at Calpain and Calpastatin in beef cattle grown in the tropics. J. H. Bosques-Méndez*1, M. Pagan1, and E. Casas2, 1University of Puerto Rico, Mayagüez, Puerto Rico, 2Roman L. Hruska USDA MARC, Clay Center, Nebraska.

Genetic analysis of rebreeding to produce a calf at three years of age in beef cows. J. M. Rumph*1, D. D. Kress1, K. C. Davis1, D. C. Anderson1,3, R. M. Enns1, C. M. McAllister3, and D. L. Boss1, 1Montana State University, Bozeman, 2Montana State University, Havre, 3Colorado State University, Fort Collins.


Breeding and Genetics - Livestock and Poultry
Dairy Cattle I
Chair: Curt Van Tassell, USDA – ARS
214 C

Dry matter feed intakes for first lactation Holstein, Jersey and their reciprocal crosses in the Virginia Tech crossbreeding project. K. M. Olson*, B. G. Cassell, and M. D. Hanigan, Virginia Polytechnic Institute and State University, Blacksburg.

Comparison of Holstein–Friesian, Norwegian Red and Holstein–Friesian×Norwegian Red cows on Irish dairy farms: Milk production and udder health. N. Begley*1,2, M. Rath3, and F. Buckley1, 1Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, 2School of Life Sciences, UCD, Belfield, Dublin, Ireland.

Heritability of electronically recorded daily body weight across lactation using random regression models. J. K. Toshniwal*1, C. D. Dechow1, J. A. D. R. N. Appuhamy2, and B. G. Cassell1, 1The Pennsylvania State University, State College, 2Virginia Polytechnic Institute and State University, Blacksburg.

Evaluation of factors affecting changes in the ranking of sires over time. A. D. Coburn*1,2, K. A. Weigel1, S. A. Schnell2, and G. Abdel-Azim2, 1University of Wisconsin, Madison, 2Genex Cooperative, Inc., Shawano, WI.

SNP identification in genes involved in the SREBP1 pathway in dairy cattle. J. F. Medrano* and G. Rincon, University of California, Davis.
First steps to model milk urea in a management perspective. C. Bastin\textsuperscript{a}, A. Gillon\textsuperscript{b}, and N. Gengler\textsuperscript{a, b}. \textsuperscript{a}Gembloux Agricultural University, Gembloux, Belgium, \textsuperscript{b}National Fund for Scientific Research, Brussels, Belgium.

Break

Milk production, body condition score at breeding and reproductive efficiency of first lactation Holstein–Friesian, Jersey and Holstein–Friesian\texttimes{}Jersey cows under Irish grass–based production circumstances. R. Prendiville\textsuperscript{a, b}, F. Buckley\textsuperscript{c}, N. Byrne\textsuperscript{c}, and M. Rath\textsuperscript{c}. \textsuperscript{a}Teagasc, Fermoy, Co. Cork., Ireland, \textsuperscript{b}University College Dublin, Belfield, Dublin, Ireland.

Effect of service sire and cow sire on gestation length. H. D. Norman\textsuperscript{a,*}, J. R. Wright, P. M. VanRaden, and J. B. Cole, Agricultural Research Service, USDA, Beltsville, MD.

Inbreeding and relationship related to genetic estimates of calf survival in one Holstein sire family. R. D. Shanks\textsuperscript{a,*}, University of Illinois, Urbana.

Real-time PCR quantification of reproductive hormone receptor gene expression in superovulated MOET donor cows. S. Wise\textsuperscript{a, c}, M. A. Okomo-Adhiambo\textsuperscript{d}, D. Joos\textsuperscript{d}, W. Rauw\textsuperscript{d}, A. Rink\textsuperscript{d}, and L. Gomez-Rayla\textsuperscript{d}. \textsuperscript{a}University of Nevada, Reno, \textsuperscript{b}Animal Disease and Food Safety Laboratory, Reno, NV.

Poisson versus logit models for genetic analysis of mastitis in Norwegian cattle. A. I. Vázquez\textsuperscript{a,*}, K. A. Weigel\textsuperscript{a}, D. Gianola\textsuperscript{a}, D. M. Bates\textsuperscript{a}, and B. Heringstad\textsuperscript{b}. \textsuperscript{a}University of Wisconsin, Madison, \textsuperscript{b}Norwegian University of Life Science, Ås, Norway.

Companion Animals
Companion and Comparative Animal Nutrition
Chair: Nancy Irlbeck, Colorado State University
Sponsor: EAAP
203

Welcome. N. Irlbeck, Colorado State University.

Effect of gut-loading time on nutrient content of adult feeder crickets. C. L. Dikeman\textsuperscript{a,*}, S. D. Plesuk, D. L. Klimek, and L. G. Simmons, Omaha’s Henry Doorly Zoo, Omaha, NE.

Effect of supplement type on mineral content of feeder crickets and growth of leaf-tailed geckos. C. L. Dikeman\textsuperscript{a, b}, S. Plesuk\textsuperscript{a}, A. Koraleski\textsuperscript{a}, A. DeVries\textsuperscript{a}, K. Bilof\textsuperscript{b}, D. Klimek\textsuperscript{a}, J. Krebs\textsuperscript{a}, and L. G. Simmons\textsuperscript{a}. Omaha’s Henry Doorly Zoo, Omaha, NE.

Serum nutrient concentration comparisons between free-ranging and captive giraffe (Giraffa camelopardalis). D. A. Schmidt\textsuperscript{a, b, c}, M. R. Ellersieck\textsuperscript{c}, and M. E. Griffin\textsuperscript{d}. \textsuperscript{a}Lincoln Park Zoo, Chicago, IL, \textsuperscript{b}Zoological Society of San Diego, San Diego, CA, \textsuperscript{c}University of Missouri, Columbia, \textsuperscript{d}Purina Mills, LLC, Saint Louis, MO.

Nutrient digestibility and fecal characteristics of exotic felids fed a beef-based raw diet. B. M. Vester\textsuperscript{a,*}, S. L. Burke\textsuperscript{b}, C. L. Dikeman\textsuperscript{b}, L. G. Simmons\textsuperscript{b}, and K. S. Swanson\textsuperscript{b}. University of Illinois, Urbana, Henry Doorly Zoo, Omaha, NE.

Influence of dietary protein content and source on digestibility patterns and fecal osmolality in dogs differing in body size. J. Nery\textsuperscript{a,*}, C. Tournier\textsuperscript{a}, V. Biourge\textsuperscript{b}, H. Dumon\textsuperscript{b}, and P. Nguyen\textsuperscript{d}. \textsuperscript{a}École Nationale Vétérinaire de Nantes, Nantes, France, \textsuperscript{b}Royal Canin, Aimargues, France.

Reception.
Dairy Foods
Cheese I
Chair: Douglas Olson, Louisiana State University Agricultural Center
201

2:00 PM  ADSA Sour milk and sour grapes. G. Richardson*, Utah State University, Logan.

2:15 PM  239 Chemical changes that predispose smoked cheddar cheese to calcium lactate crystallization. P. Rajbhandari*, J. Patel, E. Valentine, and P. S. Kindstedt, University of Vermont, Burlington.


3:00 PM  242 Nucleation and growth rates of calcium lactate crystals on smoked cheddar cheese. 3. Effect of cheese surface. J. Patel*, E. Valentine, P. Rajbhandari, and P. S. Kindstedt, University of Vermont, Burlington.

3:15 PM  Break

3:30 PM  243 Influence of native pasture feeding time on conjugated linoleic acid content in Ragusano cheese. S. La Terra*, V. M. Marino1, S. Carpino1, M. Manenti1, and G. Licitra1,2, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A., Catania University, Catania, Italy.

3:45 PM  244 Novel approach for producing process cheese with reduced fat and reduced sodium content. L. E. Metzger and R. Kapoor*, Midwest Dairy Foods Research Center, St. Paul, MN.

4:00 PM  245 Influence of starter bacteria and salt to moisture ratio on calcium lactate crystal formation. S. Agarwal*, J. R. Powers, S. Chen, B. G. Swanson, and S. Clark, Washington State University, Pullman.

4:15 PM  246 Utilization of plant proteinase from Jack fruit (Artocarpus integrifolis) to accelerate the ripening of RAS cheese slurry as a functional food. E. E. El Tanboly* and M. A. El Hofi, National Research Center, Dokki, Cairo, Egypt.

SYMPOSIUM
Egg and Meat Science and Muscle Biology - Livestock and Poultry
Meat Marination
Chair: Christine Alvarado, Texas Tech University
207 B

2:00 PM  247 Impact of functional ingredients on food safety. S. R. McKee*, C. Z. Alvarado2; and J. W. Bowers1, 1Auburn University, Auburn, 2Texas Tech University, Lubbock.

2:30 PM  738 The role of functional ingredients in marinated meat and poultry. B. S. Smith*, John R. White Company, Inc., Birmingham, AL.

3:00 PM  248 Impact of marination and deboning time on poultry meat tenderness. C. M. Owens*, University of Arkansas, Fayetteville.

3:30 PM  249 Characterizing the safety and quality of fresh beef cuts subjected to deep muscle marination. M. M. Brashears*, J. C. Brooks, and M. F. Miller, Texas Tech University, Lubbock.

4:00 PM  Spices and seasonings in marinades. L. Windecker*, Griffith Laboratories, Alsip, IL.

4:30 PM  Panel Discussion.
**Food Safety - Livestock and Poultry**  
Cattle and Swine  
Chair: Todd R. Callaway, USDA-ARS Southern Plains Agricultural Research Center  
206 A

2:00 PM 250  Beef traceability using a dual system based on electronic identification and molecular markers from farm to retailer. J. J. Ghirardi, G. Caja*, M. Hernández-Jover, N. Jiménez, and A. Sánchez, Universitat Autònoma de Barcelona, Bellaterra, Spain.

2:15 PM 251  Siderophore receptor/porin protein (SRP®) vaccine used as pre-harvest control of E. coli O157:H7 in feedlot cattle. A. B. Thornton*, D. U. Thomson, K. F. Lechtenberg, G. H. Loneragan, and T. G. Nagaraja, 1Kansas State University, Manhattan, 2Midwest Veterinary Services, Oakland, Nebraska, 3West Texas A&M University, Canyon.

2:30 PM 252  Effects of distiller’s grain on fecal prevalence and in vitro growth of E. coli O157. M. E. Jacob, J. T. Fox, J. S. Drouillard, and T. G. Nagaraja, Kansas State University, Manhattan.

2:45 PM 253  Growth response of Salmonella enterica Typhimurium in co-culture with ruminal bacterium Streptococcus bovis is affected by time of inoculation and carbohydrate substrate. P. Herrera* and S. Ricke, Center for Food Safety and Microbiology, IFSE, University of Arkansas, Fayetteville, AR.

3:00 PM 254  Effects of acid marinades on Listeria monocytogenes, shelf life, meat quality, and consumer acceptability of beef frankfurters. J. W. J. Bowers* and S. R. McKee, Auburn University, Auburn, AL.


3:30 PM 256  Split marketing: A risk factor for Salmonella in market pigs. M. H. Rostagno*, H. S. Hurd, and J. D. McKeen, 1USDA, ARS, Livestock Behavior Research Unit, West Lafayette, IN, 2Iowa State University, Ames.

3:45 PM 257  Are there high and low Salmonella prevalence farms? M. H. Rostagno*, H. S. Hurd, and J. D. McKeen, 1USDA, ARS, Livestock Behavior Research Unit, West Lafayette, IN, 2Iowa State University, Ames.

**SYMPOSIUM**  
Forages and Pastures - Livestock and Poultry  
Tropical Forages: Management and Environmental Issues Affecting Use Efficiency  
Chair: Erasmo Gutierrez-Ornelas, Facultad de Agronomía, Carretera Zuazua-Marin  
Sponsor: AMPA  
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2:00 PM 258  Programming grazing, irrigation and fertilization cycles based on physiological and environmental data for tropical grasses. J. Rodriguez-Absi* and E. Gutierrez-Ornelas, 1Ruesa Mexico, Queretaro, Queretaro, Mexico, 2Universidad Autonova de Nuevo Leon, Marin, Nuevo Leon, Mexico.

2:30 PM 259  Agroforestry livestock feeding systems in tropical America. T. Clavero* and J. Iglesias, 1Facultad de Agronomía, Universidad del Zulia, Maracaibo, Zulia, Venezuela, 2Estacion Experimental Indio Hauay, Matanzas, Cuba.

3:00 PM 260  Use of limpograss (Hemarthria altissima) in cow-calf grazing systems in southern Florida. J. D. Arthington*, University of Florida-IFAS, Range Cattle Research and Education Center, Ona.

3:30 PM 261  Managing tropical forages: production, environmental benefits and risks. B. C. Pengelly* and J. G. McIvor, Agricultural Landscapes, CSIRO Sustainable Ecosystems, St Lucia, Qld, Australia.

4:00 PM  Discussion.
### SYMPOSIUM
**Horse Species**
**Recent Advances in Understanding Metabolic Disorders in Horses**
**Chair:** Sarah Ralston, Rutgers University  
**Sponsor:** Blue Seal Feeds, Inc.

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<td>2:00 PM</td>
<td><strong>262</strong> The impact of variability in pasture forages on horse metabolism. B. McIntosh(^1,2), D. Kronfeld(^1), R. Geor(^1), W. Staniar(^1), P. Harris(^1), and D. Ward(^4), <em>Virginia Polytechnic Institute and State University, Blacksburg</em>, <em>Blue Seal Feeds Inc.</em>. Londonderry, NH, <em>WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom</em>, <em>Rutgers University, Bridgeton, NJ.</em></td>
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<td>Break</td>
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<td>3:00 PM</td>
<td><strong>263</strong> Advances in diagnosis and management of equine polysaccharide storage myopathy (PSSM). M. E. McCue(^*), S. J. Valberg, and J. R. Mickelson, <em>University of Minnesota, St. Paul.</em></td>
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<td>3:50 PM</td>
<td>Break</td>
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<td>4:00 PM</td>
<td><strong>264</strong> Management of obesity and insulin resistance in horses. R. J. Geor(^*), R. A. Carter, and K. H. Treiber, <em>Virginia Polytechnic Institute and State University, Middleburg.</em></td>
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### Lactation Biology
**Metabolism and Gene Expression in Support of Lactation**
**Chair:** Feng-Qi Zhao, University of Vermont  
**Sponsor:** Monsanto Company

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<td>2:00 PM</td>
<td><strong>265</strong> Characterization of the utilization of trans octadecenoic acids in lactating dairy cows. C. Tyburczy(^*), A. L. Lock(^1), D. A. Dwyer(^1), F. Destaillants(^2), Z. Mouloungui(^1), L. Candy(^1), and D. E. Bauman(^1), <em>Cornell University, Ithaca, NY</em>, <em>Nestle Research Center, Lausanne, Switzerland</em>, <em>Laboratoire de Chimie Agro-Industrielle, Toulouse, France.</em></td>
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<td>2:15 PM</td>
<td><strong>266</strong> Expression of lipogenic genes in adipose tissue increases during milk fat depression induced by treatment with trans-10, cis-12 conjugated linoleic acid (CLA). K. J. Harvatine(^*), D. A. Dwyer, and D. E. Bauman, <em>Cornell University, Ithaca, NY.</em></td>
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<td>2:30 PM</td>
<td><strong>267</strong> The relationship between trans-10 18:1 and milk fat yield in cows fed high oleic acid or high linoleic acid plant oil supplements. T. Hinrichsen(^1), A. L. Lock(^*), and D. E. Bauman(^2), <em>Royal Veterinary &amp; Agricultural University, Denmark</em>, <em>Cornell University, Ithaca, NY.</em></td>
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<td>2:45 PM</td>
<td><strong>268</strong> In vivo treatment with xanthosine expands the mammary stem cell population. A. V. Capuco(^*), C. M. Evock-Clover(^1), D. L. Wood(^1), and A. Minuti(^2), <em>Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD</em>, <em>Institute of Zootecnics, Catholic University, Piacenza, Italy.</em></td>
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<td>3:00 PM</td>
<td><strong>269</strong> Prepubertal nutrition effects on bovine mammary parenchyma and fat pad gene expression profiles. P. Piantoni(^*), D. Graugnard(^1), K. M. Daniels(^2), R. E. Everts(^1), S. L. Rodriguez-Zas(^1), H. A. Lewin(^1), R. M. Akers(^2), and J. J. Loor(^1), <em>University of Illinois, Urbana</em>, <em>Virginia Polytechnic Institute and State University, Blacksburg.</em></td>
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<td>3:15 PM</td>
<td><strong>270</strong> Mammary gland expression of cell cycle, apoptosis, and immune response genes accompany progression through a prolonged lactation cycle. D. L. Hadsell(^*), D. Torres, and M. S. Bray, <em>Baylor College of Medicine, Houston TX.</em></td>
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Photoperiod alters metabolic gene expression in bovine liver potentially through suppressors of cytokine signaling. E. E. Connor*1, E. D. Thomas2, and G. E. Dahl1, 1Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD, 2Department of Animal and Avian Sciences, University of Maryland, College Park, 1Department of Animal Sciences, University of Florida, Gainesville.

Effects of intramammary infusions of serotonin (5-HT) and methysergide (METH), a 5-HT antagonist, on milk production and composition in lactating dairy cows. L. L. Hernandez*1, J. B. Wheelock1, G. Shwartz1, L. H. Baumgard1, A. M. Parkhurst2, and R. J. Collier1, 1University of Arizona, Tucson, 2University of Nebraska, Lincoln.

Chitotriosidase activity in blood and colostrum at peripartum period in goats. N. Castro1, J. Capote2, A. Morales1, C. Rodriguez2, and A. Arguello*1, 1Las Palmas de Gran Canaria University, Animal Science Unit, Arucas, Las Palmas, Spain, 2Canary Agronomic Science Institute, La Laguna, Tenerife, Spain.

Pre-pubertal nutrition affects mammary development and first lactation performance depending on growth potential in dairy sheep. A. Zidi1, G. Caja*1, M. Ayadi2, V. Castillo1, C. Flores1, and X. Such1, 1Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Institut Superieur de Biologie Appliquée de Medenine, Tunisia.

Graduate Student Paper Competition: National ADSA Production Division
Chair: Mary Beth Hall, U.S. Dairy Forage Research Center, USDA-ARS
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The relationship between negative energy balance and mastitis in dairy cattle during early lactation. K. M. Moyes*1, T. Larsen1, N. C. Friggens2, J. K. Drackley1, and K. L. Ingvartsen2, 1University of Illinois, Urbana, 2University of Aarhus, Tjele, Denmark.

The use of the Rumensin Premix in dairy cows: factors influencing its effects on milk production and milk composition. J. Dubuc*1, D. DuTremblay1, M. Brodeur1, R. Bagg2, P. Dick2, J. Baril2, and L. DesCoteaux1, 1Universite de Montreal, Saint-Hyacinthe, Quebec, Canada, 2Elanco Animal Health, Guelph, Ontario, Canada.

The expression of genes regulating lipolysis in the adipose tissue of pregnant and lactating dairy cattle. J. M. Sumner* and J. P. McNamara, Washington State University, Pullman.

Feeding a whey protein gel to prevent rumen hydrogenation of unsaturated fatty acids and increase the n3 and n6 fatty acid content of goat milk. J. A. Weinstein*, E. J. DePeters, M. Rosenberg, S. J. Taylor, and A. Aljadeff, University of California, Davis.

Effect of time of AI and supplemental estradiol on pregnancy rates of lactating dairy cows. J. Hillegass*, J. E. P. Santos, F. S. Lima, M. F. Sheley, and M. F. S. Filho, University of California, Tulare.

Interactions of unsaturated fat or coconut oil with Rumensin on milk fat production might be mediated through inhibition of specific protozoal genera. C. Reveneau*, S. K. R. Karnati, C. V. D. M. Ribeiro, E. R. Oelker, B. Mathew, D. R. Bae, C. M. Drow, and J. L. Firkins, The Ohio State University, Columbus.

Effect of mannan-oligosaccharides on the mucosal immune system of dairy calves. V. C. Quezada*, B. B. Babatunde, and T. L. Frankel, La Trobe University, Bundoora, Victoria, Australia.

Effect of anion supplementation to low potassium prepartum diets on macromineral status and performance of periparturient dairy cows. J. M. Ramos-Nieves*1, B. J. Thering1, P. W. Jardon2, and T. R. Overton1, 1Cornell University, Ithaca, NY, 2West Central®, Ralston, IA.

Effects of an injectable chelated mineral supplement on dairy calf performance. J. R. Crenwelge*, T. D. Nennich2, B. D. Lambert1,2, N. M. Cherry2, and E. R. Jordan1, 1Tarleton State University, Stephenville, TX, 2Texas A&M University, Stephenville, 3Texas A&M University, Dallas.

Calcium and phosphorus balance and bone mobilization through lactation with varying dietary calcium concentrations. M. S. Taylor*, K. F. Knowlton1, M. L. McGilliard1, W. S. Sweeney, Jr.1, J. D. Ferguson2, and Z. Wu2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2University of Pennsylvania, Kennett Square.
4:30 PM 287 Ovulation and CL development in mature cows given pLH or GnRH. T. O. Ree¹, M. G. Colazo¹, D. J. Ambrose², A. G. A. Lamont³, J. P. Kastelic⁴, M. K. Dyck², R. J. Mapleton³, and B. N. Ametaj², ¹Lakeland College, Vermilion, AB, Canada, ²University of Alberta, Edmonton, AB, Canada, ³Alberta Agriculture and Food, Edmonton, AB, Canada, ⁴Agriculture and Agri-food Canada, Lethbridge, AB, Canada, ⁵University of Saskatchewan, Saskatoon, SK, Canada.


5:00 PM 289 Effect of dietary energy and metabolizable protein in lactating cows. A. G. Rius*, M. L. McGilliard, and M. D. Hanigan, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA.

Nonruminant Nutrition
Poultry Nutrition - Gut Health and Early Nutrition
Chair: Brooke Humphrey, University of California - San Luis Obispo
214 D

2:00 PM 290 Maternal dietary conjugated linoleic acid causes embryonic mortality in the absence of vitelline membrane disruption. V. A. Leone¹, R. Aydin², D. Stransky¹, and M. E. Cook¹, ¹University of Wisconsin, Madison, ²Kahraman Maras Sutcu Imam University, Kahraman Maras, Turkey.


2:30 PM 292 Changes in the late term turkey embryo metabolism due to in ovo feeding. J. E. de Oliveira¹, P. R. Ferket¹, C. M. Ashwell¹, Z. Uni³, and C. Heggen-Peay², ¹North Carolina State University, Raleigh, NC, ²PAH-Embrex, Durham, NC, ³Hebrew University of Jerusalem, Rehovot, Israel.

2:45 PM 293 In ovo-fed lactose augments small intestinal surface and body weight of 3 day-old turkey poults. D. V. Bohórquez*, A. A. Santos Jr., and P. R. Ferket, North Carolina State University, Raleigh.

3:00 PM 294 Development of an automated delivery system for in ovo feeding of turkey embryos. C. L. Heggen-Peay¹, M. Garrell¹, V. W. Doelling¹, and P. R. Ferket², ¹PAH-Embrex, Durham, NC, ²North Carolina State University, Raleigh, NC.


3:30 PM 296 Effects of diet type, enzyme addition and Clostridium perfringens challenge on growth performance and gut health of broiler chickens. W. Jia¹, B. A. Slominski¹, H. L. Bruce², G. Blank¹, and O. Jones³, ¹University of Manitoba, Winnipeg, Canada, ²Maple Leaf Food Agresearch, Burford, Canada, ³Canadian Bio-Systems Inc., Calgary, Canada.

3:45 PM 297 The effect of dietary sinapic acid on the gastrointestinal tract microbial fermentation, nutrient utilization and egg quality of laying hens. M. Johnson*, A. A. Olkowski, and H. L. Classen, University of Saskatchewan, Saskatoon, SK, Canada.

4:00 PM 298 The use of natural antibiotic alternative and growth promoter feed additives and subsequent effects on broiler performance and carcass quality. N. P. Buchanan¹, I. M. Hott¹, S. E. Cutlip¹, A. L. Rack¹, A. Asamer², and J. S. Moritz¹, ¹West Virginia University, Morgantown, ²Delacon International, Steyregg, Austria.

4:15 PM 299 Evaluation of different additives in chicks challenged with necrotic enteritis. J. L. Shelton¹, A. R. Garcia¹, S. W. Davis², and D. W. Giestling³, ¹Cargill Animal Nutrition, Elk River, MN, ²Colorado Quality Research, Wellington, CO.
**Nonruminant Nutrition**

**Poultry Nutrition - Breeder and Laying Hen Nutrition and Broiler Environment**
**Chair: Marc de Beer, Aviagen, Inc.**

**214 B**

2:00 PM 302 The effect of feed restriction programs and growth curves on reproductive performance, stress and metabolism in broiler breeder hens. M. de Beer*, J. P. McMurtry, D. M. Brocht, and C. N. Coon, \(^1\)Aviagen, Huntsville, AL, \(^2\)USDA-ARS, Beltsville, MD, \(^3\)University of Arkansas, Fayetteville.

2:15 PM 303 Effects of feeding programs during rearing on carcass fatty acid profiles and serum \(\alpha\) acid glycoprotein levels in broiler breeder hens. M. de Beer* and C. N. Coon, \(^1\)Aviagen Inc, Huntsville, AL, \(^3\)University of Arkansas, Fayetteville.

2:30 PM 304 Broiler and breeder feeding programs have different effects on the inflammatory response. A. Mireles Jr.* and S. Kim, Foster Farms, Modesto, CA.

2:45 PM 305 Effect of the level of methionine, linoleic acid, and added fat in the diet on productive performance and egg quality of brown laying hens in late phase of production. H. M. Safaa, M. P. Serrano, D. G. Valencia, X. Arbe, R. Lázaro, and G. G. Mateos, \(^1\)Universidad Politécnica de Madrid, Spain, \(^2\)Cairo University, Egypt, \(^3\)Cantos Blancos S.L., Guadalajara, Spain.

3:00 PM 306 Performance and egg quality of laying hens fed diets containing different levels of total and digestible amino acids. D. E. Faria*, H. R. B. Souza, A. L. Santos, and P. W. Rizzoli, University of Sao Paulo (FZEA/USP), Pirassununga, SP, Brazil.

3:15 PM 307 An examination of broiler energy need for ambient temperature dependent homeostasis, protein and fat accretion and effective caloric value. A. Beker* and R. G. Teeter, Oklahoma State University, Stillwater.


3:45 PM 309 Dietary salt combinations for broiler chickens under subtropical summer conditions: Live performance, carcass, and blood responses. T. Mushtaq*, H. Nawaz, M. A. Mirza, M. Athar, M. M. H. Mushtaq, G. Ahmad, and U. Noreen, \(^1\)University of Agriculture, Faisalabad, Pakistan, \(^2\)Hi-Tech Feeds, Lahore, Pakistan, \(^3\)Shamim Feed Industries, Bahawalpur, Pakistan.

4:00 PM 310 Response of growing broilers to digestible lysine and metabolizable energy levels in heat stress. G. Ahmad, T. Mushtaq, M. A. Mirza, and T. Ahmad, \(^1\)University of Agriculture, Faisalabad, Pakistan, \(^2\)Shamim Feed Industries, Bahawalpur, Pakistan, \(^3\)University of Arid Agriculture, Rawalpindi, Pakistan.

4:15 PM 311 The effects of dietary supplementation of L-Carnitine on egg production traits of white leghorns. W. Zhai*, S. L. Neuman, M. A. Latour, and P. Y. Hester, \(^1\)Purdue University, West Lafayette, IN, \(^2\)Guidant Corporation, St. Paul, MN.

4:30 PM 312 Effects of corn particle size in a corn-soybean meal diet on chick growth performance and nutrient digestibility. C. M. Jacobs*, P. L. Utterback, and C. M. Parsons, University of Illinois, Urbana.
Changes in zebra finch (Taeniopygia guttata) eggshell morphology after oral estrogen exposure as chicks. 
S. L. Westmoreland1, H. Pourarsalan1, D. H. Hawkins1, J. R. Rochester2, and J. R. Millam2, 1The University of Texas at Arlington, Department of Biology and The Center for Electron Microscopy, Arlington, 2The University of California, Department of Animal Science, Davis, 3The University of Texas at Arlington, Department of Mathematics, Arlington.

Comparison of oral vs. injected dosing of the soy phytoestrogen genistein on the reproductive development of female broiler chicks. L. M. Stevenson*, C. R. James, S. S. Oates, J. B. Hess, and W. D. Berry, Auburn University, Auburn, AL.

Analysis of plasma serotonin levels and hemodynamic responses following chronic serotonin infusion in broilers challenged with bacterial lipopolysaccharide and microparticles. M. E. Chapman1, R. L. Taylor2, and R. F. Wideman1, 1University of Arkansas, Fayetteville, 2University of New Hampshire, Durham.


Transpulmonary pressure gradient verifies pulmonary hypertension is initiated by increased arterial resistance in broilers. A. G. Lorenzoni*, R. F. Wideman, and N. B. Anthony, University of Arkansas, Fayetteville.


Gene expression in the lateral septal organ, mediobasal hypothalamus and septal-pituitary-gonadal axis following activation of the photoneuroendocrine system. H. Li*1, J. A. Proudman2, S. Jin1, and W. J. Kuenzel1, 1University of Arkansas, Fayetteville, 2USDA/ARS/BGPL, Beltsville, MD.

Study of the effects of blindness on sexual maturation in Smoky Joe roosters. J. Perttula* and G. Bedecarrats, University of Guelph, Guelph, ON, Canada.

Dopamine-melatonin neurons in the turkey hypothalamus controlling seasonal reproduction. S. Kang*, A. Thayanunuphat, T. Bakken, and M. El Halawani, University of Minnesota, Department of Animal Science, St Paul.

Lipoic acid-induced changes in food intake in chickens. D. M. Denbow* and P. B. Siegel, Virginia Polytechnic Institute and State University, Blacksburg.

Clock gene expression in the premammillary nucleus (PMM) and the pineal gland of turkey hens. B. Leclerc*1, S. Kang1, A. Thayanunuphat1, C. Howell2, S. Kosonsiriluk2, Y. Chaiseha2, and M. E. El Halawani1, 1University of Minnesota, St. Paul, 2Suranaree University of Technology, Thailand.

The expression patterns of HIF 1α, HYOU1, HO1, and cTnT during embryonic development in the chicken heart. S. Druyan*, A. Cahaner2, and C. M. Ashwell1, 1North Carolina State University, Raleigh, 2Hebrew University, Rehovot, Israel.

Performance comparison between the use and non-use of an enteric health antibiotic program in commercial broiler flocks. J. Bray, T. Cherry, J. Carey, and C. Smith, Stephen F. Austin State University, Nacogdoches, TX, Texas A&M University, College Station.

Saponin rich extracts from quillaja, yucca, soybean, and guar differ in antimicrobial and hemolytic activities. S. M. Hassan, J. A. Byrd, A. M. Berhow, C. A. Bailey, and A. L. Cartwright, Texas A&M University, College Station, USDA, Agricultural Research Service, College Station, TX, USDA, Agricultural Research Service, Peoria, IL.

Factors influencing distribution of pellets and fines in a commercial broiler pan feeding system. C. Hancock, S. Beyer, C. Rude, S. Daly, K. Dobbleare, and J. Burden, Kansas State University, Manhattan.

Characterization of atmospheric ammonia/ammonium forms in broiler production facilities. C. S. Smith, J. L. Bray, T. E. Cherry, R. E. Lacey, and J. B. Carey, Texas A&M University, College Station.

Effect of different feeding strategies on productivity of broiler breeders. L. F. Romero, M. J. Zuidhof, F. E. Robinson, A. Naeima, and R. A. Renema, University of Alberta, Edmonton, AB, Canada.


Spread of a marker Salmonella in the presence of background Salmonella as detected from broiler litter. R. J. Buhr, L. J. Richardson, N. A. Cox, and B. D. Fairchild, USDA, ARS, Athens, GA, University of Georgia, Athens.


Campylobacter contamination of broilers fed cottonseed or cottonseed products. J. A. Byrd, R. D. Stipanovic, J. L. McReynolds, L. F. Kubena, and D. J. Nisbet, USDA/ARS/SPARC, Food and Feed Safety Research Unit, College Station, TX, USDA/ARS/SPARC, Cotton Pathology Research Unit, College Station, TX.
2:00 PM  336  Reasons for culling in Iranian Holstein cows. A. A. Naserian1, M. Sargolzaee1, M. Sekhavati1, and B. Saremi*2,  
1Ferdowsi University Of Mashad, Agric college, Animal Science Department, Mashhad, Khorasan Razavi, Iran,  
2Education Center of Jihad-e Agriculture, Animal Science Departemnt, Mashhad, Khorasan Razavi, Iran.

2:15 PM  337  Commercial application of sex-sorted semen in Holstein heifers. J. M. DeJarnette*1, R. L. Nebel1, B. Meek2,  
J. Wells1, and C. E. Marshall1, 1Select Sires, Inc., Plain City, OH, 2Cache Valley Select Sires, Logan, UT, 3All West Select Sires, Turlock, CA.

2:30 PM  338  Effect of out-wintering pad design on cow hoof health. K. O’Driscoll*1,2, L. Boyle1, P. French1, and A. Hanlon2,  
1Moorepark Dairy Production Research Centre, Fermoy, Co. Cork, Ireland, 2University College Dublin, Dublin, Ireland.

2:45 PM  339  Correlation between tarsal lesions on dairy cows housed in free-stalls and culling rate, somatic cell count, percent  
mature cows, and milk production by stall base. W. K. Fulwider*, T. Grandin, T. E. Engle,  
W. D. Lamm, N. L. Dalsted, and B. E. Rollin, Colorado State University, Fort Collins.

3:00 PM  340  Effect of body condition score at calving on production and reproduction performance in dairy herds of Argentina.  
J. Grigera*, F. Busso2, F. Bargo1, and C. Corbellini2, 1Elanco Animal Health, ACBSCR, 2INTA Pergamino.


3:30 PM  342  The effect of breed and feeding a split ration to lactating hair sheep on ewe body temperature in the tropics.  
R. W. Godfrey*, M. C. Vinson, and R. C. Ketring, University of the Virgin Islands, Agricultural Experiment  
Station, St. Croix, US Virgin Islands.

3:45 PM  343  Effects of heat stress on production, lipid metabolism and somatotropin variables in lactating cows.  
M. L. Rhoads*, R. P. Rhoads1, S. R. Sanders1, S. H. Carroll1, W. J. Weber2, B. A. Crooker2, R. J. Collier1,  
M. J. VanBaale1, and L. H. Baumgard1, 1University of Arizona, 2University of Minnesota, St. Paul.

4:00 PM  344  Effect of encapsulated niacin on resistance to acute thermal stress in lactating Holstein cows. R. B. Zimbelman*,  
University of Arizona.

4:15 PM  345  Effect of level of production and intensive cooling in summer on productive and reproductive performance of high  
yielding dairy cows. I. Flamenbaum*1 and E. Ezra2, 1Ministry of Agriculture, Extension Service, Beit-Dagan,  
Israel, 2Israel Cattle Breeders Association, Caesarea, Israel.

4:30 PM  346  Reducing freestall availability without limiting feed access during dry period does not affect subsequent milk  
Illinois, Urbana.

4:45 PM  347  Using ear canal temperature to predict vaginal temperature. B. H. Carter*, T. H. Friend, M. A. Tomaszewski,  
J. R. Fisher, and G. M. Bingham, Texas A&M University, College Station.
Ruminant Nutrition
Nitrogen Metabolism/Immunology
Chair: Chad Mueller, Oregon State University
217 B

2:00 PM ADSA Pioneer Future of pasture-based systems in the U.S. L. D. Muller, Pennsylvania State University, University Park.

2:15 PM 348 Effects of N solubility on metabolisable protein value of grass silage. P. Huhtanen*1, M. Rinne2, and J. Nousiainen3, 1Cornell University, Ithaca, NY, 2MTT-Agrifood Research, Finland, 3Valio Ltd., Finland.

2:30 PM 349 Ruminal metabolism of 15N labelled ammonium-N and grass silage soluble non-ammonia-N. S. Ahvenjarvi*1, A. Vanhatalo1, P. Huhtanen1, and A. N. Hristov2, 1MTT Agrifood Research Finland, Jokioinen, Finland, 2University of Idaho, Moscow.

2:45 PM 350 The aerobic stability of forage maize silage preserved with microbial inoculant with and without preservatives. J. K. Margerison*1, S. A. Hall2, and D. Wilde3, 1Massey University, Palmerston North, New Zealand, 2University of Plymouth, Plymouth, UK, 3Alltech Ltd, Stamford, Lincs, UK.

3:00 PM 351 Effect of corn hybrid and processing on ruminal and intestinal digestion using the mobile bag technique. F. W. Harrelson*1, N. F. Meyer1, G. E. Erickson1, T. J. Klopfenstein1, and W. A. Fithian2, 1University of Nebraska, Lincoln, 2Golden Harvest Seeds, Inc., Waterloo, NE.


3:30 PM 353 Study internal molecular-structural changes of flaxseeds affected by dry roasting at various conditions in relation to rumen degradation kinetics of dairy cattle. K. Doiron* and P. Yu, University of Saskatchewan, Saskatoon, SK, Canada.

3:45 PM 354 Microbial characteristics, microbial nitrogen flow, and urinary purine derivative excretion in steers fed at two levels of intake. G. I. Crawford*1, M. K. Luebbe, J. R. Benton, T. J. Klopfenstein, and G. E. Erickson, University of Nebraska, Lincoln.

4:00 PM 355 The incidence of liver abscessation in pasture based bull beef systems of New Zealand. J. Gibbs*, J. Laporte-Uribe, C. Trotter, and J. Noel, Dairy Science Group, Agriculture and Life Sciences, Lincoln University, Canterbury, New Zealand.

4:15 PM 356 Metaphylaxis therapy interacts with temperament to influence performance of growing beef steers. Z. D. Paddock*1, J. E. Sawyer1, G. E. Carstens1, R. R. Gomez1, B. M. Bourg1, D. K. Lunt2, S. A. Moore3, and D. S. De Laney4, 1Texas A&M University, College Station, 2Texas A&M University, McGregor, 3King Ranch, Kingsville, TX.

4:30 PM 357 Effects of Mannheimia haemolytica challenge on blood flow and net splanchnic flux of amino acids in fed or fasted steers. L. O. Burciaga-Robles*1, C. R. Krehbiel1, D. L. Step1, C. A. Loest1, L. Chen1, M. Montelongo2, A. W. Confer2, J. N. Gilliam2, B. P. Holland3, and C. L. Goad4, 1Department of Animal Science, 2Department of Health and Veterinary Sciences, 3Department of Statistics, Oklahoma State University, Stillwater, OK, 4Department of Animal and Range Sciences, New Mexico State University, Las Cruces, NM.


SYMPOSIUM
Ruminant Nutrition
Opportunities to Improve Forage Utilization and Rumen Function
Chair: David Bohnert, Oregon State University
Sponsor: Diamond V Mills
217 A

2:00 PM  Introduction to Symposium. D. Bohnert, Oregon State University.


2:50 PM  361  The role of ionophores in improving utilization of forage and forage-based diets. V. Fellner*, North Carolina State University, Raleigh.

3:35 PM  362  Lactating dairy cow responses to yeast products. P. H. Robinson* and L. J. Erasmus1, 1University of California, Davis, 2University of Pretoria, Pretoria, South Africa.

4:20 PM  363  Enzymes to improve forage utilization by ruminants: What’s on the horizon. K. A. Beauchemin* and J. -S. Eun, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

SYMPOSIUM
Teaching/Undergraduate & Graduate Education
Enhancing the Undergraduate Learning Experience in Animal Agriculture,
Through the Integration of Teaching and Research
Chair: Frank Robinson, University of Alberta
Sponsor: Jones-Hamilton
204 A

2:00 PM  364  Enhancing learning through inquiry. B. Wuetherick*, University of Alberta, Edmonton, Alberta, Canada.

2:15 PM  365  Why should we integrate our teaching and research? C. Colbeck*, Pennsylvania State University, University Park.

2:55 PM  366  Integrating research and teaching in an introductory course setting: There’s a heifer in your tank. F. E. Robinson*, N. J. Wolanski, B. Wuetherick, and S. Varnhagen, University of Alberta, Edmonton, AB, Canada.

3:25 PM  367  Integrating research and teaching in a senior course setting. W. L. Hurley*, University of Illinois, Urbana.


4:15 PM  369  Researching teaching. C. K. Varnhagen*, University of Alberta, Edmonton, Alberta, Canada.

4:45 PM  Wrap-up Discussion.
3:15 PM 370 Probiotic ice cream manufactured with honey, a natural sweetener with several health benefits. A. Greenbaum*¹ and K. J. Aryana², ¹Louisiana State University, Baton Rouge, ²Louisiana State University Agricultural Center, Baton Rouge.

3:30 PM 371 Determining the efficacy of infra-red technology as part of a mastitis preventive routine. D. M. Tearney*¹, T. R. Lane², D. R. Bray¹, and R. P. Natzke¹. ¹University of Florida, Gainesville, ²Spirit Solutions, Dayton, OH.

3:45 PM 372 Genetic analysis of the relationship between ketosis and milk fat in Holsteins. E. E. Yeiser*¹, C. D. Dechow¹, J. Vallimont¹, C. G. Sattler², and J. S. Clay³. ¹Pennsylvania State University, University Park, ²Select Sires, Inc., Plain City, OH, ³Dairy Records Management System, Raleigh, NC.

4:00 PM 373 Short-interval unilateral frequent milking during early lactation of dairy cows results in acute and persistent increases in milk yield. A. C. Kissell*, E. H. Wall, and T. B. McFadden, Lactation and Mammary Gland Biology Group, Department of Animal Science, University of Vermont, Burlington, VT.

4:15 PM 374 Planting date may affect yield and nutrient composition of whole-plant small-grain forages. L. W. Manson*¹, M. A. Bal¹, M. Oba¹, and V. S. Baron². ¹University of Alberta, Edmonton, AB, Canada, ²Agriculture and Agri-Food Canada, Lacombe, AB, Canada.

4:30 PM 375 Using percent of mature body weight to manage dairy heifer growth. N. Keene* and D. Winston, Virginia Polytechnic Institute and State University, Blacksburg.

4:45 PM 376 Effects of Black Seed Oil (Niagra Sativa) on the life cycle and reproductive behavior of C. elegans. C. G. Gerald*, M. W. Worku, P. M. Matterson, and Z. L. Liu, North Carolina A&T State University, Greensboro.
Tuesday, July 10

POSTER PRESENTATIONS

Animal Behavior & Well-Being - Livestock and Poultry II
Exhibit Hall C

T1  Impact of elevated embryonic corticosterone on development, stress, and fear in broilers. S. M. Brougher and S. J. Snow*, Delaware State University, Dover.

T2  The effects of rearing broiler chickens under different light intensities on fear responses. G. Fagerberg, J. A. Mench*, and G. S. Archer, University of California, Davis.

T3  Effect of feeding space availability on aggressive behavior of Holstein heifers on high-concentrate diets. L. A. González*, A. Ferret1, X. Manteca1, J. L. Ruiz-de-la-Torre1, S. Calsamiglia1, M. Devant2, and A. Bach2. Universitat Autònoma de Barcelona, Bellaterra, Spain, 1Unitat de Remugants-IRTA, Barcelona, Spain.

T4  Relationship between calves' social rank and performance after arrival at the feedlot with different feeding place availability. L. A. González*, A. Ferret1, X. Manteca1, J. L. Ruiz-de-la-Torre1, S. Calsamiglia1, M. Devant2, and A. Bach2. Universitat Autònoma de Barcelona, Bellaterra, Spain, 1Unitat de Remugants-IRTA, Barcelona, Spain.


T6  Relation between social order and use of resources in small and large furnished cages for laying hens. T. Shinmura*, T. Azuma1, S. Hirahara2, Y. Eguchi1, K. Uetake1, and T. Tanaka1. Azabu University, Sagamihara, Japan, 1Kanagawa Prefectural Livestock Industry Technical Center, Ebina, Japan.

T7  Effects of dust bath and nest box arrangement on behavior of high-, medium- and low-ranked hens in furnished cages. T. Shinmura*, Y. Eguchi, K. Uetake, and T. Tanaka, Azabu University, Sagamihara, Japan.

T8  Effect of stocking density on the short-term behavior of dairy cows. C. T. Hill1,2, P. D. Krawczel*, H. M. Dann1, C. S. Ballard1, R. C. Hovey2, and R. J. Grant1. W.H. Miner Agricultural Research Institute, Chazy, NY, 1The University of Vermont, Burlington.


Animal Health - Livestock and Poultry
Poultry/Swine/Goat/Sheep
Exhibit Hall C


T11  Evaluation of photonic imaging in the gastrointestinal tract of swine following oral inoculation with lux-modified Salmonella typhimurium. K. Moulton*, P. Ryan1, R. Youngblood1, M. McGee1, S. Laird1, A. Harris1, D. Moore1, I. Kim1, D. Lay2, and S. Willard1. Mississippi State University, Mississippi State, 1USDA-ARS, West Lafayette, IN.


Molecular ecology effects of essential oil blends on identified broiler cecal digestive bacteria. Y. Leontieva, A. Syvky, A. Nalian, M. Hume, E. Oviedo-Rondon, S. Clemente-Hernández, and A. Martynova-Van Kley. 1Stephen F Austin State University, Nacogdoches, TX, 2USDA, ARS, SPARC, Food and Feed Safety Research Unit, College Station, TX, 3North Carolina State University, Raleigh, 4Universidad Autónoma de Chihuahua, Chihuahua, México.

Electrospray-ionization mass spectrometric analysis of lipid restructuring in the chick liver: Effect of maternal dietary conjugated linoleic acid. G. Cherian, Oregon State University, Corvallis.

Maternal dietary n-3 fatty acids alter proinflammatory eicosanoid production in broiler birds. J. Bautista-Ortega, D. E. Goeger, and G. Cherian, Oregon State University, Corvallis.


Broiler performance on a Maxiban antimicrobial program with exposure to a mixed Eimeria population. A. Barri, C. L. Novak, H. D. Danforth, S. I. Steinlage, and A. P. McElroy. 1Virginia Polytechnic Institute and State University, Blacksburg, 2USDA/ARS, Beltsville, MD, 3Elanco Animal Health, Greenfield, IN.

Rapid detection of avian reoviruses in cloacal swabs using real-time RT-PCR. K. Guo, T. Dormitorio, and J. Giambone, Auburn University, Auburn, AL.


Effect of oral administration of Lactobacillus brevis on turkey poult performance and immune development. K. Novak, E. Davis, K. Bos, T. Rehberger, and C. Kromm, Agtech Products, Inc., Waukesha, WI.

Evaluation of the efficacy of a bio-hygienic additive in ammonia level control in broiler houses. G. Tacconi, A. Zanierato, 1University of Perugia, Perugia, PG, Italy, 2SOP Srl, Busto Arsizio, VA, Italy.

Characterization and expression of the ryanodine receptor 2 gene in furazolidone induced cardiomyopathic turkeys. E. Ndegwa and M. M. Corley, Tuskegee University, Tuskegee, AL.

The effect of anti-coccidiosis antibody on growth performance in broiler chicks. E. Hellestad, J. Susko-Parrish, and A. Covarelli, 1University of Perugia, Perugia, PG, Italy, 2SOP Srl, Busto Arsizio, VA, Italy.


Effect of a Bacillus-based direct-fed microbial on turkey poult performance and changes within the gastrointestinal microflora. S. Gebert, C. Kromm, and T. Rehberger, Agtech Products, Inc., Waukesha, WI.


Presence of Mycoplasma sp. in lambs with lung lesions. J. A. Daniel, J. E. Held, and L. Holler, Berry College, Mount Berry, GA, 1South Dakota State University, Brookings.

Effects of herbal and chemical deworming agents on internal parasite control comparing fecal egg counts, hematocrits and FAMACHA(R) on sheep and goats. H. Swartz, A. Stewart, F. Wulff, D. Sommerer, and M. Ellersieck. 1University of Missouri, Columbia, 2University of Arkansas, Fayetteville, 3University of Missouri, Columbia.

Indirect contact: A possible dissemination route of Caprine arthritis encephalitis among goat kids. A. Asmare, 1, 2K. E. Washburn, J. T. Salik, A. L. Goetsch, L. J. Dawson, R. C. Merkel, and T. Sahlu, 1E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, 2Alemany University, Dire Dawa, Ethiopia, 3Texas A&M University, College Station, 4Oklahoma Animal Disease and Diagnostic Laboratory, Stillwater, OK, 5Oklahoma State University, Stillwater.

Composition of amino acids in typical Chinese herbs is not unique among feeds of plant origin. X. Wu¹, X. F. Kong², Y. L. Yin¹, F. G. Yin¹, P. Zhang¹, H. J. Liu¹, F. F. Xing³, Q. H. He¹, T. J. Li¹, R. L. Huang¹, and G. Y. Wu¹,². Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, Texas A&M University, College Station.

Beef Species

Exhibit Hall C

Effects of season and bull breed of semen on pregnancy rate in beef cattle. K. Kreausukon¹, S. Teepatimakorn², P. Vinitchaikul³, P. Yamsakul¹, and W. Suriyasathaporn¹, Chiang Mai University, Muang, Chiang Mai, Thailand, Chiangmai Artificial Insemination Research and Biotechnology Center, Muang, Chiang Mai, Thailand.

TG-repeat microsatellites of growth hormone receptor and their associations with growth performances in Angus Plus calves raised on subtropical pasture. J. Yang¹, J. Lee¹, R. Ferreira², M. DuPonte¹, and G. Fukushima¹. University of Hawaii, Honolulu, Olumau Angus Plus LLC, Lihue, HI.

Influence of dietary roughage source on growth performance and carcass characteristics of Korean native cattle (Hanwoo). S. O. Lee¹, K. K. Jung², C. B. Choi³, and I. S. Jang². Yeungnam University, Daegu, Korea, Jinju National University, Jinju, Korea.

Predicting beef carcass retail products of Mediterranean buffaloes by real-time ultrasound measures. A. M. Jorge*, C. Andrijghetto, C. L. Francisco, A. P. Neto, and R. C. Mourão. Sao Paulo State University, Botucatu, SP, Brazil.

Correlations among carcass traits taken by ultrasound and after slaughter in Mediterranean (Bubalus bubalis) buffaloes. A. M. Jorge*, C. Andrijghetto, R. S. B. Pinheiro, C. L. Francisco, and A. P. Neto. Sao Paulo State University, Botucatu, SP, Brazil.

Influence of shade in pen on performance of feedlot calves received during the autumn in the Northwest of Mexico. R. Barajas¹, B. J. Cervantes¹, E. A. Velazquez², F. Juarez¹, and J. A. Romo¹. FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico, Ganadera Los Migueles SA de CV, Culiacan, Sinaloa, Mexico.

Effect of weaning and post-weaning management of beef steers on carcass characteristics and tenderness. A. E. Radunz*, H. N. Zerby, J. F. Grimes, G. D. Lowe, and F. L. Fluharty. The Ohio State University, Columbus, OH.


Impact of using proven genetics in an AI program. D. J. Schafer¹, J. K. Haden¹, S. R. Bartholomew¹, M. T. Griffin¹, M. E. John¹, J. L. Parcell², and D. J. Patterson². MFA Inc., Columbia, MO, University of Missouri, Columbia.

Performance and carcass characteristics of straightbred and crossbred Bonsmara and Tabapua steers at the same carcass weight. E. L. A. Ribeiro¹, I. Y. Mizubuti¹, L. D. F. Silva¹, M. A. Rocha¹, and S. M. Climaco. Universidade Estadual de Londrina, Londrina, Brazil.


Relationships between MUFA ratio of marbling flecks and image analysis traits in M. longissimus muscle for Japanese Black cattle. Y. Nakahashi¹, M. Oishi², Y. Hamasaki¹, S. Hidak¹, S. Maruyama², and K. Kuchida¹. Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan, Gifu Prefectural Livestock Research Institute, Gifu, Japan.


Comparison of color value measured by colorimeter and image analysis method for beef muscle. Y. Hamasaki*, T. Saito³, Y. Sato³, S. Hidak¹, and K. Kuchida¹. Obihiro University of A&VM, Obihiro, Hokkaido, Japan, Hokkaido Animal Research Center, Sintoku, Hokkaido, Japan.
Breeding and Genetics - Livestock and Poultry II
Exhibit Hall C

T51 Joint analysis of egg and production traits in broilers. R. L. Sapp¹, T. Wing⁴, and R. Rekaya⁎₁, ¹USDA-ARS, Miles City, MT, ²Cobb-Vantress, Inc., Siloam Springs, AR, ³University of Georgia, Athens.

T52 Cow/calf pre-weaning efficiency of Nellore, British × Nellore and Continental × Nellore crosses¹. Liana Calegare⁎¹, Maurício Mello de Alencar², Irineu Umberto Packer¹, and Dante Pazzanese Duarte Lanna¹, ¹ESALQ, Piracicaba, SP, Brazil, ²Embrapa, Sao Carlos, SP, Brazil.

T53 Morphologic evaluation of Murrah water buffalo through regression and principal component analysis. J. R. B. Sereno⁎¹, M. V. Snel-Oliveira¹, S. M. Vasconcelos¹, A. A. Egito¹, M. S. M. Albuquerque¹, C. McManus¹, and J. C. Souza², ¹Embrapa Cerrados, Planaltina, DF Brazil, ²UPIS-Faculdades Integradas, Brasilia, DF Brazil, ³Embrapa Recursos Genéticos e Biotecnologia, Brasilia, DF Brazil, ⁴Universidade de Brasilia, Brasilia, DF Brazil, ⁵Universidade Federal do Parana, Campo Palotina, PR Brazil, ⁶University of Missouri-Columbia Scholarship of CNPq, Brazil, Columbia, Mo USA.

T54 Genetic parameters for weaning weight by age of dam for Brazilian Nellore. L. O. Campos da Silva¹, J. C. Souza², A. Gondo¹, C. H. M. Malhado¹, J. A. Freitas¹, I. W. Santos¹, J. R. B. Sereno⁶, R. Weaber⁶, L. D. Van Vleck⁷, and W. R. Lamberson⁴, ¹Embrapa-GNP/CG, Brazil, ²Scholarship of CNPq, Brazil, ³Parana Federal University, Palotina, PR Brazil, ⁴Bahia State University, Brazil, ⁵Maio Grosso do Sul Federal University, Brazil, ⁶Embrapa-CPAC, Brazil, ⁷University of Nebraska, Lincoln, ⁸University of Missouri, Columbia.

T55 Dairy cattle mortality trends in southeastern states. G. W. Rogers⁎¹, J. B. Cooper¹, and J. S. Clay², ¹University of Tennessee, Knoxville, ²Dairy Records Management Systems, Raleigh, NC.

T56 Weaning weight and wool traits in a grade-up program of Rambouillet sheep with Australian Merino genetics. W. M. Rauw⁎¹, H. A. Glimp¹, T. Wuliji¹, M. Teglas¹, W. Jesko¹, and L. Gomez-Raya¹, ¹University of Nevada, Reno, ²Rafter 7 Ranch, Yerington, NV.

T57 An evaluation of SNP associations with calpastatin enzyme activity and shear force measures in Brahman steers. D. E. Franke⁎¹, M. G. Thomas³, A. J. Garrett², and T. D. Bidner¹, ¹Louisiana State University Agricultural Center, Baton Rouge, ²New Mexico State University, Las Cruces.

T58 Gene polymorphisms associated with mastitis and reproduction traits in Holstein cows. G. M. Pighetti⁎, C. J. Kojima, and A. M. Saxton, ¹University of Tennessee, Knoxville.

T59 The genomic architecture of a major QTL region on chicken chromosome 4: CpG islands, gene density and repetitive elements. G. A. Ankra-Badu and S. E. Aggrey⁎, ¹University of Georgia, Athens.

T60 Modeling social competition assuming a single dominant animal per pen. J. M. Achi⁎, I. Misztal, and R. Rekaya, ¹University of Georgia, Athens.

T61 Obtaining multiple QTL solutions without inverting the IBD matrix. M. Jafarikia⁎, J. A. B. Robinson, and L.R. Schaeffer, ¹University of Guelph, Guelph, Ontario, Canada.

T62 A Microsatellite Repeat Search (MRS) tool for eukaryotic genomes. L. Klein⁎¹,², S. Puri¹,², G. Blachut¹, and E. Smith¹, ¹Virginia Polytechnic Institute and State University, Blacksburg, ²Blacksburg High School, Blacksburg, VA, ³Hinsdale South High School, Hinsdale, IL.


T65 Impact of inbreeding on IBD probabilities and estimates of QTL variance. G. Freyer and N. Vukasinovic, 1Monsanto Animal Genomics and Breeding, Saint Louis, MO, 2Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany.

T66 Relationship of herd-heritability with sire misidentification and entry into a proven sire lineup. C. D. Dechow, H. D. Norman, and N. R. Zwald, 1Pennsylvania State University, University Park, 2Animal Improvement Programs Laboratory, Beltsville, MD, 3Alta Genetics, Inc., Watertown, WI.

T67 Heritability estimates for producer recorded clinical mastitis events. C. D. Dechow, J. Vallimont, C. G. Sattler, and J. S. Clay, 1Pennsylvania State University, University Park, 2Select Sires, Inc., Plain City, OH, 3Dairy Records Management System, Raleigh, NC.

T68 Different UBX domain D Gene from subtraction cDNA isolated from Korean native chicken. S. S. Sun, K. Kuk, and K. H. Myung, Chonnam National University, Gwangju, Korea.

T69 Efficiency of Brown Swiss, Holstein and their crosses estimated with data envelopment analysis. C. D. Dechow, M. I. Phelps, S. Roth, G. W. Rogers, and J. B. Cooper, 1Pennsylvania State University, University Park, 2The University of Tennessee, Knoxville.

T70 Estimation of genetic and phenotypic parameters for days open and test day milk yields in Japanese Holsteins. Y. Masuda, H. Abe, and M. Suzuki, Obihiro University of Agriculture & Veterinary Medicine, Obihiro, Japan.

T71 Residual feed intake and temperament breed differences among Florida heifers. D. G. Riley, G. R. Hansen, S. W. Coleman, and C. C. Chase, 1USDA, ARS, Brookville, FL, 2University of Florida, Marianna.

T72 Organ weights and ulcer severity of 1980 vs. 2005 pigs when fed 1980 or 2005 feeding programs. J. S. Fix, E. van Heugten, D. J. Hanson, J. P. Cassady, and M. T. See, North Carolina State University, Raleigh.

T73 Genetic and environmental factors that affect gestation length. H. D. Norman, J. R. Wright, M. T. Kuhn, and J. B. Cole, Agricultural Research Service, USDA, Beltsville, MD.

T74 Construction of a cDNA library of the guinea fowl adipose tissue and evaluation for expressed sequence tags. S. N. Nahashon, G. Kelley, J. Johnson, J. Tyus II, and A. Amenyenu, Institute of Agricultural and Environmental Research, Tennessee State University, Nashville.

T75 Optimising turkey parent stock selection for an integrated processing company and a non-integrated poult supply company. B. J. Wood and N. Buddiger, Hybrid Turkeys, Kitchener, Ontario, Canada.

T76 Defining the haplotype blocks in outbred livestock populations. M. Jafarikia, J. A. B. Robinson, and D. Ashlock, University of Guelph, Guelph, Ontario, Canada.

Companion Animals
Nutrition and Health
Exhibit Hall C

T77 Nutritive value of corn protein co-products from the ethanol industry. M. R. C. de Godoy, L. L. Bauer, C. M. Parsons, and G. C. Fahey, Jr, University of Illinois, Urbana.

T78 Chemical composition of fiber rich corn co-products from the ethanol industry. M. A. Guevara, L. L. Bauer, C. A. Abbas, K. E. Beery, M. A. Franklin, M. J. Cecava, and G. C. Fahey, Jr, University of Illinois, Urbana, 2Archer Daniels Midland Company, Decatur, IL.


T80 Effects of feeding increasing levels of base excess on stool quality and output in dogs. R. M. Yamka, K. G. Friesen, L. J. Kats, and T. G. Forster, Hill’s Pet Nutrition, Inc., Topeka, KS.

The ameliorating effect of ascorbic acid on subacute sperm toxicity in male New Zealand White Rabbits treated with endosulfan. A. Ata, F. S. Hatipoglu, O. Y. Gulay*, and M. S. Gulay, Mehmet Akif Ersoy University, Burdur, Turkey.

Subacute oral endosulfan toxicity in male New Zealand white rabbits. F. S. Hatipoglu*, M. S. Gulay, O. Y. Gulay, A. Balic, and S. Volkan, Mehmet Akif Ersoy University, Burdur, Turkey, Sakarya State Hospital, Adapazari, Turkey, Dunya Tip Center, Burdur, Turkey.


Contemporary & Emerging Issues - Livestock and Poultry
Exhibit Hall C

Survey of Clostridium septicum isolated from market-age turkeys with cellulitis. T. Neumann*, D. Karanakarun, and T. Rehberger, Agtech Products, Inc., Waukesha, WI.

Assessment of clostridial challenges present in asymptomatic birds raised in a commercial broiler facility. S. Dunham*, J. A. Smith, and T. Rehberger, Agtech Products, Inc., Waukesha, WI. Fieldale Farms Corporation, Baldwin, GA.

Prevalence of unusual viral RNA, enteropathogens, Cryptosporidia in poultry litter, pig wastes and waterways of Ireland and their impact on environmental health. J. R. Rao*, D. W. A Nelson, L. Xiao, M. Matsuda, T. Sekizuka, C. J. Lowery, J. S. G. Dooley, B. C. Millar, P. J. Rooney, and J. E. Moore, Environmental and Public Health Microbiology Unit, Agri-Food & Biosciences Institute, Belfast, Northern Ireland, UK, The Queen’s University of Belfast, Belfast, Northern Ireland, UK, Division of Parasitic Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia, Laboratory of Molecular Biology, School of Environmental Health Sciences, Asabi University, Fuchinobe, Sagamihara, Japan, Northern Ireland Public Health Laboratory, Department of Bacteriology, Belfast City Hospital, Belfast, Northern Ireland, UK, School of Health and Life Sciences, University of Ulster, Coleraine, County Londonderry, Northern Ireland.

Dairy Foods
Cheese, Dairy Products and Chemistry
Exhibit Hall C


Fate of lysostaphin in milk through the cheesemaking process. D. L. Van Hekken*, R. J. Wall, G. A. Somkuti, and P. M. Tomasula, USDA-ARS, Wyndmoor, PA. USDA-ARS, Beltsville, MD.

Effects of High Pressure Processing on the reduction of Listeria monocytogenes in the manufacture of soft cheeses. C. P. Rodriguez*, E. Patazca, and J. E. Schlesser, National Center for Food Safety and Technology-Illinois Institute of Technology, Summit-Argo, IL. National Center for Food Safety and Technology-FDA, Summit-Argo, IL.


Texture profile analysis and melting in relation to proteolysis as influenced by aging temperature and cultures in Cheddar cheese. T. C. Rasmussen, D. J. McMahon, J. R. Broadbent, and C. J. Oberg, Western Dairy Center, Logan, UT, Weber State University, Ogden, UT.

Strategies for the manufacture of low fat Cheddar cheese. S. P. Adams, D. J. McMahon, J. R. Broadbent, S. L. Larsen, and M. Drake, Western Dairy Center, Logan, UT, SouthEast Dairy Foods Research Center, Raleigh, NC.


Evaluation of chemical composition of traditional Chinese goat’s milk cake. H. Zhang, S. Gokavi, C. Maduko, Y. Park, and M. R. Guo, University of Vermont, Burlington, Inner Mongolia University, Huhhot, China, Fort Valley State University, Fort Valley, GA.


Microencapsulation of Korean mistletoe extract with polyacylglycerol monostearate. N. C. Kim, J. B. Kim, J. Ahn, and H. S. Kwak, Sejong University, Seoul, Korea.


Occurrence of aflatoxin M1 in Manchego cheese. G. Battacone, M. I. Berruga, M. Palomba, M. P. Molina, M. Roman, and A. Molina, Università degli Studi di Sassari, Sassari, Italy, Universidad de Castilla-La Mancha, Albacete, Spain, Universidad Politécnica de Valencia, Valencia, Spain, Qualiam, Madrid, Spain.


Poly(L-lactic acid) production from whey permeate. Y. Gao, F. Zhao, A. Richardson, J. Mendes, D. Savin, and M. Guo, University of Vermont, Burlington.


Sensory profiles and volatile components of milk protein concentrates and isolates. R. E. Miracle, J. Childs, and M. A. Drake, North Carolina State University, Raleigh.


T114 Fatty acid profile and sn-2 fatty acid distribution of infant milk fat fortified with EPA and DHA. C. O. Maduko1, Y. W. Park*2,1, and C. C. Akoh1, 1University of Georgia, Athens, 2Fort Valley State University, Fort Valley, GA.

T115 Impact of agglomeration on the storage stability of whole milk powder. B. J. Wright* and M. A. Drake, North Carolina State University, Raleigh.

T116 Cloning, expression and antibody production of caprine platelet-activating factor acetylhydrolase. P. H. Tsao*1,2, T. Y. Kuo1, J. T. Hsu2, L. P. Chow2, and F. Y. Wu1, 1National Ilan University, Ilan, Taiwan, 2National Taiwan University, Taipei, Taiwan.

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Egg and Meat Science and Muscle Biology - Livestock and Poultry II
Exhibit Hall C

T117 Wet distillers grains plus solubles do not alter the relationship between fat content and marbling score in calf-fed steers. A. S. de Mello Junior*, C. R. Calkins, J. M. Hodgen, B. E. Jenschke, and G. E. Erickson, University of Nebraska, Lincoln.


T119 Influence of complexed trace mineral supplementation on carcass grade and meat quality of broilers processed at 42 and 56 d of age. B. Saenmahayak*, S. F. Bilgili, and J. B. Hess, Auburn University, Auburn, AL.

T120 Analysis ofveal shoulder muscles for chemical attributes. G. A. Sullivan*1, C. R. Calkins1, D. D. Johnson2, and B. G. Sapp2, 1University of Nebraska, Lincoln, 2University of Florida, Gainesville.

T121 Influence of gender and slaughter weight on growth, carcass characteristics, and meat quality of Duroc and Landrace crossbred pigs. L. L. Lo*1, C. C. Tsai1, Y. C. Yang1, R. S. Lin2, T. H. Huang2, and J. Chen1, 1Chinese Culture University, Taipei, Taiwan, ROC, 2National Ilan University, Ilan, Taiwan, ROC, 3Taiwan Farm Industry Co., Ltd., Pingtung, Taiwan, ROC.

T122 Effect of seaweeds on the physical quality and the sensorial characteristics of eggs enriched with omega-3 fatty acids and stored for long time under different conditions. V. H. Ríos1, S. Carrillo*1, M. M. Casas2, M. E. Carranco1, E. Avila3, and F. Pérez-Gil1, 1Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, México D.F., 2Centro Interdisciplinario de Ciencias Marinas, La Paz, Baja California Sur, Mexico, 3Facultad de Medicina Veterinaria y Zootecnia, UNAM, México D.F.


T124 Intramuscular tenderness, sensory, and color attributes of two muscles from the M. Quadriceps femoris when fabricated using a modified hot boning technique. B. E. Jenschke*, B. J. Swedberg, and C. R. Calkins, University of Nebraska, Lincoln.


T126 Hematocrit and carcass parameters in broiler chickens submitted to acute heat stress in climatic chamber. E. F. Delgado*1, C. C. Santos1, A. C. M. S. Pedreira2, I. J. Silva1, and J. F. M. Menten1, 1Escola Superior de Agricultura, Piracicaba, São Paulo, Brasil, 2Agência Paulista de Tecnologia do Agronegócio, Piracicaba, São Paulo, Brasil.

T127 Effect of DEX Treatment on Ca2+ Content in the satellite cell from broiler muscle. S. G. Wu, Y. Miao, H. J. Zhang, and G. H. Qi*, Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China.

T128 Effect of low refrigeration temperature storage on physicochemical properties of packaged shell eggs during retail display. D. K. Shin*1, C. Narciso-Gaytan1, M. A. Sarto1, J. Regenstein1, and M. X. Sánchez-Plata1, 1Texas A&M University, College Station, 1Texas A&M University, College Station, 1Cornell University, Ithaca, NY.
Isolation and characterization of $\mu$-calpain, m-calpain, and calpastatin from postmortem bovine muscle. Initial steps. J. P. Camou*, S. W. Mares, J. A. Marchello, R. Vázquez, M. D. Taylor, V. F. Thompson, and D. E Goll, University of Arizona, Tucson.

Sarcomere length dynamics of postmortem ovine Psoas major and Longissimus dorsi muscles. I. Zapata*1, T. D. Leeds2, M. R. Mousel3, and M. Wick1, 1The Ohio State University, Columbus, 2USDA-ARS U.S. Sheep Experiment Station, Dubois, ID.

Effect of pig age at slaughter on postmortem muscle protein degradation and fresh pork quality. C. E. Wagner*1, E. Huff-Lonergan1, A. A. Sosnicki1, S. B. Jungst2, and S. M. Lonergan1, 1Iowa State University, Ames, 2PIC North America, Hendersonville, TN.

Forages and Pastures - Livestock and Poultry
Harvested Forages: Fermentation and Nutritive Quality
Exhibit Hall C


Microbial populations and fermentation profile of signalgrass (Brachiaria decumbens Stapf) silages harvested at different regrowth ages. E. M. Santos, O. G. Pereira*, C. L. L. F. Ferreira, and R. Garcia, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil.

Silage inoculant effects on in vitro rumen fermentation. R. E. Muck1, F. E. Contreras*2, and D. R. Mertens1, 1USDA-ARS, Dairy Forage Research Center, Madison, WI, 2University of Wisconsin-Madison, Madison.

Enzyme and bacterial inoculant effects on hybrid corn (Zea mays) silage composition. O. Ruiz-Barrera*1, Y. Castillo1, C. Rodríguez2, O. La O3, R. Beltran1, and C. Arzola1, 1Facultad de Zootecnia, Chihuahua, Chih., Mexico, 2Instituto de Ciencia Animal, La Habana, Cuba.

Use of solid state fermentation to increase nutritious value of apple byproducts. C. Rodríguez-Muela*1, A. Becerra2, O. Ruiz1, A. Ramírez1, A. Flores1, and A. Elías1, 1Universidad Autónoma de Chihuahua, Chihuahua, México, 2Universidad Autónoma de Nayarit, Tepic, México, 3Instituto de Ciencia Animal, La Habana, Cuba.

Protein production by solid state fermentation of apple waste and pomace. H. E. Rodríguez-Ramírez*, C. Hernández-Gómez, C. Rodríguez-Muela, O. Ruiz-Barrera, and F. Salvador-Torres, Universidad Autónoma de Chihuahua, Chihuahua, Chihuahua, México.


Effect of fibrolytic enzymes and an inoculant on in vitro digestibility and gas production of low-dry matter alfalfa silage. L. K. Kozelov1, F. Iliev1, A. N. Hristov*2, S. Zaman2, and T. A. McAllister1, 1Institute of Animal Sciences, Kostinbrod, Bulgaria, 2University of Idaho, Moscow, 3Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

The use of bacterial silage inoculants to ensile crushed corn grains and its effects on ensilability and aerobic stability. G. Böck1, K. Schindorfer2, Y. Acosta Aragón*1, A. Klimentisch1, and G. Schatzmayr1, 1BIOMIN Research Center, Tulln, Austria, 2University of Applied Sciences, Krems, Austria.

Liquid urea by product as an additive to improve intake and digestibility of grass hay. J. L. Rodríguez-Rivera*, E. Valencia, and A. A. Rodríguez, University of Puerto Rico, Mayaguez Campus, Mayaguez, Puerto Rico.


Evaluation of hay treated with acid based preservatives at two cuttings and three moisture levels on their effect on feeding value. D. Sapientia, F. R. Valdez, D. Westerhaus, and W. Rounds.


Evaluation of level of crude protein and undegradable intake protein level in diets of growing Boer goats fed a complete pelleted ration. G. V. Pollard, K. F. Wilson, and M. L. Bolfing.


Effects of dietary NDF levels on digestion, serum biochemical parameters and hormonal concentrations in growing goats. X. G. Zhao1, H. L. Jiang1, Z. H. Cong1, S. X. Tang1, Z. H. Sun1, Z. L. Tan*, and G. O. Tayo1,2, *Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, China, Babcock University, Ibeja Lagos, Nigeria.

Selenium concentrations in forages and in blood of meat goats. T. K. Hutchens*, A. H. Cantor1, H. D. Gillespie1, P. B. Scharko1, M. Neary2, and J. E. Tower2, 1University of Kentucky, Lexington, 2Purdue University, West Lafayette, IN.

Supplementation with selenium boluses and its effect on milk and blood serum concentration of dairy goats. J. G. Librado Cruz*, M. Huerta Bravo1, M. González Alcorta1, J. G. García Muñáz1, P. A. Martínez Hernández1, and R. López Arellano2, 1Universidad Autónoma Chapingo, Chapingo, México, 2Facultad de Estudios Superiores Cuautitlán, UNAM, Cuautitlán Izcalli, México.

Effects of fibrolytic enzymes and seaweed extract on performance and carcass characteristics of meat goats fed a non-pelleted diet. G. V. Pollard*, K. F. Wilson2, H. Anderson3, and R. V. Machen4, 1Texas State University, San Marcos, 2Animal Feed Technologies, Greeley, CO, 3Anderson Consulting and Training, Garden City, KS, 4Texas Agricultural Experiment Station, Uvalde.


Effects of alfalfa hay and/or concentrate diets on growth, organ mass, blood and muscle metabolites, and volatile fatty acids in Boer × Spanish male kids. B. Kouakou*, G. Kannan, J. H. Lee, and T. H. Terrill, Agricultural Research Station, Fort Valley State University, Fort Valley, GA.


Growth and Development - Livestock and Poultry II
Exhibit Hall C


Effect of zilpaterol on cultured bovine satellite cells. E. K. Sissom*, D. A. Yates2, J. L. Montgomery2, W. T. Nichols2, M. N. Streeter2, J. P. Hutcheson3, and B. J. Johnson1, 1Kansas State University, Manhattan, 2Intervet Inc., Millsboro, DE.


Δ9 Desaturase gene expression in adipose tissues of calf-fed and yearling-fed Steers. M. A. Brooks*, C. W. Choi2, D. K. Lunt1, H. Kawachi1, and S. B. Smith1, 1Texas A&M University, College Station, 2National Livestock Research Institute, Siwon, South Korea, 3Kyoto University, Kyoto, Japan.

Impact of irradiation and IgG concentration on absorption of protein and IgG in calves fed Colostrum replacer. J. M. Campbell*, L. E. Russell1, J. D. Crenshaw1, E. M. Weaver1, S. Godden2, J. D. Quigley2, J. Coverdale2, and H. Tyler2, 1APC, Inc., Ankeny, IA, 2University of Minnesota, St. Paul, 3Diamond V Mills, Cedar Rapids, IA, 4Texas A&M University, College Station, 5Iowa State University, Ames.

Relationship between blood serum IGF-1 and GH concentrations and growth of Holstein steers. N. Torrentera*, R. Cerda1, M. Cervantes1, P. Garcez2, and W. Sauer1, 1Universidad Autonoma de Baja Cali, Mexicali, Baja, California, Mexico, 2Universidad Autonoma de Mexico, Mexico.
Serial slaughter evaluation of growth-promoting implants on growth and carcass characteristics in calf-fed Holstein steers. J. L. Beckett*1, L. D. Luqué1, P. D. Bass1, W. T. Nichols2, and R. J. Delmore1, 1California Polytechnic State University, San Luis Obispo, 2Intervet Inc., Millsboro, DE, 3Colorado State University, Fort Collins.


Immunology - Livestock and Poultry II
Exhibit Hall C

Long-term consumption of resistant starch reduces T cell population and apoptosis in pig colon. M. Nofrarías*1,2, D. Martínez-Puig2, J.F. Pérez2, and N. Majó1,2, 1Centre de Recerca en Sanitat Animal (CRESA), Bellaterra, Spain, 2Universitat Autònoma de Barcelona, Bellaterra, Spain.

Utilization of alfalfa and its effects on the immune system during molt. J. L. McReynolds*, K. J. Genovese, H. He, C. L. Swaggerty, J. A. Byrd, D. J. Nisbet, and M. H. Kogut, USDA-ARS-SPACR-FFSRU, College Station, TX.

Effect of a direct fed microbial (PrimaLac®) on systemic immunity in developing broilers. C. C. Chiang1, R. Qiu2, J. Croom2, L. Daniel3, R. Ali1, and M. Koci*2, 1National Chung Hsing University, Taiwan, 2North Carolina State University, Raleigh.

Effects of yeast culture in broiler diets on performance and immunomodulatory functions. J. Gao1, H.-J. Zhang1, S.-H. Yu1, S.-G. Wu1, I. Yoon2, J. Quigley2, and G.-H. Qi*1, 1Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China, 2Diamond V Mills, Inc., Cedar Rapids, IA.

Dietary polyunsaturated fatty acids modulate immune responses in dairy cows characterized by an elevated plasma trans-10, cis-12 CLA and n-3 fatty acids but not cis-9, trans-11 CLA. M. Bharathan*, D. J. Schingoethe, R. S. Kaushik, K. F. Kalscheur, G. Moorkanat, and A. Hippen, South Dakota State University, Brookings.


Natural antibody (anti-gal) is a sensitive means for evaluating the effects of diets on turkey humoral immunity. P. Cotter*1, M. Hulet1, and A. E. Sefton1, 1Cotter Laboratory, Arlington, MA, 2Pennsylvania State University, University Park, 3Alltech Inc., Guelph, ON, Canada.


Phage display selection and characterization of single-chain recombinant antibodies against Eimeria tenella sporozoites. D. Abi-Ghanem*1, S. D. Waghela1, D. J. Caldwell1, H. D. Danforth2, and L. R. Berghman1, 1Texas A&M University, College Station, 2USDA/ARS, Beltsville, MD.

Immune stimulatory CpG oligodeoxynucleotides reduces Salmonella enterica subsp. Arizonae organ colonization and mortality in young turkeys. H. He*, K. J. Genovese, C. L. Swaggerty, and M. H. Kogut, Food and Feed Safety Research Unit, Southern Plain Agricultural Research Center, USDA-ARS, College Station, TX.

Response of bovine lymphocytes to different CpG motifs. J.-W. Lee*1 and X. Zhao2, 1National Pingtung University of Science and Technology, Neihu, Pingtung, Taiwan, 2McGill University, Ste-Anne-de-Bellevue, Quebec, Canada.
Nonruminant Nutrition
Feeder Pig and Sow Nutrition I
Exhibit Hall C

T186  Effect of dietary P level and pectin infusion on bacterial P incorporation, activity and composition in pigs. B. U. Metzler*1, W. Vahjen2, T. Baumgärtel1, M. Rodehutscord1, and R. Mosenthin1, 1Institute of Animal Nutrition, University of Hohenheim, Stuttgart, Germany, 2Institute of Animal Nutrition, Free University of Berlin, Berlin, Germany, 3Institute of Agricultural and Nutritional Sciences Halle-Wittenberg, Halle (Saale), Germany.

T187  Effects of adding water into the mixer on pellet quality of expander processed barley–oats–soy–based diets for finishing pigs. K. K. Lundblad1,2, J. D. Hancock3, M. Sørensen4, K. C. Behnke5, E. Prestløkken6, and L. J. McKinney2, 1Felleskjøpet Føruvikling, Trondheim, Norway, 2Kansas State University, Manhattan, 3University of Life Sciences, Aas, Norway, 4AKVAFORSK, Aas, Norway.

T188  Optimal true digestible Ca:P ratio in corn-rough rice-soybean meal-based diets for growing pigs. S. X. Wang*1, Y. L. Yin1, R. L. Huang1, T. J. Li1, X. F. Kong1, M. Z. Fan3, and G. Y. Wu1, 1Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, Hunan, China, 2University of Guelph, Guelph, Ontario, Canada, 3Texas A&M University, College Station.

T189  Effects of adding water into the mixer on pellet quality of expander-processed corn-soy-based diets for finishing pigs. K. K. Lundblad1,2, J. D. Hancock3, M. Sørensen4, K. C. Behnke5, E. Prestløkken6, and L. J. McKinney2, 1Felleskjøpet Føruvikling, Trondheim, Norway, 2Kansas State University, Manhattan, 3University of Life Sciences, Aas, Norway, 4AKVAFORSK, Aas, Norway.

T190  Effects of dietary L-carnitine or garlic powder on growth performance, dry matter and nitrogen digestibilities, blood profiles and carcass traits in weaning-to-finish pigs. Y. H. Kim1, Y. J. Chen1, J. S. Yoo1, J. W. Kim1, Y. G. Han2, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Chungnam Regional Innovation Agency, Cheonan, Korea.

T191  Effect of dietary Bacillus subtilis on growth performance, immunological cells change, fecal NH3-N concentration and carcass meat quality characteristics in finishing pigs. J. H. Cho*, Y. J. Chen1, B. J. Min1, H. J. Kim1, K. S. Shon1, O. S. Kwon1, J. D. Kim2, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2CJ Feed Co. Ltd., Incheon, Korea.


T193  Effects of dietary Lactobacillus brevis supplementation on growth performance, dry matter and nitrogen digestibilities, blood cell counts and fecal odor emission compounds in growing pigs. Y. J. Chen*, B. J. Min1, J. H. Cho1, Q. Wang1, J. S. Yoo1, J. D. Kim2, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2CJ Feed Co. Ltd., Incheon, Gyeonggi, Korea.

T194  Effects of feeding rye silage with different periods on growth performance, blood characteristics, meat quality and carcass quality in finishing pigs. S. O. Shin*, J. H. Cho, Y. J. Chen1, J. S. Yoo1, J. W. Kim1, Y. G. Han2, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Sungkyunkwan University, Suwon, Gyeonggi, Korea.


T197  Effects of dietary Megazone® on growth performance, nutrients digestibility, blood characteristics, meat quality and carcass traits in weaning-to-finishing pigs. Y. H. Kim1, Y. Wang*, J. C. Park1, H. J. Jung1, J. H. Cho2, Y. J. Chen2, J. S. Yoo2, I. C. Kim1, S. J. Kim1, and I. H. Kim2, 1National Livestock Research Institute, RDA, Cheonan, Chungnam, Korea, 2Dankook University, Cheonan, Chungnam, Korea.

The effects of environment-friendly diets on the growth performance, nutrient digestibility, fecal excretion, nitrogen excretion and emission gas in swine manure of growing pigs. J. S. Yoo*, J. H. Cho1, Y. G. Chen1, H. J. Kim1, Q. Wang1, Y. Hyun2, T. G. Ko2, C. S. Park3, and I. H. Kim1,

1Dankook University, Cheonan, Choongnam, Korea, 2Codram B&F Inc., Eumseong, Gyeonggi, Korea, 3EASY BIO System, Inc., Seoul, Korea.


Effect of an Escherichia coli-derived phytase on bone mineralization, and total and soluble phosphorus in growing pigs fed corn-soybean meal based diets. C. T. Kadzere*, E. van Heugten1, J. S. Sands2, R. Maguire1,1, and M. Morrow1, North Carolina State University, Raleigh, 2Danisco Animal Nutrition, Marlborough, UK, 3Virginia Polytechnic Institute and State University, Blacksburg, 4PDT Global Institute, Inc., Greensboro, NC.

Synthetic lysine inclusion rates in pigs from 1.5 to 5.5 kg fed liquid diets. A. E. Ikard*, R. J. Harrell2, J. Odle1, L. R. Gast1, and J. H. Eisemann1, North Carolina State University, Raleigh, 2Novus International Inc., St. Louis, MO.

Effect of an Escherichia coli-derived phytase on nutrient digestibility in corn-soybean meal based diets for growing pigs. C. T. Kadzere*, E. van Heugten1, J. S. Sands2, R. Maguire1,1, and M. Morrow1, North Carolina State University, Raleigh, 2Danisco Animal Nutrition, Marlborough, UK, 3Virginia Polytechnic Institute and State University, Blacksburg, 4PDT Global Institute, Inc., Greensboro, NC.

Improving fat utilization by the weanling pig: effects of emulsification, diet physical form and fatty-acid-chain-length on growth performance. K. Price*, L. Xi1, E. van Heugten1, G. Willis1, and J. Odle1, North Carolina State University, Raleigh, 2Milk Specialties Co., Dundee, IL.

Reproductive response of replacement gilts to dietary beta-carotene supplementation. C. A. Mejía-Guadarrama*, I. Ordoñez-Reyes2, E. Villagómez-Amenezcua3,1,1, J. A. Rentería-Flores1,1, and J. A. Cuárón-Ibargüengoytia1,2,1,1, CENID-Fisiología Animal INIFAP, Querétaro, Mexico, 2FESC-Universidad Nacional Autónoma de México, Querétaro, Mexico, 3CENID-Microbiología INIFAP, D.F., México.


Effect of substitution of sorghum by corn on performance of growing/finishing barrows and gilts. H. Bernal-Barragán*, E. Castellanos-Martinez2, E. M. Romero-Treviño1, E. Gutiérrez-Orellenas1, M. A. Cerrillo-Soto1, A. S. Juárez-Reyes1, H. Morales-Treviño1, and J. Colín-Negrete1, 1Fac. de Agronomía UANL, Marin N.L., México, 2Instituto Tecnológico de Altamira, Altamira, Tamaulipas, 3Fac. de Medicina Veterinaria y Zootecnia UJED, Durango, Dgo, México.

The effects of feeding diets naturally-contaminated with Fusarium mycotoxins on protein metabolism in late gestation and lactation of sows and the efficacy of a polymeric glucomannan adsorbent in preventing these effects. G. Diaz-Llano*, C. Caballero-Cortes, R. M. Friendship, and T. K. Smith, University of Guelph, Guelph, ON, Canada.

Effects of heat processing of corn and rice on serum ghrelin concentrations in young pigs. D. Menoyo1, V. Barrios2, M. P. Serrano1, B. Vicente1, R. Lázaro1, J. Argente1, and G. G. Mateos1, Universidad Politécnica de Madrid, Spain, 2Servicio de Endocrinología, Hospital Infantil Universitario Niño Jesús, Spain.

Citric acid and thymol influence gastrointestinal microflora in pigs at weaning. A. Piva1, E. Grillli1, M. R. Messina1, S. Albonetti2, V. Pizzamiglio1, I. Cipollini1, P. P. Gatta1, and G. Zaghini1, DIMORFIPA, Ozzano Emiliano, Bologna, Italy, 2DSPVPA, Ozzano Emiliana, Bologna, Italy.

Use of different soybean and fish meal protein sources in diets for young pigs. M. T. Sánchez1, D. G. Valencia1, M. P. Serrano1, J. Sánchez2, R. Lázaro1, and G. G. Mateos1, Universidad Politécnica de Madrid, Spain, 2INASDE Agropecuaria, Spain.

Segregated early-weaning down regulates the expression of the small intestinal alkaline phosphatase. D. Lackeyram*, C. Yang, T. Archbold, and M. Z. Fan, University of Guelph, Guelph, Ontario, Canada.
The phosphorus-releasing efficacy of an E. coli-derived phytase in young pigs is dose-dependent and is not affected by the addition of a lipid-based coating added for pelleting stability. N. R. Augspurger*1, A. M. Gaines1, J. R. Danielson2, and L. L. Southern3, 1JBS United, Inc., Sheridan, IN, 2University of Wisconsin, Madison, 3LSU Agricultural Center, Baton Rouge, LA.


Effect of coarse ground corn, sugar beet pulp and wheat bran on the colonic morphology in growing pigs. M. Nofrarías*1,2, M. Anguita2, M. Roca1,2, J. F. Pérez2, and N. Majó1,2, 1Centre de Recerca en Sanitat Animal (CReSA), Bellaterra, Spain, 2Universitat Autònoma de Barcelona, Bellaterra, Spain.


Effect of dietary antibiotics and mannan oligosaccharides on growth performance, carcass characteristics and health of growing/finishing pigs. H. Bernal-Barragán*1, E. A. Ruiz-Chávez1, E. Gutiérrez-Ornelas1, R. Ávalos-Ramírez2, M. Cervantes-Ramírez3, and F. Sánchez-Dávila1, 1Facultad de Agronomía, Universidad Autónoma de Nuevo León, Marín, Nuevo León, México, 2Fac. de Medicina Veterinaria y Zootecnia UANL, Unidad Mederos, Monterrey N.L México, 3Instituto de Ciencias Agrícolas UABC, Ejido Nuevo León, Valle de Mexicali, B.C. México.

Effect of a dry organic acid blend on lactating sow feed intake and performance. J Zhao*1, R. J Harrell1, L.L Greiner2, X Wang3, G.L Allee3, F Navarro1, and C. D Knight1, 1Novus International Inc, St. Louis, MO, 2Innovative Sow Solutions, Carthage, IL, 3University of Missouri, Columbia.

Nonruminant Nutrition
Poultry Nutrition II
Exhibit Hall C

Broiler performance and yield observed with enzyme supplementation and a corn matrix adjustment for energy. X. Sun*1, C. Troche1, A. McElroy1, J. Remus2, E. Wong1, and C. Novak1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Danisco Animal Nutrition, Carol Stream, IL.

The effect of chitosan and natural mineral complex supplementation on egg production and egg characteristic in laying hens. J. S. Yoo*1, Y. J. Chen1, J. H. Cho1, J. H. Lee2, B. C. Park2, and I. H. Kim1, 1Dankook University, Cheonan, Choongnam, Korea, 2CJ Feed Inc, Incheon, Gyeonggi, Korea.

Effects of dietary delta-aminolevulinic acid supplementation on egg production, egg quality and blood parameters in laying hens. Y. J. Chen*1, J. H. Cho1, H. J. Kim1, J. S. Yoo1, Q. Wang1, Y. Hyun2, and I. H. Kim1, 1Dankook University, Cheonan, Choongnam, Korea, 2Easy Bio System, Inc, Cheonan, Choongnam, Korea.


Fiber component type and level affect DDGS nutrient digestibility. M. K. Manangi*1, C. N. Coon1, E. E. M. Pierson2, and M. Hruby2, 1University of Arkansas, Fayetteville, 2Danisco, St. Louis, MO.

Extraction of saponins from guar meal. R. Kakani*, O. Gutierrez, A. Haq, and C. A. Bailey, Texas A&M University, Texas A&M University, College Station.

Effects of corn-, wheat-, and flax-based broiler diets with or without enzyme supplementation on proliferation of Clostridium perfringens: In vitro study. X. Wang*, G. Blank, and B. A. Slominski, University of Manitoba, Winnipeg, Canada.

T230 Use of activity staining for monitoring site of β-glucanase activity in the gastrointestinal tract of broiler chickens. A. A. Sadeghi*1 and P. Shawrang2, 1Islamic Azad University, Tehran, Iran, 2Research Center for Agriculture and Medicine, Atomic Energy Organization of Iran, Karaj, Iran.

T231 Differential developmental gene expression of nutrient transporters in the small intestine of male and female chickens from lines selected for high or low juvenile bodyweight. C. R. Miller*, P. B. Siegel, K. E. Webb, Jr., and E. A. Wong, Virginia Polytechnic Institute and State University, Blacksburg.

T232 Effect of main cereal of the diet and particle size of the cereal on productive performance and egg quality of brown laying hens in early phase of production. H. M. Safa1,2, E. Jiménez-Moreno1, B. Vicente1, R. Lázaro1, X. Arbe1, and G. G. Mateos*1, 1Universidad Politécnica de Madrid, Spain, 2Animal Production Department, Faculty of Agriculture, Cairo University, Egypt.


T234 Effects of dietary genistin on performances, organ weight and bone development in young male chicks. G. D. Kim*, J. H. Han, and K. M. Chee, Korea University, Seoul, Korea.

T235 Dietary persimmon peel powder and its tannin extract reduce the content of hepatic lipids in laying hens. C. W. Kang*1, Y. K. Shin2, S. J. You1, and B. K. An1, 1KonKuk University, Seoul, Korea, 2MK Bioscience Co. INC, Suwon, Korea.

T236 Efficacy of a bacillary probiotic in broilers. M. I. Gracia1, E. Esteve-García2, P. Cachaldora2, T. Marubashi2, E. McCartney5, and P. Medel*1, 1Imasde Agropecuaria, S.L., Pozuelo de Alarcón, Spain, 2IRTA, Constantí, Spain, 3COREN, Ourense, Spain, 4Calpis Co Ltd., Tokyo, Japan, 5Pen&Tec Consulting, Sant Cugat del Vallès, Spain.

T237 Expression profiling of the solute carrier gene family in chicken intestine. H. Li*1, E. R. Gilbert1, Y. Zhang2, O. Crasta2, D. Emmerson1, K. E. Webb Jr1, and E. A. Wong1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia Bioinformatics Institute, Blacksburg, VA, 3Aviagen, Huntsville, AL.

T238 Effects of Versazyme™ on ileal micro-architecture in young broilers as measured by histomorphometrics and scanning electronic microscopy. C. C. Chiang1, M. Chichlowski2, R. Qiu*2, J. Croom2, L. Daniel2, and J. Shihi2, 1National Chung Hsing University, Taiwan, 2North Carolina State University, Raleigh.

T239 Effect of a direct fed microbial on oxidative stress in the ileal and cecal epithelia of broilers. R. Qiu*1, C. Ojano-Dirain2, W. G. Bottje2, C. Chiang1, M. Chichlowski1, J. Croom1, L. Daniel1, and M. Koci1, 1North Carolina State University, Raleigh, 2University of Arkansas, Fayetteville, 3National Chung Hsing University, Taiwan.


T241 Bioavailability of zinc-amino acid chelates to zinc nitrate in broiler chickens. S. O. Rao*1, S. J. Park1, R. A. Samford2, and S. W. Kim1, 1Texas Tech University, Lubbock, 2Albion Advanced Nutrition, Clearfield, TX.

T242 The interactive effects of wheat middlings, citric acid, and phytase in a corn soybean meal diet on broiler growth performance. T. O’Connor-Dennie* and J. L. Emmert, University of Arkansas, Fayetteville.

T243 Performance of modern vs 1970’s heritage broilers fed drug free recommended and low protein diets. T. A. Woyengo*1, A. Golian2, W. Guenter3, C. Bennett1, and H. Muc1, 1University of Manitoba, Winnipeg, Manitoba, Canada, 2University of Ferdowsi, Mashhad, Iran, 3Manitoba Agriculture, Food and Rural Initiative, Winnipeg, Manitoba, Canada.
Effect of treatment with melengestrol acetate combined with estradiol cypionate on pregnancy rates along a 70 days breeding season in postpartum Nellore cows. R. F. G. Peres*, O. G. Sa Filho, R. L. Valarelli, and J. L. M. Vasconcelos, 1FMVZ - UNESP, Botucatu, Brazil; 2Pfizer Animal Health, Brazil.

T247

Synchronization of estrous with melengestrol acetate and estradiol cypionate in Nellore heifers and Angus dry cows.

T248

Effect of estradiol cypionate dosage (1 vs. 2 mg) on estrus detection and pregnancy rates of postpartum Nellore cows synchronized with melengestrol acetate. R. L. Valarelli*, O. G. Sa Filho, M. Meneghetti, and J. L. M. Vasconcelos, 1FMVZ - UNESP, Botucatu, Brazil; 2Pfizer Animal Health, Brazil.

T249

Effect of estradiol cypionate dosage (1 vs. 2 mg) on estrus detection and pregnancy rates of postpartum Nellore cows synchronized with melengestrol acetate. R. L. Valarelli*, O. G. Sa Filho, J. L. M. Vasconcelos, 1FMVZ - UNESP, Botucatu, Brazil; 2Pfizer Animal Health, Brazil.

T250

Pregnancy rates in a 10 days breeding season in postpartum Nellore cows treated with melengestrol acetate associated or not with estradiol cypionate. R. L. Valarelli*, O. G. Sa Filho, M. Meneghetti, and J. L. M. Vasconcelos, 1FMVZ - UNESP, Botucatu, Brazil.

T251

Fixed-time artificial insemination in replacement beef heifers after treatment with human chorionic gonadotropin (hCG), progesterone, and prostaglandin F2α. G. C. Lamb*, J. E. Larson*, C. R. Dahlen, and G. Marquezini, 1North Central Research and Outreach Center, University of Minnesota, Grand Rapids, 2Northwest Research and Outreach Center, Crookston, MN.

T252

Artificial insemination of superovulated Angus cows using sexed or conventionally frozen semen. G. C. Lamb*, B. J. Lovasa, S. L. Bird, A. Martins, J. E. Larson, J. C. Rodgers, D. J. Frank, and D. M. Williams, 1North Central Research and Outreach Center, University of Minnesota, Grand Rapids, 2ABS Global, Inc., DeForest, WI.

T253

Effect of length of treatment with melengestrol acetate (7 vs. 13 days) prior to induction of ovulation on occurrence of short cycle in anestrous Nellore cows. O. G. Sa Filho*, R. L. Valarelli, and J. L. M. Vasconcelos, 1FMVZ - UNESP, Botucatu, Brazil; 2Pfizer Animal Health, Brazil.

T254

Effect of length of exposure to exogenous progesterone (3 vs. 6 days) prior to induction of ovulation on premature luteolysis in anestrous Nellore cows. O. G. Sá Filho*, C. R. Zilioti, and J. L. M. Vasconcelos, 1FMVZ - UNESP, Botucatu, Brazil.

T255

Ovarian and hormonal responses to a progesterone releasing intravaginal device (PRID) treatment in the presence or absence of estradiol from the early luteal phase in heifers. T. Kuroiwa*, T. Tanaka, and H. Kamomae, Tokyo University of Agriculture and Technology, Fuchu, Tokyo, Japan.

T256

A stochastic model to compare breeding system costs for synchronization of estrus and AI to natural service. S.K. Johnson* and R.D. Jones, Kansas State University, Manhattan.

T257


T258


T261  Human chorionic gonadotropin (hCG) and GnRH influences pregnancy survival and resynchronized ovulation before timed AI in Holstein cattle. B. S. Buttrey*, M. G. Burns, and J. S. Stevenson, Kansas State University, Manhattan.


T263  Does synchronization protocol affect conception in lactating dairy cows? J. L. M. Vasconcelos*, R. M. Santos2, B. L. Cardoso1, F. M. Abreu1, L. H. Cruppo1, and S. Soriano1, 1FMVZ-UNESP, Botucatu, SP, Brazil, 2UF Uberlandia, MG, Brazil, 3Faz Colorado, Araras, SP, Brazil.


T265  Effect of flunixin meglumine at days 15 and 16 after TAI on pregnancy rates in lactating Holstein cows. L. F. M. Pfeifer1, M. G. Colazo3, D. J. Ambrose3,2, 1Alberta Agriculture and Food, Edmonton, AB, Canada, 2University of Alberta, Edmonton, AB, Canada, 3Select Sires Inc., Plain City, OH.

T266  Effect of GnRH administered four days after synchronization of ovulation and timed AI on fertility of anovular lactating dairy cows. R. A. Sterry*, E. Silva1, D. Kolb2, and P. M. Fricke1, University of Wisconsin-Madison, 2Lodi Veterinary Clinic, Lodi, WI.

T267  Effect of human chorionic gonadotropin or gonadotropin releasing hormone injected 5 or 7 days after 72 h Co-Synch on first service pregnancy rates in lactating dairy cows. K. L. Nebel*, J. M. DeJarnette1, D. A. Whitholck1, C. E. Marshall1, M. R. Mink2, and R. Kasimanickam2, 1Select Sires Inc., Plain City, OH, 2Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg.

T268  Effect of time of AI and supplemental estradiol on reproductive performance of dairy cows. J. Hillegass*, F. S. Lima, M. F. Sa Filho, and J. E. P. Santos, Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare.

T269  Strategies to maximize ovulation to first GnRH of Ovsynch in lactating dairy cows. N. M. Bello* and J. R. Pursley, Michigan State University, East Lansing.

T270  Pregnancy rates to timed-AI of dairy cows treated with pLH or GnRH. M. G. Colazo*, D. J. Ambrose1, and R. J. Mapleton2, 1Alberta Agriculture and Food, Edmonton, AB, Canada, 2WCVM, University of Saskatchewan, Saskatoon, SK, Canada.

T271  Prepartum feed restriction and fatty acid supplementation influence reproductive performance of dairy cows. M. G. Colazo*, D. J. Ambrose1,2, A. Hayirli2, and L. Doepel2, 1Alberta Agriculture and Food, Edmonton, AB, Canada, 2University of Alberta, Edmonton, AB, Canada.

T272  Evaluation of feed restriction and pre-synchronization in a program for estrous synchronization. P. Molina1, T. Sánchez1, O. Mejía1, J. Nuñez2, E. García2, O. D. Montañez-Valdez3, J. Cordero1, J. Peralta1, M. E. Ortega, R. Nieto1, E. Mendoza1, and R. Avila1, 1Colegio de Postgraduados, Montecillo, Estado de México, México, 2Facultad de Medicina Veterinaria y Zootecnia, UNAM, Tres Marias, Municipio de Huiztlaç, México, 3Centro Universitario de la Costa Sur de la Universidad de Guadalajara, Autlán, Jalisco, México, 4Centro Universitario del Sur de la Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México, 5Instituto Tecnológico Agropecuario No.6, Huejutla, Hidalgo, México.


T274  Ovulation and CL development in mature cows given pLH or GnRH. T. O. Ree*, J. P. Kastelic1, M. K. Dyck2, R. J. Mapleton2, and B. N. Ametaj2, 1Lakeland College, Vermilion, AB, Canada, 2University of Alberta, Edmonton, AB, Canada, 3Alberta Agriculture and Food, Edmonton, AB, Canada, 4Agriculture and Agri-food Canada, Lethbridge, AB, Canada, 5University of Saskatchewan, Saskatoon, SK, Canada.
Production, Management & the Environment - Livestock and Poultry II
Exhibit Hall C

T275  Human resource management and dairy employee organizational commitment. R. E. Stup*, The Pennsylvania State University, University Park.

T276  The amount of concentrate offered in automated milking systems does not influence the frequency of visits of dairy cattle consuming high levels of corn silage. A. Bach*, C. Iglesias, M. Devant, and A. Ferrer*, ICREA, Barcelona, Spain, IRTA-Unitat de Remugants, Barcelona, Spain, SEMEGA, Girona, Spain.

T277  Effects of dam’s dry period length on calf. M. T. Kuhn*, J. L. Hutchison, and H. D. Norman, Animal Improvement Programs Laboratory, Beltsville, MD.


T279  Body weight of Holstein heifers as measured by heart girth tape and electronic scale: A comparison. J. E. Wohlt*, C. E. Reich, and J. Ferguson, Rutgers University, New Brunswick, NJ, University of Pennsylvania, Kennett Square.

T280  Dairy farm sustainability: The economic component indicators. D. L. Laroche*, D. P. Parent, G. A. Allard, and D. P. Pelletin, Laval University, Quebec, Quebec, Canada.


T283  Effect of nitrogen intake, straw and days of storage on pH, temperature and ammonia emission from dairy cow manure. M. J. Aguerre*, M. A. Wattiaux, and T. Hunt, University of Wisconsin, Madison, University of Wisconsin, Platteville.

T284  Dairy manure estrogens with advanced treatments. Z. Zhao*, K. F. Knowlton, N. G. Love, and Y. Fang, Virginia Polytechnic Institute and State University, Blacksburg.

T285  The impact of intake water temperatures on reticular temperatures of lactating dairy cows. J. M. Bewley*, D. C. Batson, M. W. Grott, and M. M. Schutz, Purdue University, West Lafayette, IN, MaGiX Inc., Post Falls, ID.

T286  Predicting cow health and estrus status by measuring change in water intake in dairy cows. J. M. Lukas* and J. K. Reneau, University of Minnesota, St Paul.


T289  Scrotal circumference in performance tested bulls: Prediction of measures at 365 days of age from measures at 240 days of age. J. E. Decker*, P. Luna, A. M. Encinias, and M. G. Thomas, New Mexico State University, Las Cruces.

T290  Estimation of no-return costs for different cattle identification systems in California. G. Caja*, F. Haque, J. W. Oltjen, L. J. Butler, J. L. Evans, and V. J. Vealez, Universitat Autonoma de Barcelona, Bellaterra, Spain, University of California, Davis, CA, California Department of Food and Agriculture, Sacramento, CA.

Economic strategies for stocking rate and supplementation of stockers grazing rye-ryegrass pastures. F. M. Rouquette, Jr.*1, L. Ortega2, 1Texas A&M University System Agricultural Research & Extension Center, Overton, 2Agronomy Department, University of Zulia, Venezuela, Zulia, Venezuela.


Ruminant Nutrition II
Exhibit Hall C


Rumen degradation ratios: comparison of frost-damaged wheat with normal wheat. P. Yu* and V. Racz, University of Saskatchewan, Saskatoon, SK, Canada.

Available protein, structural and non-structural carbohydrates: comparison of frost-damaged wheat with normal wheat. P. Yu* and V. Racz, University of Saskatchewan, Saskatoon, SK, Canada.

Modelling nutrient supply to dairy cattle from normal and frozen sheat: Comparison of the National Research Council-2001 model with the DVE/OEB system. P. Yu*, R. Racz, and J. McKinnon, University of Saskatchewan, Saskatoon, SK, Canada.

Feed values of barley varieties could be determined using in vitro gas production technique. M. Rinne1, S. Ahvenjärvi1, M. Holma2, and P. Huhtanen*1,3, 1MTT Agrifood Research Finland, Jokioinen, Finland, 2Raisio Ltd., Raisio, Finland, 3Cornell University, Cornell, NY.

Effect of an exogenous fibrolytic enzyme on in vivo digestibility of King grass hay. J. H. Avellaneda-Cevallos*, G. Quintana-Zamora1, F. Espinoza-Torrico1, O. Montañez-Valdez2, I. Espinoza-Guerra1, R. Luna-Murillo1, S. González-Muñoz2, and J. Tuárez-Cobeña1, 1Facultad de Ciencias Pecuarias, Unidad de Investigación Científica y Tecnológica, Universidad Técnica Estatal de Quevedo, Quevedo, Los Ríos, Ecuador, 2División de Bienestar y Desarrollo Regional, Departamento de Desarrollo Regional, Universidad de Guadalajara, Ciudad Guzmán, Municipio de Zapotlán, Jalisco, México, 3Colegio de Postgraduados, Texcoco, Estado de México, México.


Effects of yeast and type of starch on pH fluctuation, nutrient digestion and microbial fermentation in a dual flow continuous culture system. D. Moya*, S. Calsamiglia, A. Ferret, and M. C. Fuentes, Universitat Autonoma de Barcelona, Barcelona, Spain.

Screening for the effects of commercial additives at two pH levels on in vitro rumen microbial fermentation of a high-concentrate beef cattle diet. D. Moya*, S. Calsamiglia, A. Ferret, and J. I. Fandiño, Universitat Autonoma de Barcelona, Barcelona, Spain.


Effects of exogenous amylase from Bacillus licheniformis on sheep performance and starch digestion. M. M. Crosby1, G. D. Mendoza*2, L. M. Melgoza2, J. R. Barcena1, and F. X. Plata2, 1Colegio de Postgraduados, Montecillo, Mexico, Mexico, 2Universidad Autonoma Metropolitana Xochimilco, Mexico, D.F., Mexico.

Effect of feeding Fermenten® on rumen fermentation in cows fed different concentrations of sucrose. G. B. Penner*1, L. L. Guan1, K. A. Beauchemin2, and M. Oba1, 1University of Alberta, Edmonton, Alberta, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada.

Influence of encapsulation of ascorbic acid to fermentation by rumen bacteria, in vitro. J. E. Garrett*, G. Oenga1, A. Tayal1, and T. M. Webster1, 1Balchem Corporation, New Hampton, NY, 2West Virginia University, Morgantown.
T309 Quantification of Streptococcus bovis and Megasphaera elsdonii in ruminal fluid of dairy cows and beef heifers by real time PCR technique. M. Blanch*, S. Calsamiglia, and A. Castello, Universitat Autonoma de Barcelona, Spain.

T310 The effect of heat stress on rumen microbial composition analyzed by sequence-specific rRNA cleavage method. Y. Uyeno*1,2, Y. Sekiguchi1, K. Tajima2, A. Takenaka2, M. Kurihara1, and Y. Kamagata1, 1National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, 2National Institute of Livestock and Grassland Science, Tsukuba, Japan, 3National Federation of Dairy Co-operative Associations, Tokyo, Japan.

T311 Application of carbohydrate inhibitors to moderate rumen fermentation: Continuous culture evaluation. S. M. Speight*1, D. L. Harmon1, and J. M. Tricarico1, 1University of Kentucky, Lexington, 2Alltech Biotechnology, Nicholasville, KY.

T312 Efficacy of Prevotella bryantii 25A and a mixture of Enterococcus faecium and Saccharomyces cerevisiae to control sub-clinical acidosis in dairy cows. J. Chiquette*1, M. J. Allison2, and M. A. Rasmussen1, Dairy and Swine Research and Development Centre, Lennoxville, Quebec, Canada, 2Iowa State University, Ames, 3SarTec Corporation, Anoka, MN.

T313 Differential effects of supplying reductant as hydrogen, formate or a combination of these on the methane-inhibiting activity of select nitrocompounds in vitro. N. A. Kruegar*, R. C. Anderson, T. R. Callaway, T. S. Edrington, R. B. Harvey, and D. J. Nisbet, USDA/ARS, Food & feed Safety Research Unit, College Station, TX.

T314 Effect of level of dietary malic acid supplementation on rumen methanogenesis and fermentation in beef cattle. P. Foley, J. Callan, D. Kenny*, T. Boland, and F. O’Marra, University College Dublin, Dublin Ireland.


T316 Profiling energy substrate metabolism in isolated rumen epithelial and duodenal mucosal cells from beef cattle. S. W. El-Kadi*, J. Callan, D. Kenny*, T. Boland, and F. O’Mara, University College Dublin, Dublin Ireland.

T317 Rumen wall morphology and the change in bovine rumen absorptive capacity induced by varying digesta volume and pH. L. Q. Melo, F. Lopes, M. N. Pereira*, M. C. Guerreiro, S. F. Costa, and J. C. Resende Júnior, Universidade Federal de Lavras.


T321 Effect of hybrid (high starch content vs. high NDF digestibility) and maturity of corn silage on dairy cow performance. R.L.G. Zom*, H.A. van Schooten1, and H. van Laar2, 1Natreco Ruminant Research Centre, Boxmeer, Netherlands, 2University ofGuelph Ruminant Research Centre, Lelystad, Netherlands.


T325 Effect of alfalfa silage storage structure and roasting corn on production and ruminal metabolism of lactating dairy cows. S. J. Krizsan*1, G. A. Broderick2, R. E. Muck2, C. Promkot3, S. Colombini4, and Å. T. Randby1, 1Norwegian University of Life Sciences, Ås, Norway, 2US Dairy Forage Research Center, Madison, WI, 3Khon Kaen University, Khon Kaen, Thailand, 4University of Milano, Milano, Italy.
T326 Changes in fermentation end products and the use of real-time quantitative PCR to monitor the dynamics of Lactobacillus buchneri in alfalfa silage. R. J. Schmidt*, J. A. Mills, W. Hu, C. M. Klingerma, E. E. McDonell, and L. Kung Jr., University of Delaware, Newark.

T327 Effect of feeding corn silage based diets deficient in either predicted ruminal nitrogen or metabolizable protein on nitrogen utilization and efficiency. E. B. Recktenwald*, D. A. Ross, and M. E. Van Amburg, Cornell University, Ithaca, NY.


T329 Continuous culture fermentation of a corn silage-based total mixed ration with additional forage from pasture. R. E. Vibart*, V. Fellner, and S. J. McLeod, North Carolina State University, Raleigh.


T331 Variability in total mixed ration neutral-detergent fiber analysis among commercial laboratories. A. N. Hristov*1, S. Zaman1, M. Vander Pol1, W. J. Price1, and D. Mertens2, University of Idaho, Moscow, 1U.S. Dairy Forage Research Center, Madison, WI.

T332 Nutritional quality of sugar cane treated with calcium oxide. A. W. P. Freitas*1, F. C. Rocha2, J. L. Fagundes3, and R. Fonseca2, 1APTA Regional, Adamantina, São Paulo, Brazil, 2Unesp - Dracena, Dracena, São Paulo, Brazil.

T333 Effects of increasing level of corn distiller’s dried grains plus solubles on in situ disappearance in steers offered medium-quality grass hay. J. L. Leupp*, G. P. Lardy, and J. S. Caton, North Dakota State University, Fargo.

T334 Evaluation of corn and soybean co-products in beef cattle finishing diets. P. M. Walker*1, D. Adams1, and L. A. Forster2, 1Illinois State University, Normal, 2Archers Daniels Midland Co., Decatur, IL.

T335 Effects of dietary fat concentration and wet sorghum distiller’s grains plus solubles on feedlot performance and carcass characteristics of finishing heifers. J. C. Silva*1, N. A. Cole2, M. S. Brown1, D. L. Mitchell1, C. H. Fonse1, and D. R. Smith1, 1West Texas A&M, Canyon, USDA ARS CPRL, Bushland, TX.

T336 Using high-lysine proteins to supplement diets based on dried distillers grains with solubles did not improve lactation performance. E. A. French*, M. He, and L. E. Armentano, University of Wisconsin, Madison.


T338 Variation over one year of nutrient content of wet brewers grains from a commercial brewery. J. E. Wohlt*, M. L. Westendorf, Rutgers University, New Brunswick, NJ.

T339 The effect of feeding dried distillers grains plus solubles to lactating dairy cows on milk production and excretion of urinary purine derivatives. B. N. Janicek1*, P. J. Kononoff1, A. M. Gehman1, and P. H. Doane2, 1University of Nebraska, Lincoln, 2ADM Animal Nutrition Research, Decatur, IN.


T341 Performance of dairy cows fed glycerol as a primary feed ingredient. S. S. Donkin*, M. R. Pallatin1, P. H. Doane2, M. J. Cecava1, H. M. White1, E. Barnes1, and S. L. Koser1, Purdue University, West Lafayette, IN, 2ADM Animal Nutrition Research, Decatur, IN.

T342 Evaluation of protein fractionation and ruminal and intestinal digestibility of corn milling co-products. J. M. Kelzer*1, P. J. Kononoff1, K. Karges2, and M. L. Gibson2, 1University of Nebraska, Lincoln, 2Dakota Gold Research Association, Sioux Falls, SD.

T343 Evaluation of ruminal fermentability of corn milling co-products using in vitro gas production. P. J. Kononoff*1, L. O. Tedeschi2, M. L. Chizzotti2, J. M. Kelzer1, K. Karges2, and M. L. Gibson1, 1University of Nebraska, Lincoln, 2Texas A & M University, College Station, 3Dakota Gold Research Association, Sioux Falls, SD.


Effects of alcohol-fermented feedstuff supplemented with chitoooligosaccharide on growth performance, blood metabolites and meat composition of Korean steers. B. K. Park1, I. S. Yuh2, S. K. Hwang2, B. J. Hong2, and J. S. Shin3, 1National Livestock Research Institute, Rural Development Administration, Pyeongchang, Korea, 2College of Animal Life Sciences, Kangwon National University, Chuncheon, Korea.


Effect of feeding system on lactation characteristics and milk components in dairy cattle. M.-C. Ferland4, D. Lefebvre2, and J. E. Garrett2, and J. E. P. Santos1, 1Minnesota Northwest Research & Outreach Center, Crookston, MN, 2University of Minnesota, St. Paul, 3University of Minnesota Northwest Research & Outreach Center, Crookston.


Interrelationships of dietary supplies of choline and methionine on productive performance of Holstein dairy cows. F. Abeni1, M. Speroni1, M. G. Terzano2, L. Migliorati1, P. Cavassini1, and G. Pirlo*1, 1CRA Istituto Sperimentale per la Zootecnia, Cremona, Italy, 2CRA Istituto Sperimentale per la Zootecnia, Roma Monterotondo, Italy, 3Ascot Chimici s.r.l, Bertinoro, Italy.


Effects of feeding rumen-protected choline (RPC) on health and reproduction of dairy cows. F. S. Lima*1, M. F. Sa Filho1, 1Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare, 2Balchem Corporation, Animal Health & Nutrition, New Hampton, NY.

Field studies adding dl-methionine hydroxy analogue calcium to lactation cow rations. D. Nuzback*, G. Bowen1, R. Anderson1, M. Vazquez-Anon1, and M. Hutjens2, 1Novus International, St.Louis, MO, 2University of Illinois, Urbana.

Influence of dietary protein on growth, fluoride kinetics and radiology of long bones of crossbred calves exposed to high fluoride diets. J. D. Lohakare*, A. K. Pattanaik2, and S. A. Khan2, 1University of Bonn, Bonn, Germany, 2Indian Veterinary Research Institute, Izatnagar, India.

Organic selenium (Sel-Plex®) improves selenium content in milk and cheese of dairy goats. G. Caja*, C. Flores1, A. A. K. Salama1, J. Saldo1, and G. Bertin2, 1Universitat Autonoma de Barcelona, Bellaterra, Spain, 2Alltech France, Levallois-Perret, France.


Influence of chromium supplementation during growing period on performance of Brahman cross bull calves. R. Barajas*, E. A. Velazquez2, B. J. Cervantes2, F. Juarez1, and J. A. Romo1, 1FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico, 2Ganadera Los Migueles SA de CV, Culiacan, Sinaloa, Mexico.
T362 Effects of potassium, alcoholic diet and Vitamin E to minimize transport stress in Korean steers. J. S. Shin*1, B. Y. Choi1, H. Kim1, C. S. Ra1, B. J. Hong1, J. S. Oh1, and B. K. Park2, 1College of Animal Life Sciences, Kangwon National University, Chuncheon, Korea, 2National Livestock Research Institute, Rural Development Administration, Pyeongchang, Korea.

T363 The effects of maternal natural source Vitamin E supplementation on suckling calf immune function. M. Richardson*1, S. Lake1, P. Gunn1, S. Eicher2, R. Lemenager2, and N. Pyatt1, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN, 3ADMI-Antimal Nutrition Research, Decatur, IN.


T366 Effect of growth-rate on fat-soluble vitamin, copper and zinc concentrations in the circulation of neonatal calves. B. J. Nonnecke*1, M. R. Foote2, R. L. Horst1, W. R. Waters1, B. L. Miller1, T. E. Johnson3, and M. Fowler1, 1National Animal Disease Center, Ames, IA, 2Iowa State University, Ames, 3Land O' Lakes Research Farm, Webster City, IA.

T367 Effects of an injectable chelated mineral supplement on dairy calf performance. J. R. Crenwelge*1, T. D. Nennich2, B. D. Lambert1, N. M. Cherry2, and E. R. Jordan1, 1Tarleton State University, Stephenville, TX, 2Texas A&M University, Stephenville, Texas, 3Texas A&M University, Dallas.


T369 Effects of trace mineral sources on bioavailability and function in dairy cattle. B. J. Thering*1, R. M. Ehrhardt1, M. Vazquez-Anon1, J. D. Richards2, and T. R. Overton1, 1Cornell University, Ithaca, NY, 2Novus International, St. Louis, MO.


T372 Changes in phosphorus metabolism of ruminants fed with different cation anion balances and proportions of roughage and concentrate. M. S. V. Salles1, M. A. Zanetti2, T. M. Ribeiro2, and S. F. M. Bonilha*1, 1Agência Paulista de Tecnologia dos Agronegócios, Assis, São Paulo, Brazil, 2Faculdade de Zootecnia e Engenharia de Alimentos - USP, Pirassununga, São Paulo, Brazil.

T373 Effect of anion supplementation to low potassium prepartum diets on macromineral status and performance of periparturient dairy cows. J. M. Ramos-Nieves*1, B. J. Thering1, P. W. Jardon2, and T. R. Overton1, 1Cornell University, Ithaca, NY, 2West Central®, Ralston, IA.


T375 Effects of maternal nutrition and selenium supply on visceral organ mass of pregnant ewe lambs. J. J. Reed*1, T. L. Neville1, K. A. Vonnahe1, P. P. Borowicz3, B. Taylor2, D. A. Redmer1, J. S. Luther1, C. J. Hammer1, L. P. Reynolds1, and J. S. Caton1, 1Center for Nutrition and Pregnancy, Animal and Range Science Department, North Dakota State University, Fargo, 2USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID.
9:30 AM  377  Cross ventilation in commercial livestock trailers shows promise for improving comfort, reducing weight loss and reducing environmental contaminants. T. H. Friend*, N. M. Giguere, and P. D. Krawczel, Texas A&M University, College Station.

9:45 AM  378  Genetic basis of different effects of chronic intermittent social stress on immune function and survivability in laying hens. A. G. Fahey*1,2, R. M. Marchant-Forde2, and H. W. Cheng2, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN.

10:00 AM  379  Different effects of individual identification systems on chicken well-being. R. L. Dennis*1,2, A. G. Fahey1,2, and H. W. Cheng1, 1Livestock Behavior Research Unit, USDA-ARS, West Lafayette, IN, 2Purdue University, West Lafayette, IN.


10:45 AM   Break

11:00 AM  382  Movements of translocated desert mule deer in Sierra del Carmen, Coahuila, Mexico. J. L. Martinez* and L. A. Harveson, Sul Ross State University, Alpine, TX.


11:30 AM  384  Effects of pre-weaning strategies on blood metabolites, behavior, and performance of beef calves. H. T. Boland*, G. Scaglia1, W. S. Swecker, Jr.2, and N. C. Burke2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg.

11:45 AM  385  Effect of stocking density on cow comfort indices. P. D. Krawczel*1,2, H. M. Dann1, C. S. Ballard1, and R. J. Grant1, 1W.H. Miner Agricultural Research Institute, Chazy, NY, 2The University of Vermont, Burlington.

12:00 PM  386  Space requirements of weaned pigs during transportation. M. A. Sutherland*, N. Krebs, L. E. Hulbert, J. S. Smith, and J. J. McGlone, Texas Tech University, Lubbock.


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**Animal Health - Livestock and Poultry**

**Bovine I**

**Chair: Heather Dann, William H. Miner Agriculture Research Institute**

**Sponsor: Pfizer Animal Health**

**217 C**

9:30 AM  388  Prediction of degree of mastitis from repeated measurements of lactate dehydrogenase (LDH) in milk. N. C. Friggens*, M. G. G. Chagunda1, M. Bjerring1, C. Ridder2, S. Højsgaard1, and T. Larsen1, 1University of Aarhus, Faculty of Agricultural Sciences, Denmark, 2Lattec I/S, Hillerød, Denmark.


Multiplex PCR system for the detection of mastitis-causing pathogens. J. M. St-Pierre*, C. Thibault, and N. Bissonnette, *Agriculture and Agri-Food Canada, Sherbrooke, Quebec, Canada.*

Efficacy of treatment protocols for Gram negative and no growth clinical mastitis in dairy cattle. J. R. Wenz*, *Washington State University, Pullman.*


**Beef Species I**

**Chair: Don Franke, Louisiana State University**

**212**

Post-weaning growth performance of heifers grazing Tasmanian native pastures and the estimation of inbreeding levels using random amplified polymorphic DNA markers. A. E. O. Malau-Aduli*1 and M. Dunbabin2, 1*University of Tasmania, Hobart, Tasmania, Australia, 2'Bangor', Dunalley, Tasmania, Australia.*


Effect of an artificial sweetener and yeast product combination on immune function measurements, growth performance, and carcass characteristics of beef heifers. R. R. Reuter*1,2, J. A. Carroll2, M. S. Brown3, N. E. Forsberg4, Y.-Q. Wang5, R. Mock6, J. D. Chapman7, and M. L. Galyean8, 1*Texas Tech University, Lubbock, 2USDA-ARS Livestock Issues Research Unit, Lubbock, TX, 3West Texas A&M University, Canyon, 4Oregon State University, Corvallis, 5Texas Veterinary Medical Diagnostic Laboratories, Amarillo, TX, 6Prince Agri-Products, Quincy, IL.*
Evaluation of the effects of two commercially available modified live vaccines for bovine respiratory disease complex on naïve beef steers. W. J. Horne1, K. S. Barling2, A. D. Herring1, D. K. Lunt1,3, A. Thomas2, and J. E. Sawyer1, 1Texas A&M University Department of Animal Science, College Station, TX, 2Novartis Animal Health US, Inc, Larchwood, IA, 3McGregor Agricultural Research Center, McGregor, TX.

Break


Breeding and Genetics - Livestock and Poultry
Analyses and Methods I
Chair: Eugenia Cienfuegos-Rivas, Universidad Autonoma de Tamaulipas

Using epidemiological models and genetic selection to identify theoretical opportunities to reduce disease impact. G. D. Snowder*, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.

Assessment of different selective phenotyping design strategies for genetical genomics studies with outbred F2 populations. F. F. Cardoso1,2, J. P. Steibel1, G. J. M. Rosa3, C. W. Ernst1, R. O. Bates1, and R. J. Tempelman1, 1Michigan State University, East Lansing, 2Embrapa Pecuária Sul, Bagé, RS, Brazil, 3University of Wisconsin, Madison.

Different methods of selecting animals for genotyping to maximize the amount of genetic information known in the population. M. L. Spangler1, R. L. Sapp2, J. K. Bertrand1, M. D. MacNeil3, and R. Rekaya1, 1University of Georgia, Athens, 2USDA-ARS Fort Keogh Livestock and Range Research Laboratory, Miles City, MT.


Methods to explain genomic estimates of breeding value. P. M. VanRadens and M. E. Tooker*, Animal Improvement Programs Laboratory, USDA, Beltsville, MD.

Efficient estimation of breeding values from dense genomic data. P. M. VanRadens, Animal Improvement Programs Laboratory, USDA, Beltsville, MD.

Recursive algorithm to compute inbreeding coefficients assuming non-zero inbreeding of unknown parents. I. Aguilars and I. Misztal, University of Georgia, Athens.

A social competitive model with the categorical expression. I. Misztal and R. Rekaya*, University of Georgia, Athens.
Comparison of two methods for computing approximated accuracies for growth traits in random regression models. J. P. Sanchez*1,2, I. Misztal1, and J. K. Bertrand1, 1University of Georgia, Athens, 2University of Leon, Leon, Spain.

Equivalent mixed model equations for genomic selection. D. J. Garrick*, Colorado State University, Fort Collins.

Detection and use of single gene effects in large animal populations. N. Gengler*1,2, S. Abras1, M. Szydlowski1, and R. Renaville1, 1Gembloux Agricultural University, Gembloux, Belgium, 2National Fund for Scientific Research, Brussels, Belgium.

SYMPOSIUM
Breeding and Genetics - Livestock and Poultry
New Challenges and Opportunities From Automation of Animal Data Recording
Chairs: Filippo Miglior, Agriculture and Agri-Food Canada, and Marj Faust, ABS Global
Sponsor: Newsham Genetics
214 B

9:30 AM  Introduction – Automation and Animal Data Recording. M. Faust1 and F. Miglior2, 1ABS Global, 2Agriculture and Agri-Food Canada.

9:35 AM  Current and near term technologies for automated recording of animal data for precision dairy farming. G. Katz*, 1A. Arazi1, N. Pinsky1, I. Halachmi1, Z. Schmilovitz1, E. Aizinbud1, 2E. Maltz2, 2SAE Afimilk, Kibbutz Afikim, Israel, 2Institute of Agricultural Engineering, Agricultural Research Organization - The Volcani Center, Bet Dagan, Israel.

10:15 AM  Thriving in a declining market – the new service paradigm for DHI’s. N. Petreny*, CanWest Dairy Herd Improvement, Guelph, Ontario, Canada.

10:55 AM  Harnessing automatic data collection to enhance genetic improvement programs. G. R. Wiggans*, 1M. A. Faust2, and F. Miglior*4, 1Agricultural Research Service, USDA, Beltsville, MD, 2ABS Global, Inc., Deforest, WI, 3Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 4Canadian Dairy Network, Guelph, ON, Canada.


12:15 PM   Panel Discussion.

Egg and Meat Science and Muscle Biology - Livestock and Poultry I
Chair: Chance Brooks, Texas Tech University
207 B

9:30 AM  Optimal number of replications for the Meullenet-Owens-Razor-Shear (MORS) and tenderness variations between right and left broiler breast fillets. Y. S. Lee*, A Saha, C. M. Owens, and J. F. Meullenet, University of Arkansas.

9:45 AM  Carbon monoxide in MAP chicken breast fillets and drums as a food safety intervention to reduce pathogen loads and extend shelf-life. A. M. Lopez*, G. Poullier2, A. M. Luna1, C. Z. Alvarado1, L. D. Thompson1, M. M. Brashears1, and J. C. Brooks1, 1Texas Tech University, Lubbock, 2Toulouse University, Toulouse, France.

10:00 AM  Quality of shell eggs stored under modified atmosphere packaging using gas mixtures containing CO and CO2. D. Aggarwal*, C. Alvarado, C. Brooks, D. Wester, A. Tittor, A. M. Luna, and L. Thompson, Texas Tech University, Lubbock.


10:45 AM 428 Fatty acid composition of the gestation and lactation diet affects the fatty acid composition of the backfat of the progeny. G. Bee*, Agroscope Liebefeld-Posieux, Research Station (ALP), Posieux, Switzerland.

11:00 AM 429 Comparison of vitelline membrane strength amongst breeds of commercial layers. D. R. Jones1 and K. E. Anderson*2, 1USDA, Agricultural Research Service, Egg Safety and Quality Research Unit, Athens, GA, 2Department of Poultry Science, North Carolina State University, Raleigh.

11:15 AM 430 Postmortem sarcomere length characterization between Psoas major and Longissimus dorsi muscles in cattle. I. Zapata*, M. Yamaguchi1, J. Wakamatsu2, A. Hattori2, and M. Wick1, The Ohio State University, Columbus, Hokkaido University, Sapporo, Japan.

11:30 AM 431 Cholesterol quantification in meat and meat products. T. T. N. Dinh*, L. D. Thompson1, J. C. Brooks1, M. F. Miller1, and J. R. Blanton, Jr.2, 1Texas Tech University, Lubbock, 2Intervet Inc., Millsboro, DE.


12:00 PM 433 MSTN regulates IGF-2 but not IGF-1 expression during myogenesis of cattle. M. Miyake*, S. Hayashi, Y. Imai, K. Watanabe, S. Ohwada, H. Aso, and T. Yamaguchi, Tohoku University, Sendai, Japan.


Food Safety - Livestock and Poultry
Poultry
Chair: Brian W. Sheldon, North Carolina State University
206 A


9:45 AM 436 Effect of OcraTox on the performance and egg quality of laying hens exposed to Ochratoxin A. M. Denli*, J. C. Blandon1, M. E. Guynot1, S. Salado2, and J. F. Perez1, Universitat Autonoma de Barcelona, Barcelona, Spain, 2AdiVeter, Agro-Reus, Tarragona, Spain.

10:00 AM 437 Partitioning of external and internal bacteria carried by broiler chickens before processing. J. A. Cason*, A. Hinton, Jr., J. K. Northcutt, R. J. Buhr, K. D. Ingram, D. P. Smith, and N. A. Cox, Russell Research Center, Athens, GA.

10:15 AM 438 Campylobacter colonization is reduced and gastrointestinal architecture is altered in turkey pouls fed bacteriocins. I. Reyes-Herrera*, K. Cole1, F. Solis de los Santos1, A. M. Donoghue2, N. J. Stern3, E. A. Svetoch4, B. N. Eruslanov4, V. V. Perelygin4, E. V. Mitsevich4, I. P. Mitsevich4, V. P. Levchuk4, M. B. Farnell5, P. J. Blore1, and D. J. Donoghue1, University of Arkansas, Fayetteville, PPSSRU, ARS, USDA, Fayetteville, AR, 3PMSRU, ARS, USDA, Russell Research Center, Athens, GA, 4State Research Center for Applied Microbiology, Obolensk, Russian Federation.


11:00 AM 441 Numbers of bacteria recovered from broiler carcasses and chiller water treated with hypochlorous and carbonic acids. J. K. Northcutt¹, R. I. Huezo², K. D. Ingram¹, D. P. Smith¹, A. Hinton, Jr.¹, and J. A. Cason¹, ¹USDA-Agriculture Research Service, Athens, GA, ²The University of Georgia, Athens.

11:15 AM 442 Effect of time and sand abrasion on recovery of aerobic bacteria, Escherichia coli, and coliforms from broiler carcasses. J. F. Hannah², N. A. Cox³, D. P. Smith¹, J. A. Cason¹, D. L. Fletcher¹, J. K. Northcutt², R. J. Buhr², and L. J. Richardson³, ¹University of Georgia, Athens, ²USDA-ARS, Russell Research Center, Athens, GA, ³University of Connecticut, Storrs.


11:45 AM 444 Reduction of Salmonella in whole and ground turkey meat at refrigerated and elevated temperatures using lactic acid bacteria. J. Johnson*, C. Z. Alvarado, and M. M. Brashears, Texas Tech University, Lubbock, TX.


12:15 PM 446 Effects of blood in egg albumen on Salmonella survival and growth. D. P. Smith* and M. T. Musgrove, USDA, Agricultural Research Service, Athens, GA.

SYMPOSIUM

Forages and Pastures - Livestock and Poultry

Understanding Diet Selection in Temperate Biodiverse Pasture Systems

Chairs: Kathy Soder, USDA-ARS, Pasture Systems and Watershed Management Research Unit and Guillermo Scaglia, Virginia Polytechnic Institute and State University

214 C


10:15 AM 448 Genetic control of dietary choice in farm animals: A combination of nature and nurture. R. M. Lewis¹ and G. C. Emmans², ¹Virginia Polytechnic Institute and State University, Blacksburg, ²Scottish Agricultural College, Edinburgh, Scotland, UK.

10:45 AM 449 Learning and dietary choice. J. J. Villalba*, Utah State University, Logan.

11:15 AM 450 Forage factors and dietary choice. D. F. Chapman*, A. J. Parsons², J. Hill¹, and K. Venning¹, ¹University of Melbourne, Melbourne, Victoria, Australia, ²AgResearch, Palmerston North, New Zealand.

11:45 AM 451 New approaches to grazing effects on pasture composition and productivity. E. A. Laca*, Plant Sciences, University of California, Davis.

12:15 PM Discussion.
SYMPOSIUM
Goat Species
Nutrient Requirement of Goats
Chair: Sandra Solaiman, Tuskegee University
Sponsor: AMPA
207 A


10:00 AM 453  Energy and protein requirements of goats. M. Huerta Bravo*, Universidad Autónoma Chapingo, Chapingo, México.

10:45 AM 454  Vitamin requirements of goats. B. W. Hess*, University of Wyoming, Laramie.

11:15 AM 455  Revised guidelines for mineral requirements of goats. S. G. Solaiman*, Tuskegee University, Tuskegee, AL.

Growth and Development - Livestock and Poultry I
Chair: Jesse Grimes, North Carolina State
202

9:30 AM 456  Specie and age effects on IGF mRNA expression in the amniotic and allantoic membranes and jejunum of developing avian species. D. M. Karcher* and T. J. Applegate, Purdue University, West Lafayette, IN.

9:45 AM 457  The role of glypican-1 glycosaminoglycan chains in myogenic satellite cell proliferation, differentiation, and fibroblast growth factor 2 responsiveness. X. Zhang*, C. Liu, K. E. Nestor, D. C. McFarland, and S. G. Velleman, Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, South Dakota State University, Brookings.

10:00 AM 458  Reduction in cell responsiveness to transforming growth factor-beta by decorin overexpression increases satellite cell proliferation and differentiation. X. Li*, D. C. McFarland, and S. G. Velleman, Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, South Dakota State University, Brookings.

10:15 AM 459  Bone mineralization in four Cobb pedigree lines of meat-type chickens. P. Talaty*, M. N. Katanbaf, and P. Y. Hester, Purdue University, West Lafayette, IN, Cobb-Vantress, Inc., Monticello, KY.

10:30 AM 460  Identification of two novel chicken growth hormone-releasing hormone receptor (GHRHR) splice variants: Implications for the role of Asparagine residue (Asp^665) in receptor activation and direct ligand-receptor interaction. C. Y. Wang*, Y. Wang, A. H. Y. Kwok, and F. C. Leung, The University of Hong Kong, Hong Kong, HK-SAR, China.

10:45 AM 461  Feed restriction alters the temporal expression of skeletal fast myosin isoforms in the breast muscle of diverse lines of turkeys. K. M. Huffman*, J. M. Reddish, M. S. Lilburn, and M. Wick, The Ohio State University, Columbus.


Immunology - Livestock and Poultry II
Chair: Kimberly N. Novak, Agtech Products, Inc.
203

9:30 AM 464 Effects of maternal nutrition and selenium supplementation on absorption of IgG and survival of lambs. C. J. Hammer*1, K. A. Vonnahme1, J. B. Taylor*, D. A. Redmer1, J. S. Luther1, T. L. Neville1, J. J. Reed1, J. S. Caton1, and L. P. Reynolds1, 1North Dakota State University, Fargo, 2USDA-ARS, U.S. Sheep Experiment Station, Dubois, ID.

9:45 AM 465 Effect of supplementation with a Bacillus-based direct-fed microbial on immune development of dairy calves. K. Novak*1, E. Davis1, C. Welnes1, T. Rehberger1, D. Shields2, and J. Coalson2, 1Agtech Products, Inc., Waukesha, WI, 2Merrick’s, Inc., Union Center, WI.

10:00 AM 466 Effects of an immunostimulatory feed additive on neutrophil function and development of titer in ruminant livestock. N. E. Forsberg*1,1, Y. Wang1, S. Puntenney1, and J. Burton2, 1Oregon State University, Corvallis, 2Michigan State University, East Lansing, 3Omnigen Research, Corvallis, OR.


10:30 AM 468 Growth performance and immunocompetence of heat stressed broilers fed different sources of dietary fatty acids. M. O. Smith*1 and J. R. Bartlett2, 1University of Tennessee, Knoxville, 2Tuskegee University, Tuskegee, AL.

10:45 AM 469 Immunopathology and cytokine responses in broiler chickens coinfected with eimeria maxima and clostridium perfringens using an animal model of necrotic enteritis. H. S. Lillehoj*1,1, S. S. Park1, P. C. Allen1, S. FitzCoy2, and D. A. Bautista3, 1US. Department of Agriculture-ARS, Beltsville, MD, 2Schering-Plough Animal Health, Millsboro, DE, 3University of Delaware, Georgetown.

11:00 AM 470 Intestinal cytokine responses to Salmonella enterica serovar typhimurium infection in young chicks. Y. O. Fasina*1, P. S. Holt1, E. T. Moran1, R. W. Moore2, D. E. Conner1, and S. R. Mckee1, 1Auburn University, Auburn, AL, 2USDA-ARS Egg Safety & Quality Research Unit, Athens, GA.

11:15 AM 471 Comparative expression of activin receptor type IIb in bovine peripheral blood mononuclear cells. S. Tanaka*, S. Hayashi, Y. Takaia, M. Miyake, K. Watanabe, S. Ohwada, H. Aso, and T. Yamaguchi, Laboratory of Functional Morphology, Graduate School of Agricultural Science, Tohoku University, Sendai, Japan.

SYMPOSIUM
Joint National Extension Workshop
Accountability Issues in Extension: Identifying, Measuring and Reporting Impacts
Chair: Tennille Knezacek, University of Saskatchewan
Sponsors: Ajinomoto Co., Inc. and Ajinomoto Heartland LLC
206 B


9:45 AM 473 Accountability for administrators—impacts with impact. B. D. Moser*, The Ohio State University, Columbus, OH.

10:15 AM 474 How to lessen the pain of reporting: multiple uses for the same information. J. Carey, Texas A&M University, College Station.

10:45 AM 474 What information do I need to keep Extension funded? J. C. Wade*, National Association of State Colleges and Land Grant Universities, Washington, DC.

11:15 AM 475 How plans of work and annual reports are used at the federal level. B. Hewitt*, Cooperative State Research Education Extension Service.
### SYMPOSIUM
#### Nonruminant Nutrition
**Lessons and Logistics of Application of Digestible Amino Acids in Diet Formulation**
**Chair: Todd Applegate, Purdue University**

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>9:30 AM</td>
<td>476</td>
<td>Amino acid digestibility measurements of feedstuffs – Lessons from poultry studies</td>
<td>V. Ravindran*1 and W. L. Bryden2, 1 Massey University, Palmerston North, New Zealand, 2 University of Queensland, Gatton, Australia.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>477</td>
<td>Methodology for endogenous flow estimates for standardization of digestible amino acids</td>
<td>S. A. Adedokun*1, O. Adeola1, C. M. Parsons2, M. S. Lilburn3, and T. J. Applegate1, 1 Purdue University, West Lafayette, IN, 2 University of Illinois, Urbana/Campaign, 3 The Ohio State University, OARDC Wooster.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>478</td>
<td>Ileal digestibility of amino acids: Lessons from pig studies</td>
<td>O. Adeola*, Purdue University, West Lafayette, IN.</td>
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<tr>
<td>11:45 AM</td>
<td>479</td>
<td>Digestible amino acid formulation of poultry feeds; practical considerations</td>
<td>D. J. Burnham*, Aviagen, Inc, Huntsville, AL.</td>
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#### Nonruminant Nutrition
**Poultry Nutrition - Enzymes, Feeds, Feed Ingredients, and Manufacturing**
**Chair: Amy Batal, University of Georgia**

<table>
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<th>Time</th>
<th>Session</th>
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<tr>
<td>9:30 AM</td>
<td>480</td>
<td>Influence of prepress solvent extracted cottonseed meal supplemented with exogenous enzyme and digestible lysine on performance, digestibility, carcass and immunity responses of broilers chickens</td>
<td>T. Mushtaq*1, M. Sarwar1, G. Ahmad1,2, M. A. Mirza1, and U. Noreen1, 1 University of Agriculture, Faisalabad, Pakistan, 2 Shamim Feed Industries, Bahawalpur, Pakistan.</td>
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<tr>
<td>9:45 AM</td>
<td>481</td>
<td>Growth, carcass accretion and nutrient retention of broiler chicks receiving phytate- or polysaccharide-degrading enzymes</td>
<td>O. A. Olukosi*1, A. Cowieson2, and O. Adeola1, 1 Purdue University, West Lafayette, 2 Danisco Animal Nutrition, Marlborough, Wiltshire, UK.</td>
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<tr>
<td>10:00 AM</td>
<td>482</td>
<td>Nutritional evaluation of new corn distillers dried grains with solubles (DDGS) produced by the enzymatic milling (E-Mill) and elusieve processes</td>
<td>E. Kim*, C. Parsons, V. Singh, and R. Srinivasan, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>483</td>
<td>Phytase in ethanol production process improves nutritive value of DDGS</td>
<td>M. Hruby*1, J. K. Shetty2, G. Chotani2, T. Dodge2, and C. N. Coon3, 1 Danisco, St. Louis, MO, 2 Genencor, Palo Alto, CA, 3 University of Arkansas, Fayetteville.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>484</td>
<td>Effects of mega doses of phytase on broiler chick body composition</td>
<td>J. Puttress*1, W. W. Saylor1, R. Angel1, A. D. Mitchell1, and M. E. Persia1, 1 University of Delaware, Newark, 2 University of Maryland, College Park, 3 USDA, Beltsville, MD.</td>
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<tr>
<td>11:00 AM</td>
<td>486</td>
<td>Meat meal extract as a risk factor for the development of heart failure in fast growing commercial broilers</td>
<td>S. Nain*, B. Laarveld, and A. A. Olkowski, University of Saskatchewan, Saskatoon, SK, Canada.</td>
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11:30 AM 488 Effects of diet preconditioning on the true metabolizable energy of guar meal. O. Gutierrez*, A. L. Cartwright, and C. A. Bailey, Texas A&M University, College Station.

11:45 AM 489 Energy, protein, and starch digestibility of pea as affected by grind size and cold pelleting in broiler chickens. S. M. Ebsim*, T. D. Warkentin, and H. L. Classen, University of Saskatchewan, Saskatoon, SK, Canada.

12:00 PM 490 Nutritional value of corn versus sorghum when ground through different screen sizes and used in diets for broiler chicks. C. Feoli*, J. D. Hancock1, M. C. Herrera2, G. M. Herrera3, M. J. Rios4, F. Vargas3, and S. C. Mason1, 1Kansas State University, Manhattan, 2Universidad Nacional Agraria, Managua, Nicaragua, 3Asociacion Nacional de Productores de Sorgo, Managua, Nicaragua, 4University of Nebraska, Lincoln.


SYMPOSIUM
Physiology & Endocrinology - Livestock and Poultry
Role of Lipids and Fatty Acids in Regulation of Reproductive Function
Chair: Arnold R. Hippen, South Dakota State University
Sponsor: Monsanto Company

9:30 AM 492 The role of omega-3 and -6 fatty acids in regulation of reproductive function in horses. E. L. Squires*, Colorado State University, Fort Collins.

10:10 AM 493 Addition of protected fat in ewes with different corporal condition on superovulation and conception rate. P. Molina1, T. Sánchez1, O. Mejía2, J. Nuñez2, E. García3, O. D. Montañez-Valdez3, J. Cordero1, J. Peralta1, M. E. Ortega1, R. Nieto5, E. Mendoza1, and R. Avila1, 1Colegio de Postgraduados, Montecillo, Estado de México, México, 2Facultad de Medicina Veterinaria y Zootecnia, UNAM, Tres Marías, Municipio de Huitzilac, México, 3Centro Universitario de la Costa Sur de la Universidad de Guadalajara, Autilán, Jalisco, México, 4Centro Universitario del Sur de la Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México, 5Instituto Tecnológico Agropecuario No.6, Huejutla, Hidalgo, México.


11:05 AM 495 Reproductive function in dairy cows fed a lipid encapsulated conjugated linoleic acid supplement. G. E. Mann*, A. L. Lock2, D. E. Bauman1, and N. R. Kendall1, 1University of Nottingham, Sutton Bonington, Loughborough, UK, 2University of Vermont, Burlington, 3Cornell University, Ithaca, NY.

11:20 AM 496 Dietary lipids and reproduction in beef cattle. R. N. Funston*, University of Nebraska, West Central Research and Extension Center, North Platte.

12:00 PM 497 The role of dietary omega-3 and omega-6 fatty acids in swine reproduction. S. K. Webel*, J. D. Spencer, and A. M. Gaines, JBS United, Inc., Sheridan, IN.

Production, Management & the Environment - Livestock and Poultry
Poultry Production and Reproduction
Chair: William Roush, USDA ARS Poultry Research Unit

9:45 AM 498 Influence of hatching egg weight and Japanese quail breeder flock age on embryonic mortality stages, hatchability and chick quality measurements. T. M. El-Sheikh*, Sohag University, Sohag, Egypt.
Effects of supplemental dietary phytase and 25-hydroxycholecalciferol on the digestive and reproductive organ characteristics of commercial layers inoculated before or at the onset of lay with the F-strain of Mycoplasma gallisepticum. E. D. Peebles*, S. L. Branton*, M. R. Burnham†, S. K. Whitmarsh†, and P. D. Gerard†. Mississippi State University, Mississippi State, 1Poultry Research Unit, Agricultural Research Service, United States Department of Agriculture, Mississippi State, MS.


Effectiveness of immersion of hatching eggs into disinfectant solutions in a commercial hatchery. J. M. Mauldin*, A. L. O’Shaughnessy2, and M. T. Musgrove1, 1The University of Georgia, Athens, 2United Promotions, Inc, Atlanta, GA, 3ARS-USDA, Athens, GA.

Effects of multistage or single-stage incubation on broiler chick quality and performance. B. D. Fairchild*, J. M. Mauldin1, and R. J. Buhr2, 1University of Georgia Poultry Science Department, Athens, 2USDA, ARS, Athens, GA.


The effect of flock age and egg storage period on organ development and broiler performance. A. Afsar1, O. Elibol1, and J. T. Brake2, 1Faculty of Agriculture, Department of Animal Science, Ankara University, Ankara, Turkey, 2North Carolina State University, Department of Poultry Science, Raleigh.


Influence of photoperiods and light intensities meeting American and European guidelines on broiler performance. R. J. Lien*, J. B. Hess, and L. M. Stevenson, Auburn University, Auburn, AL.

Ruminant Nutrition
Acid:Base Balance/Metabolism - Dairy
Chair: William Sanchez, Diamond V Mills, Inc.
217 B

Struggles for scientists: Communication, integrity, and societal responsibilities. B. R. Baumgardt, West-Lafayette, IN.

Calcium homeostasis, acid-base balance, and health status in periparturient Holstein cows fed diets with low cation-anion difference. W. X. Wu1,2, J. X. Liu*1, G. Z. Xu1, and J. A. Ye1, 1Institute of Dairy Sciences, Ministry of Education Key Laboratory of Molecular Animal Nutrition, Zhejiang University, Hangzhou, China, 2College of Animal Science, Guangzhou University, Guangzhou, China.


Fertilization using potassium chloride decreased the DCAD of timothy hay. M. Oba*, R. Hohm2, R. McKenzie2, and T. Dow2, 1University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Food, Lethbridge, AB, Canada.
10:30 AM  513  Timothy hay differing in DCAD value affected Ca homeostasis in periparturient dairy cows. M. Oba*1, G. B. Penner1, G. F. Tremblay2, and T. Dow1, 1University of Alberta, Edmonton, AB, Canada, 2Agriculture and Agri-Food Canada, Québec, QC, Canada, 3Alberta Agriculture and Food, Lethbridge, AB, Canada.


11:00 AM  515  Strong ion concentrations in ruminal fluid of lactating dairy cows fed diets varying in fermentibility. C. S. Mooney* and M. S. Allen, Michigan State University, East Lansing.

11:15 AM  516  Feed efficiency of lactating dairy cows is related to dietary energy density. D. P. Casper*1 and D. R. Mertens2, 1Agri-King, Inc., Fulton, IL, 2USDA-ARS Dairy Forage Research Center, Madison, WI.

11:30 AM  517  Factors affecting milk urea nitrogen in dairy cattle. J. Ramírez*1, D. Lefebvre2, and K. M. Wade1, 1McGill University, Montreal, QC, Canada, 2Valacta, Ste. Anne de Bellevue, QC, Canada.

11:45 AM  518  The relevance of milk components for the assessment of the energy, protein and structure balance of Holstein Friesian cows. M. Kaske*1, S. Seggewiss2, K. Horstmann2, M. Spolders3, and U. Meyer1, 1Physiology Weihenstephan, Technical University Munich, 2Clinic for Cattle, University of Veterinary Medicine Hannover, 3Institute of Animal Nutrition, Federal Agricultural Research Centre Braunschweig.

12:00 PM  519  Evaluation of acute phase reactants and indices of liver function in serum from dairy cows fed different levels of energy prepartum. N. A. Janovick Guretzky*1, H. M. Dann1, M. Bionaz1, E. Trevisi2, G. Bertoni2, and J. K. Drackley1, 1University of Illinois, Urbana, 2Università Cattolica del Sacro Cuore, Zootecnica, Piacenza, Italy.

12:15 PM  520  Gene expression in adipose tissue of the dairy cow during late pregnancy and lactation fed control diets or diets with supplemental chromium: integration of gene expression into metabolic models. J. F. McNamara*1, J. M. Summer1, J. L. Vierck1, and A. Jourdan1, 1Washington State University, Pullman, 2Kemin Industries, Inc., Des Moines, IA.

Ruminant Nutrition
Corn Milling Co-Products - Beef
Chair: Stacey Gunter, University of Arkansas
217 A

9:30 AM  521  Introduction to Corn Milling Co-Products (Beef). S. Gunter, University of Arkansas.

9:35 AM  522  Environmental concerns with feeding corn milling co-products in feedlot diets. T. J. Klopfenstein* and G. E. Erickson, University of Nebraska, Lincoln.


10:35 AM  525  Evaluation of dried distillers grains or soybean hulls with and without Optigen II® to background beef calves. J. L. Wahr mund* and M. J. Hersom, University of Florida, Gainesville.

10:50 AM  526  Carcass and meat quality characteristics of distiller's co-product-supplemented pasture- and feedlot-finished beef steers. R. C. Knock*, A. H. Trenkle1, E. J. Huff-Lonergan1, S. M. Lonergan1, J. R. Russell1, P. M. Dixon1, K. M. Carnagey2, and D. C. Beitz1, Iowa State University, Ames, 1Wake Forest University School of Medicine, Winston-Salem, NC.

11:05 AM  527  Evaluation of dried distillers grains or soybean hulls to background beef calves. J. L. Wahr mund* and M. J. Hersom, University of Florida, Gainesville.
Effect of wheat base distillers grains in a barley ration on the performance and carcass quality characteristics of feedlot steers. R. M. Beliveau*, J. J. McKinnon, and V. J. Racz, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

Dry distiller’s grains with solubles in steam-flaked or dry-rolled corn diets with reduced roughage levels. M. L. May*, M. L. Hands, M. J. Quinn, B. E. Depenbusch, J. O. Wallace, C. D. Reinhardt, and J. S. Drouillard, Kansas State University, Manhattan.

Use of distiller’s dry grains in steam-flaked corn finishing diets with reduced roughage levels. M. L. May*, M. J. Quinn, B. E. Depenbush, and J. S. Drouillard, Kansas State University, Manhattan.


The effect of forage allowance and stage of growth on average daily gain, frothy bloat, and rate of ruminal in vitro gas production in steers grazing wheat pasture. W. E. Pinchak*, B. R. Min¹, D. P. Malinowski¹, J. W. Sij¹, J. D. Fulford¹, and R. Puchala², ¹Texas Agricultural Research Center, Vernon, TX 85, ²E (Kika) dela garza American Institute for Goat Research Center, Langston, OK.

SYMPOSIUM
Teaching/Undergraduate & Graduate Education
Shaping Animal Sciences Curricula for 2020
Chair: Linda C. Martin, Oklahoma State University

204 A


9:45 AM Animal sciences curricula: A historical perspective. J. A. Sterle*, Texas A&M University, College Station.


10:35 AM Curricular trends: Shifts in traditional animal sciences courses and degree programs. J. C. Swanson* and D. A. Nichols, Kansas State University, Manhattan.

11:00 AM Break

11:15 AM Thinking outside of the box: Incorporating innovative experiential & inquiry-based learning opportunities. J. N. Spain*, University of Missouri, Columbia.

11:40 AM Thinking oOutside the box: Linkages with agencies and educational opportunities for undergraduates and graduate students. M. A. Ottinger*, University of Maryland, College Park.


ADSA Foundation Scholar Lecture – Dairy Foods
Chair: Scott Rankin, University of Wisconsin-Madison

201

9:30 AM Beyond our borders: The impact of international service on the dairy industry. S. Clark*, Washington State University, Pullman.
Danisco International Dairy Science Award Lecture  
Chair: Zeynep Ustunol, Michigan State University  
201

10:30 AM Research contributions to characterize and improve dairy products in a health-promotion framework.  
F. X. Malcata*, Escola Superior de Biotecnologia, Porto, Portugal.

Growth and Development - Livestock and Poultry  
Livestock and Poultry II  
Chair: Jud Heinrichs, The Pennsylvania State University  
204 B

11:15 AM 538 Ontogenic expression of microRNA in bovine mammary gland. A. V. Capuco*1, L. L. Coutinho2, C. M. Evock-Clover1, A. Minuti3, T. S. Sonstegard4, Y. R. Boisclair5, M. E. Van Amburgh6, G. Bertoni3, and L. K. L.K. Matukumalli1, 1Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD, 2University of Sao Paulo-ESALQ, Piracicaba, SP, Brazil, 3Institute of Zootechnics, Catholic University, Piacenza, Italy, 4Cornell University, Ithaca, NY.

11:30 AM 539 Growth hormone stimulates growth hormone receptor expression through STAT5-activation of growth hormone receptor 1A promoter in the bovine liver. H. Jiang*, Y. Wang, M. Wu, and R. Torres-Diaz, Virginia Polytechnic Institute and State University, Blacksburg.


12:00 PM 541 Creation of a gene atlas in cattle using sequence-based transcriptional profiling. T. S. Sonstegard*1, J. W. Keele2, G. P. Harhay3, T. P. L. Smith2, L. K. Matukumalli13, G. Liu1, C. P. Van Tassell1, and L. J. Alexander1, USDA, ARS, Beltsville Agricultural Research Center, Beltsville, MD, 2USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 3George Mason University, Fairfax, VA, 4USDA, ARS, Livestock and Range Research Laboratory, Miles City, MT.

12:15 PM 542 Effect of an enhanced-growth feeding program on gastrointestinal tract and spleen development. M. Terré*, M. Devant1, A. Aris1, and A. Bach12, 1IRTA-Unitat de Remugants, Barcelona, Spain, 2ICREA, Barcelona, Spain.

OTHER EVENTS

PSA Business Meeting  
217 D  
3:00 PM - 5:00 PM
SYMPOSIA AND ORAL SESSIONS

World’s Poultry Science Association Lecture
Chair: Nick Dale, President, University of Georgia
217 D

2:00 PM  Impact on the world poultry industry of the global shift to biofuels. P. Aho, Poultry Perspective, Storrs, CT.

SYMPOSIUM
Animal Behavior & Well-Being - Livestock and Poultry
New Methodologies Symposium
Chair: Julie Smith, University of Vermont
Sponsor: Pfizer Animal Health
205

2:00 PM  543 Utilizing neural network analysis in animal behavior studies. W. B. Roush*, USDA-ARS Poultry Research Unit, Mississippi State, MS.


3:30 PM  545 Mathematical modeling and analysis of use of space. M. C. Christman*, C. P. Miller¹, and I. Estevez², ¹University of Florida, Gainesville, ²University of Maryland, College Park.

4:15 PM  546 Major pitfalls in animal welfare research. J. J. McGlone*, L. E. Hulbert¹, N. Krebs¹, M. A. Sutherland¹, and J. W. Dailey², ¹Texas Tech University, Lubbock, ²USDA Livestock Issues Research Unit, Lubbock, TX.

Animal Health - Livestock and Poultry
Bovine II
Chair: Heather Dann, William H. Miner Agriculture Research Institute
Sponsor: Pfizer Animal Health
217 C

2:00 PM  547 New frontier in monitoring, early diagnostics and prevention of ketosis in dairy cows. K. L. Ingvartsen*, N. C. Friggens, and T. Larsen, University of Aarhus, Faculty of Agricultural Sciences, Tjele, Denmark.

2:15 PM  548 Neotyphodium coenophialum alters blood metabolites involved in nitrogen, energy, and mineral metabolism in growing steers. K. R. Brown*, L. R. Harrison², J. L. Klotz³, J. R. Strickland³, J. A. Boling¹, and J. C. Matthews¹, ¹Department of Animal and Food Sciences, Lexington, KY, ²Livestock Disease Diagnostic Center, Lexington, KY, ³Forage-Animal Production Research Unit, USDA-ARS, University of Kentucky, Lexington, KY.

2:30 PM  549 Changes in lying behavior of lactating dairy cows associated with body condition score and milk yield. J. M. Bewley*, R. E. Boyce², L. Munksgaard¹, C. Drummond¹, J. Hockin¹, B. Scott¹, and M. M. Schutz¹, ¹Purdue University, West Lafayette, IN, ²IceRobotics, Ltd., Roslin, Scotland, UK, ³Danish Institute of Agricultural Sciences, Research Centre Foulum, Denmark, ⁴Barony College, Dumfries, Scotland, UK.

2:45 PM  550 Rectal versus peripheral temperature measurement using radio-frequency implants in steers challenged with lipopolysaccharide during periods of heat stress. E. D. Reid*, J. M. Velasco¹, and G. E. Dahl², ¹University of Illinois, Urbana, ²University of Florida, Gainesville.
3:00 PM 551 Hemodynamics in the caudal artery of yearling steers following removal from toxic tall fescue and placement on non-toxic diets. G. E. Aiken*1 and L. K. McClanahan1, 1USDA-ARS-FAPRU, Lexington, KY, 2University of Kentucky, Lexington.

3:15 PM 552 Response of digital dermatitis to treatment with topical lincomycin or oxytetracycline: comparison of gross visual and histopathological observations one month after treatment. B. Nuccitelli1, S. L. Berry*1, D. H. Read2, R. L. Walker2, and T. R. Famula1, 1University of California, Davis, 2California Animal Health and Food Safety Laboratory, Davis, CA.

3:30 PM 553 Mechanical properties of the solear hoof horn of heifers before and during the first lactation as a prediction of lameness susceptibility. B. Winkler1, J. K. Margerison*2, and C. S. Brennan2, 1University of Plymouth, Plymouth, UK, 2Massey University, Palmerston North, New Zealand.

3:45 PM 554 Effect of sample thickness, tissue moisture content and storage methods on the punch resistance and elastic modulus of the bovine hoof horn. B. Winkler1 and J. K. Margerison*2, 1University of Plymouth, Plymouth, UK, 2Massey University, Palmerston North, New Zealand.

Breeding and Genetics - Livestock and Poultry
Dairy Cattle II
Chair: Filippo Miglior, Agriculture and Agri-Food Canada
214 B

2:00 PM 555 Performance and physical conformation of first parity backcross Holstein x Jersey cattle and their Holstein contemporaries. K. A. Weigel*, T. J. Halbach, C. Maltecca, and P. C. Hoffman, University of Wisconsin, Madison.


2:30 PM 557 SNPs in the 3'UTR of Stearoyl-CoA desaturase gene in Canadian Holsteins and Jerseys. P. M. Kwatalala, E. M. Ibeagha-Awemu*, J. F. Hayes, and X. Xhao, McGill University, Ste Anne De Bellevue, Quebec, Canada.

2:45 PM 558 Estimation of yields for long lactations using best prediction. J. B. Cole*, P. M. VanRaden1, and C. M. B. Dematawewa2, 1Animal Improvement Programs Laboratory, USDA, Beltsville, MD, 2Virginia Polytechnic Institution and State University, Blacksburg.

3:00 PM 559 Genetic parameter estimates for days open by using a random regression model to analyze data from a long-term designed selection experiment. G. A. Gutierrez*, M. H. Healey, and P. J. Berger, Iowa State University, Ames.


3:30 PM 558 Break

3:45 PM 561 Estimation of genetic parameters with random regression models using test-day records beyond 305 days in milk. J. Bohmanova1, F. Miglior*, and J. Jamrozik1, 1University of Guelph, Guelph, ON, Canada, 2Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Canadian Dairy Network, Guelph, ON, Canada.

4:00 PM 562 Selection of dairy cow families for superior pregnancy rate. C. N. Vierhout*, S. P. Washburn, R. L. McCraw, E. J. Eisen, and J. P. Cassady, North Carolina State University, Raleigh.

4:15 PM 563 Mapping of quantitative trait loci economic important traits in Canadian holstein bulls. D. Kolbehadi*, S. Moore, and Z. Wang, University of Alberta, Edmonton, Alberta, Canada.

4:30 PM 564 Economic value of a marginal increase in pregnancy rate in dairy cattle. A. De Vries*, University of Florida, Gainesville.
4:45 PM Relationships between locomotion and lesion score, punch resistance and Holstein (HUKI) conformation scores. B. Winkler¹ and J. K. Margerison², ¹University of Plymouth, Plymouth, UK, ²Massey University, Palmerston North, New Zealand.

SYMPOSIUM Companion Animals
Pet Food Ingredients - Mining, Dredging, and Extrapolating Effective Nutrient Delivery
Chair: Greg Aldrich, Pet Food & Ingredient Technology, Inc.
Sponsors: The Iams Company, Nestle Purina PetCare Company
214 A

2:00 PM Introduction and Opening Comments. G. Aldrich, Pet Food & Ingredient Technology, Inc.
2:05 PM Advances in evaluating pet food ingredients: Methodologies. G. C. Fahey, Jr.*, University of Illinois, Urbana.
2:45 PM AntiNutrients: Factors limiting utilization of nutrients in pet food ingredients. C. M. Grieshop* and G. Kuhlman, The Iams Company, Lewisburg, OH.
4:05 PM Break
4:15 PM Fatty acids: Approaches to prevent or modify nutrient damage from oxidation. R. G. Brannan*, Ohio University, Athens.
4:55 PM Minerals: Effect of form on requirements and bioavailability. L. L. Southern*, LSU Agricultural Center, Baton Rouge, LA.
5:35 PM Wrap-up.

Dairy Foods
Chemistry and Microbiology
Chair: Joe Schlesser, FDA
201

2:00 PM Protein interactions in heat-treated milk and effect on rennet coagulation. P. Kethireddipalli* and D. G. Dalgleish, University of Guelph, Guelph, ON, Canada.
2:30 PM The effect of pH and ionic calcium on the heat stability of sterilized and UHT milk. M. J. Lewis* and A. S. Grandison, School of Chemistry, Food and Pharmacy, The University of Reading, Reading, Berkshire, UK.
2:45 PM Isolation, composition and rennet-gelling functionality of milk fat globule membrane fractions from regular buttermilk, whey buttermilk, and washed cream buttermilk. B. Manion* and M. Corredig, University of Guelph, Guelph, Ontario, Canada.
3:00 PM Fat globule interfacial composition affects the texture and microstructure of rennet-induced casein gels. Z. Gaygadzhiev*, M. Alexander, A. Hill, and M. Corredig, University of Guelph, Guelph, ON, Canada.
3:15 PM Break
3:30 PM Acoustical emissions generated by E. coli bacteria. C. L. Hicks*, J. M. Stencel², H. Song², and F. A. Payne¹, ¹University of Kentucky, Lexington, ²Tribo Flow Separations, Lexington, KY.
SYMPOSIUM
Dairy Foods
On the Road From Analysis and Discovery of Functional Milk Bioactives to New Products and Health Outcomes
Chair: Samara Freeman, University of California, Davis
Sponsor: Agilent Technologies, California Dairy Research Foundation, Hilmar Ingredients

202

2:00 PM  582  An approach to capturing and translating the biological activities and health outcomes of milk components.  S. L. Freeman*, University of California, Davis.

2:30 PM  583  The glycome and the glycoproteome of milk.  C. Lebrilla*, B. German, D. Mills, and S. Freeman, University of California, Davis.


3:30 PM  585  Sources and characteristics of milk fat globule membranes.  R. E. Ward*, Utah State University, Logan.

4:00 PM  Whey protein changes glucose and lipid metabolism and its implications for weight management in the clinics.  S. Karakas, University of California, Davis.

4:30 PM  Discussion.

5:00 PM  Adjourn.
Forages and Pastures - Livestock and Poultry
Harvesting, Ensiling, and Forage Quality
Chair: Charles Staples, University of Florida
213

2:00 PM 586 Fall growth potential of cereal-grain forages. J. L. Gunsaulis¹, W. K. Coblentz², R. K. Bacon¹, R. K. Ogden¹,
K. P. Coffey³, D. S. Hubbell, III³, J. V. Skinner, Jr.³, and J. D. Caldwell¹, ¹Arkansas Cooperative Extension Service,
Fayetteville, ²US Dairy Forage Research Center, Marshfield, WI, ³University of Arkansas, Fayetteville, ⁴Livestock and
Forestry Branch Station, Batesville, AR.

2:15 PM 587 Increasing non-structural carbohydrates in alfalfa improves in vitro microbial N synthesis. R. Berthiaume¹,
C. Benchar¹, A. V. Chaves¹, G. F. Tremblay², Y. Castonguay³, A. Bertrand³, G. Bélanger², R. Michaud²,
C. Lafrenière¹, and A.F. Brito¹, ¹Agriculture & Agri-Food Canada, Sherbrooke, QC, ²Agriculture & Agri-Food Canada,
Quebec, QC, ³Agriculture & Agri-Food Canada, Lethbridge, AB.

2:30 PM 588 Effect of a biological silage inoculant on the quality parameters under laboratory and field conditions. Y. Acosta
Aragón*, G. Boeck, A. Klümtch, and G. Schatzmayr, Biomin GmbH, Austria, Herzogenburg, Lower Austria,
Austria.

2:45 PM 589 Molasses effects on Kochia scoparia characteristics as an Iranian native forage in the form of silage. B. Saremi¹,
A. R. Shahdadi, and H. Zaher Farimani, Education center of Jihad-e Agriculture, Khorasan razavi., Mashhad,
Iran.

3:00 PM 590 Feeding value of silage made from Panicum maximum with or without Leuconecca leucocephala or Glicridia
sepium as supplementary feeds for weaned rabbits. A. M. Raji¹,², A. T. Adesogan¹, J. A. A. Sansi², and
R. A. Salako², ¹Dept. Animal Sciences, University of Florida, Gainesville, ²Federal College of Animal Health and
Production Technology, IART, Ibadan, Oyo, Nigeria.

3:15 PM Break

3:30 PM 591 Water soluble carbohydrates relative to protein in fresh forages: Impact on efficiency of nitrogen utilization in
lactating dairy cows. D. Pacheco¹, G. A. Lane¹, J. L. Burke¹, and G. P. Cosgrove¹, ¹AgResearch Grasslands,
Palmerston North, New Zealand, ²Massey University, Palmerston North, New Zealand.

3:45 PM 592 Contribution of plant mediated proteolysis to total protein degradation of fresh forages in the rumen of dairy
 cows. D. Pacheco¹, W. C. McNabb, H. S. Easton, and B. Barrett, AgResearch Grasslands, Palmerston North,
New Zealand.

4:00 PM 593 Relationships between silage fermentation characteristics and feed intake by dairy cows. I. Eisner¹, K.-H.
Suedekum², and S. Kirchhof³, ¹University of Kiel, Kiel, Germany, ²University of Bonn, Bonn, Germany.

4:15 PM 594 Alfalfa harvested in the afternoon increases performance of lactating dairy cows. A. F. Brito¹, G. Tremblay¹,
D. R. Ouellet¹, A. Bertrand², Y. Cantonguay², G. Belanger², R. Michaud², H. Lapiere¹, and R. Berthiaume¹, ¹Dairy
and Swine R&D Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, ²Soils and Crops R&D
Centre, Agriculture and Agri-Food Canada, Ste-Foy-Normandin, QC, Canada.

Goat Species
Chair: Maximino Huerta Bravo, Universidad Autónoma Chapingo
207 A

2:00 PM 595 In vitro larval activity and in vivo gastro-intestinal parasites infestation in goats grazing tropical legumes.
K. A. H. Valentín¹, B. R. Mini², E. Valencia³, A. Rodriguez¹, W. E. Pinchak², J. E. Miller¹, and J. P. Muir²,
¹University of Puerto Rico, Mayaguez, Puerto Rico, ²Texas Agricultural Research Center, Vernon, ³Louisiana State
University, Baton Rouge, ²Texas Agricultural Research Center, Stephenville.

2:15 PM 596 Effects of hay inclusion on intake, total tract nutrient utilization and ruminal fermentation of goats fed spineless
cactus (Opuntia ficus-indica Mill) based diets. E. L. Vieira¹, A. M. Batista¹, A. Guim², F. F. Carvalho¹,
A. C. Nascimento¹, R. F. Araújo¹, and A. F. Mustafa³, ¹Universidade Federal Rural de Pernambuco, Pernambuco,
Brazil, ²McGill University, QC, Canada.

Effects of stabilized rice bran on growth, feed efficiency, carcass characteristics, and occurrence of urinary calculi in wether Boer goats fed a complete pelleted diet. G. V. Pollard¹, and R. V. Machen², ¹Texas State University, San Marcos, ²Texas Agricultural Experiment Station, Uvalde.

The performance of Spanish kids born under mixed-species grazing system. S. Gebrelul, T. Walsh*, Y. Ghebreiyessus, V. Bachireddy, and R. Payne, Southern University, Baton Rouge, LA.

The performance of Spanish does under mixed-species grazing system. S. Gebrelul, T. Walsh*, Y. Ghebreiyessus, V. Bachireddy, and M. Berhane, Southern University, Baton Rouge, LA.

The effect of mixed species grazing systems on soil compaction and permeability. Y. Ghebreiyessus*, V. Bachireddy, S. Gebrelul, R. Payne, M. Berhane, and Z. Augustine, Southern University, Baton Rouge, LA.

SYMPOSIUM
Joint National Extension Workshop
Changing the Future of Food Animal Production
Chair: Craig Coufel, Mississippi State University
206 B

Introduction to the symposium: The lengthening chain of change. R. E. Stup*, The Pennsylvania State University, University Park.

Change management—how to get organizations to change. M. Hemenover, Avenues For Change, St. Louis, MO.


Extension’s responsibility in responding to emergency and controversial issues. J. F. Ort*, North Carolina State University, Raleigh.

Discussion.

Nonruminant Nutrition
Feeder Pig and Sow Nutrition
Chair: Sun Woo Kim, Texas Tech University
210


Effect of amino acid program (Low vs. High) and dried distiller’s grains with solubles (DDGS) on finishing pig performance and carcass characteristics. R. Hinson¹, G. Allee¹, G. Grinstead², B. Corrigan², and J Less³, ¹University of Missouri, Columbia, ²Vita Plus Corp., Madison, WI, ³ADM Specialty Feed Ingredients, Decatur, IL.

Effects of co-products from the ethanol industry on pig performance and carcass composition. M. R. Widmer¹, L. M. McGinnis¹, D. M. Wulf², and H. H. Stein³, ¹South Dakota State University, Brookings, ²University of Illinois, Urbana.

3:00 PM 610 Effects of a Pichia-expressed phytase on performance and P excretion of growing pigs. L. M. McGinnis*, M. R. Widmer1, C. L. Wright1, T. M. Parr1, and H. H. Stein1, 1South Dakota State University, Brookings, 2Syngenta Animal Nutrition, Research Triangle Park, NC, 3University of Illinois, Urbana.

3:15 PM 611 Effect of form of fat and NDF addition on apparent ileal and apparent total tract digestibility of fat in diets fed to growing pigs. D. Y. Kil*, T. E. Sauber2, and H. H. Stein1, 1University of Illinois, Urbana, 2Pioneer Hi-Bred Intl. Inc., Johnston, IA.


3:45 PM 613 Comparison of particle size analysis of ground grain with or without the use of a flow agent. R. D. Goodband*, W. Diederich2, S. S. Dritz1, M. D. Tokach1, J. M. DeRouchey1, and J. L. Nelssen1, 1Kansas State University, Manhattan, 2Mid-West Laboratories, Omaha, NE.

4:00 PM 614 Effects of a dry organic acid blend on growth performance and carcass parameters in growing-finish pigs. J Zhao*, R. J. Harrell1, B. R. Hinson2, G. L. Allee2, F. Navarro1, and C. D. Knight1, 1Novus International Inc, St. Louis, MO, 2University of Missouri, Columbia.

4:15 PM 615 Dietary arginine supplementation enhances the growth performance of milk-fed piglets. Y. Kang*, Y. L. Yin1, R. L. Huang1, X. F. Kong1, T. J. Li1, I. Shinzato2, S. W. Kim3,4, and G. Y. Wu14, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Ajinomoto, Tokyo, Japan, 3Texas Tech University, Lubbock, 4Texas A&M University, College Station.


Nonruminant Nutrition
Protein and Amino Acid Nutrition in Swine
Chair: Scott Radcliffe, Purdue University

2:00 PM 618 Differential effects of leucine on translation initiation factor activation and protein synthesis in skeletal muscle, renal and adipose tissues of neonatal pigs. J. Escobar*, H. V. Nguyen, and T. A. Davis, USDA/ARS, Children’s Nutrition Research Center, Baylor College of Medicine, Houston, TX.


2:30 PM 620 Effects of dried distillers grains and conjugated linoleic acid on gene expression for key enzymes in fatty acid synthesis. H. M. White*, S. S. Donkin, M. A. Latour, and S. L. Koser, Purdue University, West Lafayette, IN.


3:00 PM 622 Determining the optimum dietary tryptophan to lysine ratio in 25 to 40 kg growing pigs. A. D. Quant*, M. D. Lindemann1, G. L. Cromwell1, B. J. Kerr1, and R. L. Payne1, 1University of Kentucky, Lexington, 2USDA, Ames, IA, 3Degussa Corporation, Kennesaw, GA.
3:15 PM 623 Tryptophan improves weight gain associated with increased plasma ghrelin level induced by oral ingestion of tryptophan in weaned pigs. J. Yin*, H. Zhang, and D. Li, China Agricultural University, Beijing, China.

3:30 PM 624 Nitrogen balance, ammonia and odor emissions in growing pigs fed reduced crude protein diets. D. V. Braña*1,2, H. A. Rachuony1, and M. Ellis1, 1University of Illinois, Urbana, 2INIFAP, Queretaro, Mexico.

3:45 PM 625 Performance of pigs fed diets supplemented with DL-Methionine or liquid MHA-FA from 6 - 25 kg. O. S. Santos*1, A. B. Borbolla1, A. P. Pineda1, R. F. Flores1, A. P.-S. Pineli-Savedra2, and D. H. Hoehler3, 1Universidad Nacional Autónoma de México, Mexico City, Mexico, 2CIAD, Hermosillo, Sonora, Mexico, 3Degussa Corporation, Kennesaw, GA.

4:00 PM 626 Low protein diets for pigs treated with ractopamine. G. E. Lanz A*3,1 and J. A. Cuaron I3, 1Paiepeme A.C., Queretaro, Mexico, 3CNI-Fisiología Animal, INIFAP, Queretaro, Mexico, 3FESC UNAM, Ajuchitlan, Queretaro, Mexico.


4:30 PM 628 Effects of different Ractopamine withdrawal times on growth performance and fat free lean growth rate in finishing pigs. G. E. Lanz A*3,1, M. Lucero P3,1, and J. A. Cuaron I3, 1Paiepeme A.C., Queretaro, Mexico, 3CNI-Fisiología Animal, INIFAP, Queretaro, Mexico, 3FESC UNAM, Ajuchitlan, Queretaro, Mexico.

4:45 PM 629 Effects of ractopamine level and feeding duration on the performance and carcass characteristics of late finishing market pigs. C. W. Parks*1, G. L. Allee2, R. B. Hinson2, and S. N. Carr1, 1Elanco Animal Health, Greenfield, IN, 2University of Missouri, Columbia.

SYMPOSIUM
Nonruminant Nutrition
Understanding Protein Synthesis and Degradation and Their Pathway Regulations
Chair: Ming Z. Fan, University of Guelph
Sponsor: Degussa
217 A

2:00 PM 630 Postnatal ontogeny of skeletal muscle protein synthesis in pigs. T. A. Davis*, A. Suryawan, R. A. Orellana, and M. L. Fiorotto, USDA/ARS Children’s Nutrition Research Center, Baylor College of Medicine, Houston, TX.

2:45 PM 631 Measuring in vivo intracellular protein degradation rates in animal systems. W. G. Bergen*, Auburn University, Auburn, AL.


Relationship between leptin and carcass quality and yield grade in a population of Certified Angus Beef–type cattle. D. L. McNamara, T. B. Schmidt, E. L. Walker, M. M. Roll, A. N. Brauch, W. Pittroff, and D. H. Keisler, University of Missouri, Columbia, University of California, Davis, Mississippi State University, Starkville, Missouri State University, Springfield.


Negative energy balance increases prandial ghrelin and growth hormone concentrations in lactating dairy cows. B. J. Bradford and M. S. Allen, Michigan State University, East Lansing.

Effect of ghrelin and obestatin infusion on milk production, body condition score, and energy balance in dairy cows. J. R. Roche, A. J. Sheahan, L. M. Chagas, D. Blache, D. P. Berry, and J. K. Kay, Dexcel, New Zealand, University of Tasmania, Australia, University of Western Australia, Australia, Teagasc Moorepark, Ireland.


Seasonal effects on twenty-four hour patterns of melatonin in blood and milk of dairy cows. N. Castro, M. T. Kollmann, V. Lollivier, S. Richter, A. Baumert, O. Wellnitz, and R. M. Bruckmaier, University of Bern, Switzerland, Las Palmas de Gran canaria University, Las Palmas, Spain, Technical University Munich, Germany, INRA, France.

Effect of restricted feeding and monopropylene glycol postpartum on metabolic hormones and postpartum anoestrus in grazing dairy heifers. L. M. Chagas, P. J. S. Gore, K. A. Macdonald, and D. Blache, Dexcel Limited, Hamilton, New Zealand, The University of Western Australia, Crawley, Australia.

Hypothalamic genes expression in early- and late-maturing Bos indicus heifers. A. Vaiciunas, L. L. Coutinho, and L. F. P. Silva, University of São Paulo, Pirassununga, SP, Brazil, University of São Paulo, Piracicaba, SP, Brazil.

Evaluating reproductive and immune consequences of endocrine disrupting chemicals in an avian bioassay. M. A. Ottinger, E. T. Lavoie, and M. J. Quinn, University of Maryland, College Park, U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen, MD.

Differential expression of adiponectin, adiponectin receptor 1 (AdipoR1) and leptin mRNA in different adipose depots in sheep. A. Lemor, M. Mielenz, M. Altmann, E. von Borell, and H. Sauerwein, University of Bonn, Germany, Martin-Luther-University, Halle-Wittenberg, Germany.

Prolactin levels and ovulation rate in crossbreed ewes with induced oestrus during the anoestrous season and the effect of bromocryptine and naloxone. V. O. Fuentes-Hernandez, R. Orozco, J. J. Uribe, V. M. Sanches, and P. I. Fuentes, Universidad de Guadalajara, FMVZ Universidad Michoacana de San Nicolas Hidalgo, Hospital Pemex Sur de Alta Especialidad Mexico DF.

Luteinizing hormone-releasing hormone immunization alters pituitary hormone synthesis and storage in bulls and steers. K. J. Wells, T. W. Geary, D. M. de Avila, J. de Avila, V. A. Conforti, H. Ulker, D. J. McLean, A. J. Roberts, and J. J. Reeves, Washington State University, Pullman, USDA ARS Fort Keogh, Miles City, MT.

Glial cell line-derived neurotrophic factor enhances porcine oocyte developmental competence in vitro. K. Linher, D. Wu, and J. Li, University of Guelph, Guelph, Ontario, Canada, Sichuan Agricultural University, China.
2:00 PM  
Introduction to Corn Milling Co-Products (Dairy). P. Kononoff, University of Nebraska, Lincoln.

2:05 PM  
Maintaining milk components when feeding co-products of corn ethanol production. L. Armentano*, University of Wisconsin, Madison.

2:35 PM  

2:50 PM  

3:05 PM  
Response of lactating Holstein cows to increased amounts of wet corn gluten feed. M. J. Brouk*, J. F. Smith1, and K. N. Grigsby2, 1Kansas State University, Manhattan, 2Cargill, Inc., Blair, NE.

3:20 PM  

3:35 PM  
Dried distillers grains + solubles from wheat fed to dairy cows. T. Andersson*, M. Murphy1, E. Nadeau2, and M. Carlsson2, 1Lantmännen Feeds, Stockholm, Sweden, 2Swedish University of Agricultural Sciences, Skara, Sweden.

3:50 PM  
Interactions of yeast culture and dried distillers grains plus solubles in diets of lactating dairy cows. A. R. Hippen*, D. J. Schingoethe, K. F. Kalscheur, P. Linke1, K. Gross1, D. Rennich1, and I. Yoon2, 1South Dakota State University, Brookings, 2Diamond V. Mills, Inc., Cedar Rapids, IA.

4:05 PM  
Lactation performance of cows fed diets using soybean or byproduct protein sources. Z. Wu* and J. D. Ferguson, University of Pennsylvania, Kennett Square.

4:20 PM  

4:35 PM  
Wheat grain as a prepartum cereal choice to ease periparturient stress in Holstein cows. H. Amanlou1, D. Zahmatkesh1, and A. Nikkhah*1,2, 1Department of Animal Science, Zanjan, Iran, 2Department of Animal Science, Winnipeg, MB, Canada.

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Ruminant Nutrition  
Intake and Performance - Beef  
Chair: Chris Richards, Oklahoma State University  
217 B

2:00 PM  

2:15 PM  
The effect of residual feed intake rank in beef cows on forage intake and pasture carrying capacity. A. Meyer*, R. Kallenbach, M. Kerley, and K. Ladyman, University of Missouri, Columbia.

2:30 PM  
Evaluation of feed efficiency in Santa Gertrudis steers and relationships with temperament and feeding behavior traits. R. R. Gomez*, B. M. Bourg1, Z. D. Paddock1, G. E. Carstens1, P. A. Lancaster1, R. K. Miller1, L. O. Tedeschi1, D. K. Lunt2, S. A. Moore1, and D. S. DeLaney3, 1Texas A&M University, College Station, 2Texas A&M University, McGregor, 3King Ranch, Kingsville, TX.
2:45 PM 660  Relationships of feed efficiency with carcass and non–carcass tissue composition in Angus bulls and heifers. F. R. B. Ribeiro*, G. E. Carstens1, P. A. Lancaster1, L. O. Tedeschi1, and M. E. Davis2, 1Texas A&M University, College Station, 2The Ohio State University, Columbus.

3:00 PM 661  The effects of sorting steers by weight into calf-fed, summer yearling and fall yearling feeding systems. D. R. Adams*, T. J. Klopfenstein, G. E. Erickson, M. K. Luebbe, and M. A. Greenquist, University of Nebraska, Lincoln.

3:15 PM 662  The effect of Bos Koolus fed during summer on the feedlot performance and carcass characteristics of steers. I. Loxton1, T. Grant2, D. Reid1, R. Lawrence3, and N. Kempe4, 1Beef Support Services, Yeppoon, Queensland, Australia, 2Department of Primary Industries and Fisheries, Theodore, Queensland, Australia, 3Department of Primary Industries and Fisheries, Rockhampton, Queensland, Australia, 4Integrated Animal Production, Toowoomba, Queensland, Australia.


4:00 PM 665  Using programmed feeding to manage young beef cows. J. D. Shockey*, P. A. Beck, P. Gregorini, C. B. Stewart, and S. A. Gunter, University of Arkansas Division of Agriculturale, SWREC, Hope.

4:15 PM 666  Performance of beef cows fed free-choice whole cottonseed and hay during winter. G. M. Hill*, M. H. Poore1, M. E. Pence2, and B. G. Mullinix, Jr.1, 1University of Georgia, Tifton, 2University of Georgia Vet. Diagnostic Ctr., Tifton, 3North Carolina State University, Raleigh.

4:30 PM 667  Evaluation of NRC (1996) model energy requirement and DMI equation accuracy and precision for wintering beef cows in western Canada. J. L. Bourne1, H. C. Block2, H. A. Lardner3, and J. J. McKinnon4, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Western Beef Development Centre, Humboldt, SK, Canada.

4:45 PM 668  Improving fecal near-infrared reflectance spectroscopy predictions of botanical composition of ruminant diets. J. W. Walker*, B. S. Engdahl, E. S. Campbell, and C. J. Lupton, Texas Agricultural Experiment Station, San Angelo, TX.

SYMPOSIUM
Sheep Species
Biology and Management of Low-Input Lambing Management in Easy-Care Systems
Chair: Michael L. Thonney, Cornell University
Sponsors: ASI, EAAP, Premier 1 Supplies, Sydell, The Sheppard
207 B

2:00 PM 669  Genetic and physiological effects on maternal behavior and lamb survival. C. M. Dwyer*, SAC, Edinburgh, UK.

2:30 PM 670  Management of maternal-offspring behaviour to improve lamb survival in low input systems. J. Everett-Hincks* and K. Dodds, AgResearch, Invermay Agricultural Centre, Mosgiel, Otago, New Zealand.

3:00 PM 671  Evaluation of Dorper, Dorset, Katahdin, and Rambouillet crossbred ewes in high- and low-input production systems. K. A. Leymaster*, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE.

3:30 PM 672  Break

3:45 PM 672  Pasture lambing prolific sheep. J. W. McNally*, Tamarack Lamb & Wool, Hinckley, MN.

4:15 PM 673  What does it mean to be locally adapted and who cares, anyway? F. D. Provenza*, Utah State University, Logan.

4:45 PM  Discussion.
Teaching/Undergraduate & Graduate Education
Teaching Session I - Assessment & Evaluation
Chair: Linda C. Martin, Oklahoma State University
204 A

2:00 PM 674 Evaluation and accreditation of agricultural research and teaching programs. J. R. Swearengen*, AAALAC International, Frederick, MD.


2:30 PM 676 Assessment of predictors of critical thinking ability in animal science undergraduates. L. M. Morgan*, Clemson University, Clemson, SC.

2:45 PM 677 Critical thinking dispositions of undergraduates in two animal science courses at the University of Georgia. T. D. Pringle*, J. L. Douglas, and J. C. Ricketts, The University of Georgia, Athens.

ADSA Foundation Scholar Lecture - Production
Chair: Scott Rankin, University of Wisconsin-Madison
204 B

2:00 PM Metabolic regulation and integrative biology of transition cows – the “final frontier” revisited. T. Overton*, Cornell University, Ithaca, NY.

Teaching/Undergraduate & Graduate Education
Teaching Session II - Curricular Innovation
Chair: Jeannette A. Moore, North Carolina State University
204 A


3:30 PM 679 Design and development of a synchronously-delivered graduate course designed for the evaluation and practice of scholarship in animal sciences. L. A. Kriese-Anderson1 and D. R. Mulvaney*,1,2, 1Auburn University, Auburn, AL, 2Biggio Center for the Enhancement of Teaching and Learning, Auburn, AL.

3:45 PM 680 The value of writing to a real-world audience for animal science students. M. W. Orth*, Michigan State University, East Lansing.

4:00 PM 681 Tracking undergraduate student performance while learning molecular genetics concepts. B. S. Walters* and T. J. Buttiles, University of Wisconsin, River Falls.

4:15 PM 682 Bringing the industry into the classroom: Media interview project. J. A. Sterle*, Texas A&M University, College Station.


4:45 PM 684 The fundamentals of collegiate poultry judging. J. C. Butler* and P. A. Curtis, Auburn University, Auburn, AL.
OTHER EVENTS

Health May Be a “Different Animal.”
A Briefing on the Newest CAST Issue Paper
Chair: John Bonner, Council for Agricultural Science and Technology
207 A

4:00 PM  The role of transgenic livestock in the treatment of human disease. J. Pommer*, Director of Quality/Regulatory Affairs, Hematech.

Three I’s and U: A CAST Town Hall Meeting
Chair: John Bonner, Council for Agricultural Science and Technology
207 A

4:30 PM  An interactive discussion with the audience about CAST activities.
Wednesday, July 11

POSTER PRESENTATIONS

Animal Behavior & Well-Being - Livestock and Poultry III
Exhibit Hall C


W4  Assessing the performance of Redbro Cou Nu chickens in different environments. W. L. Willis¹, M. Johnson¹, C. Hatcher*¹, and R. Joyce², ¹North Carolina Agricultural and Technical State University, Greensboro, ²Joyce Foods, Inc., Winston Salem, NC.


W8  Dietary supplementation with omega-3 fatty acids affects sexual behavior in boars. M. J. Estienne* and A. F. Harper, Virginia Polytechnic Institute and State University, Suffolk.

W9  Evaluation of physiological differences in heat tolerant (Romosinuano) and heat susceptible (Angus) Bos taurus cattle during controlled heat challenge. B. Scharf*¹, L. E. Wax¹, J. A. Carroll², D. G. Riley¹, C. C. Chase Jr.³, S. W. Coleman³, D. H. Keisler¹, and D. E. Spiers¹, ¹University of Missouri, Columbia, ²USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, ³USDA-ARS, SupTropical Agricultural Research Station, Brooksville, FL.

Animal Health - Livestock and Poultry
Bovine II
Exhibit Hall C

W10 Tumor necrosis factor-α (TNF-α), nitric oxide (NO), and xanthine oxidase (XO) responses to endotoxin (LPS) challenge in steers: effect of progesterone (P4) and estradiol (E2) treatment. S. Kahl* and T. H. Elsasser, USDA, Agricultural Research Service, Beltsville, MD.

W11 Prevalence of Chlamydia spp. in randomly selected dairy farms in the western part of Germany. K. Kemmerling*¹, U. Mueller², M. Mielenz², K. Sachse³, J. Winkelmann¹, F. Jaeger¹, and H. Sauerwein¹, ¹Institute of Animal Science, Physiology & Hygiene Group, University of Bonn, Germany, ²Federal Research Institute for Animal Health, Jena, Germany, ³North-Rhine-Westphalian Chamber of Agricultural Matters, Röbeher, Germany, ⁴North-Rhine-Westphalian Ministry of Environment, Conservation, Agriculture and Consumers Protection (MUNLV), Duesseldorf, Germany.

W12 Growth, health, and select immunologic and metabolic functions of preruminant calves housed in warm and cold environments. B. J. Nonnecke*¹, R. L. Horst¹, M. R. Foote¹, B. L. Miller¹, T. E. Johnson¹, and M. Fowler¹, ¹National Animal Disease Center, Ames, IA, ²Iowa State University, Ames, ³Land O’Lakes Research Farm, Webster City, IA.

W13 Pasteurization of colostrum reduces the incidence of paratuberculosis in neonatal calves. J. R. Stabel*, USDA-ARS-NADC, Ames, IA.
W14 Effects of pre- and postpartum feeding fish meal on total leukocyte and differential counts in transition and early lactating cows. A. Heravi Moussavi*, 1, M. Danesh Mgseran*, 1, T. Vafa*, 1, and A. Soleimani*, 1, Center of Excellence for Animal Science, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavy, Iran, 2Azad University of Kashmar, Kashmar, Khorasan Razavy, Iran.

W15 New intramammary infections during the dry period: The effect of short (30 days) vs. long (45 or 60 days) dry periods. A preliminary report. G. T. Church*, 1, L. K. Fox*, 1, J. M. Gay*, 1, C. T. Gaskins*, 1, and C. S. Schneider*, 1Washington State University, Pullman, 2University of Idaho, Moscow.

W16 Muscarinic receptors in the bovine gastrointestinal tract: mRNA expression and receptor binding in healthy cows and in cows with cecal dilatation-dislocation. E. C. Ontsouka*, 1, R. M. Bruckmaier, A. Steiner, and J. W. Blum, University of Berne, Vetsuisse Faculty, Berne, Switzerland.

W17 mRNA expression of motility-mediating receptors from the abomasum to the spiral colon of healthy cows and of cows suffering from left-sided abomasal displacement. E. C. Ontsouka*, 1, M. Niederberger, A. Steiner, R. M. Bruckmaier, and M. Meylan, Vetsuisse Faculty, University of Berne, Berne, Switzerland.

W18 The relationship between postpartum uterine bacterial infection (BI) and subclinical endometritis (SE). R. O. Gilbert*, 1, N. R. Santos, K. N. Galvão, S. B. Brittin, and H. B. Roman, Cornell University, Ithica, NY.

W19 The recurrence of mycoplasma mastitis investigated by bulk tank analysis. V. Punyaporwithaya*, 1, L. K. Fox, D. D. Hancock, and J. M. Gay, Washington State University, Pullman.

W20 Use of a calcium bolus to improve calcium homeostasis after calving. J. D. Sampson*, 1, J. N. Spain*, 1, L. Carstensen*, 1, and C. Jones*, 1University of Missouri, Columbia, 2Boehringer Ingelheim Denmark A/S, Copenhagen Ø, Denmark, 3Boehringer Ingelheim Vetmedica, Inc., St. Joseph, MO.

W21 Dietary fish oil does not impact the response of early lactating cows to an endotoxic mastitis challenge. M. K. Yelle*, 1, D. W. Kim, E. J. DePeters, and M. A. Ballou, University of California, Davis.

W22 Escherichia coli lipopolysaccharide upregulates the expression of both toll like receptor 4 and 2 (TLR4 and TLR2) in cultured bovine mammary epithelial cells. E. M. Ibeagha-Awemu*, 1, J.-W. Lee*, 1, A. E. Ibeagha*, 1, D. D. Bannerman*, 1, M. J. Paape*, 1, and X. Zhao*, 1McGill University, Ste Anne De Bellevue, Quebec, Canada, 2National Pingtung University of Science and Technology, Neipu, Pingtung, Taiwan, 3United States Department of Agriculture, Beltsville, MD.

W23 Effect of supplementation with a Bacillus-based direct-fed microbial on calf growth, Clostridium perfringens shedding, and incidence of scours. C. Wehnes*, 1, E. Davis*, 1, K. Novak*, 1, V. PatSkevich*, 1, T. Rehberger*, 1, D. Shields*, 1, and J. Coalson*, 1Agtech Products, Inc., Waukesha, WI, 2Merrick’s, Inc., Union Center, WI.


W25 A cross-sectional survey of Salmonella serotypes from dairies with a history of Salmonellosis in the Great Lakes Region of the United States. C. Wehnes*, 1, V. PatSkevich, K. Mertz, and T. Rehberger, Agtech Products, Inc., Waukesha, WI.


W27 Feeding unprotected fish oil 3 weeks prepartum alters the fatty acid composition of plasma in both the cow and calf at parturition, but had no effect on bactericidal or cytokine function. M. A. Ballou*, 1, R. C. Gomes, and E. J. DePeters, University of California, Davis.

W28 Relationship of plasma immunoglobulin G concentrations to temperament and growth performance. K. R. Parker*, 1, S. T. Willard*, 1, R. D. Randall*, 1, T. H. Welsh, Jr., 1, and R. C. Vann*, 1MAFES-Brown Loam Experiment Station, Raymond, MS, 2Mississippi State University, Starkville, 3Texas A&M University Agricultural Research & Extension Center, Overton, 4Texas A&M University, College Station.

Breeding and Genetics - Livestock and Poultry III
Exhibit Hall C


W33 Promoter region of the bovine growth hormone receptor (GHR) gene: resequencing, SNP detection, and association with performance traits in Brangus bulls. A. J. Garrett*, G. Rincon2, J. F. Medrano2, G. A. Silver1, and M. G. Thomas1, 1New Mexico State University, Las Cruces, New Mexico, United States, 2University of California, Davis.

W34 Animal model analyses of additive and non-additive genetic effects for 205-day weight in a Nellore x Hereford multibreed population in Brazil. A. de los Reyes1, M. A. Elzo*2, V. M. Roso1, R. Carvalheiro1, L. A. Fries1, and J. L. Ferreira1, 1Federal University of Goias, Goiania, GO, Brazil, 2University of Florida, Gainesville, 3GenSys Associated Consultants, Porto Alegre, RS, Brazil.


W36 Evaluation of post-weaning phenotypic residual feed intake in an Angus-Brahman multibreed herd of beef cattle. M. A. Elzo*, G. R. Hansen*, I. G. Wasdin1, J. D. Driver1, and J. L. Jones1, 1University of Florida, Gainesville, 2North Florida Research and Education Center, Marianna, FL.


W38 Genetic parameters for growth traits and their relationships with yearling wool weight in Baluchi sheep breed of Iran. A. Kamali*, H. R. Mirzaee1, H. Naeemipour2, A. Delghandi1, and H. Farhangfar, 1Zabol University, Zabol, Iran, 2Birjand University, Birjand, Iran.

W39 Estimation of genetic parameters for pre and post weaning average daily gains in a flock of Iran-black sheep breed of Iran. H. Farhangfar*1, M. H. Molaece1, and H. Naeemipour1, 1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran.

W40 Genetic analysis of birth and weaning weights in a flock of Iran-black sheep breed of Iran. H. Farhangfar*1, M. H. Molaece1, and H. Naeemipour1, 1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran.

W41 Estimation of genetic parameters for early growth traits in the Mehraban sheep using different models. P. Zamani* and H. Mohammadi2, 1Bu-Ali Sina University, Hamedan, Iran, 2Agricultural-Jahad Organization, Hamedan, Iran.

W42 Application of logistic regression model to estimate phenotypic trend for twining trait of Baluchi sheep in Abbasabad breeding station of Mashhad. H. Farhangfar*1, M. H. Molaece1, and H. Naeemipour1, 1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran.

W43 Genetic parameters estimation of Cashmere production for an indigenous goat in southern Khorasan province of Iran by using a repeatability model. H. Naeemipour*, H. Farhangfar, M. R. Asghari, and M. Bashtani, Birjand University, Birjand, Iran.

W44 Effect of genotype on characteristics of porcine aortic valves and bovine pericard as substitute heart valves. S. De Smet*, W. Deklerck1, E. Claeys1, G. Van Nooten*, and K. Narine1, 1Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Melle, Belgium, 2Department of Cardiac Surgery, University Hospital Ghent, Ghent, Belgium.

W46 Genetic parameters for different measures of feed efficiency and their relationships with its component traits in Duroc pigs. M. A. Hoque*1, K. Suzuki1, H. Kadowaki2, and T. Shibata3, 1Tohoku University, Miyagi, Japan, 2Miyagi Prefecture Animal Industry Experiment Station, Japan.

W47 Genetic parameters for carcass traits and their genetic relationships with feed efficiency traits in Duroc pigs. M. A. Hoque*1, K. Suzuki1, and T. Oikawa2, 1Tohoku University, Miyagi, Japan, 2Okayama University, Japan.

W48 Prediction of number born alive and weaning weight of litter in first parity using performance test traits in four breeds of swine. Z. B. Johnson*, University of Arkansas, Fayetteville.


W52 The effect of two freezing rates and two equilibration times on semen post-thaw motility of bad freezer bulls. G. Rocha-Chavez1, J. M. Tapia-Gonzalez1, J. G Michel-Purra1, M. A. Pinto-Jacobo2, and G. Gonzalez-Guerra*1, 1CUSUR Univ de Guadalajara, Cd Guzman, Jalisco, Mexico, 2URPJ, Guadalajara, Jalisco, Mexico.

W53 Effect of selection for increased egg production, age, and sex on turkey breast muscle development. C. S. Coy*, K. E. Nestor, and S. G. Velleman, Ohio Agricultural Research and Development Center, The Ohio State University, Wooster.

W54 Sequence homology comparison between goose and chicken liver cDNA libraries. Y. H. Wang*1, E.-C. Lin1, M. C. Hsu2, C. Y. Lin3, B. T. Tsai4, C. F. Yen1, H. W. Lin1, S. T. Ding1, W. T. K. Cheng1, K. T. Yang1, M. C. Huang1, Y.-H. Fan2, S.-H. Chiou3, C. F. Chen3, Y. P. Lee1, 1National Taiwan University, Taipei, Taiwan, 2National Taitung Junior College, Taitung, Taiwan, 3National Chung Hsing University, Taichung, Taiwan.


W56 Long-term effects on the expression of the intestinal Na-P type IIb cotransporter in broilers fed phosphorus deficient diets early in life. C. M. Ashwell*1 and R. Angel2, 1North Carolina State University, Raleigh, NC, 2University of Maryland, College Park, MD.

W57 Analysis of expressed sequenced tags from abdominal muscle cDNA library of the pacific white shrimp Litopenaeus vannamei. J. Cesar, B. Zhao, and J. Yang*, University of Hawaii, Honolulu.

Dairy Foods
Dairy Processing, Products and Microbiology
Exhibit Hall C

W58 Higher oxidative product in UHT drinking milk originated from milk powder than that from raw milk. S. Santinate, W. Suriyasathaporn, and P. Vinitchaikul*, Chiang Mai University, Muang, Chiang Mai, Thailand.

W59 Effect of cold storage and packaging material on butter flavor. P. R. Lozano2, R. E. Miracle*1, A. J. Krause1, K. R. Cadwallader2, and M. A. Drake1, 1North Carolina State University, Raleigh, 2University of Illinois, Champaign-Urbana.

W60 Persistence of conjugated linoleic acid (CLA) on three dairy products. M. A. Rodriguez1, P. Pellegrini1, G. Muset1, P. Gatti1, D. A. Gagliostro*2, 1Instituto Nacional de Tecnología Industrial (INTI). Lácteos, Buenos Aires, Argentina, 2Instituto Nacional de Tecnología Agropecuaria (INTA), Balcarce, Argentina.

W61 Effects of refrigeration and calcium on whey protein aggregation. M. R. Costa*1,2, G. Brisson1, M. L. Gigante2, P. S. Tong1, and R. Jiménez-Flores1, 1California Polytechnic State University, San Luis Obispo, 2State University of Campinas, Campinas, Brazil.
Seasonal variation of conjugated linoleic acid (CLA) and n-3 fatty acids of goat milk fat and its transfer into cheese. A. Nudda1, G. Battacone1, S. Testone2, and G. Pulina*1, 1Dipartimento di Scienze Zootecniche - Università di Sassari, Sassari, Italy, 2Associazione Regionale Allevatori della Sardegna, Cagliari, Italy.


Effect of total protein content and whey to casein ratio on the texture of ice cream. J. M. Morton1, P. Quok*2, J. Estrade1, W. Wang-Nolan1, S. Vink1, and P. S. Tong1, 1Dairy Products Technology Center, San Luis Obispo, CA, 2California Polytechnic State University, San Luis Obispo.

Influence of form of vitamins on yogurt characteristics. B. Dufrene*1 and K. J. Aryana2, 1Louisiana State University, Baton Rouge, 2Louisiana State University Agricultural Center, Baton Rouge.


Colostrum fortified probiotic fat free yogurt. E. Albers1, O. Cueva1, and K. J. Aryana*2, 1Louisiana State University, Baton Rouge, 2Louisiana State University Agricultural Center, Baton Rouge.

The effect of the ratio of ice cream mix to yogurt on the properties of the resulting yogurt ice creams. D Olson*, K. J. Aryana, and C Boeneke, Louisiana State University Agricultural Center, Baton Rouge.

Characteristics of ice cream as influenced by a weight loss ingredient. K. J. Aryana*1, D Olson1, and A Greenbaum2, 1Louisiana State University Agricultural Center, Baton Rouge, 2Louisiana State University, Baton Rouge.

Influence of garlic on the characteristics of yogurt. K. Bridges1 and K. J. Aryana*2, 1Louisiana State University, Baton Rouge, 2Louisiana State University Agricultural Center, Baton Rouge.


High pressure processing prevents formation of overset eyes in Swiss cheese. N. Koca*12, N. A. Kocaoglu-Vurma2, V. M. Balasubramaniam2, and W. J. Harper1, 1Ege University, Bornova, Izmir, Turkey, 2The Ohio State University, Columbus.

Effect of UHT and HTST processing on sweetness perception in sucrose–sweetened milk. J. M. Morton1, S. J. Gualco*2, P. Durongwong2, J. Estrade1, S. Vink1, and P. S. Tong1, 1Dairy Products Technology Center, San Luis Obispo, CA, 2California Polytechnic State University, San Luis Obispo.


Validation of Petrifilm plates for enumeration of total bacteria, psychrotropic bacteria, and coliforms in goat milk. S. S. Chen12, J. S. Van Kessel1, B. Bah1, F. Z. Ren2, and S. S. Zeng*1, 1Langston University, Langston, OK, 2China Agricultural University, Beijing, China, 3USDA-ARS, Beltsville, MD.

Applying slide-cover-glass method for cultivating anaerobic rumen fungi and employing polymerase chain reaction technique for their molecular identification. M. H. Sekhavati, M. R. Nassiry, M. Danesh Mesgaran*, and H. Tavasoli, Ferdowsi University of Mashhad, Mashhad, Iran.

Quantification of Staphylococcus aureus which harboring sea in milk by real-time PCR. Y. Li* and Y. Jiang, Key Lab of Dairy Science, Ministry of Education, Northeast Agricultural University, Harbin, China.

Detection of viable Listeria monocytogenes in milk by Real time RT-PCR. B. Yan* and Y. Jiang, National Research Center of Dairy Engineering and Technology, Harbin, Heilongjiang, China.

W82 Acoustical emissions generated by *Lactococcus lactis* ssp *lactis* C2. C. L. Hicks*1, J. M. Stencil2, and H. Song3, 1University of Kentucky, Lexington, 2Tribo Flow Separations, Lexington, KY.


W84 Production of bacteriocins by staphylococcal strains isolated from Brazilian cheese. M. A. V. P. Brito1 and G. A. Somkuti*2, 1EMBPRA PA Dairy Cattle Research Center, Juiz de Fora, Brazil, 2Eastern Regional Research Center, USDA-ARS, Wyndmoor, PA.


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**Egg and Meat Science and Muscle Biology - Livestock and Poultry III**

**Exhibit Hall C**


W89 Efficacy of blood hemoglobin as an indicator of pork quality. A. N. Lepper*, H. N. Zerby, S. J. Moeller, K. M. Brueggemeier, and A. C. Naber, The Ohio State University, Columbus.

W90 Evaluation of Haugh Units and yolk index as criteria to establish a low temperature storage limit for refrigerated shell eggs. D. Shin*1, C. Narciso-Gaytan1, M. Sartor1, J. R. Regenstein2, and M. X. Sánchez-Plata1, 1Texas A&M University, College Station, 2Cornell University, Ithaca, NY.

W91 The acceptance of brown-shelled eggs in a white-shelled egg market. N. P. Johnston*1, L. K. Jefferies1, B. Rodriguez2, and D. E. Johnston1, Brigham Young University, Provo, UT, 2University of San Andres, La Paz, Bolivia.

W92 Nutritional composition of raw and fried enhanced or non-enhanced boneless chicken breast fillets. J. Kiker*1, J. Howe2, J. Holden2, J. Boyce3, A. Luna3, C. Alvarado4, D. Wester4, and L. Thompson1, 1Texas Tech University, 2Beltsville Human Nutrition Research Center, Beltsville, MD.


W96 On the tenderness of commercial boneless skinless broiler breast meat. Y. S. Lee*, C. M. Owens, and J. F. Meullenet, University of Arkansas, Fayetteville.


W98 Mapping tenderness of the *M. Serratus ventralis*. L. M. Grimes* and C. R. Calkins, University of Nebraska, Lincoln.

**Forages and Pastures - Livestock and Poultry**

**Pastures and Grazing**

**Exhibit Hall C**

W101 Effect of morphological traits on intake characteristics of four grass species found in temperate biodiverse pasture systems. K. J. Soder* and M. A. Sanderson, USDA-ARS, Pasture Systems & Watershed Mgmt. Research Unit., University Park, PA.

W102 Estimation of forage intake and the presence of alkaloids in ruminal fluid and forage in steers grazing three different fescue types. R. L. Stewart, Jr.*, G. Scaglia, J. P. Fontenot, W. S. Swecker, Jr., A. O. Abaye, J. H. Fike, and M. A. McCann, Virginia Polytechnic Institute and State University, Blacksburg.

W103 Efficacy of EndoFighter™ for stocker cattle grazing endophyte-infected tall fescue pastures during late summer and fall. R. Norman1, C. D. Lane1, S. S. Block2, W. W. Gill1, A. E. Fisher1, R. L. Mills1, B. T. Campbell1, F. N. Schrick1, and J. C. Waller*1, 1University of Tennessee, Department of Animal Science, Knoxville, 2ADM Animal Nutrition Research, Decatur, IL.

W104 Effect of cultivar and defoliation frequency on forage yield of Chloris gayana kunth in a moderate saline soil of the semi-arid chaco of Argentina. M. V. Cormacchione*1, H. E. Pérez2, and A. E. Fumagalli1,1, Instituto Nacional de Tecnología Agropecuaria, Santiago del Estero, Argentina, 2Instituto Nacional de Tecnología Agropecuaria, Leales, Tucumán, Argentina, 3Universidad Nacional de Santiago del Estero, Santiago del Estero, Argentina.

W105 Effect of herbage depletion on cattle grazing dynamics in wheat pastures. P. Gregorini*1, M. Bowman1, W. Coblenz2, P. A. Beck3, and S. A. Gunter2, USDA–ARS, University Park, PA, 1University of Arkansas SWREC, Hope, 1University of Arkansas, Fayetteville, 4USDA–ARS, Madison, WI.

W106 Evaluation of ryegrass-based pastures grazed under the leaf stage concept in commercial dairy farms in the highlands of Costa Rica. J. Ml. Sánchez*1, L. Villalobos1,3, and A. Martínez1,2, 1Universidad de Costa Rica, San José, 2Centro de Investigación en Nutrición Animal, San José, Costa Rica, 3Escuela de Zootecnia, San José, Costa Rica.

W107 Supplementation of digestible fiber and glucomannan to tall fescue pastures: Dry matter intake and fecal alkaloid concentration. R. L. Mills*1,2, C. J. Richards2, and J. C. Waller1, 1The University of Tennessee, Knoxville, 2Oklahoma State University, Stillwater.

W108 Evaluation of endomycorrhizal colonization in three species of crassulaceous acid metabolism in northern part of Mexico. J. R. Martínez*1, M. A. Peña1, R. E. Vázquez1, E. Gutierrez1, E. Olivares1, J. A. Vidales1, and R. D. Valdez1, 1Facultad de Agronomía, UANL, Monterrey, Mexico, 2INIFAP, General Terán, Mexico, 3CRUCEN, Universidad de Chapingo, Zacatecas, Mexico.

W109 Evaluation of EndoFighter™ in a tall fescue grazing system for beef cattle. A. E. Fisher*1, S. S. Block2, K. J. Daniels2, M. A. Franklin2, N. A. Pyatt1, and J. C. Waller1, 1University of Tennessee, Department of Animal Science, Knoxville, 2ADM Animal Nutrition Research, Decatur, IL.

W110 Changes in chemical composition and vertical distribution of kura clover-reed canarygrass swards relative to days of regrowth. K. L. Kammes*1, D. K. Combs, and K. A. Albrecht, University of Wisconsin, Madison.

W111 Growth performance and immune function of fall-borne beef calves weaned from endophyte infected tall fescue pastures on different dates in the spring. J. D. Caldwell*1, K. P. Coffey1, W. K. Coblenz2, R. K. Ogden2, M. L. Looper3, D. L. Kreider1, J. A. Jennings4, D. S. Hubbell, III1, T. W. Hess1, and C. F. Rosenkrans, Jr.*1, 1University of Arkansas, Fayetteville, 2USDA-ARS, Marshall, WI, 3USDA-ARS, Marshall, WI, 4USDA-ARS, Booneville, AR, 5University of Arkansas, Fayetteville, 6Cooperative Extension Service, Little Rock, AR, 1University of Arkansas, Fayetteville, 2University of Arkansas, Fayetteville, 5University of Arkansas, Fayetteville, 6University of Arkansas, Fayetteville.

W112 Intensive short duration grazing of fescue pastures to extend the grazing season of winter wheat. W. A. Phillips*, B. K. Northup, and B. C. Venuto, USDA-ARS Grazinglands Research Laboratory, El Reno, OK.

Comparison of bloat potential between hard red and soft red winter wheat. M. S. Akins*1, E. B. Kegley1, K. P. Coffey1, K. S. Musby1, W. K. Cobletz2, R. K. Bacon1, J. C. Moore1, J. D. Caldwell1, and J. V. Skinner Jr.1, *University of Arkansas, Fayetteville; 2USDA-ARS, Marshfield, WI.

The effect of initial spring grazing date and stocking rate on sward profile during the main grazing season. E. Kennedy*1, M. O’Donovan1, F. O’Mara2, and L. Delaby3, Teagasc, Dairy Production Research Centre, Moorepark, Fermoy, Co. Cork, Ireland; 2School of Agriculture, Food Science and Veterinary Medicine, UCD, Belfield, Dublin, Ireland; 3INRA, UMR Production du Lait St. Gilles, France.


Performance of stocker cattle grazing two sorghum × sudangrass hybrids under various stocking rates. K. C. McCuistion*1, F. T. McCollum2, L. W. Greene3, B. W. Bean2,3, and R. VanMeter3, 1Texas A&M University, Kingsville; 2Texas Cooperative Extension, Amarillo; 3Texas Agricultural Experiment Station, Amarillo.

Nutritive value of maralfala grass under tropical dry forest conditions. T. Clavero* and R. Razz, Facultad de Agronomia, Universidad del Zulia, Maracaibo, Zulia, Venezuela.

Comparing wether kids on summer cultivated pasture and mesquite rangeland with and without maize grain supplement. S. Pagan-Riestra*1,2, J. P. Muir1, K. A. Littlefield1,4, and S. M. Weiss3, 1Texas Agricultural Experiment Station, Stephenville; 2Texas A&M University, College Station, 3University of the U.S. Virgin Islands Experiment Station, Kingshill, St. Croix; 4Tarleton State University, Stephenville, TX.


Supplementation effects of Calliandra (Calliandra calothyrsus) on weight gains and efficacy of control of gastrointestinal nematodes in weanling goats. A. Acero*, E. Valencia, and A. A. Rodríguez, *University of Puerto Rico, Mayaguez Campus, Mayaguez, Puerto Rico.

Goat Species III
Exhibit Hall C

Luster measurement in mohair produced by Angora goats. C. J. Lupton*, B. S. Engdahl, F. A. Pfeiffer, and J. W. Walker, Texas Agricultural Experiment Station, San Angelo.


Goat conferences in Arkansas. J. A. Pennington*, University of Arkansas Cooperative Extension Service, Little Rock.


Wednesday, July 11, 2007
Effect of hydrodynamic pressure processing on chevon quality characteristics. K. R. Eega*, J. H. Lee¹, M. B. Solomon¹, T. D. Pringle¹, K. W. McMillin¹, and G. Kannan¹, ¹Fort Valley State University, Fort Valley, GA, ²USDA/ARS Food Technology and Safety, Beltsville, MD, ³University of Georgia, Athens, ⁴Louisiana State University, Baton Rouge.

Quality characteristics of jerky made from Hydrodynamic Pressure processed (HDP) chevon and beef. K. R. Eega*, J. H. Lee¹, M. B. Solomon², T. D. Pringle³, K. W. McMillin⁴, and G. Kannan¹, ¹Fort Valley State University, Fort Valley, GA, ²USDA/ARS Food Technology and Safety Laboratory, Beltsville, MD, ³The University of Georgia, Athens, ⁴Louisiana State University, Baton Rouge.

Chemical composition and quality of chevon as influenced by a diet high in condensed tannins. M. Vanguru*, J. H. Lee, D. A. Moore, B. Kouakou, T. H. Terrill, and G. Kannan, Fort Valley State University, Fort Valley, GA.

The small ruminant nutrition system: Development of a goat submodel. A. Cannas*, L. O. Tedeschi², and D. G. Fox³, ¹University of Sassari, Sassari, Sardinia, Italy, ²Texas A&M University, College Station, ³Cornell University, Ithaca, NY.

Short-term trends of Boer and Kiko bucks in a central performance test. T. A. Gipson¹, L. Dawson², and T. Sahlu¹, ¹E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, ²Oklahoma State University, Stillwater.

Influence of dietary condensed tannins on gastrointestinal tract, skin, and carcass bacterial counts in meat goats. J. H. Lee*, D. A. Moore, M. Vanguru, B. Kouakou, T. H. Terrill, and G. Kannan, Fort Valley State University, Fort Valley, GA.

Dietary regimen and gastrointestinal tract microbial loads in meat goats. J. H. Lee*, B. Kouakou, and G. Kannan, Fort Valley State University, Fort Valley, GA.

Impact of types of pelleted feed and two pellet to hay ratios on the development of urolithogenic compounds in meat goats. K. Sullivan¹, S. Freeman*, M. Poore¹, E. van Heugten¹, K. Ange-van Heugten¹, and B. Wolfe², ¹North Carolina State University, Raleigh, ²The Wilds, Cumberland, OH.

**Nonruminant Nutrition**

**Feeder Pig and Sow Nutrition II**

**Exhibit Hall C**

Comparison and accounting for differences of three phytase activity assay methods. J. D. Weaver* and X. G. Lei, Cornell University, Ithaca, NY.

Effects of dietary supplementation of an enzyme blend on digestibility of nutrients in the hindgut of growing pigs. F. Ji¹, D. Casper², D. Spangler³, K. Haydon¹, and J. E. Pettigrew¹, ¹University of Illinois, Urbana, ²Agri-King, Inc., Fulton, IL, ³Prince Agri Products, Quincy, IL.

Effect of sex and feeding level on meat quality and fatty acid profile of backfat of Iberian pigs reared under intensive production systems. M. P. Serrano¹, D. G. Valencia¹, R. Lázaro¹, A. Fuentetaja², and G. G. Mateos*¹, ¹Universidad Politécnica de Madrid, Spain, ²Copese, Segovia, Spain.

Effects of conjugated linoleic acid (CLA) on sow reproductive performance. R. Patterson*, M. L. Connor, and C. M. Nyachoti, University of Manitoba, Winnipeg, Manitoba, Canada.

Apparent and standardized ileal amino acid digestibilities in pea and pea protein isolate fed to growing pigs. F. O. Opapeju, G. Borgesa*, R. Patterson, and C. M. Nyachoti, University of Manitoba, Winnipeg, Manitoba, Canada.

Growth performance and carcass characteristics of growing pigs fed crude glycerol. P. J. Lammers*, M. S. Honeyman¹, B. J. Kerr², T. E. Weber², and K. Bregendahl¹, ¹Iowa State University, Ames, ²USDA-ARS, Swine Odor and Manure Management Research Unit, Ames, IA.


Effect of phytase on phosphorus and calcium digestibility in lactating sows. J. Tossenberger¹, L. Babinszky*¹, and I. Kühn², ¹University of Kaposvár, Kaposvár, Hungary, ²AB Enzymes GmbH, Darmstadt, Germany.
Effect of dietary supplemental Megazone® on growth performance, nutrients digestibility, blood characteristics, meat quality and short-term excesses of potassium bicarbonate for prevention of fatigue in market pigs. J. R. Danielson*, J. L. Reichert, M. Cortés1, J. Peinado1, and J. Ruiz1, 1Imasde Agropecuaria, S.L., Pozuelo de Alarcón, Spain, 2SAT Villa Vieja, Olivenza, Spain, 3Universidad de Extremadura, Cáceres, Spain.

Effect of dietary supplemental Megazone® on growth performance, nutrients digestibility, blood characteristics, meat quality and short-term excesses of potassium bicarbonate for prevention of fatigue in market pigs. J. R. Danielson*, J. L. Reichert, M. Cortés1, J. Peinado1, and J. Ruiz1, 1Imasde Agropecuaria, S.L., Pozuelo de Alarcón, Spain, 2SAT Villa Vieja, Olivenza, Spain, 3Universidad de Extremadura, Cáceres, Spain.


Evaluation of corn grain with the genetically modified event DAS-59122-7 fed to growing-fattening pigs. H. H. Stein*1, J. A. Kane, and T. D. Crenshaw, University of Wisconsin, Madison.

Comparative determination of true digestibility and the fecal endogenous calcium losses associated with soybean meal for growing barrows and gilts by the regression analysis technique. Y. Zhang*1, J. Wang2, S. Yan1, Y. L. Yin1, and M. Z. Fan1, 1Inner Mongolian Agricultural University, Huhhot, China, 2The Chinese Academy of Agricultural Sciences, Beijing, China, 3Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, China, 4University of Guelph, Guelph, Canada.


Effects of dietary fat and restriction on productivity and fatty acid composition of Iberian pigs. J. Viguera*1, J. A. Pahm1, C. Pedersen2, D. Simon3, and H. H. Stein1, 1University of Illinois, Urbana, 2IMVZ/UNESP, Botucatu, SP, Brazil, 3Danisco Animal Health, Marlborough, UK, 4South Dakota State University, Brookings.

Comparative determination of true digestibility and the fecal endogenous calcium losses associated with soybean meal for growing barrows and gilts by the regression analysis technique. Y. Zhang1, J. Wang2, S. Yan1, Y. L. Yin1, and M. Z. Fan1, 1Inner Mongolian Agricultural University, Huhhot, China, 2The Chinese Academy of Agricultural Sciences, Beijing, China, 3Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, China, 4University of Guelph, Guelph, Canada.

Evaluation of corn grain with the genetically modified event DAS-59122-7 fed to growing-fattening pigs. H. H. Stein*1, D. W. Rice2, B. L. Smith1, M. A. Hinds1, T. E. Sauber2, C. Pedersen1, D. M. Wulf4, and D. N. Peters4, 1University of Illinois, Urbana, 2Pioneer Hi-Bred International Inc., Johnston, IA, 3Danisco Animal Health, Marlborough, UK, 4South Dakota State University, Brookings.

Reactive lysine in distillers dried grains and distillers dried grains with solubles measured with the homoarginine or the furosine procedure. A. A. Pahm*1, C. Pedersen1, D. Simon3, and H. H. Stein1, 1University of Illinois, Urbana, 2Danisco Animal Nutrition, Marlborough, UK, 3South Dakota State University, Brookings.

Ensilage of the high moisture sorghum related to the endosperm structure and starch granules. A. B. R. Lopes*1, D. A. Bertoll, M. Cereda2, M. Leonel2, and C. Costa1, 1FMVZ/UNESP, Botucatu, SP, Brazil, 2Cerat/FCA/UNESP, Botucatu, SP, Brazil, 3FAPESP, São Paulo, SP, Brazil.


The endosperm structure and starch granules to ensilage of high moisture corn grains. A. B. R. C. Lopes*1, D. A. Bertolli, M. Cereda2, M. Leonel2, and C. Costa1, 1Faculdade de Medicina Veterinária e Zootecnia/UNESP, Botucatu, SP, Brazil, 2Cerat/FCA/UNESP, Botucatu, SP, Brazil.
W162 Effects of feeding alfalfa on nursery pig growth performance. C. L. Martin1, J. W. Frank1, Z. B. Johnson1, G. M. Weiss2, and C. V. Maxwell1, 1University of Arkansas, Fayetteville, 2Progress Plus LCC, Lancaster, WI.

W163 Effect of Ascophyllum nodosum extract on growth performance, nutrient digestibility, carcass characteristics and selected intestinal microflora populations of grower-finisher pigs. G. E. Gardiner1, A. J. Campbell1, J. V. O’Doherty1, E. Pierce1, P. B. Lynch1, F. C. Leonard1, C. Stanton1, R. P. Ross1, and P. G. Lawlor1, 1Teagasc, Moorepark Research Centre, Fermoy, Co. Cork, Ireland, 2Alimentary Pharmabiotic Centre, Cork, Ireland, 3University College Dublin, Belfield, Dublin, Ireland.


W165 Effects of dietary energy and lysine levels during late gestation and lactation on the lactational performance in primiparous sows. S. Heo, Y. X. Yang, Z. Jin, J. H. Yun, J. Y. Choi, B. K. Yang, and B. J. Chae*, Kangwon National University, Chuncheon, Kangwon-Do, Republic of Korea.

W166 Effect of GnRH-analogue and chromium methionine supplementation on reproductive performance of the female pig. J. A. Romo1, R. Barajas1, J. J. Valencia2, E. Silva3, and F. Juarez1, 1FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico, 2FMVZ-Universidad Nacional Autonoma de Mexico, Mexico, D.F., Mexico, 3FMVZ-Universidad de Colima, Colima, Colima, Mexico.

W167 Effects of yeast culture supplementation to lactation diet on lactation performance of sows. C. Vasquez1, A. T. Moore1, C. R. Richardson2, and S. W. Kim1, 1Texas Tech University, Lubbock, TX, USA, 2Texas State University, San Marcos, TX, USA.

W168 Antibiotics, acidifiers or yeast on the productive performance of growing pigs challenged with Salmonella cholerasuis. A. A. Martinez1, J. Lopez1, J. N. Vazquez1, B. Merino2, G. E. Lanz2, and J. A. Cuaron1, 1CENID-Microbiologia,INIFAP, Mexico, 2PIPEME, A.C., Mexico, 3CENID-Fisiologia Animal, INIFAP, Mexico.

W169 Benzoic acid in feed additive for growing pigs naturally infected with Salmonella cholerasuis. A. A. Martinez1, J. Lopez1, B. Merino2, J. Cervantes3, and J. A. Cuaron4, 1CENID-Microbiologia, INIFAP, Mexico, 2PAIPEME, A.C., Mexico, 3DSM Nutritional Products, Mexico, 4CENID-Fisiologia Animal, INIFAP, Mexico.

W170 Response of grower pigs to dietary inclusion of naked oats (Avena nuda). P. B. Lynch1, P. G. Lawlor1, and J. Burke2, 1Teagasc, Moorepark Research Centre, Fermoy, Co. Cork, Ireland, 2Teagasc, Oakpark Research Centre, Carlow, Ireland.


W172 Use of a selected clay in growing pigs fed zearalenone contaminated sorghum grain. J. Lopez1, A. A. Martinez1, D. V. Gonzalez1, and J. A. Cuaron1, 1CENID-Microbiologia, INIFAP, Mexico, 2CENID Fisiologia Animal, INIFAP, Mexico.

W173 Effects of flaxseed and carbohydrase enzyme on portal blood short chain fatty acids, caecal digesta amine content and tissue fatty acid profiles in piglets. E. Kiari*, B. A. Slominski, and C. M. Nyachoti, University of Manitoba, Winnipeg, MB, Canada.

Nonruminant Nutrition
Poultry Nutrition III
Exhibit Hall C

W174 Biochemical profile of broilers fed diets supplemented with amylase from Cryptococcus flavius and Aspergillus niger HM2003. C. S. Minafra1, J. H. Stringhini1, S. F. F. Marques1, M. A. Andrade1, C. J. Ulhoa1, and G. H. K. Moraes1, 1Universidade Federal de Goias, Goiânia, Goias, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais Brazil.

W175 Effects of graded levels of cottonseed cake on performance, haematological and carcass characteristics of broilers fed from day old to 8 weeks of age. G. O. Adeyemo* and O. G. Longe, University of Ibadan, Oyo, Nigeria.

W176 Serum biochemistry profile of broilers fed an enzymatic complex from Trichoderma harzianum. S. M. F. Marques1, C. S. Minafra1, J. H. Stringhini1, P. M. Rezende1, M. A. Andrade1, M. B. Café1, and C. J. Ulhoa1, 1Universidade Federal de Goias, Goiânia, Goias, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais Brazil.
W177 Feeding performance in laying hens fed diets containing DAS-59122-7 maize grain compared with diets containing non-transgenic maize grain. C. M. Jacobs*,1, P. L. Utterback1, C. M. Parsons1, B. Smith2, M. Hinds2, D. Rice3, M. Liebergesell2, and T. Sauber1,1University of Illinois, Urbana,2Pioneer Hi-Bred International, Inc., Johnston, IA.


W179 Enzyme complex containing NSP-enzymes and phytase improves the performance of broilers fed corn or wheat-based diets. A. V. Mori1, M. Franceschi2, J. McNab1, A. Knox1, and P. A. Geraert1*,1Adisseo France SAS, Commentry, France,2Institut de Recerca i Tecnologia Agroalimentaries, Reus, Spain,3Nutrition Ltd., Roslin, United Kingdom.


W182 Dietary flaxseed supplementation affects broiler live performance. V. L. Carney*,1 M. J. Zuidhof1, M. Betti2, B. L. Schneider1, R. A. Renema2, F. E. Robinson2, and D. R. Korver2,1Alberta Agriculture and Food, Edmonton, Alberta, Canada,2University of Alberta, Edmonton, Alberta, Canada.

W183 Effect of alternate lutein and flaxseed enriched diet combinations on production parameters in laying hens. D. Franco-Jimenez*,1, R. Renema1, M. Zuidhof1, and F. Robinson1,1University of Alberta, Edmonton, Alberta, Canada,2Alberta Agriculture, Food and Rural Development, Edmonton, Alberta, Canada,3California State Polytechnic University, Pomona.


W185 Dietary supplementation with atracylodes macrocephala koidz polysaccharides enhances growth performance and development of immune organs in ducks. L. L. Li1*, Y. L. Yin1, B. Zhang2, G. H. Wen1, A. K. Li3, Z. P. Hou1, P. Zhang1, and G. Y. Wu1*,1The Chinese Academy of Sciences, Changsha, Hunan, China,2Hunan Agricultural University, Changsha, Hunan, China,3Academy of State Grain Administration of China, Beijing, China.4Texas A&M University, College Station.

W186 Production of low cholesterol eggs by dietary supplementation of probiotics and essential trace minerals in laying hen. S. J. You*, C. W. Kang, and B. Y. An, KonKuk University, Seoul, Korea.


W188 Use of enriched Selenium yeasts in laying hens diet: effects on production, metabolism, egg Se content and organ Se content. G. Invernizzi*, M. Ferroni, A. Agazzi, R. Rebbucci, G. Savoini, A. Baldi, and V. Dell’Orto, University of Milan, Milan, Italy.


W190 Fractional protein synthesis rate in breast muscle and liver tissues of broiler breeder hens before and after sexual maturity based on using 15N-Phe, and LC-MS and GC-C-IRMS. M. K. Manangi*, and C. N. Coon, University of Nebraska, College Station.

W191 Effects of methionine versus cystine supplementation on egg production parameters and feather quality in Bovan strain laying hens from 20 to 70 weeks of age. S. E. Scheideler*, P. Weber, and S. Shields, University of Nebraska, Lincoln.

W192 Comparison of various methods for endogenous ileal amino acid flow determination in broiler chickens. A. Golian*, W. Guenter1, D. Hoehler2, and C. M. Nyachoti1,1University of Manitoba, Winnipeg, MB, Canada,2Degussa Corporation, Kennesaw, GA.

W193 Ideal ratio of Arg, Ile, Met, Met+Cys, Thr, Trp, and Val relative to Lys for 28 to 34-week-old laying hens. S. Roberts*, B. Kerr2, D. Hoehler2, and K. Bregendahl1,1Iowa State University, Ames,2NSRIC, USDA/ARS, Ames, IA.3Degussa Corporation, Kennesaw, GA.

W194 Carcass yield of modern vs 1970’s heritage broilers fed drug free recommended and low protein diets. A. Golian*, T. A. Woyengo1, C. Bennett1, W. Guenter1, and H. Mue1,1University of Manitoba, Winnipeg, Manitoba, Canada,2University of Ferdowsi, Mashhad, Iran,3Manitoba Agriculture, Food and Rural Initiatives, Winnipeg, Manitoba, Canada.
Wednesday, July 11, 2007

**Physiology & Endocrinology - Livestock and Poultry**

**Reproductive Physiology**

**Exhibit Hall C**


W200  Effect of dietary ω-3 polyunsaturated fatty acid supplementation on hormone and metabolite concentrations and corpus luteum size in beef heifers. S. Childs*1,2, J. M. Sreenan¹, A. A. Hennessy², C. Stanton³, M. G. Diskin¹, and D. A. Kenny². ¹Teagasc Animal Production Research Centre, Athenry, Co. Galway, Ireland, ²University College, Dublin, Ireland, ³Teagasc Moorepark Food Research Centre, Co. Cork, Ireland.

W201  Effect of level of dietary supplementation on concentrations of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in selected tissues in cattle. S. Childs*1,2, J. M. Sreenan¹, A. A. Hennessy², C. Stanton³, and D. A. Kenny². ¹Teagasc Animal Production Research Centre, Athenry, Co. Galway, Ireland, ²University College, Dublin, Ireland, ³Teagasc Moorepark Food Research Centre, Co Cork, Ireland.


W205  Relationships between cortisol concentrations and cow temperament with calf exit velocity from 3 weeks of age through weaning. N. C. Burdick*¹, R. D. Randel², J. P. Banta², D. A. Neuendorff², J. C. White², J. G. Lyons¹, T. H. Welsh, Jr.³, R. C. Vann⁴, and J. C. Laurenz⁵. ¹Texas A&M University-Kingsville, Kingsville, ²Texas A&M University Agricultural Research and Extension Center, Overton, ³Texas A&M University, College Station, ⁴Mississippi State University, Raymond.


W207  In vitro production of bovine embryos in chemically defined serum-free media. A. Dhali, V. M. Anchampa Rath, S. P. Butler, R. E. Pearson, and F. C. Gwazdauskas*, *Virginia Polytechnic Institute and State University*, *Blacksburg*.


W209  Association of oviductal fluid (ODF) proteins with the bovine zona pellucida. E. Monaco*, B. Gasparini², L. Boccia², A. De Rosa², L. Attanasio², G. Campanile², and G. Killian³. ¹Pennsylvania State University, State College, ²Federico II University, *Naples, Italy*. 

W195  Performance and carcass parameters of broiler chicken from 1 to 45 d fed with different levels and source of vitamin D. J. A. G. Brito¹, A. G. Bertechini*, J. C. C. Carvalho¹, R. L. Rios¹, J. O. B. Sorbara², and F. J. Piraces². ¹Universidade Federal de Lavras, DZO, Lavras, MG, Brazil, ²DSM Nutritional Products, Sao Paulo, SP, Brazil.

W196  Performance and bone characteristics of broiler chicken from 1 to 21 d fed with different levels and source of vitamin D. J. A. G. Brito¹, A. G. Bertechini*, J. C. C. Carvalho¹, E. J. Fassani¹, J. O. B. Sorbara², and F. J. Piraces². ¹Universidade Federal de Lavras, DZO, Lavras, MG, Brazil, ²DSM Nutritional Products, Sao Paulo, SP, Brazil.


W207  In vitro production of bovine embryos in chemically defined serum-free media. A. Dhali, V. M. Anchampa Rath, S. P. Butler, R. E. Pearson, and F. C. Gwazdauskas*, *Virginia Polytechnic Institute and State University*, *Blacksburg*. 


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**Wednesday, July 11, 2007**
W210 Decreased pulsatile LH secretion does not affect the function of the corpus luteum of pregnancy in cattle. H. T. Toriz*, H. Basurto, A. A. Porras, and C. G. Gutierrez, Facultad de Medicina Veterinaria. UNAM, Mexico DF, Mexico.


W212 Nylon mesh vitrification for cryopreservation of bovine oocytes. V. M. Anchamparuthy*, A. Dhali, S. P. Butler, R. E. Pearson, and F. C. Gwazdauskas, Virginia Polytechnic Institute and State University, Blacksburg.

W213 Follicle numbers on the ovaries of cows selected for high and low IGF-L. Snellgrove1, T. A. Hoagland*1, G. W. Kazmier1, M. E. Davis2, D. Schriber1, and S. A. Zinn1, 1University of Connecticut, Storrs, 2The Ohio State University, Columbus.

W214 Effect of insulin-like growth factor-1 during culture on blastocyst mRNA abundance and survival in utero to day 14 of bovine embryos produced in vitro. J. Block*1, C. Wrenzycki2, D. Herrman2, T. M. Rodina1, H. Niemann1, A. D. Ealy1, A. E. Fischer-Brown1, and P. J. Hansen1, 1University of Florida, Gainesville, 2Institute for Animal Science, Neustadt, Germany, 3University of Illinois, Urbana.

W215 Effect of supplementation with Megalac-E on pregnancy rate in primiparous Nellore cows. C. N. Lopes1, J. L. M. Vasconcelos*1, T. P. B. Araujo2, and L. O. F. Oliveira1, 1FMVZ-UNESP, Botucatu, SP, Brazil, 2Arm&Hammer, Brazil, 3Propec Consultoria, Brazil.

W216 Progesterone postpartum determination and reproductive performance of crossbred cows. M. S. Arellano-Cornejo1, J. A. Casas*, M. F. Sa Filho, C. Narciso, F. Rivera, and J. E. P. Santos, Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare.


W218 Influence of insulin on plasma and hepatic composition, ovarian activity and estrous behavior in early lactation dairy cows. J. A. Casas*, M. F. Sa Filho, C. Narciso, F. Rivera, and J. E. P. Santos, Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare.


W220 Pregnancy loss in lactating Holstein cows diagnosed with twin versus singleton fetuses. N. Silva del Río*1, J. D. Colloton2, and P. M Fricke1, 1University of Wisconsin, Madison, 2Bovine Services LLC, Edgar, WI.


W222 Relationship between the occurrence of first ovulation in early postpartum and metabolic status in the cows that experiencing postpartum disease. M. Matsui*, E. Kaneko, M. Kataoka, C. Kawashima, N. Sudo, N. Matsunaga, M. Ishi, K. Kida, Y.-I. Miyake, and A. Miyamoto, Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan.

W223 Effects of dietary fats differing in proportion of unsaturated fatty acids on characteristics of preovulatory follicles in dairy cows. M. Katz*1,2, A. Arieli2, and U. Moallem1, 1Agriculture Research Organization, Bet Dagan, Israel, 2Faculty of Agriculture, Hebrew University, Rehovot, Israel.


W225 Effect of extender on retention of viability and motility in hair sheep and goat semen stored at 4°C. J. L. Mook* and S. Wildeus, Virginia State University, Petersburg.

W226 Use of vaginal progestin determinations to characterize the estrous cycle in captive female bontebok (Damaliscus pygargus pygargus). M. McGee*1, A. Kouba2, S. Bowers1, R. Meek2, B. L. Elliot4, C. Horton4, T. Hiñ3, E. Piorkowski2, and S. Willard1, 1Mississippi State University, Mississippi State, 2Memphis Zoo, Memphis, TN.

Pulmonary hemodynamic responses to intravenous prostaglandin E2 in broiler chickens. S. Stebel and R. F. Wideman, Jr.*,
University of Arkansas, Fayetteville.

Coordinate accumulation of the egg envelope glycoproteins during follicular development in Japanese quail (Coturnix japonica). T. Sasanami*1, M. Ohtsuki1,2, G. Hiyama1, N. Kansaku1, A. Tsukada3, K. Tahara4, T. Watanabe4, T. Yoshimura4, and M. Mori1, 1Shizuoka University, Shizuoka, Japan, 2Gifu University, Gifu, Japan, 3Azabu University, Sagamihara, Japan, 4Nagoya University, Nagoya, Japan.


Isolation and culture of chicken oocytes. W. D. Berry*, S. S. Oates, L. M. Stevenson, and C. R. James, Auburn University Poultry Science, Auburn, AL.

Gene expression of hen granulosa cell (GC) steroidogenic enzymes and gonadotropin receptors following a chronic heat stress (HS) episode. H. Taira*1 and M. M. Beck2, 1University of Nebraska, Lincoln, 2Clemson University, Clemson, SC.

Some observations on molting male Japanese quail. B. K. Biswas and K. L. Arora*, Fort Valley State University, Fort Valley, GA.

Rooster semen cryopreservation: Effect of line and male age on sperm function. D. C. Bongalhardo*1, J. Pelaez1, J. E. Fulton2, S. Saxena2, P. Settar2, N. P. O’Sullivan2, J. Arango2, and J. A. Long1, 1Beltsville Agricultural Research Center, Beltsville, MD, 2Hy-Line International, Dallas Center, IA.


Effect of boron supplementation on semen quality in mature boars. W. L. Flowers*1, J. W. Spears1, and F. H. Nielsen2, 1North Carolina State University, Raleigh, 2USDA-ARS, Grand Forks Human Nutrition Center, Grand Forks, ND.

Transient transgene transmission to piglets by sperm-mediated gene transfer. Z. Wu1, Z. Li1,2, and J. Yang*2, 1South China Agricultural University, Guangzhou, Guangdong, China, 2University of Hawaii, Honolulu.

Computer-assisted analysis of sperm parameters after selection of motile sperm by either percoll gradient, filtration or swim-up procedures. C. N. Person*, T. D. Lester, M. D. Person, and R. W. Rorie, University of Arkansas, Fayetteville.

Production, Management & the Environment - Livestock and Poultry III
Exhibit Hall C

Effect of soaking dairy cows at the feed line on animal body temperature in a tunnel ventilated barn equipped with evaporative pads located in a tropical climate, Thailand. D. V. Armstrong*1, M. J. VanBaale1, S. Rungruang2, V. Wuthironarith2, M. J. Brouk1, and J. F. Smith1, 1The University of Arizona, Tucson, 2Charoen Pokphand Group Co., Ltd., Bangkok, Thailand, 3Kansas State University, Manhattan.

Effect of soaking dairy cows at the feed line on animal behavior in a tunnel ventilated barn equipped with evaporative pads located in a tropical climate, Thailand. D. V. Armstrong*1, M. J. VanBaale1, S. Rungruang2, V. Wuthironarith2, M. J. Brouk1, and J. F. Smith1, 1The University of Arizona, Tucson, 2Charoen Pokphand Group Co., Ltd., Bangkok, Thailand, 3Kansas State University, Manhattan.

Thermal status for different breeds of dairy cattle exposed to summer heat stress in a grazing environment. J. N. Spain*1, L. Parsons1, R. Crawford2, C. Brown2, and D. E. Spiers1, 1University of Missouri, Columbia, 2Soutwest Research Center, Mt. Vernon, MO.

Labor, housing, feeding, and bedding affects on herd turnover rate and mortality rates of Southeastern Pennsylvania dairy herds. C. D. Dechow1 and R. C. Goodling*2, 1The Pennsylvania State University, University Park, 2Pennsylvania State Cooperative Extension, University Park, PA.

Body weight and condition score of four dairy genetic groups in summer or winter under low-input management. D. G. Johnson*1, B. J. Heins2, L. B. Hansen2, A. J. Seykora3, and J. G. Linn1, 1University of Minnesota, Morris, 2University of Minnesota, St. Paul.

Efficiency of use of imported magnesium, sulfur, copper, and zinc in Idaho dairy farms. A. N. Hristov*, W. Hazen, and J. E. Illsworth, University of Idaho, Moscow.

Reproductive status of dairy herds in Alberta: An objective assessment based on milk progesterone (P4) concentrations. D. J. Ambrose81, M. G. Colazo1, and J. P. Kastelic1, 1Alberta Agriculture and Food, Edmonton, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

Incidence and interrelation of some common hoof problems in a Southeast US dairy herd. A. H. Sanders*1, J. K. Shearer1, L. C. Shearer1, S. R. van Amstel2, D. W. Webb1, and A. De Vries1, 1University of Florida, Gainesville, 2University of Tennessee, Knoxville.

Economic analysis of bovine somatotropin to increase pregnancy rates in lactating dairy cows. A. A. Bell*, P. J. Hansen, and A. De Vries, University of Florida, Gainesville.


A comparison of visual and palpation-based body condition scoring systems. J. M. Bewley*1, R. E. Boyce2, D. J. Roberts3, M. P. Coffey1, A. Bagnall1, and M. M. Schutz1, 1Purdue University, West Lafayette, IN, 2IceRobotics Ltd., Roslin, Scotland, UK, 3Scottish Agricultural College Dairy Research Centre, Dumfries, Scotland, UK.

Effect of discontinuous roughage delivery in a feedlot diet on liveweight gain and feed efficiency of beef steers. M. Avila3, J. I. Arroquy1,2, and J. J. Saravia1, 1INTA Santiago del Estero, Santiago del Estero, Argentina, 2Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina, 3Universidad Nacional de Santiago del Estero, Santiago del Estero, Argentina.

Simulation model of fat deposition and distribution in beef steers: 1. Empirical models converting fat thickness to subcutaneous fat and KPH to visceral fat. M. J. McPhee81, J. W. Oltjen1, J. G. Fadel1, D. Perry2, and R. D. Sainz1, 1University of California, Davis, 2NSW DPI, Armidale, Australia.

Simulation model of fat deposition and distribution in beef steers: 2. Empirical models to initialize fat deposition models. M. J. McPhee81, J. W. Oltjen1, J. G. Fadel1, and R. D. Sainz1, 1University of California, Davis, 2NSW DPI, Australia.

Pasturing to decrease greenhouse gas emissions from feedlot cattle operations: A whole system approach. H. Koknaroglu1, T. Akunal1, T. Purevjav*2, and M. P. Hoffman2, 1Suleyman Demirel University, Isparta, Turkey, 2Iowa State University, Ames.

Evaluation of a delayed-release anabolic implant in finishing steers. W. Nichols1, J. Hutcheson1, D. Yates1, M. Streeter1, D. Smith*2, and M. Brown1, 1Intervet, Inc., Millsboro, DE, 2West Texas A&M University, Canyon.

Temperament, assessed upon feedlot entry, did not impact performance of Texas A&M Ranch to Rail steers. K. O. Curley, Jr.*1, J. J. Cleere3, J. C. Paschal1, T. H. Welsh, Jr.*, and R. D. Randle4, 1Texas Agricultural Experiment Station, College Station, 2Texas Cooperative Extension, College Station, 3Texas Cooperative Extension, Corpus Christi, 4Texas Agricultural Experiment Station, Overton.

Effect of frame score on performance and carcass characteristics of steers finished in the feedlot or backgrounded for various time on pasture and finished in the feedlot. H. Koknaroglu1, T. Akunal1, T. Purevjav*2, and M.P. Hoffman3, 1Suleyman Demirel University, Isparta, Turkey, 2Iowa State University, Ames.

Ruminant Nutrition III
Exhibit Hall C

Biological treatment of peanut hay as ruminant feed. B. Borhami*1, S. Soliman2, M. EL-Adawy3, E. Ghonaim2, M. Yacout1, and H. Gado1, Department of Animal Production, Faculty of Agriculture, Alexandria Univ., Alexandria, Egypt, 2Central Lab for food and Feed (CLFF), Ministry of Agriculture, Dokki, Giza, Egypt, 3Animal Production Research Institute, Ministry of Agriculture, Dokki, Giza, Egypt, 4Department of Animal Production, Faculty of Agriculture, Ain Shams Univ., Cairo, Egypt.

W260 Energy costs of steam-flaking corn with different chemical grain conditioning agents. A. T. Moore*1, C. R. Richardson1, J. M. Harris2, G. V. Pollard1, and D. C. Boyles1, 1Texas Tech University, Lubbock, 2Westway Feed Products, Inc., Tomball, TX, 3Texas State University, San Marcos.

W261 Determining optimum density of steam-flaked corn for feedlot heifers. M. L. May*, M. J. Quinn, B. E. Depenbush, and J. S. Drouillard, Kansas State University, Manhattan.


W264 Effects of ractopamine HCl and steroid implants on performance of grazing growing steers during the dry season, in tropical pastures.


W268 Adding neem oil to a feedlot diet modulated proportions of volatile fatty acids and increased microbial protein synthesis in a continuous culture. W. Z. Yang*, J. Laurain2, and B. Ametaj3, 1Research Centre, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, 2National Engineering School of Agronomy and Food Sciences, Nancy, France, 3Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.


W271 Relationship between residual feed intake, water intake and ultrasound body composition traits in Angus beef cattle divergently selected for serum IGF–I concentration. F. R. B. Ribeiro*, G. E. Carstens1, P. A. Lancaster1, L. O. Tesedci1, and M. E. Davis2, 1Texas A&M University, College Station, 2Texas A&M University, College Station, The Ohio State University, Columbus.

W272 Feed efficiency of beef cows and its progeny during the preweaning interval. T. Z. Albertini2, S. R. de Medeiros2, R. A. de A. Torres, Jr2, G. A. A. Gonçalves, G. Z. De Souza1, and E. P. Oliveira1, 1Cornell University, Ithaca, NY, 2Embrapa Beef Cattle, Campo Grande, MS, Brazil.

W273 Body composition and net protein and energy requirements of steers from four zebu and zebu × B. taurus crossbreds. R. Silva Goulart1, E. Benno Pott1, M. Mello de Alencar1, G. Maria da Cruz2, R. Tulio2, and D. Pazzanese Duarte Lanna*, 1FAPESP, USP, Piracicaba, SP, Brazil, 2Embrapa Beef Cattle, Campo Grande, MS, Brazil.

W274 Composition and net protein and energy requirements of steers from four zebu and zebu × B. taurus crossbreds. R. Silva Goulart1, E. Benno Pott1, M. Mello de Alencar1, G. Maria da Cruz2, R. Tulio2, and D. Pazzanese Duarte Lanna*, 1FAPESP, USP, Piracicaba, SP, Brazil, 2Embrapa Beef Cattle, Campo Grande, MS, Brazil.

W275 Relationship between residual feed intake, water intake and ultrasound body composition traits in Angus bulls. G. R. Hansen*, G. E. Carstens2, and D. G. Riley1, 1University of Florida NFREC, Marionna, 2Texas A & M University, College Station, 3USDA-ARS STARS, Brooksville, Fl.
Effects of yeast culture on 28-day performance of newly weaned, low-stress beef calves. C. R. Belknap*, R. R. Scott⁵, and J. C. Forcherio³, ¹Diamond V Mills, Cedar Rapids, IA, ²LongView Animal Nutrition Center, Gray Summit, MO.

Effects of an intratracheal challenge with Mannheimia haemolytica on intake and N balance in fed or fasted steers. L. O. Burciaga-Robles*, C. R. Krehbiel¹, D. L. Step², B. P. Holland³, M. Montelongo⁴, A. W. Confer⁵, J. N. Gilliam⁶, and C. L. Goad¹, ¹Department of Animal Science, ²Center for Veterinary Health Sciences, ³Department of Statistics, Oklahoma State University, Stillwater.


Effects of a saccharin-containing additive (SUCRAM) on total tract digestibility, plasma metabolites, and urine organic acid excretion by steer calves. C. H. Ponce⁴, M. S. Brown¹, J. C. Silva¹, P. Schlegel¹, and W. Rounds¹, West Texas A&M University, Canyon, ²Pancosma, SA, Geneva, Switzerland, ³Prince Agri Products, Quincy, IL.


Beet pulp as a non-roughage fiber source in a total concentrate diet fed growing heifers. A. D. Faleiro, A. Ferret*, X. Manteca, J. L. R. de la Torre, and S. Calsamiglia, Universitat Autonoma de Barcelona, Bellaterra, Spain.

Post weaning performance of Holstein dairy heifers fed diets differing in forage quality and supplemented with a low moisture block. H. Chester-Jones¹, D. Ziegler¹, R. Larson², B. Ziegler³, J. Linn¹, M. Raeth-Knight¹, and G. Golombeski¹, ¹University of Minnesota Southern Research and Outreach Center, Waseca, ²Hubbard Feeds, Mankato, MN, ³University of Minnesota Southern Research and Outreach Center, St. Paul.

Performance of Holstein dairy heifers fed whole-shelled corn and protein pellet diets differing in protein levels. D. Ziegler¹, M. Raeth-Knight¹, J. Linn¹, G. Golombeski¹, R. Larson¹, B. Ziegler¹, and H. Chester-Jones¹, ¹University of Minnesota Southern Research and Outreach Center, Waseca, ²University of Minnesota, St. Paul, ³Hubbard Feeds, Mankato, MN.

Effects of amount and composition of concentrate on silage and total DM intake of dairy cows. P. Huhtanen*, M. Rinne², and J. Nousiainen¹, ¹Cornell University, Ithaca, NY, ²MTT-Agrifood Research, Finland, ³Valio Ltd, Finland.

The use of the Rumensin Premix in dairy cows: Factors influencing its effects on milk production and milk composition. J. Dubuc¹, D. DuTremblay¹, M. Brodeur¹, R. Bagg¹, P. Dick¹, J. Bari², and L. DesCoteaux¹, ¹Universite de Montreal, Saint-Hyacinthe, Quebec, Canada, ²Elanco Animal Health, Guelph, Ontario, Canada.

Effects of feeding monensin and brown midrib corn silage on rumen fermentation. C. R. Mullins*, A. M. Gehman, P. J. Kononoff, and B. N. Janicek, University of Nebraska, Lincoln.

Effects of mixing red clover silage with grass silage on the fatty acid and sensory properties of milk from dairy cows. J. M. Moorby¹, D. R. Davies¹, W. J. Fisher¹, N. M. Ellis¹, N. D. Scollan¹, and G. R. Nute¹, ¹Institute of Grassland and Environmental Research, Aberystwyth, UK, ²University of Bristol, UK.

Effects of mixing red clover silage with grass silage on feed intake and milk output from dairy cows. J. M. Moorby*, D. R. Davies, W. J. Fisher, N. M. Ellis, and N. D. Scollan, Institute of Grassland and Environmental Research, Aberystwyth, UK.

Intake, digestibility and milk production and composition of dairy cows fed sugar–cane based diets corrected with soybean meal or different levels of urea. A. H. do Nascimento Rangel¹, J. M. de Souza Campos², S. de Campos Valadare Filho³, A. Barbosa¹, and P. V. R. Paulino², ¹Universidade Federal Rural do Semi–Árido, Mossoró, RN, Brazil, ²Universidade Federal de Viçosa, Viçosa, MG, Brazil.

Performance and nutritional parameters of replacement dairy heifers fed corn silage or sugar–cane based diets supplemented with increasing concentrate levels. A. H. do Nascimento Rangel¹, J. M. de Souza Campos², P. V. R. Paulino², A. J. de Assis³, and A. S. de Oliveira¹, ¹Universidade Federal Rural do Semi–Árido, Mossoró, RN, Brazil, ²Universidade Federal de Viçosa, Viçosa, MG, Brazil.

Use of NutriDense corn variety for corn and corn silage in diets fed to high producing dairy cows. J. Sampson and J. Spain*, University of Missouri, Columbia.
Comparative effects of wild-type, bmr-6, bmr-12 and stacked sorghum: Sorghum stover digestibility. H. M. Dann*, A. M. DiCerbo¹, J. F. Pedersen², and R. J. Grant¹, ¹William H. Miner Agricultural Research Institute, Chazy, NY, ²USDA, ARS, NPA Wheat, Sorghum and Forage Research, University of Nebraska, Lincoln.


Use of computer simulation model to teach systems approach to metabolism. H. A. Johnson*, C. C. Calvert, and R. L. Baldwin, University of California, Davis.

Energy dilution of growing heifers’ diet as a tool for induced negative energy balance in cattle. A. Arieli*, O. Eshel¹, U. Moallem², and Z. Uni¹, ¹Hebrew University of Jerusalem, Rehovot, Israel, ²Agricultural Research Organization, Bet Dagan, Israel.


Evaluation of a corn replacement product in diets fed to lactating dairy cows. D. J. Rincker*, N. A. Janovick Guretzky¹, P. H. Doane², and J. K. Drackley¹, ¹University of Illinois, Urbana, ²ADM Animal Nutrition Research, Decatur, IN.

Effect of feed energy source on milk components in dairy cattle. M.-C. Ferland*, D. Lefebvre², and K. M. Wade¹, ¹McGill University, Montreal, QC, Canada, ²Valacta, Ste. Anne de Bellevue, QC, Canada.


Feed sorting in dairy cattle: effects of forage content and dietary change. T. J. DeVries*, K. A. Beauchemin¹, and M. A. G. von Keyserlingk², ¹Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, ²University of British Columbia, Vancouver, BC, Canada.

Understanding feed sorting by dairy cows. W. Z. Yang* and K. A. Beauchemin, Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

Susceptibility of lactating dairy cows to ruminal acidosis depends on the proportion of forage in the diet. F. Dohme¹, T. J. DeVries², K. A. Beauchemin³, K. M. Krause⁴, and K. S. Schwartzkopf-Genswein⁵, ¹Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland, ²Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, ³University of British Columbia, Vancouver, BC, Canada.

Diagnosis of acidosis in dairy cattle using milk fatty acid profiles. M. Craninx*, A. Beeckman¹, H. Van Laar², J. Martin-Tereso³, and V. Fievez³, ¹Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Ghent, Belgium, ²Nutreco Ruminant Research Centre, Boxmeer, The Netherlands.


The effect of buffering dairy cow diets with limestone, Acid Buf or sodium bicarbonate + limestone on production response and rumen parameters. C. W. Cruywagen*, S. J. Taylor², and M. M. Beya¹, ¹Stellenbosch University, Stellenbosch, South Africa, ²Celtic Sea Minerals, Cork, Ireland.

Ruminal temperature may aid in the detection of subacute ruminal acidosis. O. AlZahal*, E. Kebreab¹, J. France¹, M. Froetschel¹, and B. W. McBride¹, ¹University of Guelph, Guelph, Ontario, Canada, ²Edgar L. Rhodes Center for ADS, University of Georgia, Athens.

Evaluation of an intraruminal pH probe. B. A. Crooker*, W. J. Weber¹, S. C. Denham², and J. L. Vicini¹, ¹University of Minnesota, St. Paul, ²Monsanto Company, St. Louis, MO.
Role of effective fiber in reducing milk fat depression in lactating cows fed Rumensin. D. R. Mertens*, U.S. Dairy Forage Research Center, Madison, WI.

Validation of an on-farm tool (Z-Box) for determining a physical effectiveness factor using a bioassay based on chewing activity and ruminal fermentation in lactating dairy cows. H. M. Dann*1, K. W. Cotanch1, M. P. Carter1, C. S. Ballard1, T. Eguchi2, and R. J. Grant1, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.

Use of a caliper to measure skinfold thickness in multiparous Holstein cows and its relationship to body condition score. H. M. Dann* and J. K. Drackley, University of Illinois, Urbana.

Development of a method for measuring forage fragility. K. W. Cotanch*1, R. J. Grant1, J. Darrah1, H. M. Wolford2, and T. Eguchi2, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.

Near infrared spectroscopy can be used to predict pH and concentrations of volatile fatty acids in fermented feeds. D. P. Casper*, D. Spangler, J. Horst, S. Gravert, and K. Thompson, Agri-King, Inc., Fulton, IL.

Effect of lignin type, acid detergent lignin or Klason lignin, on rate and extent of NDF digestion. E. Raffrenato*, M. E. Van Amburgh, J. B. Robertson, and P. J. Van Soest, Cornell University, Ithaca, NY.


Urinary creatinine concentration during the periparturient period and the effect of correcting urinary creatinine concentration for DM content on the ability to predict total urinary output. G. Chibisa*1, G. B. Penner2, G. N. Gozho1, and T. Mutsvangwa1, 1University of Saskatchewan, Canada, 2University of Alberta, Canada.

New analytical method indicates that purine metabolites may interfere in estimates of microbial flow. S. M. Reynal* and G. A. Broderick, US Dairy Forage Research Center, Madison, WI.

Comparative characterization of reticular and duodenal digesta in dairy cows and possibilities to estimate microbial outflow from the rumen based on reticular sampling. A. N. Hristov*, University of Idaho, Moscow.

Kinetics of milk production as a function of energy and protein supplementation. R. P. Lana*1,2, D. C. Abreu1,2, P. F. C. Castro1, B. Zamperline1, and B. S. B. C. Souza1, 1Universidade Federal de Viçosa, MG, Brazil, 2CNPq, Brasilia, DF, Brazil.


Effect of carbohydrates or amino acid infusions on plasma ghrelin in early and late lactating cows. I. Schei*1,2 and H. Volden1, 1Department of Animal and Aquacultural Sciences, Norwegian University of Life Sciences, Ås, Norway, 2TINE BA, Ås, Norway.

Depression in feed intake by a highly fermentable diet is related to plasma insulin concentration and insulin response to glucose infusion. B. J. Bradford* and M. S. Allen, Michigan State University, East Lansing.


In vitro aflatoxin binding efficiency of several sequestering agents in water or rumen fluids. F. Masoero1, A. Gallo1, D. E. Diaz2, G. Piva1, and M. Moschini1, 1Catholic University of Piacenza, Piacenza, PC, Italy, 2Utah State University, Logan.

Early lactation production, body condition, and incidence of disease in multiparous Holstein cows fed a low potassium diet supplemented with SoyChlor®16-7 prepartum. J. Siciliano-Jones1, P. W. Jardon2, M. Kucerak3, and M. B. de Ondarza*3, 1FA.R.M.E. Institute, Homer, NY, 2West Central®, Ralston, IA, 3Paradox Nutrition, LLC, West Chazy, NY.
Intake of oral histidine does not alter milk or milk component production in dairy cattle. N. G. Purdie*, A. Krueger, V. R. Osborne, and J. P. Cant, University of Guelph, Guelph, Ontario, Canada.


A meta-analysis on the effects of feeding malate to ruminants. E. M. Ungerfeld* and R. A. Kohn, University of Maryland, College Park.

A multiple regression approach to explore the contribution of 2-hydroxy-4-methylthio butanoic acid or ruminally protected DL-methionine to production parameters for lactating dairy cows reported in the literature. G. R. Bowman*, 1M. Vázquez-Añón1, and L. M. Rode2, 1Novus International, Inc., St. Louis, MO, 2Sage Biosciences, Inc., Alberta, Canada.


Digestibility and blood parameters in growing goats offered high concentrate diets with different rice straw particle size. X. G. Zhao1, B. Zeng1, S. X. Tang1, Z. H. Sun1, Z. L. Tan*, Z. H. Cong1, and G. O. Tayo1, 2, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R.China, 2Babcock University, Ikeja Lagos, Nigeria.

Sheep Species
Sheep Production and Management
Exhibit Hall C

Effect of acetylated soybean peptides on ruminal fermentation and nitrogen metabolism in sheep. Z. J. Cao*, L. S. Li, Y. J. Wang, and M. Ma, China Agricultural University, Beijing, China.


Growth and feed efficiency of F1 Pelibuey lambs crossbred with specialized breeds for commercial production of meat. J. G. Cantón1, 2, R. F. Bore1, J. J. Baeza1, J. A. Quintal1, R. H. Santos2, and C. A. Sandoval2, 1Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias, Mérida, Yucatán, 2Universidad Autónoma de Yucatán, Mérida, Yucatán.

Introduction to Merino breeding resource flocks at Rafter 7 Ranch in Nevada. T. Wuliji*, H. Glimp, W. Jesko2, and W. Rauw, 1University of Nevada, Reno, 2Rafter 7 Ranch, The Edwin L Wiegand Trust, Yerington, NV.

Evaluation of Saint Croix ram lambs for growth, feed efficiency, blood urea nitrogen, and glucose levels by multivariate analysis. J. Simroth-Rodriguez#, E. Gutierrez-Ornelas1, H. Bernal-Barragan1, H. Morales-Treviño1, J. Colin-Negrete1, and V. Torres2, 1Facultad de Agronomía, Universidad Autónoma de Nuevo Leon, Marin, Mexico, 2Instituto de Ciencia Animal, Apartado Postal 24, San Jose de las Lajas La Habana, Cuba.

Effect of dried distillers grains substituting for corn-soybean meal on growth and feed intake of Pelibuey sheep. A. Estrada-Angulo*, G. Contreras1, A. Perez3, G. Gamez1, O. Lozano2, F. G. Rios1, and E. Vazquez1, 1FMVZ - USAS, Caliacán, Sinaloa, Mexico, 2Ganadera Flexi, Caliácan, Sinaloa, Mexico.

Effect of dried distillers grains substituting for corn-soybean meal on apparent digestibility and energy concentration of feed in growing Pelibuey sheep. A. Estrada-Angulo*, G. Contreras1, M. Osuna1, A. Perez3, O. Lozano2, and E. Vazquez1, 1FMVZ - USAS, Caliacán, Sinaloa, Mexico, 2Ganadera Flexi, Culiacan, Sinaloa, Mexico.

Quantitative carcass characteristics of different sheep categories. R. S. B. Pinheiro, A. G. Silva Sobrinho, R. M. S. Emediato*, and S. M. Yamamoto, São Paulo State University, Botucatu, São Paulo, Brazil.

W346  Yield of wholesale cuts and non-carcass components of Morada Nova and Somális Brasileira × Morada Nova ram lambs. R. S. B. Pinheiro1, A. G. Silva Sobrinho1, A. M. Jorge1, R. M. S. Emediato*1, S. Gonzaga Neto2, and S. M. Yamamoto1, 1São Paulo State University, Botucatu, São Paulo, Brazil, 2Parába Federal University, Areia, Paraíba, Brazil.


W351  Postpartum ovarian activity of Santa Ines lactating ewes fed soybean hulls replacing coastcross hay. R. C. Araújo1, A. V. Pires*1, I. Susin1, C. Q. Mendes1, G. H. Rodrigues1, F. S. Urano1, C. A. Oliveira1, and P. Viato1, ESALQ/University of São Paulo, Piracicaba, SP, Brazil, FMVZ/University of São Paulo, São Paulo, SP, Brazil.


Swine Species
Exhibit Hall C

W356  Nutritional value of sticky coffee hull silage on starting pigs diets. I. Moreira*1, P. L. O. Carvalho1, D. Paiano2, L. M. Peñuela Sierra1, L. M. Piano1, and M. E. O. Girona1, Universidad Estadual de Maringá, Maringá, Paraná, Brazil, Universidad Estadual de Mato Grosso do Sul, Aquidauana, MS, Brazil, Universidad Del Tolima, Ibagué, Tolima, Colombia.

W357  Use of sticky coffee hull silage on growing pigs feeding. I. Moreira*1, P. L. O. Carvalho1, D. Paiano2, G. C. Oliveira1, I. S. Kuroda Junior1, and F. L. Mourinho1, Universidad Estadual de Maringá, Maringá, Paraná, Brazil, Universidad Estadual de Mato Grosso do Sul, Aquidauana, Mato Grosso do Sul, Brazil.


W359  Evaluation of pigs raised on two types of pasture-based and a confined grow-finish systems for production efficiency. K. Nadarajah*, D. L. Kuhlers, and W. F. Owsley, Auburn University, Auburn, AL.


W362  Comparing histopathological scores and exterior data for phenotyping pigs to address leg weakness. C. Rudolph, E. Tholen, M. Mielenz, G. Breves, K. Schellander, and H. Sauerwein, University of Bonn, Bonn, Germany.


W365  Influence of sex and terminal sire line on fresh meat quality, fatty acid profile of backfat, and ham weight losses during ripening of Iberian pigs reared under intensive production systems. M. P. Serrano, D. G. Valencia, R. Lázaro, A. Fuentetaja, and G. G. Mateos, 1Universidad Politécnica de Madrid, Spain, 2Copesa, Segovia, Spain.

W366  Influence of gender on growth and carcass quality of pigs slaughtered at the same age destined to the production of high quality dry-cured hams. M. A. Latorre, L. Ariño, E. García, and R. Lázaro, 1Centro de Investigación y Tecnología Agroalimentaria de Aragón, Zaragoza, Spain, 2Integraciones Porcinas S.L., Teruel, Spain, 3Jamones y Embutidos Alto Mijares S.L., Teruel, Spain, 4Universidad Politécnica de Madrid, Spain.

W367  Influence of slaughter weight on performance and carcass quality of pigs destined to the production of high quality dry-cured hams. M. A. Latorre, L. Ariño, E. García, and G. G. Mateos, 1Centro de Investigación y Tecnología Agroalimentaria de Aragón, Zaragoza, Spain, 2Integraciones Porcinas S.L., Teruel, Spain, 3Jamones y Embutidos Alto Mijares S.L., Teruel, Spain, 4Universidad Politécnica de Madrid, Spain.


Teaching/Undergraduate & Graduate Education Exhibit Hall C

W369  Evaluation of Mississippi State University equine curriculum. M. Nicodemus* and K. Slater, Mississippi State University, Mississippi State.

W370  Development of an animal science managerial mentoring program. J. S. Pendergraft and B. T. Gutierrez*, Sul Ross State University, Alpine, TX.


W373  Effect of management type, conventional versus organic, on production and culling in Southeastern Pennsylvania dairy herds. K. E. Griswold, H. Karreman, and J. Mylin, Pennsylvania State University Cooperative Extension, University Park, 2Penn Dutch Cow Care, Gap, PA, 3Lancaster DHIA, Manheim, PA.
OTHER EVENTS
ADSA/ASAS Joint Business Meeting
   206 B
   9:30 AM

ADSA Business Meeting
   206 A
   10:00 AM

ASAS Business Meeting
   207 A
   10:00 AM

AMPA Business Meeting
   207 B
   10:00 AM
SYMPOSIA AND ORAL SESSIONS
Animal Health - Livestock and Poultry
Poultry and Swine II
Chair: Kim Cole, The Ohio State University
212

9:30 AM 685 Gene expression of alpha-toxin and Clostridium perfringens colonization in the development of necrotic enteritis disease in broiler chickens. W. Si1, J. Gong1, Y. Han2*, H. Yu1, H. Zhou1, and S. Chen1. 1Food Research Program, Agriculture and Agri-Food Canada, Guelph, Ontario, Canada, 2Maple Leaf Foods Agresearch, Guelph, Ontario, Canada, 3Labotory Service Division, University of Guelph, Guelph, Ontario, Canada.

9:45 AM 686 Comparison of the severity of Necrotic Enteritis caused by Clostridium perfringens in broiler chickens given either an attenuated or non-attenuated live coccidial vaccine. G. Mathis*1 and C. Hofacre2. 1Southern Poultry Research, Inc., Athens, GA, 2University of Georgia, Athens.

10:00 AM 687 Efficacy of CloSTAT™, a direct-fed microbial for control of experimentally induced necrotic enteritis by Clostridium perfringens in broiler chickens. B. Boren*1, G. F. Mathis2, C. L. Hofacre1, and S. Moore1. 1Kemin AgriFoods North America, Des Moines, IA, 2Southern Poultry Research, Athens, GA, 3University of Georgia, Athens.


10:30 AM 689 Effect of lactic acid bacteria probiotic culture treatment timing on Salmonella in neonatal broilers. J. P. Higgins*, S. E. Higgins, V. Salvador, A. D. Wolfenden, G. Tellez, and B. M. Hargis, University of Arkansas, Fayetteville.


11:00 AM 691 Evaluation of a novel recombinant salmonella vaccine vector for avian influenza. K. Cole*1, S. L. Layton1, M. M. Cox1, Y.M. Kwon1, L. R. Berghman2, W. G. Bottje2, and B. M. Hargis1. 1University of Arkansas, Fayetteville, 2Texas A&M University, College Station.


11:30 AM 693 Impact of ergot infested sorghum on the reproductive performance of sows. G. M. AbdRahim*1, R. C. Richardson2, and A. Gueye3. 1Alabama A&M University, Normal, 2Texas A&M University, San Marcos, 3Mt. Ida College, Newton, MA.


12:00 PM 695 Impact of ochratoxin A and zearalenone on weaning piglets and counteracting. V. H. Stark1* and M. Forat2. 1Biomin GmbH, Herzogenburg, Lower Austria, Austria, 2Instituto Internacional de Investigacion Animal, Queretaro, Mexico.

12:15 PM 696 Dietary supplementation with acanthopanax senticosus extracts beneficially modulates the gut microflora in weaned pigs. X. F. Kong*, Y. L. Yin1, W. Y. Chu2, F. G. Yin3, H. J. Liu4, F. F. Xing1, Q. H. He1, T. J. Li1, R. L. Huang1, P. Zhang1, S. W. Kim2, and G. Y. Wu3. 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Nanjing Agricultural University, Nanjing, Jiangsu, China, 3Texas Tech University, Lubbock, 4Texas A&M University, College Station.
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<th>Time</th>
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<th>Authors</th>
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<tr>
<td>10:00 AM</td>
<td>699</td>
<td>The effect of dietary glycine and Clostridium perfringens challenge on whole blood chemiluminescence responses in broiler chickens.</td>
<td>Z. Papp, J. P. Dahiya, G. Widyratne, J. E. G. Smits, and M. D. Drew*. University of Saskatchewan, Saskatoon, SK, Canada.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>700</td>
<td>Live performance of broilers fed diets supplemented with the plant extract Sangrovit or a blend of organic and inorganic acids.</td>
<td>S. L. Vieira*, D. M. Freitas¹, J. L. B. Coneglian¹, A. F. Klein¹, P. X. Silva¹, and O. Figueiro².</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>701</td>
<td>Effects of tannin concentration on nutritional value of sorghum grain in broiler chicks.</td>
<td>C. R. Monge⁸¹, J. D. Hancock¹, C. Feoli¹, R. C. Kaufman¹, M. R. Tuinstra¹, S. R. Bean¹, S. Beyer¹, and B. P. Ioerger². Kansas State University, Manhattan, ³USDA/ARS, Manhattan.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>702</td>
<td>Effects of tannins from different sorghums on nutrient utilization in broiler chicks.</td>
<td>C. R. Monge⁸¹, J. D. Hancock¹, C. Feoli¹, R. C. Kaufman¹, M. R. Tuinstra¹, S. R. Bean¹, S. Beyer¹, and B. P. Ioerger². Kansas State University, Manhattan, ³USDA/ARS, Manhattan.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>703</td>
<td>Quality characteristics of newly developed flaxseed: Chemical evaluation.</td>
<td>B. A. Slominski⁸¹, T. Davie¹, A. Rogiewicz¹, W. Jia¹, C. M. Nyachoti¹, O. Jones¹, J. Dean¹, and P. Dribenki¹. University of Manitoba, Winnipeg, Canada.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>706</td>
<td>Apparent calcium and phosphorus retention with different levels and source of vitamin D.</td>
<td>J. O. B. Brito¹, A. G. Bertchem¹, J. C. C. Carvalho¹, A. Geraldo¹, J. O. B. Sorbara², and F. J. Piraces². Universidade Federal de Lavras, DZO, Lavras, MG, Brazil, ²DSM Nutritional Products, Sao Paulo, SP, Brazil.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>707</td>
<td>Differences in amino acid digestibility in soybeans processed by different methods.</td>
<td>T. Shi¹², H. M. Edwards, Jr.², G. M. Pestel², and R. I. Bakalland². Shandong Academy of Agricultural Sciences, Jinan, Shandong, China, ²University of Georgia, Athens, GA, USA.</td>
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### Production, Management & the Environment - Livestock and Poultry

**Poultry Management, and Environment**

**Chair: Joe Hess, Auburn University**

210

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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</table>
10:00 AM 710 Litter bacterial levels associated Poultry Guard™. K. S. Macklin*, J. P. Blake, J. B. Hess, and R. A. Norton, Auburn University, Auburn, AL.

10:15 AM 711 Pasteurization of chicken litter with steam and calcium oxide to reduce colonization and incidence of Salmonella typhimurium. M. Farnell¹, A. Byrd², L. Sunkara³, K. Stringfellow¹, P. Anderson¹, J. McReynolds², J. Carey¹, A. Bell², R. Stipanovic², and D. Caldwell¹, Texas A & M University, College Station, TX.


10:45 AM 713 Use of ferric sulfate for ammonia reduction in commercial broiler houses. C. W. Ritz¹, L. A. Harper¹, B. D. Fairchild¹, M. Czarick¹, J. Pavlicek², and V. Johnson², The University of Georgia, USDA-ARS, College Station, TX.

11:00 AM 714 Egg yolk and serum antibody titers, and manure nutrients of broiler breeder hens immunized with uricase or urease. Adrizal¹, P. Patterson², and T. Cravener², University of Jambi, Jambi, Indonesia, Pennsylvania State University, University Park.

11:15 AM 715 Dietary sodium bisulfate, humate and zeolite for broiler chickens: Impact on performance, litter nutrients and ammonia flux. P. Patterson¹, T. Cravener¹, E. Wheeler², P. Topper², and D. Topper², Department of Poultry Science, Department of Agricultural and Biological Engineering, The Pennsylvania State University, University Park.

11:30 AM 716 The potential for plants to trap emissions from farms with laying hens: 1. Ammonia. P. H. Patterson¹, Adrizal¹, R. M. Hulet¹, and R. M. Bates², Department of Poultry Science, Department of Horticulture, Department of Agricultural and Biological Engineering, The Pennsylvania State University, University Park, University of Jambi, Jambi, Indonesia.

11:45 AM 717 The potential for plants to trap emissions from farms with laying hens: 2. Ammonia and dust. Adrizal¹, P. Patterson², and M. Hulet², University of Jambi, Jambi, Indonesia, Department of Poultry Science, Department of Horticulture, Department of Agricultural and Biological Engineering, Pennsylvania State University, University Park, Department of Natural Resources and Ecological Management, Iowa State University, Ames.

12:00 PM 718 Vegetative buffers for fan emissions from poultry farms: ammonia, dust, and foliar nitrogen. R. M. Hulet¹, Adrizal¹, P. H. Patterson¹, and C. A. B. Myers², The Pennsylvania State University, University Park, Berks County Extension, Lebanon, PA, Capital Region Extension, Lancaster, PA, USDA-NRCS, Harrisburg, PA, USDA-NRCS, Corning, NY, Iowa State University, Ames.

SYMPOSIUM
Distillers Grains Symposium
Chair: Gerald Weigel, BASF Plant Science/Ex Seed Genetics
Sponsor: Renewable Fuels Association
217 D

10:30 AM Market confusion of the varying nutrient contents of distillers feed products. L. Forster, ADM.

11:05 AM Results of RFA/AFIA task force study evaluating analytical methods of distillers grains for precision, replicability and “in-use” methodology compliance. R. Sellers*, AFIA, Arlington, VA.

11:40 AM Environmental impacts (beneficial and detrimental) of feeding distillers grains relative to other feedstuffs. T. Klopfenstein, University of Nebraska, Lincoln.
10:30 AM 719 Animal welfare assessment and auditing. S. E. Curtis*, University of Illinois, Urbana.

11:00 AM 720 Auditing and assessing nutrient management for water quality. A. L. Sutton*, Purdue University, West Lafayette, IN.

11:30 AM 721 Auditing and assessing nutrient management for air quality. N. A. Cole*, R. W. Todd¹, B. Auvermann¹, and D. B. Parker¹, ¹USDA-ARS-CPRL, Bushland, TX, ²Texas Agricultural Experiment Station, Amarillo, ³West Texas A&M University, Canyon.

12:00 PM 722 Training and certification of animal auditors. A. K. Baysinger*, Farmland Foods, Bruning, NE.

12:30 PM Roundtable Discussion.

**Breeding and Genetics - Livestock and Poultry**  
**Dairy Cattle III**  
**Chair: Janice Rumph, Montana State University**  
**206 B**

10:30 AM 723 Analysis of calving ease trait in Canadian Holsteins. A. Sewalem*¹,², F. Miglior²,³, G. Kistemaker², P. Sullivan², and B. Doormaal², ¹Agriculture and Agri-Food Canada, Guelph, Ontario, Canada, ²Canadian Dairy Network, Guelph, Ontario, Canada.


11:00 AM 725 Principal components approach for estimating heritability of mid-infrared spectrum in bovine milk. H. Soyeurt*¹,², S. Tsuruta¹, I. Misztal¹, and N. Gengler¹,², ¹Gembloux Agricultural University, Gembloux, Belgium, ²FRIA, Brussels, Belgium, ³University of Georgia, Athens, ⁴FNRS, Brussels, Belgium.

11:15 AM 726 Associations between body size, body condition score and fertility parameters in pasture-based seasonally calving commercial dairy herds in Australia. T. E. Stirling*, K. M. Olson¹, and A. J. McAllister², ¹Virginia Polytechnic Institute and State University, Blacksburg, ²University of Kentucky, Lexington.

11:30 AM 727 Comparison of yield in Holsteins, Jerseys, and reciprocal crosses in the Virginia Tech - Kentucky crossbreeding trial. B. G. Cassell*, K. M. Olson¹, and A. J. McAllister², ¹Virginia Polytechnic Institute and State University, Blacksburg, ²University of Kentucky, Lexington.

11:45 AM 728 Quantitative Trait Loci affecting IgG serum protein levels, birth weight and gestation length in a Holstein x (Holstein x Jersey) backcross population. C. Maltecca*, K. A. Weigel, H. Khatib, and V. R. Schutzkus, University of Wisconsin, Madison.

12:00 PM 729 Stearoyl-CoA desaturase gene polymorphism and milk production traits in Italian Holsteins. N. P. P. Macciotta*, M. Mele², G. Pagnacco², M. Cassandro², G. Conte¹, A. Cappio-Borlini¹, and P. L. Secchiari², ¹Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italia, ²Dipartimento di Agronomia e Gestione dell’Agro-Ecosistema, Università di Pisa, Pisa, Italia, ³Dipartimento di Scienze e Tecnologie Veterinarie per la Sicurezza Alimentare, Università di Milano, Milano, Italia, ⁴Dipartimento di Scienze Animali, Università di Padova, Padova, Italia.

12:15 PM 730 Effect of pregnancy on milk yield of Canadian dairy cattle. S. Loker*, J. Bohmanova¹, F. Miglior²,³, M. Kelly¹, and G. Kistemaker¹, ¹University of Guelph, Guelph, ON, Canada, ²Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, ³Canadian Dairy Network, Guelph, ON, Canada.
### Dairy Foods
**Products and Processing**
**Chair: Diane Van Hekken, USDA**

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<tr>
<td>10:30 AM</td>
<td>731</td>
<td>Kinetics and properties of plant β-galactosidase extracted from durian seeds (Durio zibethinus) and its utilization on ice milk production.</td>
<td>E. E. El Tanboly*, National Research Center, Dokki, Cairo, Egypt.</td>
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<td>11:00 AM</td>
<td>733</td>
<td>Effects of temperature and membrane pore size on fractionation of caprine milk proteins in developing infant formula analogs.</td>
<td>C. O. Maduko and Y. W. Park, University of Georgia, Athens, Fort Valley State University, Fort Valley, GA.</td>
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<td>11:15 AM</td>
<td>734</td>
<td>The effect of dry period duration and dietary energy density in early lactation on the rennet gelation properties of milk.</td>
<td>S. T. Butler, M. de Feu, B. O’Brien, and J. J. Murphy, Teagasc Moorepark DPRC, Co Cork, Ireland.</td>
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<td>11:30 AM</td>
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<td>11:45 AM</td>
<td>735</td>
<td>Rheological properties of rennet gels prepared with milk protein concentrates.</td>
<td>M. A. Ferrer, A. R. Hill, and M. Corredig, University of Zulia, Maracaibo, Venezuela, University of Guelph, Ontario, Canada.</td>
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<tr>
<td>12:00 PM</td>
<td>736</td>
<td>Rheological properties of whey protein dispersions in the presence of exopolysaccharides from Lactococcus lactis ssp. cremoris.</td>
<td>I. Ayala Hernandez, A. N. Hassan, and M. Corredig, University of Guelph, Ontario, Canada, South Dakota State University, Brookings.</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>737</td>
<td>The impact of precanization of milk and fermentation time on the properties of yogurt type gel.</td>
<td>Y. Peng, D. S. Horne, and J. A. Lucey, University of Wisconsin, Madison, Formerly of Hannah Research Institute, Ayr, Scotland.</td>
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### Egg and Meat Science and Muscle Biology - Livestock and Poultry II
**Chair: Chris Kerth, Auburn University**

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<tr>
<td>10:30 AM</td>
<td>738</td>
<td>Please see page 118 (Marination Symposium)</td>
<td></td>
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<tr>
<td>10:45 AM</td>
<td>739</td>
<td>Maximizing carcass characteristics of grass- and grain-fed Bonsmara steers using electrical stimulation.</td>
<td>K. R. Hawks, R. K. Miller, T. D. A. Forbes, F. M. Rouquette, J. W. Holloway, and B. G. Warrington, Texas A&amp;M University, College Station, Texas Agricultural Experiment Station Uvalde, Texas Agricultural Experiment Station Overton, Overton.</td>
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<tr>
<td>11:00 AM</td>
<td>740</td>
<td>A novel technique to assess internal body fat using real-time ultrasound.</td>
<td>F. R. B. Ribeiro, L. O. Tedeschi, J. Stoffer, and G. E. Carstens, Texas A&amp;M University, College Station, Cornell University, Ithaca, NY.</td>
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<td>11:15 AM</td>
<td>741</td>
<td>Proteomic analysis of whole muscle fingerprints from yellow perch, (Perca flavescens), and identification of proteins associated with body weight and length.</td>
<td>J. M. Reddish, K. B. Green-Church, A. D. Nichols, N. S. St-Pierre, and M. Wick, The Ohio State University, Columbus.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>743</td>
<td>Impact of early deboning and portioning on tenderness of vertically portioned broiler breast fillets.</td>
<td>C. M. Owens, S. C. Purcell, A. Saha, and J. F. Meullenet, University of Arkansas, Fayetteville.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>744</td>
<td>Carcass and meat quality traits of Angus-cross steers finished on three different winter annual forages.</td>
<td>C. R. Kerth, K. W. Braden, and B. S. Wilborn, Auburn University, Auburn, AL.</td>
</tr>
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</table>
Impact of litter size and birth weight on growth performance, carcass characteristics, and meat quality in pigs. J. Bérard¹, M. Kreuzer¹, and G. Bee².¹, Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland, ²ETH Zurich, Institute of Animal Science, Zurich, Switzerland.

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**Extension Education - Livestock and Poultry**

**Extension Dairy Session**

**Chair: Richard Stup, Pennsylvania State University**

10:30 AM 746   A net present value dashboard of the dairy cow in a commercial setting. D. T. Galligan*, J. Ferguson, R. Munson, and D. Remsburg, University of Pennsylvania, School of Veterinary Medicine, Kennett Square.

10:45 AM 747   Accuracy of prediction of future uniform milk prices in Florida from Class III and IV futures markets. S. Feleke* and A. De Vries, University of Florida, Gainesville.

11:00 AM 748   Economic evaluation of decision choices facing dairy producers in Sicily, additional milk or additional cows? D. T. Galligan¹, G. Azzaro², and G. Licitra².¹, University of Pennsylvania, School of Veterinary Medicine, Kennett Square, ²CoRFiLaC, Regione Siciliana, Ragusa, Italy, ²DACP University of Catania, Catania, Italy.


11:30 AM 750   Nitrogen and phosphorus in by-product feeds and dairy diets in central Texas. T. D. Nennich¹, N. M. Cherry¹, R. A. Whitney², R. J. Scott³, and W. H. Weems⁴, Texas A&M University, Stephenville, ²Texas Cooperative Extension, Comanche, ³Texas Cooperative Extension, Stephenville, ⁴Texas Cooperative Extension, Hamilton.

11:45 AM 751   An evaluation of family farm transfer in Vermont. S. Purchase¹, C. Ballard², and D. Maynard¹, University of Vermont, Burlington, ²W.H. Miner Agricultural Research Institute, Chazy, NY.

12:00 PM 752   A survey of AABP-L members concerning training of farm personnel. D. W. Remsburg*, D. T. Galligan, and J. D. Ferguson, University of Pennsylvania School of Veterinary Medicine, Kennett Square.


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**Lactation Biology**

**Applied Lactation Biology**

**Chair: Tom McFadden, University of Vermont**

10:30 AM ADSA Pioneer Serendipity in science: The DUMPS story. J. L. Robinson, Urbana, IL.

10:45 AM 754   Induced lactation in nulliparous dairy goats with or without prolactin secretion enhancement. A. A. K. Salama*, G. Caja, E. Albanell, S. Carné, R. Casals, and X. Such, Universitat Autònoma de Barcelona, Bellaterra, Spain.

11:00 AM 755   Effects of shortening the dry period from 60 to 40 days on milk yield and composition during the subsequent lactation. D. J. Grusenmeyer*, C. M. Ryan, R. W. Everett, D. M. Galton, and T. R. Overton, Cornell University, Ithaca, NY.

11:15 AM 756   Effects of altered timing and duration of unilateral frequent milking during early lactation on milk production of dairy cows. E. H. Wall* and T. B. McFadden, Lactation and Mammary Gland Biology Group, Department of Animal Science, University of Vermont, Burlington.
Use of milking frequency for alleviating milk depression in Holstein dairy cows under heat stress conditions.
R. Ben Younes1, M. Ayadi2, T. Najar1, M. Zouari1, A. A. K. Salama3, X. Such4, M. Ben M’Rad1, and G. Caja*4,
1Institut National Agronomique de Tunisie, Tunis, Tunisia, 2Institut Supérieur de Biologie Appliquée de Medenine, Tunisia, 3Office des Terres Domaniales, Tunis, Tunisia, 4Universitat Autònoma de Barcelona, Bellaterra, Spain.

Comparison of manual and automatic milk flow recording in dairy goats. G. Caja1, M. Rovai*2, S. Carne1,
A. A. K. Salama1, X. Such1, and R. M. Bruckmaier1, 1Universitat Autònoma de Barcelona, Bellaterra, Spain,
2E (Kika) de la Garza American Institute for Goat Research, Langston, OK, 3Veterinary Physiology, University of Bern, Switzerland.

Comparisons of teat structure changes after milking between farms with high and low bulk somatic cell counts.
P. Vinitchaikul* and W. Suriyasathaporn, Faculty of Veterinary Medicine, Chiang Mai University, Muang, Chiang Mai, Thailand.

Production, Management & the Environment - Livestock and Poultry
Livestock, Production, and Management
Chair: Sandy Johnson, Kansas State University
214 C

Effects of winter feeding systems on cow performance, soil nutrients, and crop biomass. B. M. Kelln*1,
H. A. Lardner2, J. Schoenau1, and K. Lang1, 1University of Saskatchewan, Saskatoon, Saskatchewan, Canada,
2Western Beef Development Centre, Lanigan, Saskatchewan, Canada.

Incorporating condensed corn distillers solubles into an integrated pasture and drylot finishing system for feedlot steers. T. Purevjav*, M. P. Hoffman, and W. B. Roush, Iowa State University, Ames.

Effects of pre-breeding target weight and progestin on reproduction, calving parameters, and rebreeding in beef heifers. J. L. Martin*, K. W. Creighton, J. A. Musgrave, D. C. Adams, and R. N. Funston, University of Nebraska West Central Research and Extension Center, North Platte.

Simulation model of fat deposition and distribution in beef steers: 3. Model description and development.
M. J. McPhee*1,2, J. W. Oltjen1, J. G. Fadel1, and R. D. Sainz1, 1University of California, Davis, 2NSW DPI, Armidale, Australia.

Simulation model of fat deposition and distribution in beef steers: 4. Model evaluation. M. J. McPhee*1,2,
J. W. Oltjen1, J. G. Fadel1, and R. D. Sainz1, 1University of California, Davis, 2NSW DPI, Armidale, Australia.

Use of neonatal blood parameters to predict weaning weight in Brahman cattle. J. P. Banta*1, N. C. Burdick1,
J. C. White1, R. C. Vann2, D. A. Neuendorff1, A. W. Lewis1, J. C. Laurenz1, T. H. Welsh, Jr1, and R. D. Randel1,
1Texas A&M University System, Overton, College Station, Kingsville, 2Mississippi State University, Raymond.

Effects of pre-shipping management on measures of performance and inflammation in beef calves entering a receiving feedlot. J. D. Arthington*1, X. Qu1, R. F. Cooke1, D. B. Araujo1, C. C. Chase2, and S. W. Coleman2,
1University of Florida-IFAS, Range Cattle Research and Education Center, Ona, 2USDA-ARS, Brooksville, FL.

Water solubility of phosphorus in feedlot cattle feces and manure. V. R. Bremer*, C. D. Buckner, G. E. Erickson,
and T. J. Klopfenstein, University of Nebraska, Lincoln.

Practices and perceptions of cow-calf producers regarding the National Animal Identification System.
S. J. Breiner*1, D. A. Blasi1, K. M. Boone1, T. C. Schroeder1, and S. A. Grau2, Kansas State University, 2Beef Magazine.
Production, Management & the Environment - Livestock and Poultry
Livestock Production, Management, and Environment
Chair: Karl W. Harborth, Kansas State University
214 B

10:30 AM 769 Effect of littered systems on pollutant emissions into the air in gestating sows. C. Pineiro*, G. Montalvo1, P. Illescas2, and M. Bigeriego1. 1PigCHAMP Pro Europa, SA, Spain; 2Tragsega, Spain; 3Spanish Ministry of Agriculture, Spain.

10:45 AM 770 Effect of different dietary strategies on productive performance and gas emissions in post-weaned piglets. G. Montalvo1, C. Pineiro*, J. Morales2, S. Godbout1, S. P. Lemay1, M. Belzile3, J. Feddes4, P. Illescas1, M. Bigeriego1, and C. de Blas5. 1Tragsega, Spain; 2PigCHAMP Pro Europa SA, Spain; 3IRDA, Canada; 4U. Alberta, Canada; 5Spanish Ministry of Agriculture, Spain; 6UP Madrid, Spain.

11:00 AM 771 Cost of ammonia emissions abatement techniques in Spain. C. Pineiro*, G. Montalvo1, P. Illescas2, and M. Bigeriego1. 1PigCHAMP Pro Europa, SA, Spain; 2Tragsega, Spain; 3Spanish Ministry of Agriculture, Spain.


12:00 PM 775 Characterization of the acute-phase protein response following vaccination and weaning in beef steers. R. F. Cooke*, D. B. Araujo1, G. L. Stokka2, and J. D. Arthington1. 1University of Florida - RCREC, Ona; 2Pfizer Animal Health, New York, NY.

12:15 PM 776 Efficacy of chlorate against *E. coli* O157:H7 and *Salmonella* Typhimurium in bovine feedlot soil mixture. C. E. Oliver*, B. K. Magelky3, M. L. Bauer1, J. S. Caton1, H. Hakk2, G. L. Larsen2, R. C. Anderson3, and D. J. Smith3. 1North Dakota State University, Fargo; 2USDA/ARS Biosciences Research Laboratory, Fargo, ND; 3USDA/ARS Food & Feed Safety Research Unit, Southern Plains Agricultural Research Center, College Station, TX.

Ruminant Nutrition
Nutrition and Animal Health
Chair: Marc Bauer, North Dakota State University
Sponsor: Pfizer Animal Health
217 B

10:30 AM 777 Effects of maternal nutrition and selenium supply on postnatal organ mass: Evidence for developmental programming in lambs. J. S. Caton*, J. J. Reed1, T. L. Neville1, K. A. Vonnahme1, P. P. Borowicz1, J. B. Taylor2, D. A. Redmer1, J. S. Luther1, C. J. Hammer1, K. R. Carlin1, and L. P. Reynolds1. 1Center for Nutrition and Pregnancy, Animal and Range Sciences Dept., North Dakota State University, Fargo; 2USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID.

10:45 AM 778 Effects of maternal nutrition and selenium supply on ewe and lamb performance. T. L. Neville*, J. J. Reed1, K. A. Vonnahme1, P. P. Borowicz1, J. B. Taylor2, D. A. Redmer1, J. S. Luther1, C. J. Hammer1, G. P. Lardy1, L. P. Reynolds1, and J. S. Caton1. 1Center for Nutrition and Pregnancy, Animal and Range Sciences Dept., North Dakota State University, Fargo; 2USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID.

11:00 AM 779 First-lactation milk production for cows fed control or intensified milk replacer programs as calves. J. K. Drackley*, B. C. Pollard, H. M. Dann, and J. A. Stamey, University of Illinois, Urbana.

Effects of twin pregnancy and dry period feeding strategy on milk production, energy balance and metabolic profiles in Holstein cows. N. Silva del Río, R. R. Grummer, and P. M. Fricke, Department of Dairy Science, University of Wisconsin, Madison.

Effect of botanical extracts (Queen of Calves) on the growth, development and weaning age of calves. J. K. Margerson and R. W. Reynolds, Massey University, Palmerston North, New Zealand.

Impacts on growth of beef cattle due to long-term copper deficiency are further exacerbated in the presence of high dietary manganese. S. L. Hansen, L. R. Legleiter, R. S. Fry, K. E. Lloyd, and J. W. Spears, North Carolina State University, Raleigh.


### Ruminant Nutrition

**Protein and Fiber Digestion**

**Chair:** Oscar Ruiz-Barrera, Independent University of Chihuahua, Mexico

**Sponsor:** EAAP

**217 A**

Protein requirements of Nellore bulls, steers and heifers in Brazil. P. V. R. Paulino, S. de C. Valadares Filho, M. A. Fonseca, K. A. Magalhães, M. I. Marcondes, M. A. de Souza, E. Detmann, R. F. D. Valadares, and R. D. Sainz, Universidade Federal de Viçosa, Viçosa, MG, Brazil; University of California, Davis.

Digestibility of cottonseed with Tifton 85 hay fed free-choice to beef steers. G. M. Hill, M. H. Poore, and B. G. Mullinix, Jr., University of Georgia, Tifton.


The rumen passage rate of forage NDF is highly associated only to the level of intake of dietary NDF. A. Cannas, F. Boe, V. Giovanetti, E. Zerbini, and G. Molle, Dipartimento di Scienze Zootecniche, University of Sassari, Sassari, Sardinia, Italy; Istituto Zootecnico e Caseario della Sardegna, Olmedo, Sardinia, Italy; Cargill Animal Nutrition, Spessa, Italy.


Predicting ruminal passage rates of fiber fractions and starch in dairy cattle. J. A. Voelker Linton and M. S. Allen, Michigan State University, East Lansing.


10:45 AM 794 Effect of feeding Luctarom “S” 55972Z® on sow reproductive performance. D. Towey¹, J. Sonderman², D. Reese*¹, D. Travnicek¹, and K. Eskridge¹, ¹University of Nebraska, Lincoln, Lincoln, NE, ²Danbred North America, Columbus, NE.

11:00 AM 795 Supplemental microbial phytase effects the expression of intestinal and liver mineral transporters in the iron/zinc deficient pig. E Tako*, R. P Glahn, R. M Welch, X Lei, and D. D Miller, Cornell University, Ithaca, NY.


11:30 AM 797 Effects of a commercial sequestering agent on performances of fattening pigs fed diet artificially contaminated by aflatoxin B1 and ochratoxin A. G. Battacone*¹, G. A. Carboni², P. Nicolussi², C. Patta², and G. Pulina¹, ¹Dipartimento di Scienze Zootecniche - University of Sassari, Sassari, Italy, ²Istituto Zooprofilattico Sperimentale per la Sardegna, Sassari, Italy.

11:45 AM 798 Ghrelin secretion is more closely aligned to the energy balance than with feeding behaviour in the grower pig. P. C. Wynn*, K. Scrimgeour, M. J. Gresham, P. Thomson, and R. E Newman, Faculty of Veterinary Science University of Sydney, Sydney, NSW, Australia.

**SYMPOSIUM**

Teaching/Undergraduate & Graduate Education

From Choosing a Graduate Program to Embarking on a Successful Career: A Guide for Livestock and Poultry Science Students

Chair: Meghan Wulster-Radcliffe, American Society of Animal Science

Sponsor: ASAS

204 B

10:30 AM 799 Choosing a graduate program. D. R. Notter*, Virginia Polytechnic Institute and State University, Blacksburg.


11:20 AM 801 Opportunities outside of the lab, international experience, networking, and professional societies? J. S. Radcliffe*, Purdue University, West Lafayette, IN.

11:45 AM The defense is scheduled, now what? A job? S. R. Jordan*, AgriTech Placement LLC.

12:10 PM Discussion.
Bio Ethics - Livestock and Poultry
Chair: Mhairi Sutherland, Texas Tech University
206 A

11:00 AM 802 Why it is important to understand bioethical concepts. R. D. Reynnells*1, C. C. Croney1, and D. J. R. Cherney1, 1USDA/CSREES/PAS, Washington, DC; 2Oregon State University, Corvallis; 3Cornell University, Ithaca, NY.

11:15 AM 803 The ethical landscape of non surgical embryo-transfer in pigs: An explorative study of public concerns. F. R. Stafleu2, D. W. B. Ducro-Steverink1, and J. W. M. Merks*1, 1IPG, Institute for Pig Genetics B.V., Beuningen, the Netherlands; 2Ethics Institute, Utrecht University, Utrecht, the Netherlands.


11:45 AM 805 Animal biotechnology: Where to from here? A. L. Van Eenennaam*, University of California, Davis.

SYMPOSIUM
Distillers Grains Symposium
Chair: Gerald Weigel, BASF Plant Science/Ex Seed Genetics
Sponsor: Renewable Fuels Association
217 D

2:00 PM Overview of the ethanol industry, current energy environment and energy bill. B. Dinneen*, Renewable Fuels Association.


3:10 PM Environmental impact of renewable fuels and sustainable agriculture. D. Walters*, University of Nebraska, Lincoln.

3:45 PM How to utilize distillers grains based on nutrient content in poultry. C. Parsons, University of Illinois, Urbana.

4:20 PM Corn: Ethanol – Supply and demand outlook. R. Wisner*, Iowa State University, Ames.

SYMPOSIUM
ADSA Production Division Symposium
Chair: Ronald Pearson, Virginia Polytechnic Institute and State University
Sponsor: Arm & Hammer Animal Nutrition
217 A

2:00 PM Introduction. R. E. Pearson*, Virginia Polytechnic Institute and State University.


2:55 PM 806 Feeding programs that meet the challenges of heat stress. J. N. Spain* and D. E. Spiers, University of Missouri, Columbia.

3:35 PM Break

3:50 PM 807 Environmental modifications to address heat stress. M. J. Brouk*1, J. P. Harner, III1, J. F. Smith1, and D. V. Armstrong2, 1Kansas State University, Manhattan; 2University of Arizona, Tucson.

4:30 PM 808 What we have learned about the genes involved in the response to heat stress. R. J. Collier* and R. P. Rhoads, University of Arizona.

5:10 PM Discussion.
## Breeding and Genetics - Livestock and Poultry
### Swine
**Chair:** Gary Rohrer, USDA – ARS

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<tr>
<td>2:15 PM</td>
<td>810 Genetic analysis of ewe stayability and its association with lamb growth and adult body weight. R. C. Borg¹, D. R. Notter¹, and R. W. Kott¹, <em>Virginia Polytechnic Institute and State University, Blacksburg,</em> ²<em>Montana State University, Bozeman.</em></td>
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<td>2:45 PM</td>
<td>812 Differential gene expression profiling of malignant melanoma in Sinclair swine. M. A. Okomo-Adhiambo¹, A. Rink², W. Rauw¹, C. W. Beattie¹, and L. Gomez-Rayna¹, ¹<em>University of Nevada, Reno,</em> ²<em>Animal Disease and Food Safety Laboratory, Reno, NV,</em> ³<em>University of Illinois, Chicago.</em></td>
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<td>3:15 PM</td>
<td>Break</td>
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<td>3:30 PM</td>
<td>814 Doe reproductive and fitness traits among three meat goat breeds semi-intensively managed in the southeastern US. R. Browning, Jr.*, M. L. Leite-Browning, B. Donnelly, and M. Byars, <em>Tennessee State University, Nashville.</em></td>
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<td>3:45 PM</td>
<td>815 Measures of libido and their relation to testicular hypertrophy and fertilizing competence in boars. D. O. Umesiobi*, <em>Central University of Technology, Bloemfontein, Free State, South Africa.</em></td>
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<td>4:00 PM</td>
<td>816 Comparison of pure Berkshire, Landrace, and the reciprocal crosses at two market endpoints. K. M. Bruegge-meier*, A. C. Naaber, S. J. Moeller, H. N. Zerby, and K. M. Irvin, <em>The Ohio State University, Columbus.</em></td>
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<td>4:45 PM</td>
<td>819 Breeding for robust pigs across the year in heat stress affected areas. B. Zumbach¹, I. Misztal¹, S. Tsuruta¹, J. P. Sanchez¹, M. J. Azain¹, W. Herring², J. Holl², and T. Long², ¹<em>University of Georgia, Athens,</em> ²<em>Smithfield Premium Genetics Group, Rose Hill, NC.</em></td>
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## Dairy Foods
### Cheese II
**Chair:** Kayanush J. Aryana, Louisiana State University Agricultural Center

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<td>2:00 PM</td>
<td>ADSA Pioneer Dairy foods: My travels through academia. W. E. Sandine, <em>McKinney, TX.</em></td>
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<td>2:15 PM</td>
<td>820 Addition of probiotic microorganisms to improve proteolysis, sensory evaluation and the release of antihyperten-sive peptides in Cheddar cheeses ripened at 4 and 8 °C. L. Ong¹, N. P. Shah¹, and A. Henriksson², ¹<em>Victoria University, Werribee, Victoria, Australia,</em> ²<em>DSM Food Specialties, Moorebank, NSW, Australia.</em></td>
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**SYMPOSIUM**

**Dairy Foods**

**Milk Proteins and Enzymes: Proteomics and Milk**

Chair: Rafael Jimenez-Florez, California Polytechnic State University  
Sponsor: California Dairy Research Foundation, EAAP 202

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<td>3:00 PM</td>
<td>Instrumentation and technology of proteomics today. Mi. Salemi* and B. Phinney, University of California-Davis.</td>
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<td>Discussion.</td>
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<td>Concluding remarks.</td>
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**Extension Education - Livestock and Poultry**

**Extension Livestock Session**

Chair: Tim Safranski, University of Missouri 214 A

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**Wednesday, July 11, 2007**
The effect of tillage practice and corn stalk grazing on crop yields. W. A. Griffin*1, T. J. Klopfenstein1, G. E. Erickson1, W. Luedtke2, and M. A. Schroeder2, 1University of Nebraska, Lincoln, 2Agricultural Research and Development Center, Ithaca, NE.


Evaluation of a total ranch management workshop as an educational tool to transfer technology in Mexico. R. Teliz-Triujeque*1,2, R. H. Williams2, J. A. Ortega-Santos2, C. W. Hanselka3, E. A. Gonzalez-Valenzuela1, J. A. Hinojosa2, and R. L. Stanko2, 1INIFAP, Mexico, 2Texas A&M University, Kingsville, 3Texas Cooperative Extension, Corpus Christi.

Summary of the 2004 – 2005 University of Georgia Master Cattlemen’s Programs. T. W. Wilson*, J. E. Rossi1, R. C. Lacy2, M. E. Pence1, J. Andrea2, R. L. Stewart1, J. W. Worley1, N. C. Hinkle1, and J. C. McKissick1, 1The University of Georgia, Tifton, 2Clemson University, Clemson, SC.

Forages and Pastures - Livestock and Poultry Grazing
Chair: Glen Aiken, USDA-ARS
214 B

Copper and Cu/Zn superoxide dismutase status in steers grazing three fescue types. R. L. Stewart, Jr*, G. Scaglia, W. S. Swecker, Jr., J. P. Fontenot, A. O. Abaye, J. H. Fike, M. A. McCann, and E. A. Wong, Virginia Polytechnic Institute and State University, Blacksburg.

Effects of clipping and implants on rates of hair growth and sweating, and rectal temperature of steers grazing endophyte-infected tall fescue. L. K. McClanahan*1 and G. E. Aiken2, 1University of Kentucky, Lexington, 2USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY.

Comparison of novel endophyte tall fescues for stocker cattle in southern Arkansas. P. A. Beck*1, C. B. Stewart1, D. Singh2, and S. A. Gunther1, 1University of Arkansas SWREC, Hope, 2Barenbrug USA, Tangent, OR.

Supplementation of digestible fiber and glucomannan to tall fescue pastures: performance, forage availability, and prolactin response. R. L. Mills*1,2, C. J. Richards2, F. N. Schrick1, and J. C. Waller1, 1The University of Tennessee, Knoxville, 2Oklahoma State University, Stillwater.

Performance of primiparous beef cows grazing bahiagrass pastures with three rates of soybean hull supplementation. J. M. B. Vendramini* and J. D. Arthington, Range Cattle Research and Education Center - University of Florida, Ona.

Grazing efficiency in free range Merino sheep. W. M. Rauw*1, H. A. Glimp1, W. Jesko2, M. Sandstrom3, and L. Gomez-Raya1, 1University of Nevada, Reno, 2Rafter 7 Ranch, Yerington, NV.


Effects of level of concentrate supplementation on nutrient digestion of lactating dairy cows grazing at two pasture allowances. T. H. Garmo, H. Volden, S. J. Krizsan*1, and S. K. Nes, Norwegian University of Life Sciences, As, Norway.

Effect of daily herbage allowance and concentrate level, offered at different stages of lactation, on milk production, dry matter intake, blood metabolites, bodyweight and body condition score. E. Kennedy*1,2, M. O’Donovan1, F. O’Mara2, and L. Delaby1, 1Teagasc, Dairy Production Research Centre, Moorepark, Fermoy, Co. Cork, Ireland, 2School of Agriculture, Food Science and Veterinary Medicine, UCD, Belfield, Dublin, Ireland, 3INRA, UMR, Production du Lait, St. Gilles, France.
4:30 PM  846  Timing of herbage and fasting allocation in strip grazed cattle: Effects on patterns of ingestive behavior, herbage intake, and nutrient supply. P. Gregorini*1, S. A. Gunter2, and P. A. Beck3, 1USDA–ARS, University Park, PA, 2University of Arkansas SWREC, Hope.


5:00 PM  848  Effect of sulphite salts on the aerobic stability and intake levels of whole crop wheat by grazing of dairy cattle. J. K. Margerison*1 and R. R. Edwards2, 1Massey University, Palmerston North, New Zealand, 2University of Plymouth, Plymouth, UK.

SYMPOSIUM
Growth and Development - Livestock and Poultry

Transcriptional Factors and Cell Mechanisms for Regulation of Growth and Development with Application to Animal Agriculture

Chairs: Hugh Chester-Jones, University of Minnesota and Sandy Velleman, The Ohio State University

204 B


2:45 PM  850  The role of microRNAs in muscle development. T. P. L. Smith1, T. G. McDanel*2, M. E. Doumit2, L. K. Matukumalli3, T. S. Sonstegard1, L. L. Coutinho4, and R. T. Wiedmann1, 1USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 2Michigan State University, East Lansing, 3USDA, ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, 4University of Sao Paulo, Brazil.

3:30 PM  851  Cellular and molecular regulation of muscle growth and development in meat animals. W. R. Dayton*, M. E. White, and M. R. Hathaway, University of Minnesota, St Paul.

4:15 PM  852  Application of cellular mechanisms to growth and development of food producing animals. B. J. Johnson*, Kansas State University, Manhattan.

SYMPOSIUM
International Animal Agriculture - Livestock and Poultry

Global Livestock and Poultry Issues

Chair: John LaBore, Eli Lilly and Company

Sponsor: Elanco Animal Health

207 A

2:00 PM  853  Factors affecting milk price and revenues of dairy farms in the central region of Thailand. J. A. Rhone*1, R. Ward1, S. Koonawootrittriron2, and M. A. Elzo1, 1University of Florida, Gainesville, 2Kasetsart University, Bangkok, Thailand.

2:15 PM  854  Factors affecting bacterial score and bulk tank somatic cell count of dairy farms in the central region of Thailand. J. A. Rhone*1, S. Koonawootrittriron2, and M. A. Elzo1, 1University of Florida, Gainesville, 2Kasetsart University, Bangkok, Thailand.

2:30 PM  855  Effects of supplementing finger millet straw with concentrates differing in partitioning factor on microbial biomass synthesis in crossbred dairy cows. W. Jackson*1, S. Sudha2, U. Krishnamoorthy2, R. Bhaskaran2, and P. Robinson1, 1University of California, Davis, 2Karnataka Veterinary, Animal & Fisheries Sciences University, Bangalore, Karnataka, India.

Wednesday, July 11, 2007  219
Livestock, livelihoods and the environment in developing countries. A. Freeman*, 1International Livestock Research Institute, Kenya, 2FAO Pro-Poor Livestock Initiative.

Role of livestock in human health and nutrition in developing countries. T. F. Randolph*, E. Schelling, and J. Zinsstag, 1International Livestock Research Institute, Kenya, 2Swiss Tropical Institute, Switzerland.

National and international program in poultry germplasm preservation. J.-P. Brillard* and M. E. Delany, 1INRA, France, 2University of California, Davis.

Nonruminant Nutrition
General Topics
Chair: Robert Payne, Degussa AG
212

Temporal changes in biochemical indices of sulfur amino acid (SAA) metabolism in the folate deficient piglet. Z. Zhang* and J. D. House, University of Manitoba, Winnipeg, MB, Canada.

Effects of diet conditioning (steam at low and high temperatures, expanding, and extruding) prior to pelleting on growth performance in nursery pigs. K. K. Lundblad*, S. Issa, J.D. Hancock, M. Sørensen, K. C. Behnke, E. Prestløkken, L. J. McKinney, and S. Alavi, 1Felleskjøpet Fôrutvikling, Trondheim, Norway, 2Kansas State University, Manhattan, 3University of Life Sciences, Aas, Norway, 4AKVAFORSK, Aas, Norway.

Effects of diet conditioning (steam at low and high temperatures, expanding, and extruding) prior to pelleting on growth performance in broiler chicks. K. K. Lundblad*, S. Issa, J. D. Hancock, M. Sørensen, K. C. Behnke, E. Prestløkken, L. J. McKinney, and S. Alavi, 1Felleskjøpet Fôrutvikling, Trondheim, Norway, 2Kansas State University, Manhattan, 3University of Life Sciences, Aas, Norway, 4AKVAFORSK, Aas, Norway.


Effects of inclusion of several fiber sources on digesta pH of broilers. E. Jiménez-Moreno, J. M. González-Alvarado, A. González-Serrano, R. Lázaro, and G. G. Mateos, 1Universidad Politécnica de Madrid, Spain, 2Universidad Autónoma de Tlaxcala, México.

Adhesion ability of probiotic lactobacillus strains and their effect on piglet performance. S. Qiao*, X. Li, and H. Yu, National Key Lab of Animal Nutrition, China Agricultural University, Beijing, China.

Supplementing rice protein concentrate to a milk-based diet enhances growth performance in weaned pigs. Z. P. Hou, Y. L. Yin, R. L. Huang, T. J. Li, P. Zhang, X. Wu, and G. Y. Wu, 1Key Laboratory of Subtropical Agro-ecology, Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Nanchang University, Nanchang, Jiangxi, China, 3Texas A&M University, College Station.

Effects of different carbohydrates on the growth performance of weaned pigs. X. G. He*, H. J. Xu, X. F. Kong, W. Y. Chu, R. L. Huang, Z. Y. Deng, S. W. Kim, G. Y. Wu, and Y. L. Yin, 1Nanchang University, Nanchang, Jiangxi, China, 2Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Hunan, Changsha, China, 3Texas A&M University, College Station.

Pediococcus pentosaceus FBB61 reduces oxidative damage by ochratoxin A in rats. A. Piva, V. Pizzamiglio, E. Grilli, M. R. Messina, P. P. Gatta, G. Casadei, F. Bognanno, and F. Galvano, 1DIMORFIPA, University of Bologna, Bologna, Italy, 2Northeastern University, Boston, MA, 3STIFA Department, Mediterranean University of Reggio Calabria, Reggio Calabria, Italy.


Fecal near-infrared reflectance spectroscopy (NIRS) calibrations for predicting intake of donkeys. N. Kidane, J. Stuth, and D. Tolleson, Texas A&M University, College Station.
Nonruminant Nutrition

Natural Phytobiotics for Health of Young Animals: Applications and Mechanisms
Chair: Sung Woo Kim, Texas Tech University
Sponsor: Biomin USA

2:00 PM  Introduction. S. W. Kim, Texas Tech University, Lubbock.

2:15 PM 867  Natural phytobiotics for health of young piglets and poultry: Mechanisms and application. W. Windisch*1 and A. Kroismayr2, 1University of Natural Resources and Applied Life Sciences, Vienna, Austria, 2BIOMIN GmbH, Herzogenburg, Austria.

3:00 PM 868  The use of bioactive herbal saccharides in China. X. Piao*1, S. Yuan1, S. W. Kim2, D. Li1, and D. Ou1, 1China Agriculture University, Beijing, China, 2Texas Tech University, Lubbock.

3:45 PM 869  Effect of a phytogenic feed additive on reproduction performance of sows. A. Kroismayr*1,4, C. Hsun2, M. Racousier1, and T. Steiner2, 1University of Natural Resources and Applied Life Sciences, Vienna, Austria, 2BIOMIN America Inc, San Antonio, Texas, 3Universidad Mayor, Santiago, Chile, 4BIOMIN GmbH, Herzogenburg, Austria.

4:00 PM 870  Effects of phytobiotics on nursery pig performance. R. C. Sulabo*1, J. Y. Jacela1, J. M. DeRouchey1, M. D. Tokach1, F. Neher2, R. D. Goodband2, S. S. Dritz3, and J. L. Nelssen1, 1Kansas State University, Manhattan, 2Biom Inc., San Antonio, TX.

4:15 PM 871  Dietary supplementation with Acanthopanax Senticosus extracts enhances the digestion and absorption of dietary protein and amino acids in weaned pigs. F. G. Yin*1, X. F. Kong1, Y. L. Yin*1,3, R. L. Huang1, P. Zhang1, and G. Y. Wu1,2, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Texas A&M University, College Station.

Nonruminant Nutrition

Weanling Pig Nutrition
Chair: Jeffery Escobar, Virginia Polytechnic Institute and State University

2:00 PM 872  Effect of organic acids and antibiotic growth promoters on growth performance, gastrointestinal pH, intestinal microbial populations and immune responses of weaned pigs. Z. Li1, D. Li1, G. Yi*1, J. Yin1, and P. Sun1, 1China Agricultural University, Beijing, P.R. China, 2DaChan NorthEast Asia Corp, Beijing, P. R. China.

2:15 PM 873  Dietary supplementation with glycyrrhetinic acid (GA) increases endogenous arginine provision and growth performance in milk-fed piglets. Z. S. He1, Y. L. Hu1, Y. L. Yin*1,3, R. L. Huang1, X. F. Kong1, T. J. Li1, F. W. Li1, and G. Y. Wu1,3, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Nanjing Agricultural University, Nanjing, Jiangsu, China, 3Texas A&M University, College Station.

2:30 PM 874  Dietary arginine supplementation enhances the immune status of piglets. B. E. Tan1, Y. L. Yin*1, X. F. Kong1, T. J. Li1, R. L. Huang1, P. Zhang1, F. G. Yin1, I. Shinzato2, S. W. Kim3,4, and G. Y. Wu1,4, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, 2Ajinomoto, Tokyo, Japan, 3Texas Tech University, Lubbock, 4Texas A&M University, College Station.

2:45 PM 875  Evaluation of different additives in weaned pigs raised in a commercial setting. K. J. Touchette1, M. D. Newcomb1, J. A. Cuaron2, G. Lanz-Arias2, and D. W. Giesting*1, 1Cargill Animal Nutrition, Elk River, MN, 2INIFAP/ PAIPEME, Queretaro, Qro., Mexico.

3:00 PM 876  The interaction of dietary energy and an E. coli phytase enzyme on the performance of weanling pigs. A. D. Baulieu*1, J. F. Patience1, T. M. Parr2, C. L. Wyatt2, and M. R. Bedford3, 1Prairie Swine Centre, Inc., Saskatoon, SK, Canada, 2Syngenta Animal Nutrition, RTP, NC.
Physiology & Endocrinology - Livestock and Poultry
Reproductive Physiology
Chair: Mark J. Estienne, Virginia Polytechnic Institute and State University
214 C

2:00 PM 884 Emerging concepts regarding the integration of neuroendocrine signals that regulate gonadotropin secretion in domestic livestock. C. A. Lents*1 and C. R. Barb2, 1The University of Georgia, Athens, 2USDA-ARS, Russell Research Center, Athens, GA.

2:30 PM 885 Effects of human chorionic gonadotropin (hCG) and gonadotropin releasing hormone (GnRH) on follicle and corpus luteum dynamics and concentrations of progesterone in pre-pubertal Angus heifers. C. R. Dahlen*2, J. E. Larson1, G. Marquezini1, and G. C. Lamb1, 1North Central Research and Outreach Center, University of Minnesota, Grand Rapids, 2Northwest Research and Outreach Center, University of Minnesota, Crookston.

2:45 PM 886 Increasing ovulation rate reduced follicle size and increased blood progesterone concentrations but had no effect on fertility in cattle selected for twins. S. E. Echternkamp*, R. A. Cushman, and M. F. Allan, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.

3:00 PM 887 Altered liver gene expression and reproductive function in postpartum suckled beef cows on different planes of nutrition. M. Bionaz*1, F. Samadi2, M. J. D’Occhio2,3, and J. J. Loor1, 1University of Illinois, Urbana, 2The University of Queensland, Gatton Campus, Australia, 3CRC for Beef Genetic Technologies, Gatton Campus, Australia.

3:15 PM 888 Luteal function at day 30 of pregnancy in relation to serum progesterone in dairy cows at risk for late embryonic or early fetal mortality. J. D. Rhinehart*1, J. A. Flores1, R. A. Milvae1, and E. K. Inskeep1, 1West Virginia University, Morgantown, 2University of Connecticut, Storrs.

3:30 PM 889 Effect of seminal plasma and transforming growth factor (TGF)-β1 treatment on pregnancy outcome in beef cattle. J. F. O’Dohainbo*1, I Holásková1, J. D. Rhinehart1, D. H. Poole2, J. M. DeJarnette1, E. K. Inskeep1, and R. A. Dailey1, 1West Virginia University, Morgantown, 2Ohio State University, Columbus, 3Select Sires Inc. Plains City, OH.
3:45 PM  890  Prolactin and luteinizing hormone profiles during the reproductive cycle in the native Thai chicken. S. Kosonsiri-luk, N. Sartsoongnoen, N. Prakobsaeng, I. Rozenboim, M. E. El Halawani, and Y. Chaiseha*. 1Suranaree University of Technology, Nakhon Ratchasima, Thailand, 2The Hebrew University of Jerusalem, Rehovot, Israel, 3University of Minnesota, Saint Paul.

4:00 PM  891  The effect of active immunization against vasoactive intestinal peptide and inhibin on semen production of young and aged roosters. I. Rozenboim* and N. Avital, Hebrew University of Jerusalem, Faculty of Agriculture Dept Animal Science, Rehovot, Israel.

4:15 PM  892  Chicken epiregulin (ER) gene: cDNA cloning, genomic organization, and regulation of its mRNA expression in ovarian granulosa cells. Y. Wang*, J. Li, and F. C. Leung, The University of Hong Kong, Hong Kong, HK-SAR, China.

4:30 PM  893  Effects of different cryopreservation methods on the glyocalyx of chicken spermatozoa. J. Pelaez and J. A. Long*, Beltsville Agricultural Research Center, Beltsville.

4:45 PM  894  Testicular development in meishan and commercial crossbred prepubertal boars. J. J. Ford*, U.S. Meat Animal Research Center, Clay Center, NE.

5:00 PM  895  Transcript profiling of testes from boars divergently selected for testosterone production. M. S. Ashwell*, S. Druyan, C. M. Ashwell, and J. P. Cassady, North Carolina State University, Raleigh.

SYMPOSIUM
Production, Management & the Environment - Livestock and Poultry
The Evolving National Animal Identification System
Chair: John Paterson, Montana State

2:00 PM  Introductions. J. Paterson, Montana State University, Bozeman.

2:15 PM  Update on the National Animal Identification System. N. Hammerschmidt*, USDA, APHIS Veterinary Services, Riverdale, MD.


3:15 PM  Break


4:15 PM  897  Issues surrounding existing and potentially disruptive RFID technologies for the identification of food producing animals. D. A. Blasi*, Kansas State University, Manhattan.

4:45 PM  Questions.
Ruminant Nutrition
Intake Behavior/Acidosis/Metabolism - Dairy
Chair: Kendall Swanson, University of Guelph
217 C

2:00 PM 899 Severity of ruminal acidosis increases with repeated bouts particularly when cows are fed low forage diets. F. Dohme*, T. J. DeVries*, K. A. Beauchemin*, K. M. Krause*, and K. S. Schwartkopf-Genswein*. 1Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland, 2Agriculture and Agri-Food Canada, Lethbridge, AB, 3West Virginia University, Morgantown.


2:30 PM 900 Grain-induced subacute ruminal acidosis (SARA) stimulates translocation of lipopolysaccharide (LPS) into the blood, and increases acute phase proteins in bovine plasma and milk. E. Khafipoor*, D. O. Krause, and J. C. Plaizier, University of Manitoba, Winnipeg, MB, Canada.

2:45 PM 901 Induction of subacute ruminal acidosis (SARA) by replacing alfalfa hay with alfalfa pellets does not stimulate inflammatory response in lactating dairy cows. E. Khafipoor*, D. O. Krause, and J. C. Plaizier, University of Manitoba, Winnipeg, MB, Canada.

3:00 PM 902 Particle analysis of swallowed hay boluses varying in chop length. I. Schadt*, M. Caccamo*, J. D. Ferguson*, G. Azzaro*, R. Petriglieri*, P. Van Soest*, and G. Licitra*, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2University of Pennsylvania, School of Veterinary Medicine, Kennett Square, 3Cornell University, Ithaca, NY, 4D.A.C.P.A. University of Catania, Catania, Italy.


4:15 PM 907 Transport of 2-hydroxy-4-methyl-thio-butanoic isopropyl ester (HMBi) across rumen epithelium in vitro. W. Heimbeck* and G. Breves*, 1Degussa GmbH, Hanau, Germany, 2Institute for Physiology, School of Veterinary Medicine, Hannover, Germany.


4:45 PM 909 Glucose minimal modeling in lactating dairy cows. R. C. Boston*, J. R. Roche*, and P. J. Moate*, 1University of Pennsylvania, Kennett Square, 2University of Tasmania, Burnie, Tas, Australia.
Ruminant Nutrition
Lipid Supplementation
Chair: Tilak Dhiman, Utah State University
ASAS Early Career Achievement Award Sponsored by the ASAS Foundation
217 B

2:00 PM  ASAS Early Career Achievement Award Introduction. Gerald Weigel, BASF Plant Science/Ex Seed Genetics.

2:05 PM 910  A decade of research developments in ruminant nutrition at the University of Wyoming. B. W. Hess*, University of Wyoming, Laramie.

2:35 PM  Questions for Dr. Hess.


3:00 PM 912  Effects of feeding fresh and oxidized fat in the presence and absence of dietary antioxidant on lactation performance. M. Vazquez-Anon*, G. Bowman*, T. Hampton¹, P. Vazquez*, T. Jenkins¹, and J. Nocek¹, ¹Novus International, St Charles, MO, ²Universidad de Santiago, Lugo, Spain, ³Clemson University, Clemson, SC, ⁴Spruce Haven Research, Union Springs, NY.


3:30 PM 914  Lactation response and milk ω-linolenic acid concentration in dairy goats fed different forage species supplemented with extruded linseed. A. Doyon*, G. F. Tremblay², D. Cinq–Mars³, and P. Y. Chouinard¹, ¹Nutraceuticals and Functional Foods Institute (INAF), Laval University, Quebec, QC, Canada, ²Agriculture and Agri-Food Canada, Soils and Crops Research and Development Center, Quebec, QC, Canada, ³Ministère de l’Agriculture, des Pêcheries et de l’Alimentation du Québec, Direction de l’innovation scientifique et technologique, Quebec, QC, Canada.

3:45 PM 915  Predicting production of de novo fatty acids in milk. P. J. Moate*, W. Chalupa¹, R. C. Boston¹, and I. J. Lean², ¹University of Pennsylvania, Kennett Square, PA, ²Sydney University, Sydney, NSW, Australia.

4:00 PM 916  Effect of in vitro DHA supplementation to adapted and non-adapted rumen inoculum on the biohydrogenation of linolenic and linoleic acid. B. Vlaeminck¹, G. Mengistu¹, J. Dijkstra¹, and V. Fievez², ¹Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Belgium, ²Animal Nutrition Group, Wageningen University, The Netherlands.

4:15 PM 917  Identification of enriched conjugated linoleic acid isomers in cultures of ruminal microorganisms after dosing with 1-13C-linoleic acid. Y.-J. Lee*, J. T. Brenna², P. Lawrence³, S. K. Duckett¹, G. L. Powell¹, W. C. Bridges, Jr.¹, and T. C. Jenkins¹, ¹Clemson University, Clemson, SC, ²Cornell University, Ithaca, NY.

4:30 PM 918  Octadecaa-carbon fatty acids affect microbial fermentation, methanogenesis and microbial flora in vitro. C. M. Zhang¹, J. X. Liu¹, Y. Q. Guo¹, Z. P. Yuan¹, J. K. Wang¹, and W. Y. Zhu¹, ¹College of Animal Sciences, Ministry of Education Key Laboratory of Molecular Animal Nutrition, Zhejiang University, Hangzhou, Zhejiang, P.R. China, ²College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, Jiangsu, P.R. China.


2:00 PM  921  Cobalt supplementation to the pregnant ewe reduces vitamin E levels in the newborn lamb. T. M. Boland*, L. Hayes, J. J. Murphy, T. Sweeney, J. J. Callan, and T. F. Crosby, University College Dublin, Belfield, Dublin, Ireland.


2:30 PM  923  Potential for onions to reduce bitterweed toxicity in sheep. E. S. Campbell*, T. R. Whitney, C. A. Taylor, and N. Garza, 1Texas Agricultural Experiment Station, Sonora, TX, 2Texas Agricultural Experiment Station, San Angelo, TX.

2:45 PM  924  Effectiveness of allopathic and homeopathic dewormers on gastrointestinal nematodes and gain in ewes. A. Baños L, E. Cortés D*, S. Vázquez, J. L. Zaragoza, P. A. Martínez, and T. González, UACh-Chapingo, Mexico.

3:00 PM  925  Influence of feeding tanniniferous sainfoin on the nitrogen balance of lambs artificially infected with the abomasal nematode Haemonchus contortus. A. Scharenberg, Y. Arrigo, F. Heckendorf, H. Hertzberg, A. Gutzwiller, H. D. Hess, M. Kreuzer, and F. Dohme*, Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland, 2Research Institute for Organic Farming (FiBL), Frick, Switzerland, 3ETH Zurich, Institute of Animal Science, Zurich, Switzerland.

3:15 PM  926  Break

3:30 PM  927  Prediction of lamb carcass leg and loin weights using leg score and leg width measurements. M. R. Mousel*, T. D. Leeds, D. R. Notter, and H. N. Zerby, USDA-ARS U.S. Sheep Experiment Station, Dubois, ID, 2Virginia Polytechnic Institute and State University, Blacksburg.

3:45 PM  928  Prediction of carcass measures and wholesale product weights in sheep using B-mode ultrasound. T. D. Leeds*, M. R. Mousel, D. R. Notter, and G. S. Lewis, USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID, 2Virginia Polytechnic Institute and State University, Blacksburg, 3Ohio State University, Columbus.

4:00 PM  929  Influence of body weight and body condition score at breeding on conception and prolificacy of Merino and Composite Coopworth, East Friesian, Romney and Texel sheep in Tasmania, Australia. A. E. O. Malau-Aduli*, G. H. Bond, and M. Dunbabin, University of Tasmania, Hobart, Tasmania 7001, Australia, 2Bangor, Dunalley, Tasmania 7177, Australia.

4:15 PM  930  Body weight changes and subsequent lambing rates of western white-faced ewes grazing winter range. J. B. Taylor*, C. A. Moffet, and T. D. Leeds, USDA, ARS, U. S. Sheep Experiment Station, Dubois, ID.

4:30 PM  931  Changes in metabolic and endocrine measurements during feed restriction in dairy ewes with different BCS. G. Pulina*, G. C. Bomboi, A. Mazzette, B. Floris, C. Dimarco, S. P. G. Rassu, and A. Nudda, 1Dipartimento di Scienze Zootecniche - Università di Sassari, Sassari, Italy, 2Dipartimento di Biologia Animale - Università di Sassari, Sassari, Italy.
Thursday, July 12

SYMPOSIA AND ORAL SESSIONS

Beef Species II
Feed Intake and Efficiency

Chair: Denny Crews, Agriculture and Agri-Food Canada

214 B


8:45 AM 932 Relationships among exit velocity, cortisol, and carcass characteristics of beef heifers. R. R. Reuter1,2, J. D. Dailey*2, J. A. Carroll2, M. S. Brown1, and M. L. Galyean1, 1Texas Tech University, Lubbock, 2USDA-ARS Livestock Issues Research Unit, Lubbock, TX, 3West Texas A&M University, Canyon.

9:00 AM 933 Evaluation of a mathematical model to estimate total feed required for pen-fed animals based on performance and diet information. B. M. Bourg*, L. O. Tedeschi1, and M. S. Brown2, 1Texas A&M University, College Station, 2West Texas A&M University, Canyon.

9:15 AM Break

9:30 AM 934 Genetic trends for feed intake, average daily gain, mid-test weight and residual feed intake in a population of Angus cattle selected for feed efficiency. D. P. Kirschten*, E. J. Pollak1, D. R. Strohbehn2, and D. Warden1, 1Cornell University, Ithaca, NY, 2Iowa State University, Ames, 3Wardens Farm, Council Bluffs, IA.

9:45 AM 935 Relationship between residual feed intake and ultrasonic measures of body composition in yearling performance tested bulls. T. L. Perkins*, J. L. Drury, and A. Rimal, Missouri State University, Springfield.

10:00 AM 936 Characterization of residual feed intake and relationships with serum insulin-like growth factor-I in growing Brangus heifers. P. A. Lancaster*, G. E. Carstens1, J. G. Lyons1, T. H. Welsh, Jr1, R. D. Randel2, and T. D. A. Forbes1, 1Texas Agricultural Experiment Station, College Station, 2Texas Agricultural Experiment Station, Overton, 3Texas Agricultural Experiment Station, Uvalde.

10:15 AM 937 Feed efficiency and residual feed intake of Nelore young bulls selected for yearling weight. R. Almeida*, R. F. Nardon2, A. G. Razook2, L. A. Figueiredo2, and D. P. D. Lanna3, 1Universidade Federal do Paraná, Paraná, Brazil, 2Instituto de Zootecnia, São Paulo, Brazil, 3ESALQ/USP, São Paulo, Brazil.

Breeding and Genetics - Livestock and Poultry

Analyses and Methods II

Chair: Curt Van Tassell, USDA – ARS

207 B

8:30 AM 938 Genetic parameters estimation for Test Day Model evaluation in Italy. F. Canavesi* and S. Biffani, ANAFI, Cremona, Italy.

8:45 AM 939 Use of a mathematical computer model to predict feed intake in Angus cattle: Genetic parameters between observed and predicted values, and relationships with other traits. D. P. Kirschten*, E. J. Pollak, and D. G. Fox, Cornell University, Ithaca, NY.

9:00 AM 940 Computing options for genetic evaluation with a large number of genetic markers. S. Tsuruta, I. Misztal*, and J. K. Bertrand, University of Georgia, Athens.

9:15 AM 941 Sampling genotype configurations in large complex pedigree. M. Szydlowski*1 and N. Gengler1,2, 1Gembloux Agricultural University, Gembloux, Belgium, 2National Fund for Scientific Research, Brussels, Belgium.

9:30 AM 942 Comparisons of single and multiple trait random regression models for analyses of multi-parity test-days. S. Tsuruta* and I. Misztal, University of Georgia, Athens.
9:45 AM 943 Investigation of genetic differences in feed efficiency through comparison of observed versus model predicted feed intake in *Bos indicus* – *Bos taurus* F1, full sib steers. T. S. Amen*, J. E. Sawyer, A. D. Herring, J. O. Sanders, D. K. Lunt, and C. A. Gill, Texas A&M University, College Station.

10:00 AM Break

10:15 AM 944 First screening of QTL using a segment mapping approach. M. Sargolzaei*1, F. Schenkel1, and H. D. Daetwyler2, 1University of Guelph, Guelph, Ontario, Canada, 2Roslin Institute, Roslin, Midlothian, Scotland, UK.


10:45 AM 946 Interval mapping of deleterious recessive loci in half-sib families. L. Gomez-Raya* and W. M. Rauw, University of Nevada, Reno.


11:15 AM 948 Simulation study controlling inbreeding in litter size. S.-H. Oh*1, G.-M. Kim1, and Y.-C. Jung2, 1North Carolina A&T State University, Greensboro, 2Jung P&C Institute, Seongnam, Gyeonggi, South Korea.

**SYMPOSIUM**

**Contemporary & Emerging Issues - Livestock and Poultry**

**Contemporary and Emerging Issues**

**Chair:** Judy Stabel, USDA-ARS, National Animal Disease Center

**Sponsor:** ABSTC, Elanco Animal Health

207 A

8:30 AM 949 Avian H5N1: Still an animal virus? F. C. Leung*, The University of Hong Kong, Hong Kong, HK-SAR, China.


10:00 AM 951 Scenario and economic analysis of a hypothetical link between MAP and Crohn’s disease. H. Groenendaal* and F. Z. Zagmutt, Vose Consulting, Boulder, CO.

10:45 AM 952 Tuberculosis: A re-emerging disease at the interface of domestic animals and wildlife. M. V. Palmer*, National Animal Disease Center, ARS, USDA, Ames, IA.

**Nonruminant Nutrition**

**Poultry Nutrition - Phosphorus and Phytase**

**Chair:** Michael Persia, Syngenta Animal Nutrition

214 D

8:30 AM 953 Early response of young breeder source broilers to combined xylanase-amylase-protease-phytase supplementation of a high performance feed and when both ME-available phosphorus (AP) are reduced. E. T. Moran* and R. Lehman, Auburn University, Auburn University, AL.

8:45 AM 954 The effects of supplemental Quantum Phytase on second cycle Hyline W-36 hens. M. Lilburn1 and C. Wyatt*2, 1Ohio State University, Wooster, 2Syngenta Animal Nutrition, Research Triangle Park, NC.

9:00 AM 955 Influence of dietary calcium and phytase source on broiler performance. T. M. Parr*, M. R. Bedford, and C. L. Wyatt, Syngenta Animal Nutrition, Research Triangle Park, NC.

A holo-analysis of trials investigating the gain and feed conversion ratio benefits of Quantum™ phytase supplementation to broilers under a variety of managerial, environmental and dietary conditions. M. R. Bedford, C. Murphy, and M. E. Persia, Syngenta Animal Nutrition, Research Triangle Park, NC.


The interaction between dietary electrolyte balance and microbial phytase on the performance and nutrient utilization of broiler chickens. V. Ravindran, A. J. Cowieson, and P. H. Selle, Massey University, Palmerston North, New Zealand, Danisco Animal Nutrition, Marlborough, United Kingdom, University of Sydney, Camden, Australia.

Energetic implications of endogenous amino acid flow at the terminal ileum of broilers as influenced by phytate and phytase. A. J. Cowieson and V. Ravindran, Danisco Animal Nutrition, Marlborough, United Kingdom, Massey University, Palmerston North, New Zealand.

The response of chicks fed 5 corn cultivars to phytase supplementation. G. M. Pesti, H. M. Edwards, Jr., and R. I. Bakalli, University of Georgia, Athens.


Phytase recovery test after pelleting process in different commercial feed mills in Brazil. J. O. B. Sorbara, J. L. Lecznieski, C. Arakaki, and F. J. Piraces, DSM Nutritional Products, Sao Paulo, SP, Brazil, Universidade Estadual de Maringa, Maringa, PR, Brazil.


Use of infrared thermal imaging to measure changes in body temperature following lipopolysaccharide (LPS) administration in hair sheep ewes. R. W. Godfrey, R. C. Ketrin, and S. T. Willard, University of the Virgin Islands, Agricultural Experiment Station, St. Croix, US Virgin Islands, Mississippi State University, Mississippi State.

Effects of plane of nutrition and selenium on colostrum quality and mammary development in ewes. T. J. Swanson, C. J. Hammer, J. B. Taylor, D. A. Redmer, K. A. Vonnahme, J. S. Luther, T. L. Neville, J. J. Reed, J. S. Caton, and L. P. Reynolds, North Dakota State University, Fargo, USDA-ARS, U.S. Sheep Experiment Station, Dubois, ID.

9:45 AM 970 Variation in metabolic parameters in dairy cattle kept in a constant environment. K. L. Ingvartsen*, T. Larsen, P. Berg, and N. C. Friggens, University of Aarhus, Faculty of Agricultural Sciences, Tjele, Denmark.

10:00 AM Break


10:30 AM 972 Liver fatty acid binding protein (FABP) and acyl-CoA synthase (ACSL) isoform gene expression due to plane of dietary energy prepartum in dairy cows. M. Bionaz*, J. K. Drackley, H. M. Dann, and J. J. Loor, University of Illinois, Urbana.

10:45 AM 973 The use of nicotinic acid as antilipolytic agent to induce sustained low plasma NEFA concentrations in feed restricted Holstein cows. J. A. A. Pires* and R. R. Grummer, University of Wisconsin, Madison.

11:00 AM 974 Reduction of plasma NEFA concentration by nicotinic acid enhances the response to insulin in feed restricted Holstein cows. J. A. A. Pires*, J. B. Pescara, and R. R. Grummer, University of Wisconsin, Madison.

11:15 AM 975 Effect of short-term feeding of a plant botanical during late-gestation on temperature and physiological responses of piglets challenged with LPS. J. L. Salak-Johnson*1, J. M. Suchomel1, S. R. Niekamp1, S. Block2, and R. Balsbaugh1, 1University of Illinois at Urbana-Champaign, Urbana, 2ADM Animal Nutrition Research, Decatur, IN, 3ADM Alliance Nutrition, Inc., Quincy, IL.


11:45 AM 977 Neonatal Fc receptor mRNA expression in fetal pigs and in gastrointestinal tissues from pigs fed diets of varying form with or without irradiated and non-irradiated spay-dried animal plasma. C. N. Groesbeck*1, T. E. Burkey2, J. E. Minton1, S. S. Dritz1, R. D. Goodband1, M. D Tokach1, J. M. DeRouchey1, and J. L. Nelssen1, 1Kansas State University, Manhattan, 2University of Nebraska, Lincoln.

SYMPOSIUM
Poultry-Breeding and Hatchery Symposium
Semen Evaluation and Fertility Determination in Poultry
Chair: Murray Bakst, BGL, ANRI, ARS, USDA
214 C

8:30 AM Introduction.

8:40 AM 978 Using sperm penetration values to evaluate broiler breeder performance and reproductive efficiency. R. K. Bramwell*, University of Arkansas, Fayetteville.

9:10 AM 979 Advances in sperm cell biology stemming from the analysis of sperm mobility. D. Froman*, Oregon State University, Corvallis.

9:40 AM Break

10:00 AM 980 Using the Sperm Quality Analyzer Vt for dosimetry of turkey semen in commercial turkey operations; the potential impact on fertility, and the economic implications of better utilization of sires with superior growth potential. K. K. Krueger*, Diamond K Research, Marshville, NC.

10:30 AM 981 Using egg breakout to estimate flock fertility. J. L. Wilson*, University of Georgia, Athens.

11:00 AM Round Table Discussion. Moderator: J. Long, ARS-USDA, Beltsville, MD.
8:30 AM 982 Development and establishment of an enzymatic in vitro procedure for estimating intestinal protein digestibility of feedstuffs for ruminants. R. Irshaid1,2 and K.-H. Suedekum2,1. University of Kiel, Kiel, Germany, 2University of Bonn, Bonn, Germany.


9:00 AM 984 Amino acid digestibility in rumen undegraded protein estimated in cecectomized roosters and the immobilized digestive enzyme assay (IDEA24). S. E. Boucher*,1 M. Vázquez-Añán2, J. Wu2, C. M. Parsons1, and C. G. Schwab1, University of New Hampshire, Durham, 2Novus International, St. Louis, MO, 3University of Illinois, Urbana.

9:15 AM 985 Influence of level of intake upon rumen degradability of protein sources. I. Schadt*,1 G. Azzaro1, R. Petriglieri1, P. J. Van Soest2, K.-H. Südekum1, and G. Licitra1,4. CoRFiLaC, Regione Siciliana, Ragusa, Italy, Cornell University, Ithaca, NY, 2University of Bonn, Bonn, Germany, 4D.A.C.P.A. University of Catania, Catania, Italy.


10:00 AM 988 Effect of level of metabolizable protein on milk production and nitrogen utilization in lactating dairy cows. C. Wang*,1 J. X. Liu1, Z. P. Yuan1, Y. M. Wu1, S. W. Zhai1, and H. W. Ye2, 1Institute of Dairy Sciences, Ministry of Education Key Laboratory of Molecular Animal Nutrition, Zhejiang University, Hangzhou, China, 2Hangzhou Zhengxing Animal Industry Company, Hangzhou, China.

10:15 AM 989 Nutrient demand affects nitrogen utilization responses to diets containing alfalfa or orchardgrass. J. A. Voeller Linton* and M. S. Allen, Michigan State University, East Lansing.

10:30 AM 990 A comparative review of the flow of nitrogen fractions at the omasal canal and duodenum of dairy cows. I. R. Ipharraguerre*,1 S. M. Reynal2, P. Huchtanen1, J. H. Clark1, G. A. Broderick1, and S. Ahvenjärvi1, Lucta S.A., Barcelona, Spain, 2US Dairy Forage Research Center, Madison, Cornell University, Ithaca, University of Illinois, Urbana, 3MTT Agrifood Research Finland, Jokioinen.


11:00 AM 992 The effect of rumen undegradable and rumen degradable protein concentration on urea recycling in mid-lactation cows. S. K. Ivan*,1 R. L. Baldwin, VF, and R. A. Kohn1, University of Maryland, College Park, USDA-ARS, Beltsville, MD.

11:15 AM 993 Nitrogen excretion and utilization efficiency in dairy sheep fed diets with different dietary energy contents. V. Giovanetti1, M. Decandia1, F. Boc2, E. Zerbini1, A. Cannas2, and G. Molle*,1 Istituto Zootecnico e Caseario della Sardegna, Ombredo, Sardinia, Italy, 2Dipartimento di Scienze Zootecnliche, Università di Sassari, Sassari, Sardinia, Italy, 3Cargill Animal Nutrition, Spessa, Italy.
SYMPOSIUM
Swine Species
Impact of Season on the Boar and Sow
Chair: Mark Wilson, Ralco Nutrition
Sponsor: National Pork Board, Ralco Nutrition, Inc.

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8:30 AM  Introduction. M. Wilson*, Ralco Nutrition, Madison, WI.

8:40 AM  Nutritional regimes that may reduce infertility influences of season. O. Peltoniemi*, University of Helsinki, Finland.

9:30 AM  Immunology of heat stress and summer infertility. J. Crenshaw*, APC, Inc., Ankeny, IA.

10:15 AM Impact of heat stress on intestinal barrier function and the immune response. G. P. Lambert*, Creighton University, Omaha, NE.

11:00 AM Panel Discussion and Q&A.

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SYMPOSIUM
Teaching/Undergraduate & Graduate Education
Swine Teaching
Chair: Duane E. Reese, University of Nebraska

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8:30 AM  Introduction.

8:35 AM  Enrollment in swine classes at 49 four-year institutions during academic years 1998-99 to 2005-06. D. E. Reese*, K. M. Eskridge, and D. A. Travnicek, University of Nebraska, Lincoln.

8:50 AM  Regionalization of teaching efforts? - Midwest Poultry Consortium experience. M. M. Beck*1 and B. C. Wentworth2, 1Clemson University, Clemson, SC, 2University of Wisconsin, Madison.


9:50 AM  Discussion: Create a Library or Depository of Teaching Resources?

10:35 AM Break


997 Student perceptions of and enrollment in swine management courses at North Carolina State University. W. L. Flowers*, North Carolina State University, Raleigh.

998 A survey of student demographics enrolled in a distance education swine production class. R. D. Goodband* and B. C. Minshal, Kansas State University, Manhattan.

999 Teaching swine production as a capstone experience in the writing intensive curriculum. T. J. Safranski*, University of Missouri, Columbia.

11:50 AM General Discussion.
Author Index

Numbers following names refer to abstract numbers: a number alone indicates an oral presentation, an M prior to a number indicates a Monday poster, a T indicates a Tuesday poster, and a W indicates a Wednesday poster.

The author index is created directly and automatically from the abstracts. If an author’s name is typed differently on multiple abstracts, the entries in the author index will reflect these discrepancies. Efforts have been made to make this index consistent; however, error from author entry contributes to inaccuracies.

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<td>Exhibit Hall C</td>
<td>Poster Presentations</td>
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<tr>
<td>007 C</td>
<td>(8:30-9:15am) ADSA-SAD Business Meeting/ (9:30-10:45am) ADSA-SAD Activities Symposium/ (11am-12:15pm) ADSA-SAD Undergraduate Competition - Dairy Production</td>
<td>(2:00-3:00pm) ADSA-SAD Undergraduate Competition - Dairy Foods/ (3:15-5:00pm) ADSA-SAD Undergraduate Competition - Original Research</td>
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<tr>
<td>007 D</td>
<td>(9:30-10:30am) ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports</td>
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<tr>
<td>008 AB</td>
<td>(9:30-10:30am) ADSA-SAD Interviews for Outstanding Student and Advisor Awards</td>
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<tr>
<td>201</td>
<td>Graduate Student Paper Competition: National ADSA Dairy Foods Division</td>
<td>Dairy Foods: Cheese I</td>
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<tr>
<td>203</td>
<td>Immunology - Livestock and Poultry I</td>
<td>Companion Animals: Companion and Comparative Animal Nutrition</td>
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<tr>
<td>204 A</td>
<td>SYMPOSIUM: Teaching/Undergraduate &amp; Graduate Education: Visual Learning in Animal Science</td>
<td>SYMPOSIUM: Teaching/Undergraduate &amp; Graduate Education: Enhancing the Undergraduate Learning Experience in Animal Agriculture, Through the Integration of Teaching and Research</td>
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<td>Room</td>
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<td>204 B</td>
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<td>(9:30-10:00am) ADSA Southern Branch Graduate Student Competition/ (10:00am-12:00pm) Graduate Student Competition ADSA-ASAS Northeastern Branch</td>
<td>Graduate Student Paper Competition: National ADSA Production Division</td>
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<tr>
<td>205</td>
<td></td>
<td>Animal Behavior &amp; Well-Being - Livestock and Poultry I</td>
<td>Lactation Biology: Metabolism and Gene Expression in Support of Lactation</td>
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<tr>
<td>207 A</td>
<td>Horse Species</td>
<td>(12:30pm-1:00pm) ASAS Graduate Student Business Meeting</td>
<td>SYMPOSIUM: Horse Species: Recent Advances in Understanding Metabolic Disorders in Horses</td>
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<tr>
<td>210</td>
<td>Nonruminant Nutrition: Bioactive Compounds and Prebiotics in Swine Nutrition</td>
<td>SYMPOSIUM: ADSA Southern Section Symposium: Keeping Dairy Going and Growing</td>
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<td>214 C</td>
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<td>Nonruminant Nutrition: Poultry Nutrition - Protein and Amino Acids</td>
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<tr>
<td>217 A</td>
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<td>SYMPOSIUM: Alpharma Beef Cattle Nutrition Symposium</td>
<td>SYMPOSIUM: Ruminant Nutrition: Opportunities to Improve Forage Utilization and Rumen Function</td>
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<tr>
<td>217 B</td>
<td></td>
<td>Breeding and Genetics - Livestock and Poultry: Poultry</td>
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<tr>
<td>217 C</td>
<td></td>
<td>Ruminant Nutrition: Feedstuff Modification and Growing/Finishing Nutrition</td>
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<tr>
<td>216 A</td>
<td>(10:00-11:00am) ASAS Retirees Gathering</td>
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<tr>
<td>216 B</td>
<td>ASAS Centennial Planning Committee</td>
<td>ASAS Centennial Planning Committee</td>
<td>ASAS Centennial Planning Committee</td>
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<tr>
<td>218</td>
<td>(10:30am-12:30pm) ARPAS Exam</td>
<td>ACAN Meeting</td>
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## Program at a Glance
### Tuesday, July 10

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<tr>
<th>Room</th>
<th>Exhibit Hall C</th>
<th>7:30 am - 9:30 am</th>
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<tbody>
<tr>
<td>007 A</td>
<td>Poster Presentations</td>
<td>(6:30-8:30am) National Poultry Waste Organization</td>
<td>007 B</td>
<td>007 C</td>
<td>007 D</td>
<td>008 AB</td>
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### Program Details
- **007 A**: 06:30-08:30am National Poultry Waste Organization Committee Breakfast
- **007 B**: 07:30am-09:30am Poultry Extension Lunch
- **007 C**: 08:30am-09:30am ADSA-NE Section Business Meeting & Award Luncheon
- **007 D**: 10:30am-11:30am ADSA-SAD Job Fair
- **201**: 09:30am-10:30am ADSA Foundation Scholar Lecture – Dairy Foods/Enzymes Committee
- **201**: 10:30am-12:00pm ADSA Dairy Foods Division Business Meeting
- **201**: 11:30am-12:00pm ADSA Dairy Foods Division Award Lecture
- **201**: 12:00pm-2:00pm ADSA Dairy Foods Division Award Luncheon
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<tr>
<td>203</td>
<td></td>
<td>(9:30-11:30am) Immunology - Livestock and Poultry II/ (11:30am-12:30pm) ADSA Production Division Business Meeting</td>
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<td>San Antonio River Talk: The ASAS Open Forum</td>
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<tr>
<td>204 A</td>
<td></td>
<td>SYMPOSIUM: Teaching/ Undergraduate &amp; Graduate Education: Shaping Animal Sciences Curricula for 2020</td>
<td>(2:00-3:00pm) Teaching/ Undergraduate &amp; Graduate Education: Teaching Session I - Assessment &amp; Evaluation/ (3:15-5:00pm) Teaching/ Undergraduate &amp; Graduate Education: Teaching Session II - Curricular Innovation</td>
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<tr>
<td>204 B</td>
<td></td>
<td>Growth and Development - Livestock and Poultry: Livestock and Poultry II</td>
<td>ADSA Foundation Scholar Lecture - Production</td>
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<tr>
<td>206 A</td>
<td></td>
<td>Food Safety - Livestock and Poultry: Poultry</td>
<td>(3:30-5pm) ASAS JAS Forum (Division/Associate Editors and Authors)</td>
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<td>207 A</td>
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<td>SYMPOSIUM: Goat Species: Nutrient Requirement of Goats</td>
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<td>(2:30-3:45pm) Goat Species/ (4:00-5:00pm) CAST Meetings</td>
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<tr>
<td>207 B</td>
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<td>Egg and Meat Science and Muscle Biology - Livestock and Poultry I</td>
<td>SYMPOSIUM: Sheep Species: Biology and Management of Low-input Lambing Management in Easy-Care Systems</td>
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<td>210</td>
<td></td>
<td>Breeding and Genetics - Livestock and Poultry: Analyses and Methods I</td>
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<td>Nonruminant Nutrition: Feeder Pig and Sow Nutrition</td>
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<td>212</td>
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<td>Nonruminant Nutrition: Protein and Amino Acid Nutrition in Swine</td>
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<tr>
<td>214 B</td>
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<td>SYMPOSIUM: Breeding and Genetics - Livestock and Poultry: New Challenges and Opportunities From Automation of Animal Data Recording</td>
<td></td>
<td>Breeding and Genetics - Livestock and Poultry: Dairy Cattle II</td>
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**Program at a Glance**

**Tuesday, July 10**
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<tr>
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<tr>
<td>201</td>
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<td>Dairy Foods: Cheese II</td>
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<td>203</td>
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<tr>
<td>204 A</td>
<td></td>
<td>Lactation Biology: Applied Lactation Biology</td>
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<td>(3:00-5:00pm) GrowSafe User Group Meeting</td>
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<td>206 A</td>
<td>(10:00-10:30am) ADSA Business Meeting</td>
<td>(11:00am-12:00pm) Bio Ethics - Livestock and Poultry</td>
<td>(1:00-2:30pm) Feed Analysis Consortium Business Meeting</td>
<td>Breeding and Genetics - Livestock and Poultry: Swine</td>
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<td>206 B</td>
<td>(9:30-10:00am) Joint Business Meeting</td>
<td>Breeding and Genetics - Livestock and Poultry: Dairy Cattle III</td>
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<td>Breeding and Genetics - Livestock and Poultry: Swine</td>
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<td>207 A</td>
<td>(10:00-10:30am) ASAS Business Meeting</td>
<td>SYMPOSIUM: International Animal Agriculture - Livestock and Poultry: Global Livestock and Poultry Issues</td>
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<td>207 B</td>
<td>(10:00-10:30am) AMPA Business Meeting</td>
<td>Sheep Species: Sheep Production and Management</td>
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<td>210</td>
<td>(9:30am-12:30pm) Production, Management &amp; the Environment - Livestock and Poultry: Poultry Management, and Environment</td>
<td>Nonruminant Nutrition: Weanling Pig Nutrition</td>
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<td>212</td>
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<td>(9:30am-12:30pm) Animal Health - Livestock and Poultry: Poultry and Swine II</td>
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<td>Nonruminant Nutrition: General Topics</td>
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<td>213</td>
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<td>Egg and Meat Science and Muscle Biology - Livestock and Poultry II</td>
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<td>SYMPOSIUM: Nonruminant Nutrition: Natural Phytobiotics for Health of Young Animals: Applications and Mechanisms</td>
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<td>217 A</td>
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<td>Ruminant Nutrition: Protein and Fiber Digestion</td>
<td>SYMPOSIUM: ADSA Production Division Symposium</td>
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<td>217 C</td>
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<td>Swine Species</td>
<td>Ruminant Nutrition: Intake Behavior/Acidosis/Metabolism - Dairy</td>
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<tr>
<td>217 D</td>
<td>SYMPOSIUM: Distillers Grains Symposium</td>
<td>SYMPOSIUM: Distillers Grains Symposium</td>
<td>Distillers Grains Reception</td>
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## Program at a Glance

### Wednesday, July 11

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<td>(2:00-4:00pm)</td>
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<td>207 A</td>
<td>SYMPOSIUM: Contemporary &amp; Emerging Issues - Livestock and Poultry: Contemporary and Emerging Issues</td>
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<td>207 B</td>
<td>Breeding and Genetics - Livestock and Poultry: Analyses and Methods II</td>
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<td>210</td>
<td>Physiology &amp; Endocrinology - Livestock and Poultry: Metabolic Physiology</td>
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<td>212</td>
<td>SYMPOSIUM: Teaching/Undergraduate &amp; Graduate Education: Swine Teaching</td>
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<td>213</td>
<td>SYMPOSIUM: Swine Species: Impact of Season on the Boar and Sow</td>
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<tr>
<td>214 A</td>
<td>Ruminant Nutrition: Nitrogen Digestion/Metabolism</td>
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<td>214 B</td>
<td>Beef Species II: Feed Intake and Efficiency</td>
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<td>214 C</td>
<td>SYMPOSIUM: Poultry-Breeding and Hatchery Symposium: Semen Evaluation and Fertility Determination in Poultry</td>
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<td>214 D</td>
<td>Nonruminant Nutrition: Poultry Nutrition - Phosphorus and Phytase</td>
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<td>Presentation Pre-Loading Room</td>
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Future Meeting Dates

ADSA-ASAS
July 7–11, 2008
Indianapolis, Indiana
ASAS Centennial

PSA
July 20–24, 2008
Niagara Falls, Ontario, Canada
PSA Centennial

ADSA-ASAS
July 12–16, 2009
Montreal, Quebec, Canada

ADSA-ASAS-PSA
July 11–15, 2010
Denver, Colorado

DSM Nutritional Products

A leading supplier of quality ingredients to the animal feed industry. Our portfolio includes:

- Vitamins
- Carotenoids
- Enzymes
- Direct Fed Microbials

To learn more about our products visit our website at www.nutraaccess.com