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 Indianapolis! Your “race to Indy” has brought you to what promises to be one of our most memorable joint annual meetings. From the opening session that begins the celebration of the ASAS Centennial to the Joint Biology of Lactation and Triennial Lactation Symposium that closes out the meeting on Friday, you will find exciting opportunities for intellectual and professional advancement, as well as the always enjoyable prospect of renewing old friendships and developing new ones.

The ADSA-ASAS Plenary Session on Monday afternoon will provide a unique start to the meeting, when up to eight late-breaking “hot topic” abstracts will be presented. The opening session, which begins the ASAS Centennial, will certainly be a highlight of the meeting. The Bellamy Brothers will entertain us, and a video retrospective that highlights many of the accomplishments during the first century of ASAS will be premiered. As a memento of this special occasion, all attendees will receive a copy of the ASAS Centennial coffee table book. To celebrate 100 years of science in ASAS, Centennial Papers will be presented during various scientific sessions, and special Centennial displays prepared by animal science departments from around the country will be on view in the exhibit hall. On Tuesday evening, ADSA will be hosting its Town Hall meeting, and ASAS will highlight its new strategic plan at Racing to Indy: The ASAS Open Forum on Wednesday afternoon. To wrap up the celebration, please be sure to join us at the closing reception on Thursday evening.

A truly outstanding scientific program has been developed this year. Many thanks to all the chairs and members of program committees, and especially to the 2008 overall program committee comprising Steven Lonergan (chair), Ron Pearson (vice-chair), Dorian Garrick, and Leo Timms for their outstanding work on the program. Over 1,800 abstracts were submitted this year, and more than 40 outstanding symposia have been planned, along with Foundation Scholar lectures and many invited presentations in individual sessions. The ASAS Board-sponsored cell biology symposium, two companion animal symposia, three dairy foods and two meat science symposia complete a comprehensive array of symposia sure to serve the needs of every attendee. These special sessions combined with our broad assortment of discipline- and species-specific symposia together with oral and poster abstract sessions create numerous opportunities for all of us to expand our scientific horizons.

Along with great science, we plan to enjoy great camaraderie as we honor many of our members who have excelled in teaching, research, outreach, and service. The ASAS awards program will be on Tuesday evening, followed by the ADSA awards program on Wednesday evening. And no joint annual meeting would be complete without the ADSA-ASAS Ice Cream Social on Wednesday evening.

The ADSA-ASAS joint annual meeting is a big event, and it could not happen without the hard work of many people. The contributions of our program committees have already been noted, but we also want to thank our Executive and Associate Executive Directors—Peter Studney of ADSA and Meghan Wulster-Radcliffe and Paula Schultz of ASAS, along with the FASS staff, for working to make our meetings the best they can be.

So, enjoy your time in Indy. Think about the past, dream about the future, and make the most of this one-of-a-kind meeting.
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adsa.asas.org/meetings/2008

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**Important Message**

In the event that protestors interrupt the meetings, please ignore them. Their goal is to attract attention and any attention you give them will only help their cause. Convention staff has a plan in place to handle these situations, and they depend on your cooperation. If members of the media approach 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

ASAS Centennial Celebration

We will be celebrating the ASAS Centennial at the 2008 Joint ADSA®-ASAS Meeting in Indianapolis. To kick off the celebration we are having a party at the opening session featuring music by the Bellamy Brothers and a retrospective highlighting the major accomplishments of the last 100 years of animal science and of the Society. In addition to the celebration at the opening session, all meeting attendees will receive a free copy of the ASAS Centennial coffee table book and the video. As stated by David Ames, the ASAS Centennial coffee table book has been designed to describe pictorially, “What is Animal Science?” Within the program, papers describing the history and future of fields within animal science will be presented—look for the “ASAS Centennial” designation in the program. In addition, more than 30 historical exhibits will be on display throughout the exhibit hall. To ensure that during our Centennial we are not just looking at the past, but moving forward, we will be launching the new ASAS strategic plan during Racing to Indy: The ASAS Open Forum on Wednesday, July 9.

Location

The Indiana Convention Center & RCA Dome is located in the heart of Indianapolis and within walking distance of numerous hotels and restaurants. Skywalks link the Indiana Convention Center and RCA Dome to seven premium hotels, including the Westin (ADSA Headquarters) and the Marriott (ASAS Headquarters), which will serve as the headquarters hotels. The compactness of downtown Indianapolis puts you within steps of dozens of restaurants including Ruth’s Chris Steakhouse, St. Elmo’s, Hard Rock Café, Palomino Euro Bistro, and Shula’s. For a quicker bite, try Claddaugh, the Slippery Noodle, or the Red Eye Café. You are also steps away from theaters, nightclubs, museums, and shopping in the Circle Centre Mall.

Schedule of Events

The 2008 ADSA-ASAS Joint Annual Meeting and ASAS Centennial Celebration will be held July 7–11 (Monday through Friday). The opening session will be held on Monday evening, July 7; scientific sessions will kick off Tuesday morning, July 8, and run through noon on Friday, July 11.

The Triennial Lactation Symposium, joint with the Lactation Biology Symposium, will be held all day on Friday, July 11. Also, we welcome back the Mixed Models Workshop this year, to be held all day Thursday, July 10, and finishing up on Friday morning. Animal Breeding and Genetics will be holding a workshop for the first year on the use of an online system to help supplement graduate education in breeding and genetics. This workshop will be on Thursday evening.

The 2008 opening session will feature a video retrospective showcasing the ASAS Centennial Celebration followed by a concert with the Bellamy Brothers. The complete schedule of events can be found on page 49 of this brochure, or online at adsa.asas.org/meetings/2008/.

Program Format for 2008

Poster sessions ......................................................... 7:30 am – 9:30 am
Scientific sessions ....................................................... 9:30 am – 12:30 pm
Lunch break ............................................................. 12:30 pm – 2:00 pm
Scientific sessions ....................................................... 2:00 pm – 5:00 pm

Meeting rooms will be equipped for electronic presentations and preloaded sessions. A Cyber Café will be available for attendees to keep up to date while at the meeting.
Registration Hours
Registration will be located in the Maryland Street Lobby-East of the Indiana Convention Center & RCA Dome in Indianapolis. Registration hours for the 2008 ADSA-ASAS Joint Meeting, including special symposia and other events, will be as follows:

Sunday, July 6 (preregistered only) .................................................. 3:00 pm – 5:00 pm
Monday, July 7 ................................................................. 11:00 am – 7:00 pm
Tuesday, July 8 .................................................................. 6:30 am – 5:15 pm
Wednesday, July 9 ........................................................... 7:00 am – 5:45 pm
Thursday, July 10 ........................................................... 7:00 am – 5:45 pm
Friday, July 11 .................................................................. 8:00 am – 5:15 pm

Important Phone Numbers
Registration Desk ................................................................. 317-262-1590
Indianapolis Marriott Downtown ........................................... 317-822-3500
The Westin Indianapolis ...................................................... 317-262-8100
Hampton Inn Downtown ..................................................... 317-261-1200
Omni Severin Hotel ............................................................. 317-634-6664
Crowne Plaza Hotel ............................................................. 317-631-2221
Indiana Convention Center & RCA Dome ......................... 317-262-3400
Indianapolis Convention and Visitors Bureau ................... 800-323-IN DY
Time, Temperature & Weather ............................................. 317-222-2222
Online weather information is available at http://www.indy.org/indianapolis/web/jsp/common/weather.jsp

Media Check-In
Please check in at the Registration Desk in the Maryland Street Lobby of the Convention Center.

Speaker Ready Room
The Speaker Ready Room is located in Room 111 on the 1st level of the Convention Center. This room will be available for speakers from 7:00 am - 5:00 pm on each day of the meeting.

Business Center
The Indiana Convention Center & RCA Dome Business Center, in partnership with IKON Office Solutions (317-262-4496), is located on the 1st floor of the facility in the Capitol Avenue Lobby, directly across from Room 116. Limited services include black and white copy services, color copy services, large format color and black and white, document finishing/binding, fax services, copier rental, facsimile rental, basic office supplies, and shipping.

Hospitality Lounge
The hospitality lounge will be located in Room 113 on the 1st level of the Convention Center. This lounge will offer attendees an area to relax, network, and catch up with old friends. The hospitality lounge is also a great meet-up place when departing the convention center as a group.

Presentation Information
Oral and Invited Speakers
Oral sessions will begin at 9:30 am on Tuesday and Wednesday, 10:30 am on Thursday, and 8:30 am on Friday. 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 start of the meeting.

ASAS Centennial Presentations
We will be celebrating the ASAS Centennial at the 2008 Joint ADSA-ASAS Meeting this year. Within the program, papers describing the history and future of fields within animal science will be presented—look for the “ASAS Centennial Presentation” designation in the program. Please see page 61 for a complete listing of all centennial presentations.
Poster Presentations
We have dedicated a two-hour block each morning to poster presentations. The “open poster” sessions will be from 7:30 to 9:30 am Tuesday, Wednesday, and Thursday in the Convention Center, Exhibit Hall CDE.

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 – 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, Tuesday through Thursday. Posters must be removed after 5:00 pm each day. Any posters remaining after 5:30 pm will be removed by the convention center staff and discarded.

Each poster board 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. Tuesday posters will have a “T”, Wednesday posters a “W”, and Thursday posters a “TH” preceding the board number.

Camera, Video Camera, and Cell Phone Policy
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 conference.

ARPAS Continuing Education Units
The 2008 ADSA-ASAS Joint Annual Meeting has been approved for up to 21 continuing education units (CEUs) for the American Registry of Professional Animal Scientists (ARPAS) 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 2008 ADSA-ASAS Joint Annual Meeting will be approved for RACE credits. We are in the process of having specific symposia approved. Following approval, symposia approved for RACE credits will be posted online at adsa.asas.org/meetings/2008/. Information regarding RACE can be found at www.aavsb.org.

Job Resource Center

Cyber Café
Keep in touch with work, family, and friends during the ADSA-ASAS Joint Annual Meeting at the Cyber Café. Located in Exhibit Hall CDE of the Indiana Convention Center & RCA Dome, the Cyber Café is available to all meeting attendees. The Cyber Café will also have a computer with a printer for limited printing during the meeting.
Headquarters Hotels

**Indianapolis Marriott Downtown – ASAS HQ**  
350 West Maryland Street  
Indianapolis, IN 46225  
317-822-3500

**The Westin Indianapolis – ADSA HQ**  
50 South Capitol Avenue  
Indianapolis, IN 46204  
317-262-8100

**Hampton Inn Downtown – Student HQ**  
105 South Meridian Street  
Indianapolis, IN 46225  
317-261-1200

**Omni Severin Hotel**  
40 West Jackson Place  
Indianapolis, IN 46225  
317-634-6664

**Crowne Plaza Hotel & Conference Center**  
123 West Louisiana Street  
Indianapolis, IN 46225  
317-631-2221

Transportation in Indianapolis

A new shuttle service is now available at the Indianapolis International Airport. IndyGo, Indianapolis’ metropolitan transit system, has started a new round-trip shuttle service between the airport and downtown area. At a cost of only $7 per person/per trip, the shuttle can be boarded at the Ground Transportation Center directly across from the airlines’ baggage claim areas for transportation to the downtown area. The shuttle is affectionately called the Green Shuttle and has both the Indy logos on it and a green stripe. Due to the compact nature of the downtown area, drop-off points are just steps from all the hotels, Convention Center, Lucas Oil stadium, and Circle Centre Mall. Service runs every 15 to 20 minutes beginning at 5:00 am and continuing until 9:00 pm. Passengers may pay with credit card (Visa or MasterCard), exact fare on bus, or purchase fare passes in advance by calling 317-635-3344, or online at www.IndyGo.net.

Currency Exchange

A currency exchange center is located in the Indianapolis Airport; it is located in the center of the main terminal. Downtown Indianapolis also offers several ATM machines.
Welcome to Indy!

Welcome to Indianapolis, the nation’s 12th largest city. Indianapolis offers big-city amenities in a convenient, easy-to-navigate package wrapped in a friendly, inviting atmosphere. Indy has undergone a dramatic revitalization and a stunning renaissance that makes it a different place than it was just a decade ago. It now strikes the perfect balance of cosmopolitan style and charm, making it a successful destination for leisure travel, conventions, and group tours, catering to more than 20 million visitors a year.

Indianapolis Activities and Sightseeing Options

With the abundance of things to do in Indianapolis, there is something for everyone at this year’s Joint Annual Meeting. Below please find a small sampling of the things to do in Indy. Please visit the Indianapolis Convention and Visitors Bureau’s website at www.indy.org for additional options.

Soldiers’ & Sailors’ Monument/Monument Circle
1 Monument Circle, Indianapolis, IN 46204
Phone: 317-232-7615
http://www.in.gov/iwm/2619.htm

The monument is located on Monument Circle in the center of downtown and has come to symbolize the city of Indianapolis and the state of Indiana. Originally designed to honor the memory of Indiana’s Civil War veterans, it now commemorates the valor of all Indiana military men and women in all wars prior to World War I. The monument stands approximately 300 feet above the surrounding streets. Allow time to look at the intricate design and statues. The War Memorial Commission offers a brochure describing all aspects of the design and symbolism. The Col. Eli Lilly Civil War Museum is housed in the lower level. Observation level is 330 steps up; you can take the elevator to step 290.
Circle Centre Shopping Mall  
49 W. Maryland St., Indianapolis, IN 46204  
Phone: 317-681-5615  
Distance from Monument Circle: 0.19 miles

Shopping, dining, and entertainment complex, reminiscent of a European street market but located in the heart of downtown Indianapolis. With anchor stores Nordstrom and Carson Pirie Scott, 100 specialty stores, fine dining, food court, and convenient parking, Circle Centre offers you more choices. Contact us for complimentary mall directories or coupon books. Open 10 am to 9 pm Monday through Saturday, noon to 6 pm on Sunday. Department store, restaurant, and holiday hours may vary.

American Cabaret Theatre  
401 E. Michigan St., Indianapolis, IN 46204  
Phone: 317-631-0334  
http://www.actindy.org/  
Distance from Monument Circle: 0.55 miles

Indianapolis’ premier musical theatre and most exciting choice for live, quality entertainment is located in the historic Athenaeum building in downtown Indianapolis. The theatre offers cabaret-style seating in an intimate setting, complete with a cash bar and concessions.
**Indiana State Museum**  
650 W. Washington St., Indianapolis, IN 46204  
Phone: 317-232-1637  
http://www.in.gov/ism/index.aspx  
Distance from Monument Circle: 0.56 miles

The Indiana State Museum in White River State Park is the state’s gathering place to explore the state’s past, present, and future through exhibits inviting exploration and discovery of art, science, history, and culture. This architecturally significant complex includes permanent and changing exhibits, two restaurants, a gift shop, and Indianapolis’ only IMAX Theater. Mastercard and Visa accepted.

**Eiteljorg Museum of American Indians & Western Art**  
500 W. Washington St., Indianapolis, IN 46204  
Phone: 317-636-WEST  
http://www.eiteljorg.org/  
Distance from Monument Circle: 0.57 miles

Go West, young man...west of Indianapolis' famed Monument Circle, that is. The Eiteljorg Museum is unique: one of only two museums east of the Mississippi with both Native American and Western art. Located in downtown Indianapolis, the museum is within walking distance of the Indiana Convention Center & RCA Dome, Circle Centre mall, and major downtown hotels. The building’s distinctive design was inspired by the land, people, and architecture of the American Southwest. The American Western Gallery includes works from the Taos, New Mexico Artists’ Colony, as well as pieces from such legends as Remington and Russell. Contemporary artists who tell the story of today’s West are also represented and the Native American collection includes pottery, basketry, sculpture, and other artifacts from all 10 North American native cultural areas.
**White River State Park**
801 W. Washington St., Indianapolis, IN 46204
Phone: 317-233-2434
http://www.in.gov/whiteriver/
Distance from Monument Circle: 0.7 miles

Located in the heart of downtown, Indiana's only urban state park offers an awesome array of attractions, entertainment, and recreation: Indianapolis Zoo, White River Gardens, Victory Field baseball park, Eiteljorg Museum of American Indians & Western Art, IMAX Theater, Indiana State Museum, NCAA Hall of Champions & Headquarters, The Lawn performance venue, Congressional Medal of Honor Memorial, Military Park, McCormick's Rock, Pedestrian Bridge, River Promenade, Pumphouse, Central Canal, pedal boat rentals, bike rentals, Visitor Center, and restaurants at attractions.

**Indianapolis Zoo**
1200 W. Washington St., Indianapolis, IN 46222
Phone: 317-630-2001
http://www.indianapoliszoo.com/
Distance from Monument Circle: 1.18 miles

Just footsteps from downtown, the zoo is open daily at 9 am. Highlights include Indiana’s largest aquarium, open exhibit areas with 350 different animal species, and seasonal pony, train, and family rollercoaster rides. The complex also includes the 3.3-acre White River Gardens, featuring hundreds of plant varieties on display in outdoor gardens, as well as entertaining and educational conservatory exhibits throughout the year. The Indianapolis Zoo’s mission is to connect animals, plants, and people.
Indianapolis Museum of Art
4000 N. Michigan Rd., Indianapolis, IN 46208
Phone: 317-923-1331
http://www.imamuseum.org/
Distance from Monument Circle: 4.12 miles

Just 15 minutes from downtown Indianapolis on 152 acres of gardens and grounds, the Indianapolis Museum of Art (IMA) is the fifth-largest general art museum in the United States, with a collection of more than 50,000 works that spans a wide range of cultures and eras. The IMA also has significant holdings of African art, Chinese ceramics, West Asian rugs, fashion arts, and a rapidly growing contemporary collection from emerging and internationally renowned artists.

Indianapolis Motor Speedway
4790 W. 16th St., Indianapolis, IN 46222
Phone: 317-492-6747
http://www.indianapolismotorspeedway.com/
Distance from Monument Circle: 4.51 miles

The Indianapolis Motor Speedway, opened in 1909, is the world’s largest spectator facility and the only racetrack to host the Indy Racing League, NASCAR, and Formula One. Since 1911, the Speedway has been the home of the “Greatest Spectacle in Racing,” the Indianapolis 500 held each May. The Allstate 400 at the Brickyard (formerly Brickyard 400) has quickly become one of NASCAR’s most coveted races since the inaugural event in 1994 and heats up the track in late July. The Speedway completed the Triple Crown of Racing 2000-2007 with the addition of June’s United States Grand Prix, the only Formula One race run in the United States. Beginning in 2008, the Speedway’s infield road course will host the Red Bull Indianapolis GP motorcycle race.
Special Events
Scheduling and locations are subject to change. Please check the onsite newsletter each morning for changes.

ADSA-ASAS Plenary Session: Late-Breaking Research
Monday, July 7
3:00 pm – 5:00 pm
Convention Center, Room 107-108
The purpose of the late-breaking research session will be to highlight very recent discoveries of importance to their discipline and species. Inclusion of these papers at the Joint Annual Meeting provides the authors a venue to present results in a very timely fashion. The session also offers meeting participants a view of some of the most important discoveries made in the early part of 2008.

SAD-Dairy Quiz Bowl Final Round
Monday, July 7
5:30 pm – 6:00 pm
Convention Center, Room 203
On Monday, 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 (SAD) 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 2008 Dairy Quiz Bowl Winning Team.

Opening Session and ASAS Centennial Celebration
Monday, July 7
7:00 pm – 8:30 pm
Convention Center, Sagamore Ballroom 3, 4, 5
Come help us kick off the ASAS Centennial celebration at the opening session. We are having a party that includes music by the Bellamy Brothers and a video retrospective highlighting the major accomplishments of the last 100 years of animal science and of the Society.

The profile. The power.
Using the power of DNA, IGENITY® helps you predict an animal’s genetic potential earlier than ever before. The IGENITY profile is the most comprehensive analysis tool of its kind. From a single DNA sample, IGENITY combines the following genetic analyses into an easy-to-use report:

- fertility
- somatic cell score
- milk yield
- coat color
- genetic recessives
- longevity
- milk components
- cheese proteins
- BVD-PI

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Opening Reception and ASAS Centennial Celebration  
Monday, July 7  
8:30 pm – 10:00 pm  
Convention Center, 500 Ballroom and Reception Room  
Wind down the evening by joining us after the opening session for dessert and some long-awaited socializing with colleagues and friends.

ASAS Graduate Student Business Meeting  
Tuesday, July 8  
12:30 pm – 1:00 pm  
Convention Center, Room 103  
The ASAS Graduate Directors invite all ASAS graduate student members to a business meeting on Tuesday, July 8, 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 ASAS can meet their needs. All registrants interested in opportunities for ASAS and graduate students are welcome to attend.

Exhibitor Reception  
Tuesday, July 8  
4:00 pm – 6:00 pm  
Convention Center, Exhibit Hall CDE  
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.

ADSA Town Hall Meeting  
Tuesday, July 8  
5:00 pm – 6:00 pm  
Convention Center, Room 104  
The ADSA Board of Directors invites attendees to a town hall meeting on Tuesday, July 8, from 5:00 to 6:00 pm in the Convention Center. This year’s meeting will again focus on progress made in implementing ADSA’s Strategic Plan, unveiled in 2006. All registrants interested in ADSA are welcome.

ASAS Awards Program  
Tuesday, July 8  
7:00 pm – 8:30 pm  
Marriott, Ballroom 5  
All meeting participants, families, and friends are welcome to attend the 2008 ASAS awards program. Please join us at this special event to recognize and congratulate the 2008 ASAS award winners at the Marriott on Tuesday, July 8.

SAD Dance Party  
Tuesday, July 8  
8:30 pm – 12:30 am  
Westin, Capitol 3  
Ticket Price: $5.00 (free for undergrads)  
Rock the night away with old and new friends at the hottest dance party in Indy on Tuesday night! The dance floor will be packed as the crowd rocks, two-steps, and line dances their way from the first song to the last. Cash bar and free snacks will be available. This event is open to all meeting attendees, including students, advisors, and anyone else looking for a fun evening. Primary sponsors: the Dairy Clubs of ADSA.
Graduate Student Mixer  
**Tuesday, July 8**  
9:00 pm  
**Rock Bottom Brewery**  
10 West Washington  
**Indianapolis, IN 46204**  
Join your fellow graduate students from ASAS and ADSA at a mixer at the Rock Bottom Brewery. Appetizers and beverages will be provided for those who register, but the event will be open to everyone. Free billiards will also be offered at the event. The mixer is a great opportunity to catch up with old friends and make new ones, so don’t miss it. Preregistration is highly recommended.

5K Fun Run  
**Wednesday, July 9**  
6:15 am  
**Meet at the Convention Center**  
Join in the fun on Wednesday, July 9, at 6:15 am. Enjoy downtown Indianapolis while running this 5-km course. T-shirts and refreshments will be provided. Please preregister for this event; fee and waiver apply.

Spouse Event  
**Wednesday, July 9**  
**Indianapolis Highlights Tour**  
11:00 am – 2:00 pm  
**Meet at the Convention Center, Maryland St. Lobby**  
Join us for a bus tour of downtown Indianapolis’ most popular sites. After the tour, you will be taken to the Indiana State Museum for lunch in the L. S. Ayers Tearoom. Admission to the museum is included in your ticket price, so you will have the opportunity to explore the museum for a short time after lunch. The bus will return to the convention center at 2:00 pm. If you choose to explore the museum further or visit the Eiteljorg Museum of American Indians and Western Art next door, the walk back to the convention center is an easy 15 minutes. Walking maps will be provided onsite.
**General Information**

**SAD Awards Luncheon**  
*Wednesday, July 9*  
*11:45 am – 2:00 pm*  

**Convention Center, 500 Reception Room**  
Plan to attend this year’s SAD Awards luncheon. The afternoon will be capped with 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.

**ASAS Graduate Student Lunch and Learn: An Industry Perspective on How to Get a Job**  
*Wednesday, July 9*  
*12:30 pm – 2:00 pm*  

**Convention Center, Room 201**  
The ASAS-sponsored Graduate Student Symposium is open to all. The Lunch and Learn is open to ASAS Graduate Students interested in an industry job. This will be an open forum featuring Jerry Weigel, an industry leader within the animal feed industry. Jerry will candidly answer questions about breaking into industry, how to land a job, negotiate, and have a successful industry career.

**Racing to Indy: The ASAS Open Forum**  
*Wednesday, July 9*  
*5:00 pm – 6:00 pm*  

**Convention Center, Room 103**  
Attendees are invited to the ASAS Open Forum on Wednesday, July 9, from 5:00 pm to 6:00 pm in the Convention Center. You will have the opportunity to join discussions on current ASAS issues and the new ASAS Strategic Plan.

**ADSA Awards Program**  
*Wednesday, July 9*  
*7:00 pm – 8:00 pm*  

**Marriott, Ballroom 5**  
All meeting participants, families, and friends are welcome to attend the 2008 ADSA awards program. Please join us at this special event to recognize and congratulate the 2008 award winners. **Please note that this ADSA program will take place at the Marriott.**

**2008 ADSA-ASAS Ice Cream Social**  
*Wednesday, July 9*  
*8:15 pm – 9:30 pm*  

**Marriott, Ballroom 6–10**  
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**  
*Wednesday, July 9*  
*8:15 pm – 9:30 pm*  

**Marriott, Ballroom 6–10**  
This year, the ADSA Foundation auction will offer a wide array of items including dairy antiques, valued collectibles, trips, and much more. **Please note that this ADSA function will take place at the Marriott.**

**Closing Reception**  
*Thursday, July 10*  
*4:30 pm – 6:00 pm*  

**Convention Center, 500 Reception Room**  
All meeting participants, families, and friends are welcome to attend the closing reception on Thursday 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.
2008 ADSA Award Donors

ABS Global Inc.
ADSA
ADSA Foundation
Alltech Biotechnology Center
American Feed Industry Association
Cargill Animal Nutrition
Dairy Management Inc.
Danisco USA Inc.
DeLaval Inc.
Elanco Animal Health–Eli Lilly and Company
Hoard’s Dairyman
International Dairy Foods Association
Kraft Foods
Land O’Lakes
Land O’Lakes, Purina Feed LLC
Milk Industry Foundation
National Milk Producers Federation
Nutrition Professionals Inc.
Pfizer Animal Health
Pioneer, A DuPont Company
West Agro Inc.

2008 ASAS Award Donors

ABS Global Inc.
American Feed Industry Association
American Society of Animal Science
American Society of Animal Science Foundation
Center for Regulatory Services Inc.
DSM Nutritional Products Inc.
Elanco Animal Health
Land O’Lakes, Purina Mills LLC
Merial Limited
Monsanto Company
Morrison Award Fund
Omega Protein Corporation
Pfizer Animal Health
The Iams Company
Zinpro Corporation

Advancing Nutrition for Healthy Animals

Healthy animals from start-to-finish in our food supply chain—it’s what you want, what we want, and what the consumer wants.

Good animal health starts with good animal nutrition. At PRINCE, we got our start 150 years ago. Today, we provide the animal industry with the essential and innovative nutrition products needed to help produce more efficient and healthy animals.

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or visit www.princeagri.com

Please Visit Booths 208-210

PRINCE 150 YEARS 2008
PRINCE AGRI PRODUCTS, INC.
Advancing Nutrition for Healthy Animals®
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Indiana Convention Center
Indianapolis, Indiana

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A special thank you to our 2008 ADSA-ASAS Joint Meeting Exhibitors!
Here in the dairy case, success starts with the cows.

The Pfizer Dairy Wellness Plan helps you make the connection between healthy cows and a healthy bottom line. This complete approach consistently addresses key management areas of your operation, from milk quality and disease prevention to fresh cow health and reproduction. Because how you care for your cows has a lot to do with how good your milk is when it hits the shelves. Start your Dairy Wellness Plan by calling your veterinarian or Pfizer Animal Health representative today.

DairyWellness Makes a Difference  Pfizer  Pfizer Animal Health  dairywellnessplan.com

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## Exhibit Directory

### AAALAC
5283 Corporate Drive  
Suite 203  
Frederick, MD 21703  
http://www.aaalac.org  
Booth(s): 330

AAALAC International offers accreditation and education services for agricultural animal research programs. Earning accreditation demonstrates dedication to responsible animal care. It also assures research partners, funding sources, and the public of a commitment to quality research and good science. More than 750 institutions in 30 countries have earned AAALAC accreditation.

### Advanced Genomics Technology Center
3007 Williams Drive  
Fairfax, VA 22031  
Phone: 866-599-2482; fax: 703-245-7128  
http://www.agtcenter.com  
Booth(s): 136

The Advanced Genomics Technology Center provides the academic, biotechnology, and pharmaceutical communities with comprehensive genomic services. In addition to providing high quality data, the AGTCenter team will assist you with experimental design and data analysis. All microarray studies are performed on Illumina systems, the most versatile genetic analysis platform.

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

Tasco is a “functional food” type of feed ingredient designed to address some of today’s production issues in different livestock industries. Tasco is a natural marine-sourced feed ingredient that helps modulate functions in the animal relevant to health, productivity, and stress resistance.

### Ag Processing Inc.
PO Box 2047  
Omaha, NE 68103-2047  
Phone: 402-492-3309; fax: 402-496-6686  
http://www.amino-plus.com  
Booth(s): 808

AminoPlus is the number one volume bypass protein soybean meal dairy supplement in United States. The patented AminoPlus process utilizes soybean meal to provide high amino acid quality, rumen bypass and intestinal digestibility without the addition of chemicals or non-soybean components. Learn about the benefits of AminoPlus and AGP’s third major expansion of AminoPlus processing capacity coming to AGP, Sgt. Bluff, Iowa in 2008.

### Adisseo
One Point Royal  
4400 North Point Pkwy., #275  
Alpharetta, GA 30022  
Phone: 678-339-1502; fax: 678-339-1602  
http://www.adisseo.com  
Booth(s): 500, 502, 516, 518

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

### Albion Advanced Nutrition
101 N. Main St.  
Clearfield, UT 84015  
Phone: 801-820-1155  
http://www.AlbionMinerals.com  
Booth(s): 1020

Albion Animal Nutrition increases profits of our customers with research-proven MAAC brand of Metal Amino Acid Chelates (AAFCO 57.142). Albion’s minerals enhance the health and performance of livestock, poultry, and pets. Albion has superior science and research dedicated to specific chelated mineral nutrition with proven efficacy, resulting in superior performance.
Alltech
3031 Catnip Hill Pike
Nicholasville, KY 40356
Phone: 859-887-3245; fax: 859-887-3256
http://www.alltech.com
Booth(s): 300, 301, 302, 303, 304, 305

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 1026, 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.

Aloka Ultrasound
10 Fairfield Blvd
Wallingford, CT 06492
Phone: 203-269-5088 x228; fax: 203-269-6075
http://www.aloka.com
Booth(s): 510

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.

American Dairy Science Association (ADSA)
1111 North Dunlap Ave
Savoy, IL 61874
Phone: 217-356-3182; fax: 217-398-4119
http://www.adsa.org
Booth(s): 400

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.

American Society of Animal Science (ASAS)
1111 N. Dunlap Avenue
Savoy, IL 61874
Phone: 217-356-3182; fax: 217-398-4119
http://www.asas.org
Booth(s): 402, 404

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.
Ankom Technology
2052 O’Neil Road
Macedon, NY 14502
Phone: 315-986-8090; fax: 315-986-8091
http://www.ankom.com
Booth(s): 1012, 1014

Ankom Technology is known for Filter Bag Technology for determining ADF, NDF, and crude fiber in feedstuffs and fat in feeds and foods. Ankom products support in vitro and in situ digestibility and in vitro gas production. Ankom products are in use in over 85 countries around the world.

APC Inc.
2425 SE Oak Tree Ct.
Ankeny, IA 50021
http://www.functionalproteins.com
Booth(s): 101, 103

APC Inc. is a world leader in the development of functional proteins for animal health and nutrition. For twenty five years, APC’s research investments have yielded safe, effective products to improve animal performance in the swine, ruminant, aquaculture, companion animal and poultry industries.

Arm & Hammer Animal Nutrition
469 N. Harrison
Princeton, NJ 08543
Phone: 800-526-3563; fax: 609-497-7176
http://www.ahdairy.com
Booth(s): 107

Arm & Hammer Animal Nutrition is a leading supplier of innovative dairy nutrition products designed to enhance performance and profitability during key life cycle stages. Our product portfolio improves dairy producer profitability by enhancing nutrition programs to match specific life cycle needs. For more information, please visit www.ahdairy.com.

ARPAS
1111 North Dunlap Avenue
Savoy, IL 61874
Phone: 217-356-5390; fax: 217-398-4119
Booth(s): 1004

ARPAS is the organization that provides certification of animal scientists through examination, continuing education, and commitment to a code of ethics. Continual improvement of individual members is catalyzed through publications (including the Professional Animal Scientist journal) and by providing information on educational opportunities.

ASAS Foundation and ASAS Centennial
1111 N Dunlap Ave
Savoy, IL 61874
Phone: 217-356-3182; fax: 217-398-4119
Booth(s): 131

Stop by the ASAS Centennial booth sponsored by the ASAS Foundation. The booth will have details about all of the special events and activities scheduled during the ASAS Centennial celebration in Indy!

Auburn University Dept. of Animal Sciences
108 Upchurch Hall
Auburn University, AL 36849
Phone: 334-844-1533; fax: 334-844-1519
http://www.ag.auburn.edu/ansc/
Booth(s): 429

The Department of Animal Sciences at Auburn University enhances the economic, social, and cultural development of the state of Alabama, the nation and the world through its nationally and internationally recognized programs of excellence in resident instruction, research, and outreach.

Balchem
PO Box 600
52 Sunrise Park
New Hampton, NY 10958
Phone: 845-326-5600; fax: 845-326-5742
http://www.balchem.com
Booth(s): 902, 916

The 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, making them available when and where they offer the most benefit to the animal.

Bar Diamond Inc.
PO Box 60
Parma, ID 83660
Phone: 208-722-6761; fax: 208-722-6686
http://www.bardiamond.com
Booth(s): 616

Bar Diamond provides rumen cannulae and accessories worldwide.
BIOMIN cares about natural health in animal nutrition. Our products and services offer a difference—that makes a difference—to our customers. The value proposition of our products and reliability of our services help to unlock the potential of animal nutrition† the natural way. Continuous innovation, effective services and products, and a worldwide presence make it easy for you to make BIOMIN the supplier of your choice. BIOMIN is always at your service. The global network of BIOMIN guarantees local solutions wherever you need it. In Austria the headquarters, the R&D team, and the production plant are located. From here we coordinate the activities in our regional offices in Germany, the US and Singapore and we are in direct contact with our European and African distributors. Any of your questions regarding our products can be answered by our product managers.

We are the publishers of renowned scientific information, including CAB Abstracts, our world-leading bibliographic database, multimedia compendia, books, and internet resources. Our subject areas include agriculture, animal and veterinary science, environmental sciences, human health, food and nutrition, leisure and tourism, microbiology and parasitology, and plant sciences.

CAST (Council for Agricultural Science and Technology)
4420 W. Lincoln Way
Ames, IA 50014
Booth(s): 134

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 Animal Health & Nutrition has been ranked as the most trusted direct fed microbial source by dairy nutritionists. 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 #105
Tequesta, FL 33469
Phone: 561-746-9527; fax: 561-746-4212
http://www.classicmedical.com
Booth(s): 216

Classic Ultrasound Equipment has digital imaging systems starting from $3,995 and the newest PC computer based ultrasound systems for a variety of animal types, sizes, and applications. The company also introduced the new PharVision Micro V6 Digital handheld linear/convex array system, weighing just three pounds, starting from $6,900.

Colorado State University
Department of Animal Science
Fort Collins, CO 80523
Booth(s): 423

Cumberland Valley Analytical Services
14515 Industry Drive
Hagerstown, MD 21742
http://www.foragelab.com
Booth(s): 914

Cumberland Valley Analytical Services Inc. is a testing laboratory providing a full complement of forage and feed evaluation services. We are one of the largest providers of wet-chemistry services in the US and have been a leader in adapting and commercializing new approaches to forage evaluation.

Dairy Cattle Reproduction Council (DCRC)
515 W North Shore Dr
Hartland, WI 53029
Phone: 262-563-5132; fax: 262-563-5101
http://www.dcrcouncil.org
Booth(s): 311

The Dairy Cattle Reproduction Council (DCRC) is a proactive organization with long-term interest in raising awareness of issues critical to reproductive performance. Through information and communication, it strives to deliver the latest in technology and resources. The Council consists of a wide array of dairy industry professionals—researchers and consultants, practitioners and producers—engaged in a collaborative effort to take cattle reproduction technology to the next level.

Dairy Records Management
313 Chapanoke Rd
Suite 100
Raleigh, NC 27603
Phone: 919-661-3100; fax: 919-661-3145
Booth(s): 622

PCDART has served the nation’s most intensively managed dairy farms 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/Dairy Science graduates with on-farm experience at no additional charge.

Dalex Livestock Solutions LLC
240 Industrial Blvd
Waconia, MN 55387
Phone: 952-442-4251; fax: 952-831-4251
http://www.dalex.com
Booth(s): 810

The Dalex suite of software includes The Windows Consulting Nutritionist (for Beef, Dairy, Equine and Swine), The Dalex Feed Tag and The Dairy Record Manager. We also offer the opportunity to become A Part of the Dalex Solution by entering your ingredients into our master ingredient library.
DASCOR Inc. manufactures a series of autonomous data loggers for ruminal research measurements of temperature, pH, ORP, NH4+, and pressure for use in cannulated cattle, and as boluses for use in sheep and goats. DASCOR is sponsoring a series workshops, tutorials, and “Meet the Researchers” sessions, which will be offered several times over the course of the Annual Meeting. Tutorials will review the User’s Guides for the LRCpH series of rumen loggers, while the workshops will go into more technical detail on sensor and logger performance and use, and will be adapted to the specific interests of the audience. Researchers who are actively using the LRCpH loggers will also present information on the work being done at their institutions, and lead a discussion and Q&A period. Schedules for speakers and topics will be posted in the DASCOR booth.

DHHS-FDA-CVM
7519 Standish Place
Suite 3508
Rockville, MD 20855
http://www.fda.gov/cvm
Booth(s): 602

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 Mills
838 1st Street NW
Cedar Rapids, IA 52402
Phone: 319-866-7679; fax: 319-366-6333
Booth(s): 123, 124, 125, 126

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) is a nonprofit association of fuel and beverage ethanol and distillers grains producers that was established in 1945. At the DGTC exhibit booth we will have information on feeding wet and dry distillers grains to dairy and beef cattle, calves, sheep, goats, poultry, horses and combining it with other feed ingredients to reduce corn usage and costs. Stop and let's talk about the rapidly growing availability of distillers and its feed value.

DSM Nutritional Products
45 Waterview Blvd.
Parsippany, NJ 07054
Phone: 800-677-8355; fax: 973-257-8653
http://www.nutraaccess.com
Booth(s): 512

DSM Nutritional Products is the leading supplier of vitamins, carotenoids, enzymes and direct fed microbials to the animal feed industry. With its extensive network of premix plants, DSM Nutritional Products is optimally poised to deliver these essential micronutrients as straight ingredients or through ROVIMIX premix.

Elsevier
1600 John F. Kennedy Blvd
Suite 1800
Philadelphia, PA 19103
Phone: 215-239-3491; fax: 215-239-3494
http://www.elsevierhealth.com
Booth(s): 800

Elsevier is a world-leading multiple media publisher of superior STM information products and services. Please visit the Elsevier booth in the exhibit area to browse our publications in animal science and related areas. Take the opportunity to collect free samples of key journals such as Livestock Science and Animal Feed Science and Technology and view a selection of our book titles.

www.elsevier.com/anivet the online resource dedicated to Elsevier products in Animal Science, Veterinary Science and Veterinary Medicine.

Evonik Degussa Corp.
1701 Barrett Lakes Blvd
Suite 340
Kennesaw, GA 30144
Phone: 678-797-4311; fax: 678-797-4313
http://www.makemilknotmanure.com
Booth(s): 910, 912

Evonik 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 (Biolyx), 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.

Federation of Animal Science Societies
1111 N. Dunlap Ave.
Savoy, IL 61874
Phone: 217-356-3182; fax: 217-398-4119
http://www.fass.org
Booth(s): 100, 102

The Federation of Animal Science Societies (FASS) was formed in 1998 by three founding member societies: the American Dairy Science Association® (ADSA®), the American Society of Animal Science (ASAS), and the Poultry Science Association (PSA).

FASS is unique in that we support common agricultural interests and, at the same time, streamline administrative expenses while preserving the societies’ traditions and values. We specialize in providing a wide array of management services to small- and medium-sized, not-for-profit associations. In addition, each year, PhD scientists in animal science compete for the opportunity to represent FASS in Congress through the Congressional Science Fellowship (CSF) Program. Many of these individuals stay on the Washington scene after their fellowship year and continue to serve animal agriculture in significant ways. Be sure to stop by the FASS booth to hear about DC activities from the 2008–2009 CSF.

Feed Management Systems
6120 Earle Brown Drive
Suite 300
Brooklyn Center, MN 55430
Phone: 763-560-8139; fax: 701-280-2668
http://www.feedsys.com
Booth(s): 1010

Feed Management Systems provides integrated software solutions for feed manufacturers to manage their critical formula and production data. Ensure the quality of your feed supply by automating and optimizing formulas, pricing, ordering, inventory, labeling, delivery, traceability, reporting and financials. Solutions include Feed Mill Manager, Brill Formulation, Feed Ration Balancer, and Feed Tags.
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 developing improved methods of feed analysis, providing leadership for methods standardization, and building and maintaining a comprehensive and evolving database of feed analysis information for all farm animals. We are pleased to announce that FeedAC and the National Forage Testing Association (NFTA, www.foragetesting.org) have reached a collaborative agreement to work together. This includes FeedAC supporting NFTA certification of all feed testing labs, NFTA using FeedAC proposed methods of feed analysis, and NFTA looking to FeedAC for recommendations on lab certification for other feeds. Be sure to stop by the FeedAC booth to get an update on FeedAC activities and to find out how you can get involved!

Feedstuffs
12400 Whitewater Drive, #160
Minnetonka, MN 55343
Phone: 985-930-4349; fax: 952-938-1832
Booth(s): 332

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
280105 Range Road 22
RR1 Site 1 Box 19
Airdrie, AB T4B2A3
Canada
Phone: 403-912-1879; fax: 403-398-1327
http://www.growsafe.com
Booth(s): 224, 226

The GrowSafe system is a sophisticated data acquisition platform that unobtrusively and automatically captures unique individual animal feed intake, behavior, and growth measurements continuously. Our systems are used in beef and dairy research, commercial seedstock test sites and feedlot and dairies worldwide. Come by booth 224/226 for a technology demonstration.
GTC Nutrition
600 Corporate Circle, Suite H
Golden, CO 80401
Phone: 800-522-4682; fax: 303-216-2477
http://fortifeed.com
Booth(s): 620

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 fortifeed.com.

H.J. Baker & Bro. Inc.
228 Saugatuck Avenue
Westport, CT 06880
Phone: 203-682-9200; fax: 203-227-8351
http://www.bakerbro.com
Booth(s): 908

PRO-LAK Dairy By-Pass Protein supplement, designed to complement the protein from rumen microbial activity; formulated for today’s high producing dairy cows. Desired nutrient balance is accomplished by 72% of protein bypassing rumen degradation and delivering the essential amino acid profile to support maximum milk production. For university research and more information see www.bakerbro.com

Huvepharma
500 Westpark Dr, Ste 230
Peachtree City, GA 30265
Phone: 770-486-7212; fax: 770-486-7217
Booth(s): 410, 412

Huvepharma is an expanding global pharmaceutical company with innovative manufacturing facilities and extensive experience in both the animal and human health industry. We currently sell our products in 70 countries on six continents. Our products comply with world pharmacopoeia standards and our devotion to R&D and quality assurance is unparalleled.

Igenity
3239 Satellite Blvd
Duluth, GA 30096
Phone: 877-IGENITY
http://www.igenity.com
Booth(s): 133, 135

Igenity provides the beef and dairy industries with the most comprehensive genetic profile of economically important traits—all from a single DNA sample. By using the power of DNA, beef and dairy producers can make more confident selection, procurement, management and marketing decisions. The inside information available from Igenity can help producers achieve their goals faster than ever before.

ILSI (International Life Sciences Institute)
One Thomas Circle NW, 9th Floor
Washington, DC 20005
Phone: 610-365-8117; fax: 202-659-3617
http://www.ilsi.org
Booth(s): 408

The ILSI International Food Biotechnology Committee (IF-BIC) supports the use of science-based criteria in the worldwide development and harmonization of science-based regulations and safety assessment of biotechnology-derived food and feed products, including best practices for animal nutrition studies. For more information, please visit www.ilsi.org.

International Ingredient Corp
150 Larkin Williams Ind. Ct.
Fenton, MO 63026
Phone: 314-776-2700; fax: 314-776-3395
http://www.iicag.com
Booth(s): 200

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.

Iowa Soybean Association
4554 N.W. 114th Street
Urbandale, IA 50322-5410
Phone: 515-251-8640; fax: 515-251-8657
http://www.soymeal.org
Booth(s): 714

The Soybean Meal INFOcenter website is designed to be a “center” or primary source of key information regarding soybean meal as an important supplement protein for livestock, poultry, and specialty markets. The website provides information to feed manufacturers, professional nutritionists, feed formulators, livestock and poultry producers, and the general public.

Iowa State University
119A Kildee Hall
Ames, IA 50011
Phone: 515-294-6030; fax: 515-294-0018
http://www.ans.iastate.edu/
Booth(s): 421

Iowa State University’s Animal Science department is dedicated to having a world-class program that is known for its excellent undergraduate and graduate teaching, research, and extension programs in animal agriculture. Major programs exist in animal breeding and genetics, meat science, nutrition, management, and physiology of domestic animals. Fifty world-renowned faculty provide 750 undergraduate students and 90 graduate students with opportunities for hands-on experiences with animals, cutting-edge science, and livestock management systems. The department interacts extensively with animal agriculture in the state, nationally, and throughout the world.
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.

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232 Weber Hall
Department of Animal Science & Industry
Manhattan, KS 66506
Phone: 785-532-1228; fax: 785-532-7059
http://www.asi.k-state.edu
Booth(s): 431

Kansas State Agricultural College was established February 16, 1863, as the first land-grant school created under the Morrill Act. Beginning as the “Department of Agriculture,” today’s Department of Animal Sciences and Industry, includes approximately 50 faculty with more than 750 undergraduate and 160 graduate students.

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Michigan State University
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Department of Animal Science
East Lansing, MI 48824
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Ithaca, NY 14853
Phone: 859-257-7514; fax: 859-257-3412
http://www.nbcec.org
Booth(s): 428

The National Beef Cattle Evaluation Consortium (NBCEC) is an organization of researchers focused on beef cattle genetic evaluation. The consortium was formed at the request of the beef industry to coordinate future research in this area. Additionally, NBCEC conducts national programs in Extension and graduate student training in animal breeding.

National Institute for Animal Agriculture
1910 Lyda Avenue
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National Institute for Animal Agriculture (NIAA) is a forum for building consensus and advancing solutions for animal agriculture and to provide continuing education and communication linkages to animal agriculture professionals. NIAA is where livestock producers, academia, government, veterinarians, regulators, and business executives meet to share issues and opportunities.

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Bowling Green, KY 42104
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Booth(s): 409

North Dakota State University
Department of Animal Sciences
Hultz 100C, PO Box 5727
Fargo, ND 58105-5727
Phone: 701-231-7426; fax: 701-231-7590
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Department of Animal and Food Sciences
Phone: 806-742-2805
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The Department of Animal and Food Sciences is housed within the College of Agricultural Sciences and Natural Resources on the campus of Texas Tech University. In 2004, Animal and Food Sciences moved into a new state-of-the-art teaching and research facility. This new facility includes four multimedia classrooms, five specialized teaching and research labs, the largest retail meat cooler on a university campus, and a retail store (COWamongus). There are 22 active faculty engaged in teaching, research, and service in the department to help students expand their knowledge. Several of these faculty members are leading researchers in their respective fields, including food science, food safety, muscle biology, nutrition, animal well-being, breeding and genetics, physiology and with specialties in cattle, horse, sheep & goats, poultry and swine. The fact that these professors do their own research and teach classes guarantees that students will receive the highest quality education with the most current information.

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Booth(s): 321

Efforts began in 1888 and the Animal Science department currently has 24 faculty in Fayetteville, Little Rock, and Hope. With 150+ students in Fayetteville and experiment stations throughout Arkansas, we strive for excellence in teaching, research, and extension to apply scientific principles to the production of livestock and companion animals.

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Dept of Animal Sci., PO Box 110910
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University of Illinois
Department of Animal Sciences
1207 West Gregory Drive, 184 ASL (MC-630)
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Animal and Food Sciences at the University of Kentucky uses a multidisciplinary approach to address research problems from the cellular level to production systems, aiming to enhance animal production efficiency, improve health and well-being, and provide consumers with a healthy, safe food supply. Disciplines include nutrition, microbiology, physiology, and food science. Instructional efforts provide science-based education and the application of this knowledge to animal production and to the processing, preservation, and improvement of human foods. Extension programs advance sustainable agricultural and food systems and help our youth develop the character traits to be successful citizens.

University of Kentucky
Department of Animal and Food Sciences
609 WP Garrigus Bldg
Lexington, KY 40546
Phone: 859-257-7534; fax: 859-323-1027
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Booth(s): 225

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University of Wisconsin Department of Animal Sciences
1675 Observatory Drive
Madison, WI 53706
Phone: 608-263-7698; fax: 608-262-5157
http://www.ansci.wisc.edu
Booth(s): 217

University of Wyoming
Department of Animal Science
Dept. 3684, 1000 E. University Ave.
Laramie, WY 82071-3684
Phone: (307) 766-3100; fax: (307) 766-2355
Booth(s): 211

USDA–Animal Welfare Information Ctr
10301 Baltimore Ave, Room 410
Beltsville, MD 20705
Phone: 301-504-6212; fax: 301-504-7125
http://awic.nal.usda.gov
Booth(s): 218

The Animal Welfare Information Center, a unit of the United States Department of Agriculture, provides information for the improved care and use of animals used in research, testing, teaching, and exhibition. The staff also assists people and institutions in complying with information requirements of the Federal Animal Welfare Act.

USDA–CSREES
USDA
Washington, DC 20024
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PO Box 1483
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Phone: 641-423-1460; fax: 641-423-0832
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3470 Litton-Reaves Hall
Blacksburg, VA 24061-0306
Phone: 540-231-4732; fax: 540-231-3010
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Booth(s): 203

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Schedule of Events
Scheduling and locations are subject to change. Please check the onsite newsletter each morning for changes.

Saturday, July 5

6:00 pm – 9:00 pm ADSA Executive Committee Meeting ................. Westin, Council

Sunday, July 6

7:30 am – 9:30 am ASAS New Board Orientation ....................... Marriott, Denver
10:00 am – 11:30 am ASAS Membership Committee Meeting ............. Marriott, Denver
7:30 am – 5:00 pm ADSA Board of Directors Meeting .................. Westin, House
12:30 pm – 9:00 pm ASAS Board of Directors Meeting .................. Marriott, Lincoln
12:30 pm – 2:45 pm SAD Speedway Tour ................................. Meet in the Hampton Inn lobby
3:00 pm – 5:00 pm Registration Open (preregistered, badge and material pick-up only) .... Convention Center, E. Maryland St. Lobby
3:30 pm – 8:00 pm SAD Night at the Indianapolis Indians Ballpark .... Meet in the Hampton Inn lobby
7:00 pm – 9:00 pm CSREES NRI Animal Growth and Nutrient Utilization PD Reception ................................. Marriott, Denver
7:30 pm – 9:00 pm ARPAS Executive Committee Meeting ............... Westin, Congress 1

Monday, July 7

7:30 am – 10:00 am ADSA New Board Orientation ....................... Westin, Cameral
7:30 am – 5:30 pm CSREES NRI Animal Growth and Nutrient Utilization PD Meeting .................. Marriott, Indiana Ballroom A & B
8:00 am – 3:00 pm Animal Science Modelers Group ....................... Westin, Capitol 1
8:00 am – 5:00 pm Exhibit Set-Up ........................................ Convention Center, Exhibit Hall CDE
8:00 am – 5:00 pm Student Dairy Clubs Set Up Exhibits ................... Convention Center, Exhibit Hall CDE
8:00 am – 5:00 pm ARPAS Governing Board Meeting .................... Westin, Capitol 3
8:30 am – 12:30 pm ADSA Board of Directors Meeting .................. Marriott, Lincoln
10:00 am – 11:00 am SAD Officers and Advisor Meeting .................. Convention Center, Room 201
11:00 am – 7:00 pm Registration Open .................................. Convention Center, E. Maryland St. Lobby
11:00 am – 12:00 pm SAD Quiz Bowl Officials Meeting ................... Convention Center, Room 201
11:30 am – 12:00 pm SAD Quiz Bowl Seating Test ........................ Convention Center, Room 202
12:00 pm – 5:00 pm Hospitality Lounge Open ............................. Convention Center, Room 113
12:00 pm – 1:00 pm ADSA-SAD Midday Mixer ............................ Convention Center, Room 116
12:00 pm – 1:00 pm ADSA JDS Editors and Journal Management Committee Luncheon .................. Westin, Capitol 2
1:00 pm – 3:00 pm 2008 and 2009 Program Committee Meeting ......... Convention Center, Room 105-106
1:00 pm – 5:00 pm ADSA Journal Management Committee Meeting .... Westin, Capitol 2
1:00 pm – 5:00 pm ADSA-SAD Quiz Bowl Seating/Preliminary Rounds. Convention Center, Rooms 202 & 203
2:00 pm – 3:00 pm ADSA Production Division Council Meeting ........ Convention Center, Room 103
2:00 pm – 3:30 pm ADSA Foundation Board of Trustees Meeting ........ Westin, Cameral
2:00 pm – 5:00 pm ASAS Retirees Gathering ............................... Convention Center, Room 117
3:00 pm – 4:00 pm ADSA Production Division Nominating Committee. Convention Center, Room 103
3:00 pm – 5:00 pm Late-Breaking Original Research Session ........... Convention Center, Room 107-108
5:00 pm – 6:00 pm ADSA Dairy Foods Division Council Meeting .......... Convention Center, Room 104
5:30 pm – 6:00 pm ADSA-SAD Quiz Bowl Final Round ..................... Convention Center, Room 203
7:00 pm – 8:30 pm 2008 ADSA-ASAS Opening Session & ASAS Centennial Celebration .................. Convention Center, Sagamore Ballroom 3, 4, 5
8:30 pm – 10:00 pm 2008 ADSA-ASAS Opening Reception .................. Convention Center, 500 Ballroom & Reception Rooms
Tuesday, July 8

6:30 am – 8:00 am  UI Breakfast ........................................ Marriott, Ballroom 3 & 4
6:30 am – 8:00 am  ADSA Production Division Extension Breakfast  . Westin, State
6:30 am – 5:15 pm  Registration Open ................................ Convention Center, E. Maryland St. Lobby
7:00 am – 8:15 am  ADSA-SAD Exhibit Set-Up .......................... Convention Center, Exhibit Hall CDE
7:00 am – 8:00 am  Kentucky Breakfast ............................... Marriott, Ballroom 7
7:30 am – 9:30 am  Poster Presentations ............................... Convention Center, Exhibit Hall CDE
7:30 am – 6:00 pm  Commercial Exhibits & ADSA-SAD Exhibits Open . Convention Center, Exhibit Hall CDE
7:30 am – 5:00 pm  Job Resource Center ................................. Convention Center, Exhibit Hall CDE
8:00 am – 5:00 pm  Hospitality Lounge Open .......................... Convention Center, Room 113
8:30 am – 9:15 am  ADSA-SAD Business Meeting ..................... Convention Center, Room 203
9:30 am – 10:30 am  ADSA-SAD Judging of Yearbooks and Scrapbooks, Annual Reports ....................... Convention Center, Room 201
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7:00 pm – 8:30 pm  ASAS Awards Program ............................. Marriott, Ballroom 5
8:00 pm – 11:00 pm  Iowa State Reception ............................ Marriott, Ballroom 3 & 4
8:30 pm  Matsushima Graduate Student Reception .................. Marriott, Lincoln
8:30 pm – 12:30 am  SAD Dance Party .................................. Westin, Capitol 3
9:00 pm  Graduate Student Mixer ...................................... Rock Bottom Brewery

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6:15 am  Fun Run ......................................................... Meet at the Convention Center
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6:30 am – 8:00 am  Virginia Tech Breakfast ......................... Westin, Council
6:30 am – 8:00 am  ADSA Dairy Foods Division Extension Breakfast . Westin, Cabinet
6:30 am – 8:00 am  JDS Editorial Board Breakfast/Meeting .... Westin, Cameral
6:30 am – 8:00 am  PSU Breakfast ...................................... Marriott, Ballroom 7 & 8
7:00 am – 5:45 pm  Registration Open .................................. Convention Center, E. Maryland St. Lobby
7:30 am – 9:30 am  Poster Presentations ............................... Convention Center, Exhibit Hall CDE
7:30 am – 5:00 pm  Commercial Exhibits & ADSA-SAD Exhibits Open . Convention Center, Exhibit Hall CDE
7:30 am – 5:00 pm  Job Resource Center ................................. Convention Center, Exhibit Hall CDE
8:00 am – 5:00 pm  Hospitality Lounge Open .......................... Convention Center, Room 113
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9:30 am – 11:00 am  ADSA-SAD Student Career Symposium ........ Convention Center, Room 203
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7:30 am – 9:30 am  Poster Presentations .......................... Convention Center, Exhibit Hall CDE
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6:00 pm  Animal Breeding and Genetics Graduate
Distance Learning Workshop and Reception .......................... Marriott, Ballroom 5
7:00 pm – 9:00 pm  CSREES NRI Animal Reproduction PD Reception. .......................................................... Marriott, Denver

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7:30 am – 5:30 pm  CSREES NRI Animal Reproduction PD Meeting. .......................................................... Marriott, Ballroom 1 & 2
8:30 am – 10:30 am  ADSA-ASAS Joint Executive Committee Breakfast. .......................................................... Marriott, Denver
8:00 am – 5:15 pm  Registration Open .......................... Convention Center, E. Maryland St. Lobby
8:30 am – 11:30 am  Scientific Sessions .......................... Convention Center
8:30 am – 11:30 am  Mixed Models Workshop .......................... Convention Center, Room 103
8:30 am – 5:00 pm  Triennial Lactation Symposium .......................... Convention Center, Room Sagamore 3
ADSA Student Affiliate Division Program
SAD Special Events
Scheduling and locations are subject to change. Please check the onsite newsletter each morning for changes.

Sunday, July 6

SAD Speedway Tour
12:30 pm – 2:45 pm
Meet in the Hampton Inn lobby
Tour begins at 1:15 pm. Students can register for one of two tours: The Grounds Tour ($25) includes a behind-the-scenes look at the track facilities and a ride around the track. The Hall of Fame Museum ($3) is a self-guided tour of the Indy 500 museum.

SAD Night at the Indianapolis Indians Ballpark
3:30 pm – 8:00 pm
Meet in the Hampton Inn lobby
Event includes picnic dinner and your ticket to the ballpark. Meet in the lobby of the Hampton Inn at 3:30 pm to walk as a group to the ballpark. Event begins at 4:00 pm with a picnic at the ballpark that includes food and drinks. First pitch is at 5:00 pm.

Monday, July 7

SAD Midday Mixer
12:00 pm – 1:00 pm
Convention Center, Room 117
Join your fellow dairy clubs for a fun hour of getting reacquainted and making new friends. Lunch includes pizza, salad, and drinks. Registration is limited to undergraduate students and advisors.

SAD-Dairy Quiz Bowl
1:00 pm – 6:00 pm
Convention Center, Rooms 202 and 203
On Monday, 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 (SAD) 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 2008 Dairy Quiz Bowl Winning Team.

Tuesday, July 8

SAD Dance Party
8:30 pm – 12:30 am
Westin Indianapolis (ADSA Headquarters Hotel), Capitol 3
Ticket Price: $5.00 (free for undergrads)
Rock the night away with old and new friends at the hottest dance party in Indy on Tuesday night! The dance floor will be packed as the crowd rocks, two-steps, and line dances their way from the first song to the last. Cash bar and free snacks will be available. This event is open to all meeting attendees, including students, advisors, and anyone else looking for a fun evening. Primary sponsors: the Dairy Clubs of ADSA.

Wednesday, July 9

SAD Awards Luncheon
11:45 am – 2:00 pm
Convention Center, 500 Reception Room
Plan to attend this year’s SAD awards luncheon. The afternoon will be capped with 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. Please check the onsite newsletter each morning for changes.

Sunday, July 6

12:30 pm – 2:45 pm SAD Speedway Tour. Meet in the Hampton Inn lobby
3:00 pm – 5:00 pm Registration Open (preregistered, badge and material pick-up only) Convention Center, E. Maryland St. Lobby
3:30 pm – 8:00 pm SAD Night at the Indianapolis Indians Ballpark. Meet in the Hampton Inn lobby

Monday, July 7

8:00 am – 5:00 pm Student Dairy Clubs Set Up Exhibits Convention Center, Exhibit Hall CDE
10:00 am – 11:00 am SAD Officers and Advisor Meeting Convention Center, Room 201
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11:00 am – 12:00 pm SAD Quiz Bowl Officials Meeting. Convention Center, Room 201
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1:00 pm – 5:00 pm ADSA-SAD Quiz Bowl Seating/Preliminary Rounds Convention Center, Rooms 202 & 203
5:30 pm – 6:00 pm ADSA-SAD Quiz Bowl Final Round. Convention Center, Room 203
7:00 pm – 8:30 pm 2008 ADSA-ASAS Opening Session & ASAS Centennial Celebration Convention Center, Sagamore Ballroom 3, 4, 5
8:30 pm – 10:00 pm 2008 ADSA-ASAS Opening Reception Convention Center, 500 Ballroom & Reception Rooms

Tuesday, July 8

6:30 am – 5:15 pm Registration Open. Convention Center, E. Maryland St. Lobby
7:00 am – 8:15 am ADSA-SAD Exhibit Set-Up Convention Center, Exhibit Hall CDE
7:30 am – 9:30 am Poster Presentations Convention Center, Exhibit Hall CDE
7:30 am – 6:00 pm Commercial Exhibits & ADSA-SAD Exhibits Open Convention Center, Exhibit Hall CDE
8:30 am – 9:15 am ADSA-SAD Business Meeting Convention Center, Room 203
9:30 am – 10:30 am ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports. Convention Center, Room 201
9:30 am – 10:45 am ADSA-SAD Activities Symposium Convention Center, Room 203
9:30 am – 11:00 am ADSA-SAD Student Career Symposium Convention Center, Room 203
11:45 am – 2:00 pm ADSA-SAD Awards Luncheon Convention Center, 500 Reception Room
2:00 pm – 3:00 pm ADSA-SAD Award and Club Photos Convention Center, 500 Reception Room

Wednesday, July 9

6:15 am Fun Run Meet at the Convention Center
7:00 am – 5:45 pm Registration Open. Convention Center, E. Maryland St. Lobby
7:30 am – 9:30 am Poster Presentations Convention Center, Exhibit Hall CDE
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<td>8:15 pm – 9:30 pm</td>
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<td>Convention Center, E. Maryland St. Lobby</td>
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<td>7:30 am – 9:30 am</td>
<td>Poster Presentations</td>
<td>Convention Center, Exhibit Hall CDE</td>
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<tr>
<td>7:30 am – 3:00 pm</td>
<td>Commercial Exhibits Open</td>
<td>Convention Center, Exhibit Hall CDE</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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<td>3:00 pm – 6:00 pm</td>
<td>Commercial Exhibits Dismantle</td>
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<td>4:30 pm – 6:00 pm</td>
<td>2008 Closing Reception</td>
<td>Convention Center, 500 Reception Room</td>
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<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
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<tr>
<td>8:00 am – 5:15 pm</td>
<td>Registration Open</td>
<td>Convention Center, E. Maryland St. Lobby</td>
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<tr>
<td>8:30 am – 11:30 am</td>
<td>Scientific Sessions</td>
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<td>8:30 am – 5:00 pm</td>
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ADSA Dairy Foods Division
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5:00 pm – 6:00 pm  ADSA Dairy Foods Division Council Meeting, Convention Center Room 104

Tuesday, July 8

7:30 am – 9:30 am  Posters: Cheese I, Convention Center Exhibit Hall CDE (page 65)
9:30 am – 12:00 pm Graduate Student Paper Competition: National ADSA Dairy Foods Division, Convention Center Room 121 (page 83)
9:30 am – 12:00 pm Dairy Food Chemistry and Microbiology, Convention Center Room 120 (page 81)
1:30 pm – 5:00 pm  SYMPOSIUM: Advances in Low Fat Cheese Research (Sponsored by DMI Inc.), Convention Center Room 121 (page 89)

Wednesday, July 9

7:30 am – 9:30 am  Posters: Milk, Dairy Food Chemistry and Microbiology, Convention Center Exhibit Hall CDE (page 101)
9:30 am – 10:30 am  ADSA Foundation Scholar Lecture – Dairy Foods, Convention Center Room 121 (page 114)
10:30 am – 11:30 am Danisco International Dairy Science Award Lecture, Convention Center Room 121 (page 123)
11:30 am – 12:30 pm  ADSA Dairy Foods Division Business Meeting, Convention Center Room 121
12:30 pm – 2:00 pm  ADSA DF Division Milk Proteins & Enzymes Committee, Convention Center Room 202
12:30 pm – 2:00 pm  ADSA Dairy Foods Program Planning Meeting, Convention Center Room 120
2:00 pm – 5:00 pm  SYMPOSIUM: Changes and Challenges of Probiotics in Dairy Products, Convention Center Room 121 (page 128)

Thursday, July 10

7:30 am – 9:30 am  Posters: Dairy Products and Processing I, Convention Center Exhibit Hall CDE (page 136)
9:30 am – 10:00 am  ADSA Business Meeting, Convention Center Room 206 (page 152)
10:00 am – 12:30 pm  Dairy Products and Processing II, Convention Center Room 121 (page 152)
10:30 am – 12:00 pm  Cheese II, Convention Center Room 120 (page 154)
2:00 pm – 5:00 pm  SYMPOSIUM: Emerging Nonthermal Food Processing Technologies – Their Potential in Dairy Systems, Convention Center Room 121 (page 162)
### ASAS Centennial Presentations Schedule

#### Tuesday, July 8

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker/Institution</th>
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</thead>
<tbody>
<tr>
<td>2:00 pm</td>
<td>146</td>
<td>Development and current issues of a corn-based beef industry. L. R. Corah, Certified Angus Beef LLC (500 Ballroom)</td>
<td></td>
</tr>
<tr>
<td>3:40 pm</td>
<td>167</td>
<td>Role of industry leaders in addressing bioethical issues. J. W. Lauderdale, Lauderdale Enterprises Inc. (Room 101–102)</td>
<td></td>
</tr>
<tr>
<td>4:30 pm</td>
<td>151</td>
<td>Using grain and biomass for feed versus fuel. J. Lawrence, Iowa State University (500 Ballroom)</td>
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</tbody>
</table>

#### Wednesday, July 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 am</td>
<td>282</td>
<td>Historical review and future outlook of equine reproductive technology. D. Sharp, University of Florida (Room 104)</td>
<td></td>
</tr>
<tr>
<td>9:30 am</td>
<td>362</td>
<td>Animal science teaching: A century of excellence. D. S. Buchanan, North Dakota State University (Room 120)</td>
<td></td>
</tr>
<tr>
<td>9:30 am</td>
<td>345</td>
<td>Impact of animal science research on US goat production and predictions for the future. T. Sahlu, American Institute for Goat Research, Langston University (Room 205)</td>
<td></td>
</tr>
<tr>
<td>9:35 am</td>
<td>240</td>
<td>Animal behavior and well-being: What does the future hold? A. K. Johnson, Iowa State University (Room 203)</td>
<td></td>
</tr>
<tr>
<td>9:35 am</td>
<td>255</td>
<td>History and future perspectives of bioethics in food animal agriculture. W. R. Stricklin, University of Maryland (Room 101–102)</td>
<td></td>
</tr>
<tr>
<td>9:40 am</td>
<td>240</td>
<td>The history of growth biology research – A reflection on the episodic nature of science. T. Etherton, Penn State University (Sagamore Ballroom 5)</td>
<td></td>
</tr>
<tr>
<td>9:40 am</td>
<td>298</td>
<td>Landmark studies in swine nutrition during the past century. G. L. Cromwell, University of Kentucky (Room 105–106)</td>
<td></td>
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<tr>
<td>10:20 am</td>
<td>275</td>
<td>Future needs and directions in animal growth and development research. M. A. Mirando, Cooperative State Research, Education, and Extension Service, USDA (Sagamore Ballroom 5)</td>
<td></td>
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<tr>
<td>10:35 am</td>
<td>299</td>
<td>Nonruminant nutrition – A proud past but uncertain future. R. A. Easter, University of Illinois (Room 105–106)</td>
<td></td>
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<tr>
<td>2:00 pm</td>
<td>428</td>
<td>History of extension. J. Paterson, Montana State University, Bozeman, MT. (Room 109–110)</td>
<td></td>
</tr>
<tr>
<td>2:00 pm</td>
<td>441</td>
<td>Historical review and future outlook of equine nutrition. H. Hintz, Cornell University (Room 104)</td>
<td></td>
</tr>
<tr>
<td>2:00 pm</td>
<td>493</td>
<td>Impacts of animal science research on U.S. sheep production and predictions for the future. C. J. Lupton, Texas AgriLife Research (Room 107–108)</td>
<td></td>
</tr>
<tr>
<td>2:05 pm</td>
<td>377</td>
<td>Animal behavior as a discipline within the American Society of Animal Science: One hundred years of change and promise. W. R. Stricklin, University of Maryland (Room 101–102)</td>
<td></td>
</tr>
<tr>
<td>2:05 pm</td>
<td>414</td>
<td>Evolution of companion animals – A perception shift. L. P. Case, University of Illinois and AutumnGold Consulting (Room 105–106)</td>
<td></td>
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<tr>
<td>2:30 pm</td>
<td>429</td>
<td>Evolution of delivery methods. M. Hutjens, University of Illinois (Room 109–110)</td>
<td></td>
</tr>
<tr>
<td>3:00 pm</td>
<td>430</td>
<td>From 40 acres and a mule to today: Historical perspective of extension programming: HorseQuest. E. A. Greene, University of Vermont (Room 109–110)</td>
<td></td>
</tr>
<tr>
<td>3:20 pm</td>
<td>431</td>
<td>DAIReXNET – Method of delivering extension programming for the dairy industry which transcends traditional methods of information delivery and state/regional borders. D. M. Amaral-Phillips, University of Kentucky (Room 109–110)</td>
<td></td>
</tr>
<tr>
<td>3:40 pm</td>
<td>432</td>
<td>Beef Cattle Clearinghouse: An eXtension Website. R. Rasby, University of Nebraska (Room 109–110)</td>
<td></td>
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<tr>
<td>4:00 pm</td>
<td>433</td>
<td>Pork Information Gateway in eXtension. D. J. Meisinger, US Pork Center of Excellence, Iowa State University (Room 109–110)</td>
<td></td>
</tr>
<tr>
<td>5:00 pm</td>
<td>422</td>
<td>The future of teaching and research in companion animal biology in departments of animal sciences. J. McNamara, Washington State University (Room 105–106)</td>
<td></td>
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</tbody>
</table>
### Thursday, July 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Code</th>
<th>Title</th>
<th>Presenter</th>
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</thead>
<tbody>
<tr>
<td>10:30 am</td>
<td>544</td>
<td>Historical perspective on the advances in forage research.</td>
<td>J. Burns, USDA-ARS and North Carolina State University (Room 104)</td>
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<tr>
<td></td>
<td>542</td>
<td>Developments and future outlook for preharvest food safety.</td>
<td>S. P. Oliver, The University of Tennessee (Room 204)</td>
</tr>
<tr>
<td></td>
<td>546</td>
<td>History and future outlook of equine science teaching programs.</td>
<td>C. H. Wood, University of Kentucky (Sagamore Ballroom 2)</td>
</tr>
<tr>
<td></td>
<td>552</td>
<td>Historical perspective on lactation biology.</td>
<td>R. S. Kensinger, Oklahoma State University (Sagamore Ballroom 6)</td>
</tr>
<tr>
<td></td>
<td>566</td>
<td>Future research in physiology and endocrinology.</td>
<td>G. E. Seidel, Colorado State University (Room 205)</td>
</tr>
<tr>
<td>11:00 am</td>
<td>545</td>
<td>Research and extension needs in forage utilization in the future.</td>
<td>F. M. Rouquette Jr., Texas AgriLife Research, Texas A&amp;M System (Room 104)</td>
</tr>
<tr>
<td>11:15 am</td>
<td>543</td>
<td>Developments and future outlook for postharvest food safety.</td>
<td>J. Sofos, Colorado State University (Room 204)</td>
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<tr>
<td></td>
<td>553</td>
<td>Lactation biology for the 21st century.</td>
<td>J. J. Loor, University of Illinois (Sagamore Ballroom 6)</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>605</td>
<td>The promise of proteomics in animal science.</td>
<td>J. D. Lippolis, National Animal Disease Center, USDA-ARS (Sagamore Ballroom 1)</td>
</tr>
<tr>
<td></td>
<td>622</td>
<td>Animal breeding and the Journal of Animal Science: A century of co-evolution.</td>
<td>W. Hohenboken, Virginia Polytechnic Institute and State University and Oregon State University (Sagamore Ballroom 4)</td>
</tr>
<tr>
<td></td>
<td>688</td>
<td>A century of pioneers and progress in meat science leads to new frontiers.</td>
<td>D. H. Beermann, University of Nebraska (Room 120)</td>
</tr>
<tr>
<td></td>
<td>713</td>
<td>Development of cattle estrus and breeding management.</td>
<td>J. W. Lauderdale, Lauderdale Enterprises Inc. (Room 205)</td>
</tr>
<tr>
<td>2:05 pm</td>
<td>672</td>
<td>The impact of current global challenges in the animal agricultural industry.</td>
<td>A. Tewolde, Inter American Institute for Cooperation on Agriculture – IICA (Room 101–102)</td>
</tr>
<tr>
<td>3:15 pm</td>
<td>692</td>
<td>Current and future meat science research needs.</td>
<td>T. H. Powell, American Meat Science Association (Room 120)</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>608</td>
<td>Contributions in the Journal of Animal Science to understanding cattle metabolic and digestive disorders.</td>
<td>M. L. Galyean, Texas Tech University (Sagamore Ballroom 1)</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>627</td>
<td>Future needs in animal breeding.</td>
<td>R. D. Green, Pfizer Animal Genetics (Sagamore Ballroom 4)</td>
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### Friday, July 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Code</th>
<th>Title</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td>795</td>
<td>Discovery and application of energetic principles to feeding systems for beef cattle.</td>
<td>C. Ferrell, USDA, ARS, US Meat Animal Research Center (Sagamore Ballroom 4)</td>
</tr>
<tr>
<td>9:00 am</td>
<td>796</td>
<td>Discovery and application of energetic principles to feeding systems for beef cattle: Use of dynamic models.</td>
<td>J. W. Oltjen, University of California (Sagamore Ballroom 4)</td>
</tr>
</tbody>
</table>
**Tuesday, July 8**

**POSTER PRESENTATIONS**

**Animal Health**

**Exhibit Hall CDE**

T1 Dairy herd size and herd expansion are related to dairy cow mortality in Southeastern US dairy herds. G. W. Rogers1, J. B. Cooper*, and J. S. Clay2,

1The University of Tennessee, Knoxville, 2Dairy Records Management Systems, Raleigh, NC.

T2 Genetic polymorphism of lactoferrin gene and association with mastitis in Holstein cows. J. B. Cheng1, J. Q. Wang1, D. P. Bu1, G. L. Liu1, C. G. Zhang1, X. L. Dong1, H. Y. Wei1, L. Y. Zhou1, and K. L. Liu1,

1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2College of Animal Science and Technology of Yangzhou University, Yangzhou, China.

T3 Photonic plasmid stability of transformed *Salmonella typhimurium* using Stanford Photonic imaging and three plasmid types. K. Moulton*, P. Ryan1, D. Moore1, S. Laird1, J. Curbelo1, D. Lay2, and S. Willard1,

1Mississippi State University, Mississippi State, 2USDA-ARS, Livestock Behavior Research Unit, West Lafayette, IN.

T4 Seasonal variation of mortality rate in dairy cows of the Po Valley (Italy). A retrospective study from 2001 to 2006. A. Vitali1, L. Bertocchi2, N. Lacereta*, U. Bernabucci1, A. Cuteri1, M. Guerini3, and A. Nardone1,

1Dipartimento di Produzioni Animali, Viterbo, Italy, 2Istituto Zooprofilattico Sperimentale Lombardia-Erma Romagna, Brescia, Italy, 3Osservatorio Epidemiologico Veterinario Regione Lombardia, Brescia, Italy.

T5 Monitoring body temperature of postpartum dairy cows using an intravaginal device. R. R. Peters1, B. Erze*, L. A. Born1, F. Siewerdt1, and M. E. lager2,

1University of Maryland, College Park, 2Mid-Maryland Dairy Veterinarians, Hagerstown, MD.

T6 A data exchange format and national database for producer-recorded health event data from on-farm management software. J. B. Cole, D. J. Null*, and L. R. Bacheller,

USDA-ARS-BA-ANRI-AIPL, Beltsville, MD.

T7 Dexamethasone administration increased bovine lymphocyte clock gene expression in vitro and in vivo. S. S. Pozzo*, M. K. Rankin, and T. F. Gressley,

University of Delaware, Newark.

T8 Negative energy balance (NEB) alters neutrophil (PMN) gene expression in response to a *Streptococcus uberis* (*S. uberis*) mastitis challenge in lactating dairy cows. K. M. Moyes*, J. K. Drackley, D. E. Morin, R. E. Everts, H. A. Lewin, and J. J. Loor,

University of Illinois, Urbana.

T9 Comparison of minimum inhibitory concentrations of *Staphylococcus aureus* obtained from clinical and subclinical cases of mastitis. L. Oliveira*, P. Ruegg1, H. Langoni2, and M. D. Apparao1,

1University of Wisconsin, Madison, 2FMVZ - UNESP, Botucatu, SP, Brazil.

T10 Comparison of in-vitro MIC’s of gram positive pathogens isolated from cases of subclinical and clinical mastitis. M. D. Apparao1, P. L. Ruegg*, A. Lago2, S. Godden2, R. Bey2, R. Dingwell1, and K. Leslie1,

1University of Wisconsin, Madison, 2University of Minnesota, St. Paul, 3University of Guelph, Guelph, ON, Canada.

T11 Nystatin, pathogen-associated molecular patterns and bovine neutrophil activation. M. Worku* and A. Morris,

North Carolina A&T State University, Greensboro.

T12 Macrolide and lincosamide resistance in *Staphylococci* and *Streptococci* isolated from quarters with persistent subclinical mastitis. M. D. Apparao, P. L. Ruegg*, and H. Khatib,

University of Wisconsin, Madison.

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**Breeding and Genetics I**

**Exhibit Hall CDE**

T13 Using logistic regression model to analyse some environmental factors affecting mastitis incidence of primiparous Iranian Holsteins. H. Farhangfar*, A. Abedini, H. Naeemipour, M. R. Asghari, and M. H. Fathi Nasri,

Birjand University, Birjand, Iran.

T14 Genetic parameters estimation of somatic cell score in Iranian Holstein heifers using a random regression test day model. H. Farhangfar*, A. Abedini1, H. Naeemipour1, M. Alipanah2, K. Shojacian3, and B. Mohammad Nazari3,

1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran, 3Animal Breeding Centre, Karaj, Iran.

T15 Genetic parameters and trend estimation for milk and fat yields and fat percentage for primiparous Holstein population of Golestan and Mazandaran provinces of Iran using a univariate animal model. H. Naeemipour*, H. Farhangfar1, I. Tahmasbi2, and M. Bashtani1,

1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran.

T16 Genetic relationships between linear type traits, somatic cell score and longevity in Holstein cows of Iran. M. R. Bakhtiarizadeh*, M. Moradi Shahr Babak, and A. Pakdel,

University of Tehran, Tehran, Iran.
T17  Breed composition of the United States dairy cattle herd. R. L. Powell*, H. D. Norman, and J. L. Hutchison, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

T18  Reproductive trends of dairy herds in the United States. H. D. Norman, J. R. Wright, S. M. Hubbard*, M. T. Kuhn, and R. H. Miller, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

T19  Impact of selection for increased daughter fertility on productive life and culling for reproduction. H. D. Norman, J. R. Wright*, and R. H. Miller, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.


T21  Factors that affect abortion frequency in dairy herds in the United States. R. H. Miller*, M. T. Kuhn, H. D. Norman, and J. R. Wright, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

T22  Heritability of dairy cow mortality and relationships between mortality and sire genetic evaluations for yield, somatic cell score, productive life and daughter pregnancy rate. G. W. Rogers**, J. B. Cooper1, and J. S. Clay2, The University of Tennessee, Knoxville, TN.

T23  Spermatozoal transcriptome profiling: A tool for marker for bull fertility and sperm motility: A potential tool to evaluate semen quality. N. Bissonnette*1, J.-P. Lévesque-Sergerie1, and G. Boissonneault2, 1Cornell University, Ithaca, NY, 2University of Georgia, Athens, GA.

T24  Relationships between reproductive traits of heifers and cows and yield traits for Holsteins in Japan. H. Abe*, Y. Masuda, and M. Suzuki, Obihiro University of Agriculture & Veterinary Medicine, Obihiro, Japan.

T25  Genetic aspects of the somatic cells count in dairy buffaloes reared in Sao Paulo state, Brazil. H. Tonhati*1,2, G. M. Sanches1, M. F. Ceron Munoz2, L. G. de Albuquerque1, R. A. A. Borquis1, L. Tanaka2, and L. El Faro1, Sao Paulo University, Jaborioca, Sao Paulo, Brazil, 1Instituto Nacional de Desenvolvimento Cientifico e Tecnologico, Brasilia, DF, Brazil.

T26  Computing options for multiple-trait test-day random-regression models. I. Aguilar*, S. Tsuruta1, and I. Misztal1, 1University of Georgia, Athens, GA, 2Instituto Nacional de Investigación Agropecuaria, Las Brujas, Uruguay.

T27  Genetic aspects of the somatic cells count in dairy buffaloes reared in Sao Paulo state, Brazil. H. Tonhati*1,2, G. M. Sanches1, M. F. Ceron Munoz2, L. G. de Albuquerque1, R. A. A. Borquis1, L. Tanaka2, and L. El Faro1, Sao Paulo University, Jaborioca, Sao Paulo, Brazil, 1Instituto Nacional de Desenvolvimento Cientifico e Tecnologico, Brasilia, DF, Brazil.


T29  Molecular characterization of the bovine DDX3Y gene. W.-S. Liu*1, A. Wang2, Y. Yang3, E. Landrito2, and H. Yasue1, 1The Pennsylvania State University, University Park, 2Virginia Polytechnic Institute and State University, Blacksburg, VA, 3University of Nevada, Reno, NV.

T30  A gene frequency model to map QTL using bayesian inference. W. He*, R. L. Fernando1, J. C. M. Dekkers1, and D. Gianola2, 1Iowa State University, Ames, 2University of Wisconsin, Madison.


**Dairy Foods**

**Cheese I**

**Exhibit Hall CDE**

T38 Sensory and microbiological properties of cheddar cheese made with different fat content. M. A. Drake¹, C. J. Brighton², D. J. McMahon², and J. R. Broadbent²*, ¹North Carolina State University, Raleigh, ²Utah State University, Logan.


T40 Evaluation of mineral compositions in reduced-fat and full-fat caprine milks and their Cheddar-type cheeses. W. Nouira*, T. H. Terrill, and Y. W. Park, Fort Valley State University, Fort Valley, GA.

T41 The effect of aging on low, reduced, and full fat cheddar cheese on texture. N. R. Rogers*, M. A. Drake, and E. A. Foegeding, North Carolina State University, Raleigh.

T42 Survey of the fatty acid profile including cis-9, trans-11 conjugated linoleic acid of some Oklahoma cow cheeses. G. Davila El Rassi* and V. Banskalieva, Oklahoma State University, Stillwater.

T43 Mapping consumer preferences for mild cheddar cheese. S. L. Drake*, P. D. Gerard², and M. A. Drake¹, ¹North Carolina State University, Raleigh, ²Clemson University, Clemson, SC.

T44 Manufacture of cheddar cheese with added sodium gluconate. C. Phadungath* and L. E. Metzger², ¹University of Minnesota, St Paul, ²South Dakota State University, Brookings.

T45 Changes in residual sugar and water-soluble organic acids during ripening of Cheddar cheese with added sodium gluconate. C. Phadungath*¹ and L. E. Metzger², ¹University of Minnesota, St Paul, ²South Dakota State University, Brookings.

T46 Flavor chemistry of cheddar cheeses with varying fat contents. R. E. Miracle*¹, D. J. McMahon², and M. A. Drake¹, ¹North Carolina State University, Raleigh, ²Utah State University, Logan.


T50 Characterization of organic acid and carbohydrate profiles of commercial Swiss cheese samples. H. Zhang* and L. E. Metzger, South Dakota State University, Brookings.

T51 Surface roughness affects the formation of calcium lactate crystals on Cheddar cheese. P. Rajbhandari*, C. Ogg, and P. S. Kindstedt, University of Vermont, Burlington.

T52 Influence of native casein concentrates on process cheese texture. P. Salunke* and L. E. Metzger, South Dakota State University, Brookings.

T53 The effect of culture combinations on swiss cheese flavor quality. N. A. Kocaoglu-Vurma*, A. Eliardi¹, M. A. Drake², L. E. Rodriguez-Saona¹, and W. J. Harper¹, ¹The Ohio State University, Columbus, ²North Carolina State University, Raleigh.

T54 Iodine content in sheep and goat cheese produced in Sardinia (Italy). G. Pulina*, F. Aghini-Lombardi², M. Frigeri³, G. Battacone¹, R. Rubattu¹, G. Garzella¹, L. Grassò¹, and A. Nudda¹, ¹University of Sassari, Sassari, Italy, ²University of Pisa, Pisa, Italy, ³AGRIS Sardegna, Olmedo Loc. Bonassai, Sassari, Italy.

T55 Three-dimensional microscopy using stereoscopy applied to scanning electron microscopy imagery. M. Caccamo*, G. Impoco², L. Tuminello¹, and G. Licitrà¹, ¹CoRFiLaC, Regione Siciliana, Ragusa, Italy, ²IPLAB, Catania University, Catania, Italy, ³D.A.C.P.A., Catania University, Catania, Italy.
T66  Demonstration of a formulation approach to include corn-milling co-products in lactating dairy rations. K. J. Machacek* and P. J. Kononoff, University of Nebraska, Lincoln.

T67  The Virginia Phosphorus Feeding Incentive Program. C. C. Stallings*, K. F. Knowlton, R. E. James, M. D. Hanigan, B. G. Cox, and T. M. Horn, Virginia Polytechnic Institute and State University, Blacksburg.


T70  Spanish language training on proper milking techniques in the state of Utah. D. E. Diaz*, G. Pena, C. Israelson, J. Barnhill, and A. Young, Utah State University, Logan.

Food Safety
Exhibit Hall CDE


Intestinal microbial affects of yeast products on weaned and transport stressed pigs. S. Weedman*1, M. Rostagno2, J. Patterson1, A. Kiess1, and S. Eicher2, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN.

Identification of risk factors associated with increased coliform counts in bulk milk. J. Pantoja*, C. Hulland, D. Reinemann, and P. Ruegg, University of Wisconsin, Madison.

Effects of distiller’s grains and dry-rolled corn supplementation in steam-flaked corn grain-based diets on fecal shedding of Escherichia coli O157:H7 and Salmonella. M. E. Jacob*, J. S. Drouillard, D. G. Renter, J. T. Fox, and T. G. Nagaraja, Kansas State University, Manhattan.


Effects of the dicarboxylic acids malate and fumarate on fermentation parameters. Y. Acosta Aragón*, G. Boeck, A. Klimitsch, G. Schatzmayr, and S. Pasteiner, USDA-ARS, Dairy Forage Research Center, Madison, WI.

Aerobic stability and silage quality parameters. Y. Acosta Aragón*, G. Boeck, A. Klimitsch, G. Schatzmayr, and S. Pasteiner, USDA-ARS, Dairy Forage Research Center, Madison, WI.

Forages and Pastures I
Exhibit Hall CDE


Influence of cutting time and swath type on intake, site, and ruminal metabolism of alfalfa hay. T. Shenkoru, H. Hussein, and T. Waliji*, University of Nevada, Reno.

Plant maturity and genetic influences on in vitro NDF digestibility of alfalfa. A. Palmonari*1, N. Brogna1, G. Rossi1, I. Fusaro2, G. Biagi1, and A. Formigoni1, 1DIMORFIPA Università di Bologna, Ozzano dell’Emilia, Bologna, Italy, 2Dipartimento di Scienze Degli Alimenti Università di Teramo, Teramo, Italy.

Effect of a lactic acid-lactobacillus product and bale moisture on forage quality, and voluntary intake and digestibility of crabgrass hay by lambs. L. Hardin1, A. Killion1, J. Caldwell1, K. Coffey*, 1University of Wisconsin, Madison, WI.


Chemical composition and nutritive value of forage silages produced in the Italian Po Valley. S. Colombini*1, L. Rapetti1, N. Rizzi2, P. Amodeo2, G. de Abreu2, R. de C. M. Tramontini2, K. C. da S. Brabes1, and E. R. de Oliveira1, 1University of Wisconsin, Madison, WI, 2University of Kansas, Lawrence, KS.


The use of hybrid or native corn byproducts for the manufacture of nutritional blocks or silages: A simulation model. J. M. Tapia-Gonzalez*, A. Tewolde-Medhin1, W. E. Grant1, J. C. Martinez-González2, H. Diaz-Solís4, A. Moreno-Valdéz5, O. D. Montañez-Valdez1, and G. Rocha-Chavez1, 1CUCSUR, Unv de Guadalajara, Cd. Guzmán, Jalisco, México, 2Unidad Académica Multidisciplinaria Agronomía y Ciencias. UAT, Cd. Victoria, Tamaulipas, México, 3Texas A&M University, College Station, 4Area de Recursos Naturales, UAAAN, Saltillo Coahuila, México, 5Area de Recursos Naturales, Instituto Tecnológico de Ciudad Victoria, Cd. Victoria, Tamaulipas, México.


Effect of length of time ensiled on dry matter, starch and fiber digestibility in whole plant corn silage. C. M. Hallada*, D. A. Sapienza2, and D. Taysom1, Vita Plus Corporation, Madison, WI, 2Sapienza Analytica, LLC, Slater, ID, 3Dairyland Laboratories Inc., Arcadia, WI.

Effect of month of sample submittal on corn silage nutrient fractions, starch availability, NDF digestibility, and fermentation profiles measured at a commercial forage-testing laboratory. R. T. Ward*1 and M. B. de Ondarza2, 1University of Wisconsin, Slator, IA, 2Cumberland Valley Analytical Services, Inc., Hagerstown, MD.


Streptococcus bovis as a silage inoculant: A second chance. F. E. Contreras-Govea*, R. E. Muck2, and J. B. Russell1, 1University of Wisconsin, Madison, 2USDA-ARS Dairy Forage Research Center, Madison, WI, 3USDA-ARS, Ithaca, NY.
An evaluation of the effectiveness of Lactobacillus buchneri 40788 to improve the aerobic stability of corn silage in farm silos. L. J. Mari\textsuperscript{1,3}, R. J. Schmidt\textsuperscript{4}, L. G. Nussio\textsuperscript{5}, C. M. Hallada\textsuperscript{6}, and L. Kung, Jr.\textsuperscript{1, University of Delaware, Newark, Vita Plus Corporation, Madison, WI, University of Sao Paulo, Piracicaba, SP, Brazil.}

The effect of Lactobacillus buchneri 40788 or Lactobacillus plantarum MTD-1 on the fermentation and aerobic stability of corn silages ensiled at two dry matter contents. W. Hu\textsuperscript{*}, R. J. Schmidt, E. E. McDonell, C. M. Klingerman, and L. Kung, Jr., University of Delaware, Newark.

The effect of combining Lactobacillus buchneri 40788 with lactic acid bacteria on the fermentation, microbial populations and aerobic stability of brown midrib corn silage. L. J. Reich\textsuperscript{*}, M. W. Hofherr, R. J. Schmidt, W. Hu, and L. Kung, Jr., University of Delaware, Newark.

Effect of the silage additive and the ensiled substrate on the silage quality parameters. Y. Acosta Aragón\textsuperscript{*}, G. Boeck, A. Klimitsch, G. Schatzmayr, and S. Pasteriner, Biomin GmbH, Herzogenburg, Lower Austria, Austria.

Effect of a microbial inoculant producing ferulic acid esterase on the fermentation and NDF digestibility of normal and brown midrib corn silages. M. W. Hofherr\textsuperscript{*}, L. J. Reich, M. C. Der Bedrosian, M. C. Santos, W. Hu, and L. Kung, Jr., University of Delaware, Newark.

Nutritive value of sorghum silage added bacterial inoculants. R. H. de T. e Buschinelli de Goes\textsuperscript{*1}, A. C. Martinez\textsuperscript{2}, C. O. de Abreu\textsuperscript{2}, and K. C. da S. Brabes\textsuperscript{1, Universidade Federal da Grande Dourados, Dourados, MS, Brasil, Universidade Estadual de Maringá, Umuarama, PR, Brasil.}

Microbial inoculant effects on in situ ruminal dry matter and neutral detergent fiber disappearance of corn silage. K. E. Cowles\textsuperscript{*} and M. R. Murphy, University of Illinois, Urbana, IL.

Impact of chloride fertilization and Silo-King\textsuperscript{a} on the nutrient content, digestibility, and mycotoxin concentrations in corn silage. D. H. Kleinschmit\textsuperscript{*}, D. P. Casper, and D. A. Spangler, Agri-King, Inc., Fulton, IL.

**Graduate Student Paper Competition**

**ADSA Production Division Poster Competition**

**Exhibit Hall CDE**

Ruminal and intestinal crude protein digestibility of triticale dried distillers grains with solubles. K. T. Wierenga\textsuperscript{*}, G. B. Penner, and M. Oba, University of Alberta, Edmonton, Alberta, Canada.


Effect of abomasal infusion of butterfat, long chain fatty acids or CLA on milk fatty acid composition and mammary tissue lipogenic gene expression in lactating cows. A. K. G. Kadegowda\textsuperscript{*}, J. J. Loor\textsuperscript{2}, L. S. Piperova\textsuperscript{3}, P. Delmonte\textsuperscript{3}, and R. A. Erdman\textsuperscript{1, University of Maryland, College Park, University of Illinois, Urbana, FDA, College Park, MD.}

Production of Holstein and Jersey × Holstein cattle grazing annual ryegrass/white clover pasture. J. C. Lopes\textsuperscript{*}, A. P. Vilela, K. A. Weigel, K. A. Albrecht, and D. K. Combs, University of Wisconsin, Madison.

**Meat Science and Muscle Biology**

**Exhibit Hall CDE**

Effect of different moving devices at loading on incidence of downers, and carcass and meat quality in market weight pigs. J. A. Correa\textsuperscript{*1}, H. Gonyou\textsuperscript{2,3}, S. Torrey\textsuperscript{1}, N. Devillers\textsuperscript{1}, J.-P. Laforest\textsuperscript{1}, S. Ampuero\textsuperscript{1}, M. Amrhein\textsuperscript{2}, S. Dubois\textsuperscript{1}, and G. Bee\textsuperscript{*1, Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland, Online Control LTD, Lausanne, Switzerland.}

Age at the beginning of the free-range fattening period affects subcutaneous fat quality of Iberian pigs. M. A. Latorre\textsuperscript{*}, B. Prieto, D. G. Valencia, and M. P. Serrano, Centro de Investigación y Tecnología Agroalimentaria de Aragón, Zaragoza, Spain.

Effect of castration of females on meat quality and fatty acid profile of backfat in Iberian pigs reared under intensive production systems. M. P. Serrano\textsuperscript{2}, D. G. Valencia\textsuperscript{1}, R. Lázaro\textsuperscript{2}, A. Fuentetaja\textsuperscript{2}, and G. G. Mateos\textsuperscript{*1, Universidad Politécnica de Madrid, Spain, Copese, Segovia, Spain.}

T109 Effect of L-carnitine supplementation on the performance and pork quality traits of growing-finishinng swine fed three levels of corn oil. J. K. Apple*, J. T. Sawyer1, C. V. Maxwell1, J. C. Woodworth2, J. W. S. Yancey1, and R. E. Musser1, 1University of Arkansas Division of Agriculture, Fayetteville, 2Lonza, Inc., Allendale, NJ, 3Hubbard Feeds, Inc., Mankato, MN.

T110 Effect of L-carnitine supplementation on the fatty acid composition of subcutaneous fat and LM from swine fed three levels of corn oil. J. K. Apple*, J. T. Sawyer1, C. V. Maxwell1, J. W. S. Yancey1, J. C. Woodworth2, and R. E. Musser1, 1University of Arkansas Division of Agriculture, Fayetteville, 2Lonza, Inc., Allendale, NJ, 3Hubbard Feeds, Inc., Mankato, MN.

T111 Carcass and Longissimus dorsi characteristics of finishing pigs fed sweet potato (Ipomoea batatas [L.] Lam.) meal. S. Pietrosemoli*, O. E. Moron-Fuenmayor1, A. Puez1, and M. J. Villamide2, 1Facultad de Agronomía. La Universidad del Zulia, Maracaibo, Venezuela, 2ETSIA. Universidad Politecnica de Madrid, Madrid, España.


T113 Comparisons of fatty acid composition in pork belly primary and secondary lean, and seam and subcutaneous fat. J. W. S. Yancey*, J. K. Apple1, J. T. Sawyer1, M. S. Lee1, and J. C. Woodworth1, 1University of Arkansas Division of Agriculture, Fayetteville, 2Lonza, Inc., Allendale, NJ.

T114 Influence of gender and slaughter age on meat and subcutaneous fat quality of heavy pigs destined to high quality dry-cured hams. M. A. Latorre*1, G. Ripoll1, L. Arío2, and B. Blanco, 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.

T115 Carcass fatty acid composition of growing calves fed diets containing canola oil supplements. M. Eftekhari, K. Rezayazdi*, A. Nikkhah, and A. Nejati Javaremi, University of Tehran, Karaj-Tehran-Iran.


T118 Sensorial characteristics of beef from heifers fed with different lipid supplements in the finishing phase. M. C. A. Santana*, P. H. M. Dian1, R. A. Reis1, A. V. Pires2, G. Fiorentini1, A. F. Ribeiro1, M. A. A. Balsalobre1, and T. T. Berchielli1, 1São Paulo State University, Jaboticabal, São Paulo, Brazil, 2São Paulo University, Piracicaba, São Paulo, Brazil, 3Bellman, Miraçoll, São Paulo, Brazil.

T119 Carcass traits of low and high residual feed intake Nellore (Bos indicus) steers. R. C. Gomes*1, R. S. Araujo1, E. Telles1, S. L. Silva1, R. D. Sainz2, and P. R. Leme1, 1University of Sao Paulo, Pirassununga, SP, Brazil, 2University of California, Davis.


T121 Finishing changes in bovine muscle fiber types as influenced by genetic group and slaughter weight. R. Mello*1, 2, A. C. de Queiroz*, M. H. de Faria*, P. B. Costa1, F. D. de Resende3, G. F. V. Bayão2, and C. A. Neves2, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil.

T122 Meat cholesterol, saturated and unsaturated fatty acids of Bos indicus type feedlot heifers. M. P. de Oliveira1, 2, M. de B. Arrigonì, C. L. Martins1, E. Rodriguez1, D. D. Miller1, R. D. L. Pacheco1, L. M. N. Sarti1, R. S. Barducci1, J. P. S. T. Bastos1, T. M. Mariani1, S. R. Baldin1, T. C. B. da Silva1, and H. N. de Oliveira1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil, 3Apoio FAPEP.

T123 Effects of implanting and feeding zilpaterol on performance, carcass characteristics and subprimal meat yields of fed cows. S. Neill*, J. A. Unruh1, T. T. Marston1, J. R. Jaeger1, M. C. Hunt2, and J. J. Higgins1, 1PIC, Hendersonville, TN, 2Kansas State University, Manhattan, 3Kansas State University Agricultural Research Center, Hays.

T124 Effects of implanting and feeding zilpaterol on retail display-color stability and palatability of strip loin and knuckle steaks from fed cows. S. Neill*, J. A. Unruh1, T. T. Marston1, M. J. Daniel2, M. C. Hunt2, M. E. Dikeman2, and J. J. Higgins1, 1PIC, Hendersonville, TN, 2Kansas State University, Manhattan.

T125 Influence of sarcomere length on aging and hydrodynamic pressure processing of beef muscle. B. Bowker*, J. Eastridge, E. Paroczay, and M. Solomon, USDA-ARS, Beltsville, MD.
Nonruminant Nutrition

Feed Additives

Exhibit Hall CDE


Feeding different levels of zearalenone on growth, vulva size, and organ weight in postweanling female pig. Z. B. Yang*1, H. Zao1, C. C. Chen2, and F. Chi3, Shandong Agricultural University, Taian, Shandong, PRC, 2Chaoyang University Technology, Taichuang, Taiwan, ROC, 3Oil Dri Corporation of America, Chicago, IL.


Effect of Euchæna mexicana Schrad diets on nutrient digestibility and nitrogen metabolism for Wulong Goose. B. W. Wang*, M. A. Zhang, X. P. Wu, G. L. Liu, and X. H. Jia, Qingdao Nongye University, Qingdao, Shandong Province, China.


Effect of dietary organic acid mixture (lactic acid, formic acid, citric acid, butyric acid and phosphoric acid) on growth performance, organ weight, blood immunological parameter and intestinal villi morphology in broilers. H. D. Jang1*, J. S. Yoo1, Y. Huang1, T. X. Zhou1, J. H. Cho1, J. D. Hancock2, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Kansas State University, Manhattan.

Effects of dietary supplementation of blended essential oil on growth performance, nutrient digestibility, blood profiles, fecal characteristics in weanling pigs. Y. Huang1*, J. S. Yoo1, H. J. Kim1, Y. Wang1, Y. J. Chen1, J. H. Cho1, J. D. Hancock2, K. Y. Whang1, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Kansas State University, Manhattan, 3Korea University, Seoul, Korea.

Effects of reducing dietary crude protein, yucca and multi-carbohydrase supplementation on growth performance, meat quality, nutrient digestibility, and fecal noxious gas contents in laying hens. Y. Huang1*, Y. Hyun1, H. S. Kim1, Y. Wang1, H. J. Kim1, S. O. Shin1, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Seoul Feed, Co. LTD., Seoul, Korea.

Effect of dietary microbial phytase on laying performance, egg quality, phosphorus utilization and nutrient utilization in laying hens. H. D. Jang1*, J. D. Kim1, J. W. Hong1, J. S. Yoo1, J. H. Cho1, Y. K. Jeong1, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Seoul Feed, Co. LTD., Seoul, Korea, 3EASY BIO System, Inc, Seoul, Korea.

Effects of dietarary crude protein, yucca and multi-carbohydrase supplementation on egg production performance, nutrition digestibility, and fecal noxious gas emission in growing pigs. D. H. Jang1*, J. D. Kim1, J. W. Hong1, J. S. Yoo1, J. H. Cho1, Y. K. Jeong1, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Seoul Feed, Co. LTD., Seoul, Korea, 3Biomin Research Center, Geneva, Switzerland.

Exopolysaccharide produced by Enterobacter cloacae Z0206 improves the humoral and cellular responses of immunologically intact and immunocompromised mice. C. Xu1, Y. Wang1, M. Jin1, X. Yang1, and Z. Xu1, Zhejiang University, Hangzhou, Zhejiang, P. R. China.

Feeding an encapsulated nutritional blend in combination with ractopamine improves feed conversion and loin depth in finishing pigs. J. W. Frank1*, C. V. Maxwell1, Z. B. Johnson1, S. A. Hansen1, and R. E. Musser1, 1University of Arkansas, Fayetteville, 2Ridley Inc., Mankato, MN, 3SODA Feed Ingredients LLC, Mankato, MN.
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1T164  Fecal-oral transmission from sow to piglet of a Bacillus based direct-fed microbial (Adsero™) and its effect on clostridial shedding. A. Baker*, E. Davis, J. D. Spencer, R. Moser, and T. Rehberger, Agtech Products, Inc., Waukesha, WI, JBS United, Inc., Sheridan, IN.

1T165  Effect of carbohydrase enzyme supplementation on the performance and nutrient digestibility in growing pigs fed barley-wheat distillers dried grains with solubles based diet. I. A. Eminiola*, B. A. Slominski, and C. M Nyachoti, University of Manitoba, Winnipeg, MB, Canada.

1T166  Pooled-analysis of data demonstrating the performance benefits of including mannan oligosaccharides in swine nursery diets. B. Corrigan*, D. Koehler, and G. Grinstead, Vita Plus Corporation, Madison, WI.


1T168  Effect of supplying mannan oligosaccharide (MOS) to pig diets on response to an immune challenge. I. F. Hung*, M. D. Lindemann, G. L. Cromwell, B. G. Kim, and M. G. Holt, University of Kentucky, Lexington, WI-COR, Mason City, IA.

**Physiology and Endocrinology**

**Immune Function and Health**

**Exhibit Hall CDE**

1T169  Alpha-linolenic acid exerts anti-inflammatory effect in 3T3-L1 adipocytes through mechanisms that involve activation of AMPK. K. M Ajuwon*, T. A Winters, B. Whisenhunt, and W. Banz, Purdue University, West Lafayette, IN, Southern Illinois University, Carbondale.

1T170  Polarized interleukin-8 (IL8) secretion by swine jejunal epithelial cells (IPEC-J2) treated with soluble beta-glucan (BG). T. E. Burkey* and S. S. Shepherd, University of Nebraska, Lincoln.


1T174  Bovine viral diarrhea virus, abnormal cervical mucous discharge and fertility in cows. S. Yavru*, M. Kale, M. S. Gulay, O. Yapici, O. Bulut, and A. Ata, Selçuk University, Konya, Turkey, Mehmet Akif Ersoy University, Burdur, Turkey.

**Physiology and Endocrinology**

**Nutritional and Metabolic Effects on Growth, Reproduction and Lactation**

**Exhibit Hall CDE**


1T176  L-carnitine stimulates the early postnatal myofiber formation in pig skeletal muscle. D. Loesel*, C. Kalbe, G. Nuernberg, and C. Rehfeldt, Research Institute for the Biology of Farm Animals, Dummerstorf, Germany.

1T177  The assessment of complex I concentration in muscle mitochondria of crossbred steers with high and low residual feed intake (RFI). M. P. Davis*, J. H. Porter, and M. S. Kerley, University of Missouri, Columbia.

T179  Effect of 17β-estradiol on distal colon contractions and L-arginine-NOS-cGMP-cGMP-PK1 pathway. A. Bulbul1, K. Altunbas1, H. A. Celik1, G. Avci1, O. Yildiz-Gulay*, and M. S. Gulay2, 1Afyon Kocatepe University, Afyonkarahisar; 2Turkey, 1Mehmet Akif Ersoy University, Burdur, Turkey.

T180  Effect of ovarian steroids on distal colon contractions and L-arginine-NOS-cGMP-cGMP-PK1 pathway. A. Bulbul1, A. Yagci1, K. Altunbas1, H. A. Celik1, G. Avci1, O. Yildiz-Gulay*, and M. S. Gulay2, 1Afyon Kocatepe University, Afyonkarahisar; 2Turkey, 1Mehmet Akif Ersoy University, Burdur, Turkey.

T181  Effect of diets containing soybean meal or canola meal on blood metabolites in early lactation Iranian Holstein cows. F. Hosseini, A. Heravi Moussavi*, M. Danesh Mesgaran, and J. Arshami, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.


T184  The metabolic status during the dry period influences the ovulation of the first follicular wave postpartum in dairy cows. N. Castro1,2, C. Kawashima1, H. A. van Dorland1, S. Richter1, I. Moret1, A. Miyamoto1, and R. M. Bruckmaier, 1University of Bern, Bern, Switzerland, 2Las Palmas de Gran Canaria University, Arucas, Spain, 3Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan, 4Agroscope Liebefeld-Posieux, Posieux, Switzerland.

T185  Milk composition is not affected by retail milk labels regarding farm management practices. J. L. Vicini*, T. D. Etherton2, P. M. Kris-Etherton2, J. M. Ballam1, R. D. Cady1, M. F. McGrath1, M. C. Lucy3, A. C. Fitzgerald1, T. D. Klusmeyer1, and M. F. Migliazzo1, 1Texas A&M University, College Station, 2University of Missouri, Columbia, 3Texas AgriLife, Beeville, TX.

T186  Assessment of third-ventricle cerebrospinal fluid concentrations of GHRH in cattle: Correspondence with serum concentrations of GH and influences of appetite-regulating peptides. M. G. Thomas*, M. Amstalden2, D. M. Hallford1, G. A. Silver1, M. D. Garcia1, D. H. Keisler1, and G. L. Williams*, 1New Mexico State University, Las Cruces, 2Texas A&M University, College Station, 3University of Missouri, Columbia, 4Texas AgriLife, Beeville, TX.

T187  IGF-I modulation of GH and LH secretion in the pig. C. R. Barb and G. J. Hausman*, USDA, ARS, Russell Research Center, Athens, GA.

T188  Growth hormone directly stimulates insulin production from the bovine pancreatic islets. J. Feng1,2, F. C. Gwazdauskas1, and H. Jiang*, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia Tech, Virginia Tech, Virginia Tech.

T189  Milk composition is not affected by retail milk labels regarding farm management practices. J. L. Vicini*, T. D. Etherton2, P. M. Kris-Etherton2, J. M. Ballam1, R. D. Cady1, M. F. McGrath1, M. C. Lucy3, A. C. Fitzgerald1, T. D. Klusmeyer1, and M. F. Migliazzo1, 1Monsanto Co., LC, St. Louis, MO, 2Pennsylvania State University, University Park, 3University of Missouri, Columbia.

T190  Effects of beet pulp substituted for barley grain in fat cows ration at the late lactation. E. Mahjoubi*, H. Amanlou, D. Zahmatkesh, M. Ghilichkhan, and N. Aghaziaraty, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.

T191  Intake and ponderal development of dairy heifers fed sugar cane and different protein levels diets. J. L. Vicini*, T. D. Etherton2, P. M. Kris-Etherton2, J. M. Ballam1, R. D. Cady1, M. F. McGrath1, M. C. Lucy3, A. C. Fitzgerald1, T. D. Klusmeyer1, and M. F. Migliazzo1, 1Monsanto Co., LC, St. Louis, MO, 2Pennsylvania State University, University Park, 3University of Missouri, Columbia.

T192  Effects of different ratios of nonfiber carbohydrate to ruminal degradable protein on the performance of Holstein cows in barley based diets. H. Rafiee*, A. Afzalzadeh1, A. Khadem1, and A. Asadi1, 1Dept of Anim. Sci. University of Tehran, Aboareshan Campus, Tehran, Iran, 2Dept of Anim. Sci. Isfahan University of Technology, Isfahan, Iran.

T193  An alternative low-starch compared with a traditional high-starch calf starter results in similar growth rate and rumen development at weaning. M. Vestergaard*, L. Pugggaard, A. Kosiorowska, S. K. Jensen, N. B. Kristensen, and J. Sehested, Faculty of Agricultural Sciences, University of Aarhus, Foulum, Denmark.
Rumen available soluble, insoluble and total structural and non-structural carbohydrates and protein and their ratios: Effect of barley variety and growth year. P. Yu* and K. Hart, University of Saskatchewan, Saskatoon, SK, Canada.

Effects of dietary starch and unsaturated fat with Rumensin on milk fat depression in lactating dairy cattle. M. E. Van Amburgh*; J. L. Capper1, G. D. Mechor2, and D. E. Bauman1,1Cornell University, Ithaca, NY; 2Elanco Animal Health, Greenfield, IN.


The effect of dietary sucrose on dry matter intake, plasma metabolites, and lactation performance for Holstein cows during the first 4 weeks of lactation. G. B. Penner* and M. Oba, University of Illinois, Urbana, 2MSC, Dundee, IL.


Effects of barley grain processing and source of supplemental dietary fat on nutrient digestion and microbial protein synthesis in dairy cows. G. N. Nikkhah*, M. R. Hobin, and T. Mutsvangwa, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

Wheat, barley, or corn grain based starters with different alfalfa meal levels for Holstein calves. M. Noroozi 1, H. Amanlou1, G. R. Ghorbani2, and A. T201 1, H. Amanlou1, G. R. Ghorbani2, and A.

Effect of supplementation with sunflower oil (SO) or seeds (SS) combined or not with fish oil (FO) on conjugated linoleic acid (CLA) in milk from grazing dairy cows. G. A. Gagliostro*, M. A. Rodríguez1, P. Pellegrini1, P. Gatt1, G. Muse1, D. Garcia1, C. Peregrino1, and Y. Chilliard1, Instituto Nacional de Tecnología Agropecuaria, INTA, Balcarce, Buenos Aires, Argentina, Instituto Nacional de Tecnología Industrial, INTI, Buenos Aires, Argentina, Institut National de la Recherche Agronomique, INRA, Saint Genès Champanelle, France.

Effect of dietary vegetable oil and antioxidant supplementation on dairy cattle performance and milk fat depression. M. He*, H. S. Xin2, and L. E. Armentano1, University of Wisconsin, Madison, China Agricultural University, Beijing, China.

Effect of close-up fat supplementation on first 90 days milk production of Holstein dairy cows. M. Danesh Mesgaran* and A. R. Heravi Mousavi, Dept. of Animal Science (Excellence Center for Animal Science), Ferdowsi University of Mashhad, Mashhad, Iran.

Soybean oil and linseed oil supplementation affect profiles of ruminal microorganisms and fermentation parameters in dairy cows. D. P. Bu1, S. L. Yang1, J. Q. Wang2, Z. Y. Hu1, D. Li1, H. Y. Wei1, L. Y. Zhou1, and J. Loor2, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, P. R. China, University of Illinois, Urbana.


Effect of dietary linoleic acid and forage level on conjugated linoleic acid content: Effect of barley variety and growth year. P. Yu* and K. Hart, University of Saskatchewan, Saskatoon, SK, Canada.

Digestion, milk production, and milk composition of dairy cows fed increasing amounts of linseed oil. C. Benchaar*, M. Eugène1, C. Côrtes1, A. V. Chaves1, H. V. Petit1, T. A. McAllister1, A. D. Iwaasa1, and P. Y. Chouinard4, Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, Quebec, Canada, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Research Centre, Swift Current, Saskatchewan, Canada, Laval University, Quebec, Canada.

Ruminant Nutrition
Fats – Dairy
Exhibit Hall CDE
Tuesday, July 8, 2008
Reproductive performance of cows fed rolled flaxseed on two commercial dairies. N. R. Bork*1, G. P. Lardy1, J. W. Schroeder1, K. A. Vonnahme1, P. M. Fricke2, K. B. Koch2, M. L. Bauer2, and K. G. Odde1, 1North Dakota State University, Fargo, 2Northern Crops Institute, Fargo, ND, 3University of Wisconsin, Madison.

Ruminant Nutrition
Methods, Models and Other Exhibit Hall CDE

Measurements of net portal flux of nitrogen (N) compounds in ruminants: First step of a meta-analysis. R. Martineau*1, I. Ortigues-Marty2, J. Vernet1, and H. Lapierre1, 1Agriculture and Agri-Food Canada, Sherbrooke, Quebec, Canada, 2Institut National de la Recherche Agronomique, Theix, St Genès Champanelle, France.

Diversity of rumen bacteria as revealed by multivariate analysis of 16S rDNA gene sequences. K. L. Liu1, J. Q. Wang*1, D. P. Bu1, S. G. Zhao1, 2, H. Y. Wei1, and L. Y. Zhou1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2Gansu Agricultural University, Gansu, China.

Screening of ureases from a bovine rumen metagenomic library. K. L. Liu1, J. Q. Wang*1, D. P. Bu1, S. G. Zhao1, 2, Y. X. Zhu1, H. Y. Wei1, L. Y. Zhou1, and Z. Y. Dong1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2Gansu Agricultural University, Gansu, China, 3State Key Laboratory of Microbial Resources, Institute of Microbiology, Chinese Academy of Sciences, Beijing, China.


The use of simultaneous models for estimate in vivo nutrient digestibility of alfalfa hay and barley grain. H. Jahani-Azizabadi, M. Danesh Mesgaran*, R. Valizadeh, and H. Nasirimoghdam, Ferdowsi University of Mashhad, Mashhad, Iran.


Rumen phosphorus metabolism in sheep. R. S. Dias1, T. Soares2, R. M. Pardo1, J. C. Silva Filho1, D. M. S. S. Vitti2, E. Kebreab*3, and J. France4, 1University of Guelph, Guelph, Ontario, Canada, 2Centro de Energia Nuclear na Agricultura, Piracicaba, São Paulo, Brazil, 3Federal University of Lavras, Lavras, Minas Gerais, Brazil, 4University of Manitoba, Winnipeg, Manitoba, Canada.


Assessment of free amino acid supplementation on rumen microbial efficiency and nitrogen metabolism using a continuous culture system. M. A. Brooks*, J. H. Porter, and M. S. Kerley, University of Missouri, Columbia.

Effect of pH on rumen fermentation and biohydrogenation of extruded soybean and linseed fatty acids in continuous culture. M. C. Fuentes*, S. Calsamiglia1, V. Fievez2, and M. Blanch1, 1UAB, Bellaterra, Spain, 2Ghent University, Belgium.

Effect of pH and level of concentrate in the diet on biohydrogenation intermediates in a dual flow continuous culture. M. C. Fuentes*, S. Calsamiglia, and P. W. Cardozo, UAB, Bellaterra, Spain.

Comparison of in vitro, in situ, and in vivo methodologies to assess nutrient digestibility in ruminants. L. E. Sims*1, N. A. Pyatt2, P. H. Doane2, and S. S. Block2, 1Oklahoma State University, Stillwater, 2ADM Research Center, Decatur, IN.


In situ dry matter degradation parameters of treated and untreated Sainfoin (Onobrachis vicifolia) a tanniferous legume forage. H. Khalilvandi*, K. Reza Yazdi, M. Dehghan-Bandadi, N. Vahdani, and H. R. Khazanehei, University of Tehran, Karaj, Tehran, Iran.

Accuracy of the n-alkanes technique for intake estimates in beef cattle fed with palisade grass (Brachiaria brizantha cv. Marandu). J. A. S. Morais1, T. T. Berchielli1, M. F. S. Queiroz2, A. Keli3, A. de Vega1, R. A. Reis1, C. López2, S. F. Souza1, and G. Fiorentini1, 1Faculdade de Ciencias Agrarias e Veterinarias/UNESP, Jaboticabal, São Paulo, Brazil, 2Facultad de Veterinaria, Universidad de Zaragoza, Zaragoza, Spain.

The effect of non fibre carbohydrate on in vitro first order NDF disappearance of alfalfa. M. Danesh Mesgaran*, F. Rezaii, and A. R. Heravi Mousavi, Ferdowsi University of Mashhad, Mashhad, Iran.
Tuesday, July 8, 2008

T245  Ruminal and post-ruminal protein disappearance of high oil sunflower meal treated with formaldehyde or sodium hydroxide. T. Mohammadabadi, M. Danesh Mesgaran*, and M. R. Nasiri, Excellence Center for Animal Science, Ferdowsi University of Mashhad, Mashhad, Iran.

T246  The effect of feed iodine supplementation on milk production traits in dairy goats. A. Nudda*, M. Decandia*, G. Epifani*, G. Battaccone*, G. Spanu1, and G. Pulina1,2, 'University of Sassari, Sassari, Italy,' AGRIS Sardegna, Sassari, Italy.

T247  An examination of the intake and digestibility characteristics of ground ear maize for beef cattle. P. O’Hanlon, D. A. Kenny, T. M. Boland, G. P. Keane, and M. B. Lynch*, UCD School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Ireland.


T249  Effects of varying levels of fish oil, fed as a calcium salt, on rumen fermentation and biohydrogenation in continuous culture. C. M. Klein*, T. C. Jenkins1, and K. D. Murphy1, 'Clemson University, Clemson, Virtus Nutrition, Lancaster, PA.'

T250  By-product of biofuels processing in the feeding of ruminant. J. A. G. Azevedo1,2, D. S. Pina2, N. K. P. Souza2, J. C. M. Lima2, A. S. Oliveira2, C. V. Xavier2, S. C. Valadares Filho2, and H. J. Fernandes2,3, 'Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil,' Universidade Estadual de Santa Cruz - FAPESB, Ilhéus, Bahia, Brazil,' Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil,' Universidade Estadual do Mato Grosso do Sul - FUNDECT, Brazil.


T252  Bacterial diversity in rumen fluid samples collected via oral lavage or rumen cannula. J. Pisel, S. L. Lodge-Ivey*, J. Browne-Silva, and M. B. Horvath, New Mexico State University, Las Cruces.

T253  Image analysis and microscopy in animal by-products characterization. A. Campagnoli, C. Paltanin, L. Maggioni, G. Savoini, V. Dell’Orto, F. Cheli, and L. Pinotti*, Department of Veterinary Sciences and Technology for Food Safety, Veterinary Medicine Faculty, Milan, Italy.

T254  Influence of a diet enriched in extruded linseed on fatty acid composition of goat cheese. A. Nudda*, G. Battaccone*, M. Addis1, A. Pirisi2, A. Mazza2, and G. Pulina1,2, 'University of Sassari, Sassari, Italy,' AGRIS Sardegna, Sassari, Italy.


T256  Isolation of prominent lipolytic rumen bacteria. N. A. Krueger*, R. C. Anderson, T. R. Callaway, T. S. Edrington, and D. J. Nisbet, USDA, ARS, Food and Feed Safety Research Unit, College Station, TX.


T258  Withdrawn by author.

T259  Use of inter-organ glycerol fluxes to assess abdominal versus peripheral fat mobilization in transition dairy cows. M. Larsen and N. B. Kristensen*, University of Aarhus, Tjele, Denmark.

T260  Correlation between UT-B mRNA abundance in ruminal epithelium and net portal flux of urea in transition dairy cows. B. A. Røjen*, P. K. Theil, M. Larsen, and N. B. Kristensen, Faculty of Agricultural Sciences, University of Aarhus, Tjele, Denmark.

T261  Hepatic metabolism of alcohols in freshening Holstein cows. B. M. L. Raun* and N. B. Kristensen, Faculty of Agricultural Sciences, University of Aarhus, Tjele, Denmark.

T262  Use of ARISA to monitor shifts in rumen microbial populations caused by changes in diet. S. E. Stebulis*, D. M. Stevenson2, G. J. M. Rosa1, and R. R. Grummer1, 'University of Wisconsin, Madison,' USDA-ARS-US Dairy Forage Research Center, Madison, WI.

T263  Evaluation of n-alkanes, chromic oxide and lignin as indigestible markers to estimate duodenal and fecal flows in lactating dairy cows. S. O. Juchem*, E. J. DePeters1, J. M. Heguy1, S. J. Taylor1, and J. E. P. Santos2, University of California, Davis, University of Florida, Gainesville.


Dynamics of ruminal fiber digestion of corn milling co-products. L. O. Tedeschi¹, P. J. Kononoff², K. Karges¹, and M. L. Gibson³, ¹Texas A&M University, College Station, ²University of Nebraska, Lincoln, ³Dakota Gold Research Association, Sioux Falls, SD.

Development of a mechanistic model to predict feed intake in domestic and wild ruminants of various physiological states. T. Hackmann⁴ and J. N. Spain, University of Missouri, Columbia.

Use of the mobile nylon bag method to determine phosphorus disappearance in common dairy cattle ration ingredients. N. M. Cherry⁵, B. D. Lambert², and J. P. Muir¹, ¹Texas AgriLife Research, Stephenville, TX, ²Tarleton State University, Stephenville, TX.

Small Ruminant Goats Exhibit Hall CDE

Evaluation of the FAMACHA® system, fecal egg counts, hematocrits and weight of sheep and goats associated with parasitism fed varying levels of herbs and protein/energy grain. H. A. Swartz⁶, A. Stewart¹, D. Sommerer¹, F. Wulf², and M. Ellersieck³, ¹Lincoln University, Jefferson City, MO, ²University of Missouri, Columbia.


Efficacy of wormwoods (Artemisia spp.) as an anthelmintic in goats. S. P. Hart*, ¹J. F. S. Ferreira², and Z. Wang¹, ¹American Institute for Goat Research, Langston University, Langston, OK, ²Appalachian Farming Systems Research Center, USDA-ARS, Beaver, WV.

Influence of Sericea lespedeza pellets on gastrointestinal parasite fecal egg counts in goats. N. C. Whitley⁷, T. H. Terrell¹, J. E. Miller¹, J. M. Burke¹, and M. C. Gooden¹, ¹University of Maryland Eastern Shore, Princess Anne, ²Fort Valley State University, Fort Valley, GA, ³Louisiana State University, Baton Rouge, ⁴USDA-ARS-DBSFRC, Booneville, AR.

Effect of somatic cell count in goat milk on yield and sensory quality of semi-hard cheese. S. S. Chen¹, L. Zhang¹, B. Bah¹, and S. S. Zeng*, ¹Texas A&M University, College Station, ²University of Nebraska, Lincoln, ³Dakota Gold Research Association, Sioux Falls, SD.


Integration of meat goat production into pine silvopasture. R. C. Lawler*, ¹N. K. Gurung¹, M. S. Goodman², and O. Bolden-Tiller², ¹Texas A&M University, College Station, ²Texas A&M University, College Station.

Mineral requirements for growth of Moxoto goats grazing in the semi-arid region of Brazil. M. J. Araújo¹, A. N. Medeiros¹, S. Gonzaga Neto¹, R. G. Costa¹, I. A. M. A. Teixeira²,², K. T. Resende³,², C. A. T. Marques¹, G. M. P. Melo², and S. F. Souza¹, ¹Universidade Federal da Paraíba/UFPB, Areia, PB, Brazil, ²Universidade Estadual Paulista/Unesp, Jaboticabal, SP, Brazil.

Mineral requirements of Saanen growing kids. K. T. Resende¹, D. Oliveira², I. A. M. A. Teixeira¹, A. N. Medeiros¹, and A. C. D. Ferreira¹, ¹Universidade Estadual Paulista/Unesp, Jaboticabal, SP, Brazil, ²Universidade Federal da Paraíba, Areia, PB, Brazil, ³Universidade Federal do Sergipe, Aracaju, SE, Brazil.


Effects of synchronizing the release of energy and nitrogen in the rumen on nitrogenous flow at the duodenum of cashmere goats. D. P. Bu²,¹, D. X. Lu³, W. Cui⁴, J. Loor³, and J. Q. Wang¹, ¹American Institute for Goat Research, Langston University, Langston, OK, ²Tarleton State University, Stephenville, TX, ³Texas A & M University, College Station, ⁴Texas AgriLife Research, Stephenville, TX.

Effects of protein and energy supplementation on in situ disappearance of low-quality Coastal Bermudagrass hay in goats. M. S. Reinhard⁵, B. D. Lambert², J. P. Muir², and R. Harp¹, ¹Tarleton State University, Stephenville, TX, ²Texas AgriLife Research, Stephenville, TX.

Energy requirements for maintenance and growth of Boer crossbred kids. I. A. M. A. Teixeira¹, K. T. Resende¹, J. M. Pereira Filho¹, R. C. Canesin¹, and T. T. Berchielli¹, ¹Universidade Estadual Paulista/Unesp, Jaboticabal, SP, Brazil, ²Universidade Federal de Campina Grande, Patos, PB, Brazil.


T285  Influence of dietary condensed tannins in meat goats on fatty acid composition of carcasses. J. Lee*, G. Kannan, B. Kouakou, D. Moore, and T. Terrill, Fort Valley State University, Fort Valley, GA.


Teaching/Undergraduate and Graduate Education

Teaching in the Animal Sciences

Exhibit Hall CDE

T287  Use of an informal taste panel to teach students concepts related to beef palatability. J. A. Daniel* and T. D. Pringle1, Berry College, Mount Berry, GA, 2University of Georgia, Athens.

T288  Student demographic profile for Mississippi State University riding courses. M. Nicodemus*, Mississippi State University, Mississippi State.


T293  Technical note: Equine gastrointestinal tract preservation techniques to enhance teaching effectiveness. B. T. Gutierrez* and J. S. Pendergraft, Sul Ross State University, Alpine, TX.

T294  Impact of a herpes (EHV-1) outbreak on incoming equestrian students, horse numbers and outside generated revenue at The University of Findlay. E. D. Bonnette*, F. D. McCarthy, and R. Koehler, The University of Findlay, Findlay, OH.

SYMPOSIA AND ORAL SESSIONS

Animal Health I

Chair: KC Olson, Kansas State University

206


10:30 AM  2  Steers grazing toxic Neotyphodium coenophialum-infected forages have increased hepatic gluconeogenic capacity. K. R. Brown*, J. L. Klotz2, J. R. Strickland1, L. P. Bush1, J. A. Boling1, and J. C. Matthews1, 1University of Kentucky, Lexington, 2Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY.

### Symposium on Beef Species
#### The Evolution of Beef Cattle Genetic Evaluation
**Chair:** Darrh Bullock, University of Kentucky  
**Sponsor:** National Beef Cattle Consortium  
**Sagamore Ballroom 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>Milestones in beef cattle genetic evaluation. L. L. Benyshek*, <em>University of Georgia, Athens.</em></td>
</tr>
<tr>
<td>10:00 AM</td>
<td>Producing and using genetic evaluations in today’s beef industry. D. Garrick*, <em>Iowa State University, Ames.</em></td>
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<tr>
<td>11:00 AM</td>
<td>Integrating genetic evaluations with DNA technologies for the ultimate selection tool. R. J. Tempelman* and S. D. Kachman*, <em>Michigan State University, East Lansing, University of Nebraska, Lincoln.</em></td>
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### Breeding and Genetics
#### Current Issues in Dairy Cattle Breeding
**Chair:** Filippo Miglior, Agriculture and Agri-Food Canada  
**Sagamore Ballroom 6**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>Improved accuracy of computer programs that optimize breeding and replacement decisions for dairy cattle. A. De Vries*, <em>University of Florida, Gainesville.</em></td>
</tr>
<tr>
<td>9:45 AM</td>
<td>Genetic analysis of profitability of Canadian Holstein cows. J. Bohmanova*, J. Jamrozik1, K. Hand1, D. Lazemy2, and F. Miglior4, <em>CGIL, University of Guelph, Guelph, ON, Canada, CanWest DHI, Guelph, ON, Canada, Dairy and Swine Research and Development Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, Canadian Dairy Network, Guelph, ON, Canada.</em></td>
</tr>
<tr>
<td>10:00 AM</td>
<td>Alternatives for evaluating daughter performance of progeny-test bulls between official evaluations. H. D. Norman*, J. R. Wright1, and K. A. Weigel2, <em>Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD, University of Wisconsin, Madison.</em></td>
</tr>
<tr>
<td>10:15 AM</td>
<td>Comparison of herds that currently supply young bulls to progeny testing programs with large commercial herds that could serve as dedicated suppliers. A. D. Coburn*, K. A. Weigel1, S. A. Schnell2, and G. Abdel-Azim2, <em>University of Wisconsin, Madison, Genex Cooperative Inc., Shawano, WI.</em></td>
</tr>
<tr>
<td>10:30 AM</td>
<td>Genetic analysis of Canadian dairy cows milked by an automatic milking system. M. Nixon*, J. Bohmanova1, J. Jamrozik1, L. R. Schaeffer1, G. Mason1, J. Rodenburg2, F. Miglior4, and K. Hand4, <em>University of Guelph, Guelph, ON, Canada, Ontario Ministry of Food, Agriculture and Rural Affairs, Woodstock, ON, Canada, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, Canadian Dairy Network, Guelph, ON, Canada, CanWest DHI, Guelph, ON, Canada.</em></td>
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<tr>
<td>10:45 AM</td>
<td>Impact of selection for decreased somatic cell score on productive life and culling for mastitis. H. D. Norman*, R. H. Miller, and J. R. Wright, <em>Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.</em></td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Break</td>
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<tr>
<td>11:15 AM</td>
<td>Derivation of factors to estimate daily yield from single milkings for Holsteins milked two or three times daily. M. M. Schutz*, J. M. Bewley1, and H. D. Norman1, <em>Purdue University, West Lafayette, IN, USDA-ARS, Beltsville, MD.</em></td>
</tr>
<tr>
<td>11:45 AM</td>
<td>Relationship between milk production and female fertility traits in Holsteins. A. Sewalem*, G. Kistemaker2, and F. Miglior1, <em>Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, Quebec, Canada, Canadian Dairy Network, Guelph, ON, Canada.</em></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>Genetic correlations between conception rates and test-day milk yields using a threshold-linear random-regression model. S. Tsuruta*, I. Misztal1, C. Huang1, and T. J. Lawlor2, <em>University of Georgia, Athens, Holstein Association USA Inc., Brattleboro, VT.</em></td>
</tr>
</tbody>
</table>
Study on genetic parameters of conception rate and heat detection/expression. C. Huang*, I. Misztal¹, S. Tsuruta¹, and T. J. Lawlor²,
¹University of Georgia, Athens, ²Holstein Association USA Inc., Brattleboro, VT.

### Dairy Foods

**Dairy Food Chemistry and Microbiology**  
**Chair: Joseph Schlessler, US Food and Drug Administration**  
**120**

#### 9:30 AM 19  
**ADSA Pioneer:** Milk quality – Developments in testing and grading of raw milk. W. S. LaGrange*, Iowa State University, Ames.

#### 10:00 AM 20  
Transglutaminase polymerization of a modified whey protein ingredient. D. A. Clare* and C. R. Daubert, North Carolina State University, Raleigh.

#### 10:15 AM 21  

#### 10:30 AM 22  
Immono-stimulatory AT oligodeoxynucleotide from Lactobacillus gasseri requires a specific self-stabilized structure. T. Shimosato¹, M. Tohno², T. Saito³, Y. Kawai¹, T. Saito², and H. Kitazawa³, ¹Shinshu University, Minamiminowa, Nagano, Japan, ²Tohoku University, Sendai, Miyagi, Japan, ³Yokohama City University, Yokohama, Kanagawa, Japan.

#### 10:45 AM 23  
Complete genome sequence and comparative genome microarray of Lactobacillus casei provides evidence for genome expansion and reveals significant intraspecies differences. H. Cai*, J. R. Broadbent², and J. L. Steele¹, ¹University of Wisconsin, Madison, ²Utah State University, Logan.

#### 11:00 AM 24  
Effect of feeding pasture and long chain omega-3 fatty acid (LCn-3FA) supplements on the composition and oxidative stability of milk & butter. M. C. Rose*, H. P. V. Rupasinghe¹, S. M. Budge², K. Glover¹, and A. H. Fredeen¹, ¹Nova Scotia Agricultural College, Truro, NS, Canada, ²Dalhousie University, Halifax, NS, Canada.

#### 11:15 AM 25  
The protective effect of processed cheese against hyperlipidemia in rats. M. H. Abd El-Salam* and D. A. Mohamed, National Research Centre, Cairo, Giza, Egypt.

#### 11:30 AM 26  
Antimicrobial activity of dried spearmint and its extracts for use as soft cheese preservatives. M. Foda¹, M. El-Sayed*, M. E-Mogazy¹, A. Hassan², and N. Rasmy², ¹National Research Center, Cairo, Egypt, ²Faculty of Agriculture, Cairo, Egypt.

#### 11:45 AM 27  
Is Levowitz–Weber the appropriate confirmatory stain for direct microscopic somatic cell counting of ovine milk? K. H. Petersson*, L. Connor¹, C. S. Petersson-Wolfe², and K. A. Rego³, ¹University of Rhode Island, Kingston, ²Virginia Polytechnic Institute and State University, Blacksburg.

### SYMPOSIUM

**ESS Program**  
**Horse Genome Toolbox for Animal Science Applications**  
**Chair: Amy Burk, University of Maryland**  
**101–102**

#### 9:30 AM 28  
Exploiting the public genome databases for equine science. L. C. Skow*, Texas A&M University, College Station.

#### 10:15 AM 29  
Identification of genes for health and performance traits in horses through whole genome analysis. J. Mickelson*, University of Minnesota, St Paul.

#### 11:00 AM 30  
Transcriptional profiling for gene expression analyses of equine samples. J. N. MacLeod*, University of Kentucky, Lexington.

#### 11:45 AM 31  
Let the genome give your project a leg-up: Real-time qPCR strategies in equine research. S. Brooks*, Cornell University, Ithaca, NY.
SYMPOSIUM
Extension Education
Has the Land-Grant College Left the Farm?
Chair: Robert Weaber, University of Missouri
109-110

9:30 AM 32  Why there is less applied agricultural research conducted at Land-Grant colleges. R. L. Plain*, University of Missouri, Columbia.

10:15 AM 33  What I did when I had an extension/research appointment and what I do now: How times have changed. R. L. Nebel*, Select Sires Inc., Plain City, OH.

10:45 AM 34  Serving the Beef Industry by re-defining your comfort zone. M. Siemens*, Cargill Meat Solutions, Wichita, KS.

11:15 AM 35  A transition from extension-research to industry swine genetics. W. O. Herring*, Smithfield Premium Genetics Group, Rose Hill, NC.

11:45 AM 36  Why our farm is supporting MS research programs for the University of Illinois. B. F. Wolter*, The Maschhoffs Inc., Carlyle, IL.

12:15 PM  Discussion.

SYMPOSIUM
Forages and Pastures
Fiber Fermentation: Influence of Supplemental Nonstructural Carbohydrates
Chair: Marie Krause, West Virginia University
Sponsor: Mycogen
103

9:30 AM 37  Factors affecting activity of cellulolytic microbes in the rumen. P. J. Weimer*1,2, 1USDA-ARS, Madison, WI, 2University of Wisconsin, Madison.


Graduate Student Paper Competition
ADSA Dairy Foods
Chair: Nagendra Shah, Victoria University
121

9:30 AM 40  Effects of sucrose on the foaming and interfacial properties of whey protein isolate and egg white protein mixtures. X. Yang*1,2, 1North Carolina State University, Raleigh, 2Southeast Dairy Foods Research Center, Raleigh, NC.


10:00 AM 42  Effect of different types of emulsifiers on the functional properties of low-fat process cheese. E. M. Salim*1, S. Govindasamy-Lucey2, M. E. Johnson2, and J. A. Lucey1, 1University of Wisconsin, Madison, 2Wisconsin Center for Dairy Research, Madison, WI.

10:15 AM 43  Manufacture and characterization of whey protein concentrate from microfiltration of milk. H. S. Somni* and V. V. Mistry, South Dakota State University, Brookings.


10:45 AM 45  Characterizing stress responses of bifidobacteria strains of industrial importance. A. K. Abdalla*1,2, M. A. Mohran1, S. C. Ingham2, J. R. Broadbent1, and J. L. Steele2, 1Assiut University, Assiut, Egypt, 2University of Wisconsin, Madison, 3Utah State University, Logan.
11:00 AM 46 Growth substrates for non starter lactic acid bacteria. Biochemistry and transcriptional profile of *Lactobacillus casei* ATCC 334 in a Cheddar cheese model system. M. Budinich*, I. Diaz-Muniz†, H. Cai*, V. Smeianov†, J. Broadbent‡, and J. Steele*, †University of Wisconsin, Madison, ‡Utah State University, Logan.


11:45 AM 49 Sensory evaluation of reduced fat cheddar cheese fortified with omega-3 fatty acids for oxidized, rancid and fishy flavor attributes. J. E. Thurgood*†, C. Brothersen†‡, S. Martini†‡, and D. J. McMahon†‡, †Utah State University, Logan, ‡Western Dairy Center, Logan, UT.

Graduate Student Paper Competition
ADSA Production Division
Chair: Howard Tyler, Iowa State University


10:00 AM 52 CD4+ and CD8+ T cell response in neonatal calves fed *Morinda citrifolia* (Noni). V. J. Brooks*, R. G. Godbee, S. F. Peek, and B. J. Darien, †University Wisconsin, Madison, ‡University Nevada, Reno.

10:15 AM 53 Effects of alfalfa inclusion rate on productivity of lactating dairy cattle fed wet corn gluten feed based diets. C. R. Mullins*, K. N. Grigsby, and B. J. Bradford, †Kansas State University, Manhattan, ‡Cargill, Inc., Blair, NE.

10:30 AM 54 Diet does not affect putative mammary epithelial stem cells in pre-weaned Holstein heifers. K. M. Daniels*, A. V. Capuco, R. E. James, M. L. McGilliard, and R. M. Akers, †Virginia Polytechnic Institute and State University, Blacksburg, ‡USDA-Agricultural Research Service, Beltsville, MD.

10:45 AM 55 Gene expression for enzymes involved with volatile fatty acid and glucose metabolism are affected by the dietary forage-to-concentrate ratio. G. B. Penner*, M. Taniguchi, L. L. Guan, K. A. Beauchemin, and M. Oba, †University of Alberta, Edmonton, Alberta, Canada, ‡Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada.


11:15 AM 57 Development of a mechanistic model to predict feed intake in domestic and wild ruminants of various physiological states. T. Hackmann* and J. N. Spain, University of Missouri, Columbia.

Graduate Student Paper Competition
ADSA Southern Section
Chair: David R. Winston, Virginia Polytechnic Institute and State University


9:45 AM 59 Effects of ThermalCare-D® on efficiency and production of lactating dairy cows during hot weather. J. Boyd*, J. W. West, J. Bernard, and S. Block, †University of Georgia, Tifton, ‡ADM Research, Decatur, IN.

10:00 AM 60 Effect of starch and casein infusions in the abomasum of lactating dairy cows. A. G. Rius*, J. A. D. R. Appuhamy, D. Kirovski, J. Czyrač, and M. D. Hanigan, †Virginia Polytechnic Institute and State University, Blacksburg, ‡University of Belgrade, Belgrade, Serbia.
SYMPOSIUM
Meat Science and Muscle Biology
Meat Quality: Regulation of Intramuscular Fat Deposition
Chair: John Stika, Certified Angus Beef LLC
Sponsor: Elanco
Sagamore Ballroom 3

9:30 AM  61  The value of marbling in consumer acceptance of beef. L. R. Corah*, Certified Angus Beef LLC, Wooster, OH.
10:00 AM  62  Renewing the interest on marbling in pork products. C. M. Schultz Kaster*, R. C. Johnson, and J. O. Matthews, Farmland Foods Inc., Kansas City, MO.
10:30 AM  Break
10:40 AM  63  Cellular regulation of intramuscular adipose tissue deposition and composition. S. B. Smith*, H. Kawachi², C. B. Choi¹, C. W. Choi¹, and J. E. Sawyer¹, ¹Texas A&M University, College Station, ²Kyoto University, Kyoto, Sakyo-ku, Japan.
11:10 AM  64  Nutritional regulation of intramuscular fat deposition. J. S. Drouillard* and C. D. Reinhardt, Kansas State University, Manhattan.
11:40 AM  65  Genetic regulation of intramuscular fat deposition. D. W. Moser*, Kansas State University, Manhattan.

SYMPOSIUM
Nonruminant Nutrition
Mineral Absorption: What is Known?
Chair: Scott Radcliffe, Purdue University
Sponsor: Alltech
105–106

9:30 AM  Introduction. J. S. Radcliffe, Purdue University, West Lafayette, IN.
9:35 AM  66  Transporters in the absorption and utilization of Zn and Cu. G. M. Hill* and J. E. Link, Michigan State University, East Lansing.
10:45 AM  Identification of organic trace minerals: What does this tell us about potential routes of absorption? A. Yiannikouris, Alltech, Lexington, KY.
11:20 AM  68  Active phosphate absorption: What do we know and is it important? J. S. Radcliffe*, Purdue University, West Lafayette, IN.
11:55 AM  69  Intestinal calcium absorption: Mechanisms learned from transgenic and knockout mice. J. C. Fleet*, Purdue University, West Lafayette, IN.

Physiology and Endocrinology
Nutrition and Growth, Reproductive and Lactational Performance
Chair: Ron Butler, Cornell University
Sagamore Ballroom 7

9:30 AM  70  Adipose triglyceride lipase is a novel lipase in dairy cattle. D. Elkins* and D. Spurlock, Iowa State University, Ames.
9:45 AM  71  Peripartal changes of adiponectin, adiponectin receptor 1, adiponectin receptor 2, leptin and leptin receptor mRNA expression in subcutaneous adipose tissue of dairy cows. A. Lemor, M. Mielenz, A. Hosseini, and H. Sauerwein*, University of Bonn, Germany.
10:00 AM  72  Propionate effects on the mRNA expression of adiponectin in two adipose depots and its receptors AdipoR1 and AdipoR2 in liver, skeletal muscle and adipose tissue of goats. M. Mielenz*, C. Seybold, A. Lemor, and H. Sauerwein, University of Bonn, Germany.
10:15 AM  73  Effect of ghrelin or obestatin continuously infused to dairy cows on grazing and ruminating behaviour and plasma hormone and metabolite concentrations. J. R. Roche¹, A. J. Sheahan¹, D. P. Berry², L. Chagas¹, D. Blache¹, and J. Kay¹, ¹DairyNZ, Hamilton, New Zealand, ²Teagasc Moorepark, Fermoy, Ireland, ³University of Western Australia, Perth, Australia.
11:45 AM 78 Glutamine synthetase is up-regulated in the liver of old beef cows by estradiol implants. E. D. Miles*, 1, B. W. McBride2, K. R. Brown1, K. K. Schillo1, J. A. Boling1, and J. C. Matthews1, 1University of Kentucky, Lexington, 2University of Guelph, Guelph, ON, Canada.

Production, Management and the Environment Measuring and Evaluating Environmental Stress Chair: Micheal Brouk, Kansas State University 107–108

9:30 AM 79 Dairy cows and the environment: Were we better off 83 years ago? A. D. Garcia* and J. G. Linn2, 1South Dakota State University, Brookings, 2University of Minnesota, St. Paul.

9:45 AM 80 Impact of using feedline soakers in combination with Korral Kools® to cool early lactation cows housed in desert style barns. J. F. Smith*, B. J. Bradford1, A. Oddy2, J. P. Harner1, and M. J. Brouk1, Kansas State University, Manhattan, NADA Al-Othman, Al Ahsa, Saudi Arabia.

10:00 AM 81 Impact of using evaporative pads and fans in combination with feedline soakers to reduce heat stress of prepartum cows. J. F. Smith*, B. J. Bradford, J. P. Harner, and M. J. Brouk, Kansas State University, Manhattan.

10:15 AM 82 Differences in thermoregulatory ability between slick and normal-haired lactating Holstein cows in response to acute heat stress. S. Dikmen*1,2, E. Alava2, E. Pontes1, J. M. Fear1, B. Y. Dikmen3, T. A. Olson2, and P. J. Hansen3, 1University of Uludag, Bursa, Turkey, 2University of Florida, Gainesville, 3Universidade de São Paulo, São Paulo, Brazil, 4University of Uludag, Keles Vocational School, Keles, Bursa, Turkey.

10:30 AM 83 Development of models for predicting management practices and conditions that alleviate heat stress in large commercial dairy farms. J. M. Schefers*, K. A. Weigel, and N. B. Cook, University of Wisconsin, Madison.

10:45 AM 84 Is the temperature-humidity index (THI) the best indicator of heat stress in lactating dairy cows in a subtropical environment? S. Dikmen*1,2 and P. J. Hansen3, 1University of Uludag, Faculty of Veterinary Medicine, Bursa, Turkey, 2University of Florida, Gainesville, 3University of Uludag, Ithaca, NY.

11:00 AM 85 Evaluation of accuracy and variation of Thermochron® iButtons®. S. M. Garey*, T. H. Friend, and B. H. Carter, Texas A&M University, College Station.


Effects of nutrition and feeding management on production, health and culling by organically-managed dairy herds in southeastern Pennsylvania. K. Griswold*1, H. Karreman2, S. Dinh1, and J. High3, 1Penn State Cooperative Extension, University Park, PA; 2Penn Dutch Cow Care, Gap, PA; 3Lancaster DHIA, Manheim, PA.


Ruminant Nutrition
Forages
Chair: Stacey Gunter, USDA-ARS-SPRRS
Sagamore Ballroom 4

9:30 AM
Optimizing forage use in total mixed rations for lactating cows. R. Kowsar1, G. R. Ghorbani2, M. Alikhani1, M. Khorvash1, and A. Nikkhah2,3, 1Isfahan University of Technology, Isfahan, Iran; 2Zanjan University, Zanjan, Iran; 3University of Illinois, Urbana.

9:45 AM
Fenugreek as forage for dairy cows I. Effect on productivity. A. W. Alemu* and L. Doepel, University of Alberta, Edmonton, AB, Canada.

10:00 AM
Brown midrib corn silage fed during the transition period can result in a persistent increase in production. W. C. Stone*1, L. E. Chase1, T. R. Overton1, J. L. Lukas1, and K. E. Nextr1, 1Cornell University, Ithaca, NY; 2Mycogen Seeds, Wooster, OH.

10:15 AM
Production response of lactating cows to combinations of BMR corn silage and Tifton 85 bermudagrass hay. J. J. Castro*, N. A. Mullis, and J. K. Bernard, University of Georgia, Athens.

10:30 AM
Effect of wheat forage maturity and preservation method on dietary passage kinetics and DM digestibility of mixed diets fed to growing beef calves. P. Beck*, F. Nacer, B. Stewart, D. Shockey, M. Morgan, and S. Gunter, University of Arkansas Division of Agriculture, Hope.

10:45 AM

11:00 AM
Comparison of grazing stockpiled tall fescue versus feeding hay or hay plus supplement to beef cows in late gestation and early lactation. A. M. Meyer*, R. L. Kallenbach, and M. S. Kerley, University of Missouri, Columbia.

11:15 AM
Associative effects of leguminous (C3; Lucern) and nonleguminous (C4; Corn sorghum) fodders on in-situ digestion kinetics of fiber. M. Yaqoob*, J. I. Sultan2, A. Jeved2, and P. Akhtar3, 1Department of Livestock Management, University of Agriculture, Faisalabad, Punjab, Pakistan; 2Institute of Animal Nutrition and Feed Technology, University of Agriculture, Faisalabad, Punjab, Pakistan; 3Department of Animal Breeding and Genetics, University of Agriculture, Faisalabad, Punjab, Pakistan.

Ruminant Nutrition
Minerals and Vitamins
Chair: Allen Young, Utah State University
Sagamore Ballroom 5

9:30 AM
Impact of copper deficiency in the presence or absence of high dietary manganese on iron status of cattle. S. L. Hansen* and J. W. Spears, North Carolina State University, Raleigh.

9:45 AM
The effects of trace mineral source on performance and health of newly received steers and the impact of cobalt concentration on performance and lipid metabolism in finishing steers. J. S. Schutz*, J. J. Wagner*, C. K. Larson1, N. E. Davis1, and T. E. Engle1, 1Colorado State University, Fort Collins; 2Zinpro Corporation, Eden Prairie, MN.

10:00 AM

10:15 AM
Effect of trace mineral source on lactation performance, claw integrity and fertility of dairy cattle. J. L. Siciliano-Jones1, M. T. Socha1, D. J. Tomlinson1, and J. M. DeFrain1, 1FARME Institute, Homer, NY; 2Zinpro Corporation, Eden Prairie, MN.

10:30 AM
Effect of nano selenium and organic zinc supplementation on lactation performance and milk selenium and zinc concentrations in dairy cows. W. Wen-Xuan*, X. Xian-Lin, Z. Yun-Guo1, and W. Heng-Jin1, 1Guizhou University, Guiyang, Guizhou Province, P. R. China; 2Xifeng Agricultural Bureau, Xifeng, Guizhou Province, P. R. China.
10:45 AM 104 The influence of calf Se status on glutathione peroxidase-1 and glutathione peroxidase-3 activities, and liver GPx-1 messenger RNA. G. Lum*, J. Rowntree, K. Bondioli, M. McCarter, L. Southern, and C. Williams, LSU Agricultural Center, Baton Rouge, LA.

11:00 AM 105 Selenium partitioning between body compartments in lactating dairy goats supplemented with various sources and levels of Se. G. Caja*, C. Flores', A. Salama', and G. Bertin', 1Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Alltech France, Levallois-Perret, France.

11:15 AM 106 Effectiveness of potassium bicarbonate to increase dietary cation-anion difference in early lactation cows. R. White*, J. Harrison', R. Kincaid', E. Block', and N. St. Pierre', 1Washington State University, Puyallup, 2Washington State University, Pullman, 3Church and Dwight, Princeton, NJ, 4The Ohio State University, Columbus.

11:30 AM 107 Phosphorus excretion in lactating cows fed diets supplemented with fat. Z. Wu*, J. D. Ferguson, and D. W. Remsburg, University of Pennsylvania, Kennett Square.


12:00 PM 109 Biological activity of vitamin E in dairy cows. S. K. Jensen*, University of Aarhus, Tjele, Denmark.

ADSA-SAD
Undergraduate Competition Dairy Foods
Chair: Kas Ingawa, NCSU DRMS
203

11:00 AM 110 Conjugated linoleic acids and their effect on dairy marketing. R. M. Haines*, B. A. Corl, and D. R. Winston, Virginia Polytechnic Institute and State University, Blacksburg.

11:15 AM 111 Probiotics: For life. S. Quarles*, Clemson University, Clemson, SC.


11:45 AM 113 More than what meets the eye: Labeling of milk. A. L. Pitre*, Louisiana State University, Baton Rouge.

12:00 PM 114 Use of whey proteins in food products. M. Welper*, Iowa State University, Ames.

Animal Health II
Chair: Isis Mullarkey, Virginia Tech
206

11:00 AM 115 Wildlife threat for disease transmission to domestic livestock. S. C. Olsen*, National Animal Disease Center, Ames, IA.

12:00 PM 116 Providing veterinary healthcare to underserved counties in Pennsylvania through credentialed veterinary technicians. D. W. Remsburg*, D. T. Galligan, and J. D. Ferguson, University of Pennsylvania School of Veterinary Medicine, Kennett Square.

12:15 PM 117 A Bootstrap method for the estimation of reference intervals of biochemical parameters. C. Dimauro*1, P. Bonelli1, P. Nicolussi2, N. P. P. Macciotta1, and G. Pulina1, 1Dipartimento di Scienze Zootecniche University of Sassari, Sassari, Italy, 2Istituto Zooprofilattico Sperimentale per la Sardegna, Sassari, Italy, 3AGRI SARDEGNA, Sassari, Italy.
Graduate Student Paper Competition
ADSA-ASAS Northeast Section
Chair: Steven Zinn, University of Connecticut


11:30 AM 120 Photoperiod regulates diurnal expression patterns of genes related to immune function in PBMC of heifers. L. E. Lord, X. S. Revelo, and T. B. McFadden, University of Vermont, Burlington.

11:45 AM 121 Colicin E1 and EDTA have additive antimicrobial effects against Escherichia coli isolates in bovine milk. J. M. Scudder, C. H. Stahl, and M. R. Waldron, University of Vermont, Burlington, North Carolina State University, Raleigh.

12:00 PM 122 Skeletal muscle satellite cells do not spontaneously adopt adipogenic fates. J. D. Starkey, M. Yamamoto, S. Yamamoto, and D. J. Goldhamer, University of Connecticut, Storrs.


ADSA-SAD
Undergraduate Competition Dairy Production
Chair: Kas Ingawa, NCSU DRMS

1:00 PM 124 Withdrawn by author.

1:15 PM 125 Nutrigenomics: A new direction for the dairy industry. D. G. Wilson, Pennsylvania State University, University Park.


1:45 PM 128 Colostrum nutrition, immunization, and management when raising young dairy calves. A. Aguiar and E. Jaster, California Polytechnic State University, San Luis Obispo.

2:00 PM 129 Enhancing fertility with omega-3 fatty acids. J. A. Tekippe, Iowa State University, Ames.

2:15 PM 130 Grazing under irrigation: A novel approach to pasture-based dairying. E. Waggoner, Clemson University, Clemson, SC.

2:30 PM 131 The natural fertilizer. K. M. Bridges, Louisiana State University, Baton Rouge.

2:45 PM 132 Effects of heat stress and milk replacer strategy on calf growth, starter intake, and fecal scores. L. J. Berger, G. A. Holub, and J. E. Sawyer, Texas A&M University, College Station.
SYMPOSIUM
Dairy Foods
Advances in Low Fat Cheese Research
Chair: Donald McMahon, Utah State University
Sponsor: Dairy Management, Inc.

121

1:30 PM 133 Low fat cheese opportunities. J. Montel*, Dairy Management Inc., Rosemont, IL.

2:00 PM 134 The impact of fat content on flavor of cheddar cheese. M. A. Drake*, North Carolina State University, Raleigh.

2:30 PM 135 Effect of composition on the microbial ecology of low fat cheese. J. R. Broadbent*, Utah State University, Logan.

2:45 PM 136 Effect of composition on the microbial metabolism of low fat cheese. J. Steele*, University of Wisconsin, Madison.

3:00 PM 137 Impact of fat content on cheese texture. E. A. Foegeding*, North Carolina State University, Raleigh.

3:30 PM 138 Effect of fat reduction on the functional properties of slice on slice process cheese. L. E. Metzger*, S. Chandran¹, C. R. Daubert², M. Yurgec², and S. Ramsey², ¹South Dakota State University, Brookings, ²North Carolina State University, Raleigh.

4:00 PM 139 Advances in nonfat/lowfat process cheese for melting and ingredient use. J. A. Lucey*, University of Wisconsin, Madison.

4:30 PM 140 A novel technology for making lowfat cheese. N. Y. Farkye* and M. Arnold, California Polytechnic State University, San Luis Obispo.

4:45 PM 141 Alternative manufacturing protocols for low fat cheese. M. Johnson*, University of Wisconsin, Madison.

FASS Ag Guide Revision Workshop
Chairs: Janice Swanson, Michigan State University, and John McGlone, Texas Tech University

120

The Ag Guide was first published in 1988. The second edition was published in 1999. The 3rd edition will be published in late 2008. A collection of writing sub-committees has produced a first draft in early 2008. This workshop will (a) present major changes in the current draft, (b) gather public input into the current draft, and (c) identify errors of fact or omission.

2:00 PM Background on the revision of the Ag Guide.

2:30 PM Highlight of major changes in the current revision.

3:00 PM Roundtable discussion topics:
- Change in the title
- Inclusion of genetically modified, and cloned animals
- Applications for agricultural animals in biomedical research
- Inclusion of biosecurity
- Expanded environmental enrichment materials
- Inclusion of humane slaughter guidance
- What materials are missing, if any?
- Does the current version contain errors of fact based on the best available science?

4:00 PM Conclusions and group summaries.
SYMPOSIUM
ADSA Southern Section Symposium
Responding to Hot Topics in Dairy Management
Chair: Cathleen C. Williams, Louisiana State University
109–110

2:00 PM 142 Biosecurity: Dealing with problem diseases. K. E. Olson*, KEO Consulting, Schaumburg, IL.
2:30 PM 143 Defending against mycoplasma mastitis. J. C. Beagley and M. W. Overton*, University of Georgia, Athens.
3:00 PM Break
4:15 PM Break
4:30 PM ADSA Southern Branch Business Meeting.

SYMPOSIUM
ALPHARMA Beef Cattle Nutrition and Beef Species Joint Symposium
Producing Quality Beef in a Bio-Based Economy
Chair: Don Boggs, Kansas State University
Sponsor: Alpharma
500 Ballroom

2:00 PM 146 ASAS Centennial Presentation: Development and current issues of a corn-based beef industry. L. R. Corah*, Certified Angus Beef LLC, Wooster, OH.
2:30 PM 147 Feeding strategies to reduce corn use. R. H. Pritchard*, D. D. Loy1, and D. L. Boggs3, 1South Dakota State University, Brookings, 2Iowa State University, Ames, 3Kansas State University, Manhattan.
3:00 PM 148 Environmental considerations of feeding bio-fuel co-products. N. A. Cole*, M. S. Brown1, and J. C. MacDonald1, USDA-ARS-CPRL, Bushland, TX, 1West Texas A&M University, Canyon, 1Texas AgriLife Research, Amarillo, TX.
3:30 PM 149 Precursors to enhance marbling. S. B. Smith*, J. E. Sawyer, R. D. Rhoades, and M. A. Brooks, Texas A&M University, College Station.
4:00 PM 150 Post-harvest strategies to enhance beef quality. J. O. Reagan*, NCBA, Centennial, CO.
4:30 PM 151 ASAS Centennial Presentation: Using grain and biomass for feed versus fuel. J. Lawrence*, Iowa State University, Ames.

Animal Health III
Chair: Gary Snowder, USDA-ARS
206

2:00 PM 152 Stress and Immunity: Implications on animal health and production. J. A. Carroll*, T. H. Elsasser2, J. C. Laurenz3, R. D. Randel4, J. L. Sarin1, and T. H. Welsh Jr1, Livestock Issues Research Unit, USDA-ARS, Lubbock, TX, 2Growth Biology Laboratory, USDA-ARS, Beltsville, MD, 3Texas A&M University System, Kingsville, 4Texas AgriLife Research and Extension Center, Texas A&M System, Overton, 1Auburn University, Auburn, AL, 1Texas AgriLife Research, Texas A&M System, College Station.
3:00 PM 153 Neck rails improve udder and stall hygiene but increase risk of lameness. F. Bernardi1, 2, J. Farghoni1, 2, C. Winkler2, D. M. Veira1, M. A. G. von Keyserlingk1, and D. M. Weary1, 1University of British Columbia, Vancouver, BC, Canada, 2University of Natural Resources and Applied Life Sciences, Vienna, Austria, 1Universidad Estadual de Londrina, Londrina, PR, Brazil, 1Agriculture and Agri-Food Canada, Agassiz, BC, Canada.
Cytokine secretion in periparturient dairy cows naturally infected with Mycobacterium avium subsp. paratuberculosis. E. L. Karcher*, D. C. Beitz, and J. R. Stabel, Iowa State University, Ames, ARS-USDA, National Animal Disease Center, Ames, IA.


Dietary Colicin E1 prevents experimentally induced post-weaning diarrhea but does not provide a growth promoting effect. S. A. Cutler, N. A. Cornick, S. M. Lonergan, and C. H. Stahl, Iowa State University, Ames, North Carolina State University, Raleigh.


MicroRNA: Mechanism of gene regulation. T. G. McDaneld, USDA/ARS US Meat Animal Research Center, Clay Center, NE.

Role of MicroRNAs in hepatocarcinogenesis in an animal model. K. Ghoshal, J. Datta, and H. Kutay, Ohio State University, Wooster.

MicroRNA in muscle development. M. Georges, University of Liege, Belgium.

MicroRNAs in the ovary and female reproductive tract. L. Christenson, M. Carletti, S. Fiedler, L. Luense, and X. Hong, University of Kansas Medical Center, Kansas City.

Discussion

MicroRNAs in the ovary and female reproductive tract. L. Christenson, M. Carletti, S. Fiedler, L. Luense, and X. Hong, University of Kansas Medical Center, Kansas City.

Discussion

MicroRNAs in the ovary and female reproductive tract. L. Christenson, M. Carletti, S. Fiedler, L. Luense, and X. Hong, University of Kansas Medical Center, Kansas City.

Discussion

Bioethics across the disciplines: Leadership and mutual respect. G. Varner, Texas A&M University, College Station.

Bioethics: The need for leadership and how societies should respond. M. G. Hogberg, Iowa State University, Ames.

Bioethics: The need for leadership and how the societies should respond. M. P. Lacy, University of Georgia, Athens.

Introduction

Introduction

Introduction

Introduction

Introduction

Tuesday, July 8, 2008
3:25 PM  Break

3:40 PM  167  **ASAS Centennial Presentation:** Role of industry leaders in addressing bioethical issues. J. W. Lauderdale*, Lauderdale Enterprises Inc., Augusta, MI.

4:10 PM  168  Summary and perspective from within. D. J. R. Cherney*, Cornell University, Ithaca, NY.

4:30 PM  Discussion

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**SYMPOSIUM**

**Breeding and Genetics**

**Training of Future Animal Breeders**

**Chairs:** Janice Rumph, Michigan State University, and Filippo Miglior, Agriculture and Agri-Food Canada

**Sponsor:** Igenity

**Sagamore Ballroom 6**

2:00 PM  Introduction. J. Rumph, Michigan State University, Lake City.

2:10 PM  169  Training graduate students in animal breeding: A historical prospective. E. J. Pollak*, Cornell University, Ithaca, NY.


3:10 PM  171  Challenges of training quantitative graduate students. I. Misztal* and J. K. Bertrand, University of Georgia, Athens.

3:40 PM  172  Alternative teaching techniques for new and smaller animal breeding programs. C. D. Dechow*, Penn State University, University Park.

4:10 PM  173  Quantitative genetics training to meet the needs of the breeding industry. M. M. Lohuis*, Monsanto Company, St. Louis, MO.

4:40 PM  Panel Discussion. J. Rumph* and F. Miglior†, University of Kentucky, Lexington.

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**Companion Animals**

**Comparative Animal Biology**

**Chair:** Gail Kuhlman, Proctor and Gamble Pet Care

**204**

2:00 PM  174  Diet transition time and stabilization of apparent digestibility in the feline. S. K. Martin*, R. M. C. de Godoy†, D. L. Harmon†, E. S. Vanzant†, R. M. Yamka†, K. G. Friesen†, and K. R. McLeod†, 1University of Kentucky, Lexington; 2Hill’s Pet Nutrition Inc., Topeka, KS.

2:15 PM  175  Low-level fructan supplementation is effective in modifying stool protein catabolite concentrations but not gut microbiota populations in adult dogs. K. Barry*, D. Hernot†, I. Middelbos†, C. Francis‡, B. Dunsford‡, and G. Fahey Jr.†, 1University of Illinois, Urbana; 2GTC Nutrition, Golden, CO.

2:30 PM  176  Influence of dietary protein content and source on digestibility patterns, osmolality and fecal quality in dogs differing in body size. J. Nery*, C. Tourmière†, V. Biourge†, L. Martin†, H. Dumon†, and P. Nguyen†, 1Ecole Nationale Veterinaire de Nantes, Nantes, France; 2Royal Canin, Aimargues, France.

2:45 PM  177  Evaluation of high protein diets in kittens during their first year of life. B. M. Vester*, K. J. Liu†, T. L. Keel†, T. K. Graves†, and K. S. Swanson†, 1University of Illinois, Urbana; 2Natura Manufacturing Inc., Fremont, NE.

3:00 PM  178  Influence of feeding raw or extruded feline diets on nutrient digestibility and nitrogen metabolism in African wildcats. B. M. Vester*, S. L. Burke†, K. J. Liu†, C. L. Dikeman†, L. G. Simmons†, and K. S. Swanson†, 1University of Illinois, Urbana; 2Henry Doorly Zoo, Omaha, NE; 3Natura Manufacturing Inc., Fremont, NE.
Vitamin and mineral comparisons between captive and free-ranging koalas (*Phascolarctos cinereus*), possible explanations for hip dysplasia. D. A. Schmidt*1, W. A. Ellis1,2, F. B. Bercovitch1, Z. Lu1, T. C. Chen1, C. Hamlin-Andrus1, G. W. Pye1, and M. F. Holick3, 1Zoological Society of San Diego, San Diego, CA, 2University of Queensland, Brisbane, Australia, 3Vitamin D, Skin and Bone Laboratory, Boston University School of Medicine, Boston, MA.

Using regression analysis to determine the quantities of browse component dry matter on branches of Carolina willow (*Salix caroliniana*). M. L. Schlegel*2,3, A. McComb2,3, and E. V. Valdes2, 1The Zoological Society of San Diego, San Diego, CA, 2Disney’s Animal Programs, Lake Buena Vista, FL, 3North Carolina State University, Raleigh.

An epidemiological study into the effect of captive diets on reproductive success in Humboldt and African penguins. R. McClements*1,2, K. Sifri2, and A. Ward3, 1University of Sydney, Camperdown, NSW, Australia, 2Dallas Zoo and Aquarium, Dallas, TX, 3Zoo Nutrition Services, Fort Worth, TX.

**Forages and Pastures I**

*Chair: Charles Staples, University of Florida*

**104**

**2:00 PM** 182 Reduced ferulate cross link concentration is associated with improved fiber digestibility of corn stover at silage maturity. H. G. Jung*1,2 and R. L. Phillips2, 1USDA-ARS, St. Paul, MN, 2University of Minnesota, St. Paul.


**2:30 PM** 184 Lactating cow responses to alfalfa hays with down-regulated lignin biosynthesis. D. Weakley*2,1, D. R. Mertens2, and M. McCaslin1, 1LongView Animal Nutrition Center, Gray Summit, MO, 2US Dairy Forage Research Center, Madison, WI, 3Forage Genetics International, Nampa, ID.

**2:45 PM** 185 Digestibility, milk fatty acid profile, and plasma amino acids in lactating dairy cows fed alfalfa cut at sundown or sunup. A. F. Brito*1, G. F. Tremblay2, C. Benchaa1, A. Bertrand2, Y. Castonguay2, G. Belanger2, R. Michaud2, H. Lapierre1, D. R. Ouellet1, H. V. Petit2, and R. Berthiaume1, 1Dairy & Swine R&D Centre, Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 2Soils & Crops R&D Centre, Agriculture and Agri-Food Canada, Quebec, QC, Canada.

**3:00 PM** 186 Effects of cutting alfalfa at sundown or sunup on omasal flow of nutrients in lactating dairy cows. A. F. Brito*1, G. F. Tremblay2, C. Benchaa1, A. Bertrand2, Y. Castonguay2, G. Belanger2, R. Michaud2, H. Lapierre1, D. R. Ouellet1, R. Berthiaume1, 1Dairy & Swine R&D Centre, Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 2Soils & Crops R&D Centre, Agriculture and Agri-Food Canada, Quebec, QC, Canada.

**3:15 PM** 187 Which native Sicilian pasture plants make the difference for milk aroma quality? I. Schadt*1, T. Rapisarda1, G. Belvedere1, F. La Terra1, G. Azzaro1, P. J. Van Soest2, G. Licitra1, and S. Carpino1, 1CoRFiLaC, Regione Siciliana, Catania, Italy, 2Cornell University, Ithaca, NY, 3D.A.C.P.A., University of Catania, Catania, Italy.

**3:30 PM** 188 Effects of supplementing tanniferous sainfoin hay on nitrogen metabolism of grass-fed dairy cows. F. Dohme*1, A. Scharenberg1, and M. Kreuzer2, 1Agroscope Liebefeld-Posieux, Research Station ALP, Postier, FR, Switzerland, 2ETH Zurich, Institute of Animal Science, Zurich, ZH, Switzerland.

**3:45 PM** 189 Modeling manure OM and N composition of dairy cows fed grass silage based diets. J. Dijkstra*1, A. Bannink2, E. A. Lantinga1, and J. W. Reijs4, 1Animal Nutrition Group, Wageningen University, Wageningen, the Netherlands, 2Animal Sciences Group, Wageningen UR, Lelystad, the Netherlands, 3Biological Farming Systems Group, Wageningen University, Wageningen, the Netherlands, 4Agricultural Economics Research Institute, Wageningen UR, Wageningen, the Netherlands.

**2:00 PM 190** Effect of phytic acid on apparent ileal digestibility of minerals in piglets. T. A. Woyengo*1, A. Cowieson2, O. Adeola1, and C. M. Nyachoti1, 1University of Manitoba, Winnipeg, MB, Canada, 2Danisco (UK) Limited, Marlborough, UK, 3Purdue University, West Lafayette, IN.

Nonruminant Nutrition
Protein and Amino Acids

Chairs: Kevin Halpin, International Ingredient Corp., and Hans H. Stein, University of Illinois
Sponsor: ASAS Foundation
105–106

2:00 PM 200 Is niacin (vitamin B3) a modulator of the effect of supplementary tryptophan on tryptophan metabolism and growth responses in early-weaned pigs? J. J. Matte1, A. Giguère1, D. Melchior1, and N. LeFloch2, 1Agriculture and Agri-Food Canada, Sherbrooke (STN-Lennoxville), QC, Canada, 2INRA-SENAH, St-Gilles, France.

2:15 PM 201 Effect of replacing fish meal with synthetic amino acids on the growth performance of nursery pigs. C. L. Bradley1, C. V. Maxwell1, Z. B. Johnson1, J. L. Usry2, and J. W. Frank1, 1University of Arkansas, Fayetteville, 2Ajinomoto Heartland LLC, Chicago, IL.

2:30 PM ASAS Early Career Achievement Award: Introduction.


3:05 PM ASAS Early Career Achievement Award: Discussion.

3:15 PM Adaptation of protein metabolism to changes in lysine intake in growing pigs. J. J. G. Van den Borne*, S. Borgijink, J. Dijkstra, and W. J. J. Gerrits, Wageningen University, Wageningen, the Netherlands.

3:30 PM Effects of fortifying low crude protein diet with crystalline amino acids on ammonia and urea production and excretion in broilers. N. F. Namroud, M. Shivazad1, M. Nofrarías, J. Gasa, and J. F. Pérez, 1Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.


4:15 PM Metabolizable energy and nitrogen-corrected metabolizable energy of meat and bone meal for pig. O. A. Olukosi* and O. Adeola, Purdue University, West Lafayette, IN.

4:30 PM Amino acid and energy digestibility in soybean meal from high-protein and low-oligosaccharide varieties of soybeans fed to growing pigs. K. M. Baker* and H. H. Stein, University of Illinois, Urbana.
Standardized ileal amino acid digestibilities in grain legumes for pigs. D. Jezierny*, R. Mosenthin1, M. Eklund1, and M. Rademacher2, 1University of Hohenheim, Stuttgart, Germany, 2Evonik Degussa GmbH, Hanau-Wolfgang, Germany.


**Ruminant Nutrition**

**Growing Youngstock, Calves and Heifers**

Chair: Cathy Bandyk, QLF

Sagamore Ballroom 4


2:15 PM 212 Relationships between residual feed intake and carcass-quality traits in Santa Gertrudis steers. F. R. B. Ribeiro*, R. K. Miller1, E. G. Brown3, P. A. Lancaster1, L. O. Tedeschi1, S. Moore1, D. DeLaney3, and G. E. Carstens3, 1Texas A&M University, College Station, 2Stephen F. Austin State University, Nacogdoches, TX, 3King Ranch, Kingsville, TX.

2:30 PM 213 Predicting water intake by yearling steers during the summer. J. L. Lacey*, J. J. Wagner, and T. E. Engle, Colorado State University, Fort Collins.

2:45 PM 214 Combinations of steam-flaked corn, dry-rolled corn, and dried corn distiller’s grains with solubles for feedlot heifers. P. L. Black*, G. L. Parsons1, M. K. Shelor1, K. K. Karges2, M. L. Gibson2, and J. S. Drouillard1, 1Kansas State University, Manhattan, 2Dakota Gold Research Association, Sioux Falls, SD.

3:00 PM 215 Cow live weight is negatively related to feed efficiency of cow/calf pairs from birth to weaning1, T. Z. Albertini*, S. R. de Medeiros2, R. A. de A. Torres Junior1, and D. P. D. Lanna1, 1Esalq-USP, Piracicaba, SP, Brazil, 2Embrapa Beef Cattle, Campo Grande, MS, Brazil.


3:30 PM 217 The effects of controlled feeding a high concentrate or high forage diet at four nitrogen intakes on nitrogen utilization in dairy heifers. G. I. Zanton* and A. J. Heinrichs, The Pennsylvania State University, University Park.

3:45 PM 218 Effects of ractopamine HCl on growth performance and carcass characteristics of feedlot heifers. J. W. Homm*, W. J. Platter1, M. J. Corbin1, J. J. Wagner2, N. E. Davis2, J. S. Drouillard3, and C. E. Walker2, 1Elanco Animal Health, Greenfield, IN, 2Colorado State University, Ft. Collins, 3Kansas State University, Manhattan.

4:00 PM 219 Interaction of growing and finishing production system and sorting by weight. D. R. Adams*, T. J. Klopfenstein, G. E. Erickson, M. K. Luebbe, and J. R. Benton, University of Nebraska, Lincoln.

4:15 PM 220 Effect of the addition of plant extracts (Queen of Calves) to milk and differing levels of milk on gastrointestinal tract development of calves. J. K. Margerison*, G. W. Reynolds, and R. Laven, Massey University, Palmerston North, New Zealand.

4:30 PM 221 Determination of the optimal amino acid concentration in milk replacers for calves less than five weeks of age. T. M. Hill*, H. G. Bateman, II, J. M. Aldrich1, R. L. Schlotterbeck1, and K. G. Tanan2, 1Akey, Lewisburg, OH, 2Provimi, Brussels, Belgium.

**SYMPOSIUM**

**Ruminant Nutrition and Production, Management & Environment Joint Symposium**

Designing Field Studies to Evaluate Nutrition Effects on Production, Reproduction and Health of Dairy Cows

Chair: Bill Sanchez, Diamond V Mills

Sponsor: Church and Dwight Co., Inc./Arm & Hammer Animal Nutrition, and Diamond V Mills

Sagamore Ballroom 3

2:00 PM 222 Introduction. W. K. Sanchez, Diamond V Mills, Tigard, OR.

2:05 PM 222 Utilizing appropriate statistical designs and techniques for data collected from commercial dairies. R. J. Tempelman*, Michigan State University, East Lansing.

2:45 PM 223 Examples of experimental designs to study production responses. N. R. St-Pierre*, The Ohio State University, Columbus.
Field studies to study reproduction in dairy cows. J. D. Ferguson*, University of Pennsylvania, Kennett Square.

Examples of designs to study health responses and the role of meta-analysis. I. J. Lean*, A. R. Rabiee1, and T. F. Duffield2, 1Bovine Research Australasia, Camden, NSW, Australia, 1University of Guelph, Guelph, Ontario, Canada.

Collecting research data with dairy management software. L. Jones*, FARME Institute Inc., Homer, NY.

**SYMPOSIUM**

Small Ruminant

The US Goat Meat Industry and Recent Sheep and Goat Activities at the National Research Council of The National Academies

Chair: David L. Thomas, University of Wisconsin-Madison

Sponsors: AMPA and European Association of Animal Production

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Welcome. D. L. Thomas, University of Wisconsin, Madison.

Goat meat production, processing, and marketing in the US. K. W. McMillin*, Louisiana State University Agricultural Center, Baton Rouge.

Questions


New NRC recommendations for energy and protein requirements of goats and sheep. B. W. Hess*, University of Wyoming, Laramie.

The Small Ruminant Nutrition System (SRNS) model for prediction of energy and protein requirements of goats and sheep. A. Cannas*, L. O. Tedeschi1, A. S. Atzori1, and D. G. Fox1, 1University of Sassari, Sassari, Sardinia, Italy, 2Texas A&M University, College Station, 3Cornell University, Ithaca, NY.

Questions


Marketing of sheep products: Situation, challenges, and opportunities. G. Williams*, Texas A&M University, College Station.

Questions

**ADSA-SAD**

Undergraduate Competition Original Research

Chair: Kas Ingawa, NCSU DRMS

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Milk production, calving, and calf health in lines of dairy cattle selected for high versus low dairy form. M. B. Kron* and M. M. Schutz, Purdue University, West Lafayette, IN.

The effect of feeding high protein dried distillers grains on milk production. K. J. Hubbard1, A. M. Gehman1, P. J. Kononoff1, K. Karges2, and M. L. Gibson2, 1University of Nebraska, Lincoln, 2Dakota Gold Research Association, Sioux Falls, SD.


Comparison of circulating progesterone and metabolic profiles in Holstein heifers and lactating cows. W. A. Smith*1, D. H. Keisler2, W. Silvia3, and L. E. Davis Rincker4, 1Eastern Kentucky University, Richmond, 2University of Missouri, Columbia, 3University of Kentucky, Lexington.

Evaluation of rumen microbial digestion of corn stover with cellulose treatment. B. Bosma*, R. Jimenez-Flores, and J. Howard, California Polytechnic State University, San Luis Obispo.

Change in the prevalence of mastitis pathogens in an organic dairy farm as it transitioned from a conventional dairy farm. W. M. McMahan* and L. K. Larry, Washington State University, Pullman.

Companion Animals Graduate Student Competition - Companion and Exotic Animal Biology
Chair: Kelly Swanson, University of Illinois

Wednesday, July 9
POSTER PRESENTATIONS
Animal Health
Immunology
Exhibit Hall CDE

W1 Absorption of total immunoglobulin G in dairy calves fed a colostrum replacement. J. A. Elizondo-Salazar*, R. F. Leuer1, J. M. Campbell1, and A. J. Heinrichs2, 1The Pennsylvania State University, University Park, 2APC Inc., Ankeny, IA.


W4 Animal performance and blood gas variables of steers pulled and/or treated for Bovine Respiratory Disease. K. M. Bischoff*, L. Carlos-Valdez, B. P. Holland, L. O. Barciaga-Robles, D. L. Step, and C. R. Krebs, Oklahoma State University, Stillwater.

W5 Relationship between total microbial colostrum contamination and IgG absorption in newborn dairy calves. M. Terre*1 and A. Bach12, 1IRTA-Unitat de Remugants, Barcelona, Spain, 2ICREA, Barcelona, Spain.

W6 Comparison of growth, feed intake, and feed efficiency of female calves fed aureomycin plus lasalocid or monensin. G. E. Higginbotham*, R. C. Chebel2, and L. Pereira1, 1University of California, Fresno, 2University of California-Davis, Tulare, California State University, Fresno.

W7 An international survey on the occurrence of mycotoxins in dried distillers grains with solubles. U. Hofstetter*, and E. Pichler2, 1Biomin GmbH, Herzogenburg, Austria, 2Quantas Analytics GmbH, Tulln, Austria.

W8 Incubation temperatures affect secretion of TNF-alpha and IL-6 by peripheral blood mononuclear cells from Brown and Holstein cows. N. Lacetera*, M. Amadori1, U. Bernabucci1, and A. Nardone1, 1Dipartimento di Produzioni Animali, Viterbo, Italy, 2Istituto Zooprofilattico Sperimentale Lombardia-Emilia Romagna, Brescia, Italy.


W11 Effect of rubber flooring on leukocyte activation during the periparturient period. K. O’Driscoll12, M. M. Schutz3, and S. D. Eicher*, 1Teagasc, Fermoy, Ireland, 2NUI Dublin, Dublin, Ireland, 3Purdue University, West Lafayette, IN, 4USDA-ARS, West Lafayette, IN.


Genetic analysis of dairy calf health traits and survival. L. Henderson*, F. Miglior1, D. Kelton1, J. Robinson1, J. Wormuth1, A. Sewalem2,3, and K. Leslie1, 1University of Guelph, Guelph, ON, Canada, 2Dairy and Swine Research and Development Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Canadian Dairy Network, Guelph, ON, Canada, 4University of Guelph, Guelph, ON, Canada, 5CY Heifer Farms, Batavia, NY.

**Beef Species**

**Exhibit Hall CDE**

Performance and carcass alteration of Nellore and F1 Brangus × Nellore steers supplied with organic chromium finished on grass. A. Polizel Neto*, A. M. Jorge1, P. S. A. Moreira2, H. F. B. Gomes3, and R. D. O. Roça1, 1São Paulo State University, Botucatu, São Paulo, Brazil, 2Federal University of Mato Grosso, Sinop, Mato Grosso, Brazil.

Carcass and beef traits of Nellore and F1 Brangus × Nellore steers supplied with organic chromium finished on grass. A. Polizel Neto*, P. S. A. Moreira, A. M. Jorge1, H. F. B. Gomes1, and R. D. O. Roça1, 1São Paulo State University, Botucatu, São Paulo, Brazil, 2Federal University of Mato Grosso, Sinop, Mato Grosso, Brazil.

Estimation of some effects on longevity of beef cows using survival analysis. F. Szabó* and I. Dákay, University of Pannonia, Keszthely, Hungary.

Evaluation of MultiMin™ to enhance weaned calf productivity. A. E. Fisher*, W. W. Gill1, C. D. Lane Jr., R. L. Ellis2, S. B. Blezinger1, and G. M. Pighetti1, 1University of Tennessee, Knoxville, 2University of Tennessee, Knoxville, 3Middle Tennessee State University, Murfreesboro, 4MultiMin USA, Inc., Sulphur Springs, TX.

Variation of MUFA ratio in several muscles of Japanese Black cattle cloned from somatic cells. Y. Nakahashi*, T. Okumura2, M. Hada2, Y. Fujishima1, K. Yamauchi1, S. Hidaka1, and K. Kuchida1, 1Obihiro University of A & VM, Ohihiro-Shi, Hokkaido, Japan, 2National Livestock Breeding Center, Otofuke-Cho, Hokkaido, Japan, 3The Ministry of Agriculture, Forestry and Fisheries of Japan, Chiyoda-Ku, Tokyo, Japan.


Evaluation of methods to estimate individual intakes of cattle fed in group pens. G. D. Cruz*, J. W. Oltjen, and R. D. Sainz, 1Evaluation of Methods to Estimate Individual Intakes of Cattle Fed in Group Pens, 2Texas A&M University, College Station, 3Texas AgriLife Research, Overton, TX, 4Texas AgriLife Research, Uvalde, TX.


Relationship between residual feed intake and reproductive performance in Brangus heifers. P. A. Lancaster*, G. E. Carstens1, P. Chen1, D. W. Forrest1, T. H. Welsh, Jr., R. D. Randel2, and T. D. A. Forbes2, 1Texas A&M University, College Station, 2Texas AgriLife Research, Overton, TX, 3Texas AgriLife Research, Uvalde, TX.

Fatty acid profile, meat cholesterol and total lipids of Bos indicus based types bullocks fed monensin or polyclonal antibodies against lactate-producing rumen bacteria. M. V. Fossa1,2, R. D. L. Pacheco2,3, D. D. Millen1, T. M. da Cunha Leme1, M. de Oliveira1, C. R. de Oliveira1, A. E. Mathias1, J. C. Hadlich1, A. DiCostanzo1, N. DiLorenzo1, M. De Beni Arrigoni1, C. L. Martins1, M. Parrili1, and S. A. Matsuura1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Supported by FAPESP, São Paulo, São Paulo, Brazil, 3University of Minnesota, Saint Paul.

Evaluation of growth, carcass characteristics and meat tenderness of bullocks fed monensin or polyclonal antibodies against lactate-producing rumen bacteria. R. D. L. Pacheco1,2, D. D. Millen1, T. M. da Cunha Leme1, C. R. de Oliveira1, A. E. Mathias1, J. C. Hadlich1, A. DiCostanzo1, N. DiLorenzo1, M. De Beni Arrigoni1, C. L. Martins1, S. A. Matsuura1, M. Parrili1, M. V. Fossa1, J. P. S. T. de Bastos1, T. M. Mariani1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Supported by FAPESP, São Paulo, São Paulo, Brazil, 3University of Minnesota, Saint Paul.

Evaluation of the acute phase response in the neonate bovine model following vaccination against bovine respiratory disease complex. W. J. Horne*, K. S. Barling2, J. A. Carroll, A. D. Herring1, G. A. Holub1, and J. E. Sawyer1, 1Texas A&M University, College Station, 2Novartis Animal Health US Inc., Larchwood, IA, 3USDA-ARS, Lubbock, TX.
Breeding and Genetics II
Exhibit Hall CDE

W28 Analysis of some environmental factors for growth parameters obtained from Gompertz nonlinear model in Kurdi sheep breed of Iran. H. Farhangfar*, D. A. Saghi†, and M. H. Fathi Nasiri†, Birjand University, Birjand, Iran, Agricultural Research Centre, Mashhad, Iran.

W29 Response surface regression analysis to locate optimal minimum age at sexual maturity based on body weights at weeks 8 and 12 for indigenous chicken in Khorasan province of Iran. H. Farhangfar*, M. E. Hosseini, and S. M. Navidzadeh, Birjand University, Birjand, Iran.

W30 Estimates of genetic parameters for direct and maternal effects on growth traits and fleece weight of Angora goat (Markhoz) in Iran. M. B. Zandi*, S. R. Miraei Ashitian†, M. Moradi Shahrbabak†, and A. Rashidi†, Tehran University, Karaj, Tehran, Iran, Kurdistan University, Sanandaj, Iran.

W31 Comparison and estimation factors affected body weight traits in the Markhoz breed of goats. M. B. Zandi*, M. A. Syed Reza†, M. Moradi Shahrbabak†, and R. Amir†, Tehran University, Karaj, Tehran, Iran, Kurdistan University, Sanandaj, Iran.

W32 Weaning results of Simmental beef calves. F. Szabó* and S. Bene, University of Pannonia, Keszthely, Hungary.

W33 Genotype and environment interaction of weaning results of Simmental calves. A. Fördös and F. Szabó*, University of Pannonia, Keszthely, Hungary.

W34 Genetic association between age and litter traits at first farrowing in a commercial Pietrain-Large White population raised in an open-house system in Thailand. P. Pholsing†, S. Koonawootrittriron†, T. Suwanasoppe†, and M. A. Elzo*, Kasetsart University, Bangkok, Thailand, University of Florida, Gainesville.

W35 Factors affecting plasma cholesterol, lipoproteins, and triglycerides in growing pigs of various breed compositions raised under Thai tropical conditions. S. Koonawootrittriron†, T. Suwanasoppe†, and M. A. Elzo*, Kasetsart University, Bangkok, Thailand, University of Florida, Gainesville.

W36 Multibreed beef cattle breeding value estimation based on weaning results. Sz. Bene†, I. Kolišová†, Zs. Fekete†, Z. Lengyel†, and F. Szabó†*, University of Pannonia, Keszthely, Hungary, University of Debrecen, Debrecen, Hungary.

W37 Effect of breed composition, age and litter traits, temperament, and ELISA scores for paratuberculosis on phenotypic residual feed intake and growth in an Angus-Brahman multibreed herd. M. A. Elzo*, D. G. Riley†, G. R. Hansen†, D. D. Johnson†, R. O. Myer†, D. O. Rae†, J. G. Wasdin†, and J. D. Driver†, University of Florida, Gainesville, USDA-ARS STARS, Brooksville, FL, North Carolina State University, Plymouth, North Florida Research and Education Center, Marianna, FL.

W38 Association between breed composition, phenotypic residual feed intake, temperament, ELISA scores for paratuberculosis, and ultrasound carcass traits in an Angus-Brahman multibreed herd. M. A. Elzo*, D. G. Riley†, G. R. Hansen†, D. D. Johnson†, R. O. Myer†, D. O. Rae†, J. G. Wasdin†, and J. D. Driver†, University of Florida, Gainesville, USDA-ARS STARS, Brooksville, FL, North Carolina State University, Plymouth, North Florida Research and Education Center, Marianna, FL.

W39 Relationship between carcass traits and phenotypic residual feed intake, breed composition, temperament, and ELISA scores for paratuberculosis in an Angus-Brahman multibreed herd. M. A. Elzo*, D. D. Johnson†, D. G. Riley†, G. R. Hansen†, R. O. Myer†, D. O. Rae†, J. G. Wasdin†, and J. D. Driver†, University of Florida, Gainesville, USDA-ARS STARS, Brooksville, FL, North Carolina State University, Plymouth, North Florida Research and Education Center, Marianna, FL.

W40 Genotype × environmental interaction to Nellore cattle raised in two Brazilian regions. J. C. DeSouza*, L. O. C. DaSilva†, J. A. DeFreitas†, C. H. M. Malhado†, A. Gondo†, P. B. Ferraz Filho†, R. L. Weaver†, and W. R. Lamberston†, Embrapa Beef Cattle Research Company, CNPGC, Campo Grande, MS, Brazil, South East of Bahia University, Jequie, BA, Brazil, State University of Mato Grosso do Sul, Três Lagoas, MS, Brazil, University of Missouri, Columbia.

W41 Comparison of different nonlinear functions to describe beef cattle growth. L. G. Albuquerque*, S. Forni†, A. Blasco†, L. Varona†, H. N. Oliveira†, and R. B. Lobo†, Universidad Estadual Paulista, Jaboatocabal, Sao Paulo, Brazil, IRTA, Unidad de Cunicultura, ra de Montbri, Spain, Universidad Politécnica de Valencia, Valencia, Spain, Centro UdL-IRTA, Lleida, Spain, Universidad Estadual Paulista, Botucatu, Sao Paulo, Brazil, Universidade de Sao Paulo, Ribeirao Preto, Sao Paulo, Brazil, National Counsel of Technological and Scientific Development - CNPq, Brasilia, DF, Brazil.

W42 Principal component analysis of body measurements of Hanwoo. J. J. Lee* and N. S. Kim, Chungbuk National University, Republic of Korea.

W43 Analysis of growth trait in Brazilian Simmental. M. G. Dib*, F. R. Araujo Neto†, L. F. A. Marques†, and H. N. de Oliveira†, Faculdade de Medicina Veterinária e Zootecnia - UNESP, Botucatu, SP, Brazil, Faculdade de Ciências Agrárias e Veterinárias - UNESP, Jaboatocabal, SP, Brazil, Centro de Ciências Agrárias - UFESb, Alegre, ES, Brazil.

W44 Relationship between ultrasonically measured beef cow carcass traits and lifetime productivity. L. A. Pacheco*, J. R. Jaeger, D. W. Moser, and K. C. Olson, Kansas State University, Manhattan.

An approach for considering genotype × environment interaction in the genetic evaluations of Zebu beef cattle in Brazil. L. O. C. Silva*, S. Tsuruta*, J. K. Bertrand, A. Gondo, P. R. C. Nobre, R. A. A. Torres Jr., and C. H. C. Machado, *1University of Georgia, Athens, GA, 2EMBRAPA Beef Cattle, Campo Grande, Brazil, 3National Council for Scientific and Technological Development, Brasilia, Brazil, 4Foundation for Agric. and Environment Research, Campo Grande, Brazil, 5Brazilian Association of Zebu Breeders, Uberaba, Brazil.


SNPs of LEP and FABP4 genes in Bos indicus and crosses: Segregation and association with meat traits. M. G. Dib*, R. A. Curi, L. A. L. Chardulo, A. C. Silviera, M. D. B. Arrigoni, and H. N. de Oliveira, *1Faculdade de Medicina Veterinária e Zootecnia - UNESP, Botucatu, SP, Brazil, 2Instituto de Biociências - UNESP, Botucatu, SP, Brazil.


Molecular analysis of the Mexican hairless pig in the Yucatan Peninsula. F. Cetz-Solis, A. Sierra-Vasquez*, A. Da Silva-Mariani, S. Rezende-Paiva, C. Cruz-Vazquez, and C. Lemus-Flores, *1Instituto Tecnologico de Conkal, Conkal, Yucatan, Mexico, 2Instituto Tecnologico el Llano, Aguascalientes, Mexico, 3Universidad Autonoma de Nayarit, Tepic, Nayarit, Mexico, 4Embrapa Cenargen, Brasilia, DF, Brazil.

Companion Animals

Companion and Exotic Animal Biology

Exhibit Hall CDE


Diagnostic potential of serum proteomic patterns in canine Fusarium mycotoxicosis. M. C. M. Leung* and T. K. Smith, University of Guelph, Guelph, ON, Canada.
Dairy Foods
Milk, Dairy Food Chemistry and Microbiology
Exhibit Hall CDE

Wednesday, July 9, 2008
Influence of encapsulated probiotic bacteria on the characteristics of plain yogurt. E. Noland and K. Aryana*, Louisiana State University, Baton Rouge.


Use of beta-cyclodextrin to lower level of cholesterol in milk and its influence on activity of probiotic bacteria. L. Alonso1,2, P. Cuesta*, J. Fontecha1, M. Juarez2, and S. E. Gilliland1, Oklahoma State University, Stillwater, Instituto de Productos Lacteos. CSIS, Asturias, Spain, Instituto del Frio. CSIC, Madrid, Spain.

Effect of prebiotics on probiotic growth curves and resulting pH changes in skim milk and a model system. D. Olson* and K. Aryana, Louisiana State University, Baton Rouge.


Binding characterization between lactic acid bacteria and milk fat globule membrane in different dairy products. G. Brisson* and R. Jimenez-Flores, California Polytechnic State University, San Luis Obispo.


The concentration of lactoferrin in the bovine colostrum and immune milk. J. B. Cheng1, J. Q. Wang*1, D. P. Bu1, G. L. Liu1, C. G. Zhang1,2, X. L. Dong1,2, H. Y. Wei1, L. Y. Zhou1, and K. L. Liu1, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, College of Animal Science and Technology of Yangzhou University, Yangzhou, China.

Forages and Pastures II
Exhibit Hall CDE


Effects of one-seed juniper on intake, rumen fermentation, and plasma amino acids in sheep and goats fed supplemental protein. S. A. Utsumi1, A. F. Cibils1, R. E. Estell*, S. Soto-Navarro1, and D. M. Hallford1, New Mexico State University, Las Cruces, USDA/ARS Jornada Experimental Range, Las Cruces, NM.

Effects of one-seed juniper and polyethylene glycol on intake, rumen fermentation, and plasma amino acids in sheep and goats fed supplemental protein and tannins. S. A. Utsumi1, A. F. Cibils1, R. E. Estell*, S. Soto-Navarro1, and D. M. Hallford1, New Mexico State University, Las Cruces, USDA/ARS Jornada Experimental Range, Las Cruces, NM.


Nutritive evaluation of three browse tree foliages during rain and dry seasons: Total tannins and in situ digestibility in cattle and goats. R. Rojo*, D. López1, F. Vázquez2, O. Vazquez3, B. Albarrán4, S. Rebollar5, J. Hernández6, D. Cardoso7, F. González1, E. Dorantes8, F. Avilés9, A. García1, and C. Narciso1, Universidad Autónoma del Estado de México, Temascaltepec, Estado de México, México, Colegio de Postgraduados, Córdoba, Veracruz, México.


Ozone and nitrogen deposition effects on nutritive quality of a species-rich subalpine grassland. M. K. Cline*, J. C. Lin1, K. Nadarajah1, M. Volk2, R. B. Muntifering3, S. Bassin2, and J. Fuhrer*, Auburn University, Auburn, AL, Swiss Federal Research Station for Agroecology and Agriculture, Zurich, Switzerland.
W99 Forage quality of native pasture in an alpine area for the production of Bitto cheese. S. Colombini*, A. Tamburini, A. Sandrucci, and L. Rapetti, Departmet of Animal Science, University of Milan, Milan, Italy.

W100 Mineral profiles of selected grass and legume species as affected by liquid hog manure and inorganic fertilizer. G. N. Gozho1, M. Undi2*, J. Sletmoen1, F. Stewart1, J. C. Pfaiizer2, and K. M. Wittenberg2, 1University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 2University of Manitoba, Winnipeg, Manitoba, Canada, 3Manitoba Agriculture, Food and Rural Initiatives, Beausejour, Manitoba, Canada.


W103 Forage management affects bermudagrass forage yield and nutritive value. A. E. Lee*, A. V. Riojas1, B. D. Lambert1-2, and J. P. Muir2, 1Tarleton State University, Stephenville, TX, 2Texas AgriLife Research, Stephenville, TX.


W108 Production of Brachiaria brizantha and Panicum maximum forages according to period of intercropping with corn and nitrogen fertilization. R. S. Barducci1, C. Costa1, T. C. Putarov1, L. M. N. Sarti1, E. S. Ogawa1, D. D. Millen1, R. D. L. Pacheco1, J. P. S. T. Bastos1, T. M. Mariani1, T. C. B. da Silva1, and S. R. Baldini1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil.

W109 Production of corn grain with Brachiaria brizantha and Panicum maximum forages according to period of intercropping. R. S. Barducci1, C. Costa1, T. C. Putarov1, L. M. N. Sarti1, E. S. Ogawa1, D. D. Millen1, R. D. L. Pacheco1, J. P. S. T. Bastos1, T. M. Mariani1, S. R. Baldini1, and T. C. B. da Silva1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil.


Nonruminant Nutrition
Carbohydrate and Lipids
Exhibit Hall CDE

W114 Effect of xylanase supplementation to wheat-rye based diet on the energy availability and the performance of ducks. L. Babinszky*, J. Tossenberger1, and I. Kühn1, 1Kaposvár University, Kaposvár, Hungary, 2AB Enzymes GmbH, Darmstadt, Germany.

W115 Effect of phytase supplementation of the diets on the digestibility and urinary excretion of phosphorous and calcium in weaned piglets. J. Tossenberger1, I. Kühn2, and L. Babinszky4*, 1Kaposvár University, Kaposvár, Hungary, 2AB Enzymes GmbH, Darmstadt, Germany.

W117 Digestible and metabolizable energy content of high-oil corn for growing pigs. Y. L. Ma*, G. L. Cromwell1, M. D. Lindemann1, and K. E. Nestor Jr., 1University of Kentucky, Lexington, 2Mycogen Seed, Indianapolis, IN.


W120 Performance of weanling piglets offered low, medium or high lactose diets supplemented with a seaweed extract from Laminaria spp. D. A. Gahan1, M. B. Lynch1, J. J. Callan1, J. T. O’Sullivan2, and J. V. O’Doherty*3, 1University College Dublin, Ireland, 2Bioatlantis Ltd, Ireland.


W123 The effect of dietary starch sources on the performance, nutrients digestibility and blood biochemical parameters in growing pigs. Q. Z. Dai2, Y. Yin*, R. Huang1, and T. Li, 1Laboratory of Animal Nutrition and Health and Key Laboratory of Subtropical Agro-ecology, Institute of Subtropical Agriculture, Changsha, Hunan, P. R. China, 2Unan Institute of Animal Science, Changsha, Hunan, P. R. China.

W124 The effect of dietary starch sources on amino acids portal absorption and balance in growing pigs. W. Wang, Y. Yin*, R. Huang, and T. Li, Institute of Subtropical Agriculture, Changsha, Hunan, P. R. China.

W125 Intravenous glucose tolerance test in Ningxiang pigs. X. F. Kong1, M. J. Bo1, X. Y. Song1, Y. L. Yin*, B. E. Tan1, Z. Q. Liu1, H. J. Xu1, W. J. Tang1, F. G. Yin1, and G. Y. Wu1,2, 1The Chinese Academy of Sciences, Changsha, Hunan, P. R. China, 2Texas A&M University, College Station.

W126 Evaluation of nutrient equivalency values of natriumze for broiler chickens. M. Majdeddin*, M. Zaghari, and H. Moravej, Tehran University, Karaj, Tehran, Iran.

W127 In vitro fermentation of diets incorporating different levels of carob pulp by rabbit cecal fluid. G.-B. Aziza*, B. Ridha1, K. Abdelhamid2, M.-L. Maria-Rosa3, and K. Abdeljabbar4, 1INAT, Tunis, Tunisia, 2INGREF, Institut National des Recherches en Génie Rural, Eaux et Forêts, Tunis, Tunisia, 3Escuela Polytécnica Superior, Universidad de Santiago de Compostela, Lugo, Spain.

W128 Dietary fiber decreases fecal nutrient digestibility and ammonia emission in growing swine, but increases odor emission and odor intensity in air. W. Zhang1, E. van Heugten*, T. van Kempen1, V. Fellner1, and P. Kain, 1North Carolina State University, Raleigh, 2Provimi RIC, St. Stevens Woluwe, Belgium, 3University of Aarhus, Horsens, Denmark.

W129 Effects of different fiber level diets on normal microbiological florlas in goose intestines. M. A. Zhang, B. W. Wang*, B. Yue, F. Y. Long, X. P. Wu, and X. H. Jia, Qingdao Nongye University, Qingdao, Shandong Province, China.

W130 Stabilized rice bran improves weaning pig growth performance when feed in an antibiotic-free diet. T. Herfel, S. Jacobi, X. Jing, X. X. Wei, and G. L. Liu, Qingdao Nongye University, Qingdao, Shandong Province, China.


W133 Conjugated linoleic acid and tryptophan supplementation improve immune response of weaned piglets. J. Morales1, R. Gatnau2, and C. Pineiro*, 1PigCHAMP Pro Europa, SA, Segovia, Spain, 2Molimen, Barcelona, Spain.

W134 Effect of conjugated linoleic acid on immune function and nutrition composition of duck. B. W. Wang*, Y. C. Wang, M. A. Zhang, B. Yue, L. Z. Jing, X. X. Wei, and G. L. Liu, Qingdao Nongye University, Qingdao, Shandong Province, China.

W135 Efficiency of retention and conversion of α-linolenic acid (ALA) to other n-3 fatty acids (FA) in the whole body of growing gilts is reduced over time. H. R. Martinez-Ramirez* and C. F. M. de Lange, University of Guelph, Guelph, ON, Canada.

W137  Effects of dietary coconut fat powder supplementation on performance, nutrient digestibility and blood and milk characteristics in lactating sow. W. T. Kim*, H. J. Kim1, J. H. Cho1, Y. J. Chen1, J. S. Yoo1, S. O. Shin1, Y. Haung1, J. D. Hancock2, C. Y. Lee3, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2Kansas State University, Manhattan, 3Injin National University, Gyeongnam, Korea.

W138  Use of glycerol for glucose, glycogen and non-essential amino acid synthesis by embryos from small and large chicken eggs. N. E. Sunny, J. Moorefield, S. L. Owens, and B. J. Bequette*, University of Maryland, College Park.


W140  Effect of different dietary protein levels on lipid metabolism of subcutaneous adipose tissue in lean-type and fat-type fattening pigs. W. T. Gu1, T. L. Liu2, P. W. Xu1, M. J. Bo1, H. J. Xu1, Y. L. Yin1*, X. F. Kong1, T. J. Li1, Z. Q. Liu1, W. J. Tang1, and R. L. Huang1, 1The Chinese Academy of Sciences, Changsha, Hunan, P.R.China, 2Wuhan Polytechnic University, Wuhan, China.


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W142  Mathematical simulation to assess the validity of Bonnier’s equation for estimating the frequency of monozygous twinning in a population of Holstein cattle. N. Silva del Rio*, G. A. Broderick2, and P. M. Fricke1, 1University of Wisconsin, Madison, 2US Dairy Forage Research Center, Madison, WI.

W143  Activated caspase-3 activity in the bovine fetal ovary. N. M. Barkley*, M. F. Smith, and H. A. Garverick, University of Missouri, Columbia.

W144  Multiple fibroblast growth factors stimulate interferon-tau production in bovine trophectoderm. K. A. Pennington* and A. D. Ealy, University of Florida, Gainesville.

W145  Identification and characterization of three MX1 isoforms in sheep. D. S. Clark*, K. Williams2, and T. L. Ort1, 1Pennsylvania State University, University Park, 2University of Idaho, Moscow.

W146  Effects of nutrient restriction during early gestation on postnatal calf growth. C. L. Bailey*, N. M. Long, M. J. Prado-Cooper, E. C. Wright, and R. P. Wettemann, Oklahoma Agricultural Experiment Station, Stillwater, OK.


W148  Effect of age at first calving on milk production and days open in first-parity Iranian Holstein dairy cows. A. Heravi Moussavi*, M. Danesh Mesgaran, and R. Noorbakhsh, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.

W149  Changes in muscle proteome of dairy cattle with onset of lactation. P. J. Tyler*, K. A. Cummins, D. M. Carpenter, and R. Sabharwal, Auburn University, Auburn, AL.

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W150  Immunosterilization of bitches with an anti-LHRH vaccine using CpG oligodeoxynucleotide as an adjuvant. R. Zanella 1, M. Ragagnin de Lima*4, J. Reeves1, V. Conforti2, D. DeAvila1, A Ferreira Marques4, S. A. Messina1, R Bogden3, and E. L. Zanella4, 1Cincinnati Zoo & Botanical Garden, Cincinnati, OH, 2Amplicon Express, Pullman, WA, 3Universidade de Passo Fundo, Passo Fundo, RS, Brazil.

W151  Ovarian follicular dynamics during the interovulatory interval in Najdi goats. H. Kohram*1,2, S. Gooraninejad2, A. Motagheidi, G. Mohammadii, and E. Dirandeh1, 1Tehran University, Karaj, 2Shahid Chamran University, Ahvaz, Khoozestan, Iran.

W152  Alteration of ovarian follicular dynamics by GnRH in water buffaloes. H. Kohram*1,2, G. Mohammadii, and E. Dirandeh1, 1Tehran University, Karaj, Tehran, Iran, 2Shahid Chamran University, Ahvaz, Khoozestan, Iran.

Plasma progesterone concentrations determined by commercial radioimmunoassay kit as puberty criteria for Brahman-crossbred heifers. R. F. Cooke1,2, B. R. Austin1, and J. D. Arrthington1,1, University of Florida - IFAS, Range Cattle Research and Education Center, Ocala, 1University of Florida - IFAS, Animal Sciences, Gainesville.

Probegeosterone concentration during follicular development affects follicular fluid composition and uterine release of PGF2α in dairy cows. R. L. A. Cerr1,2, F. Rivera1, C. D. Narciso1, R. A. Oliveira1, R. C. Chebel1, M. A. Amstalden1, W. W. Thatcher1, and J. E. P. Santos1,1, University of Florida, Gainesville, 1University of California, Tulare, 1Texas A&M University, College Station.

Evidence that the diminished production of progesterone during estrous cycles of cattle with a low antral follicle count during follicular waves is repeatable and not caused by alterations in size of the corpus luteum. F. Jimenez-Krassel1, J. K. Folger1, G. W. Smith1, P. Lonergan2, A. C. O. Evans2, and J. J. Ireland3,1, Michigan State University, East Lansing, 1University College Dublin, Dublin, Ireland.

Protocols using progesterone intravaginal device for lactating Holstein cows. R. M. Santos*, D. G. B. Demétrio1, J. L. M. Vanconcelos2, B. L. Cardoso2, F. M. Abreu1, L. H. Cruppe1, and S. Soriano1, EAFUDI, Uberlândia, 1FMVZ-UNESP, Botucatu, 1Fazenda Colorado, Araras, Brazil.


Effect of the third use of CIDRs on the pregnancy rate of beef cattle. W. A. Greene* and M. L. Borger, The Ohio State University, Wooster, OH.

Effect of the timing of CIDR insertion on the GnRH-induced LH surge and ovulatory response. G. A. Perry* and B. L. Perry, South Dakota State University, Brookings.


Effect of duration of CIDR exposure on reproductive performance of beef heifers using a CIDR-based timed-AI protocol. A. Ahmadzadeh*, D. Gun1, and B. Glaze2, 1University of Idaho, Moscow, 1University of Idaho Extension, Fort Hall, 1University of Idaho Extension, Twin Falls.


Effect of supplemental FSH during Ovsynch in high producing Holstein cows. H. Ayres1,2, R. M. Ferreira1,2, A. P. Cunha*, R. R. Araújo1, and M. C. Wiltbank1, 1University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil, 1University of Wisconsin, Madison.

Administering human chorionic gonadotropin (hCG) 7 d prior to initiating a CO-Synch protocol. C. R. Dahlen*, G. Marquezini2, A. DiCostanzo2, S. L. Bird1, and G. C. Lamb3, University of Minnesota, Crookston, 1University of Minnesota, St. Paul, 1University of Minnesota, Grand Rapids, 1University of Florida, Marianna.

Effect of human chorionic gonadotropin (hCG) on ovarian structure dynamics and concentrations of progesterone in cycling Holstein heifers. C. R. Dahlen* and G. C. Lamb3, University of Minnesota, Crookston, 1University of Florida, Marianna.

Factors affecting ovulatory follicle size following follicular wave synchrony in beef heifers. J. A. Atkins, C. L. Johnson*, and M. F. Smith, University of Missouri, Columbia.

Early postpartum treatment of dairy cows with GnRH does not improve fertility. A. Ata and M. S. Gulay*, Mehmet Akif Ersoy University, Burdur, Turkey.

Factors associated with ovulatory follicle growth rate and diameter in postpartum beef cows. J. A. Atkins*, T. W. Geary1, and M. F. Smith1, 1University of Missouri, Columbia, 1USDA ARS, Ft. Keogh, Miles City, MT.

Effect of reducing the period of follicle dominance in a timed AI protocol on reproduction of dairy cows. R. C. Chebel*, F. Rivera1, C. Narciso1, W. W. Thatcher2, and J. E. P. Santos2, 1University of California, Davis, 1University of Florida, Gainesville.

Effects of an additional PGF2α and estradiol-17β during Ovsynch in lactating dairy cows. D. J. Brusveen*, A. H. Souza, and M. C. Wiltbank, University of Wisconsin, Madison.
Production, Management and the Environment
Nutrient and Animal Management
Exhibit Hall CDE


W174 Bacteroidales PCR for universal, human, hog, and ruminant fecal pollution markers. B. R. Min*1,2, G. Giovanni1, N. Garcia1, E. Casarez1, H. Y. Kim1, M. K. Ho1, J. Chang1, L. Chang1, C. Bae1, and P. Dyer1, Ichthus Education Center, La Trinitaria, Chiapas, Mexico, Texas AgriLife Research, Vernon, TX, Texas AgriLife Research, El Paso, TX.

W175 Compost: A potential value-added product for dairy operations? E. M. Shane*1, M. I. Endres1, D. G. Johnson2, and C. J. Rosen1, University of Minnesota, St. Paul, University of Minnesota, Morris.

W176 Associations between non-dietary factors and dairy herd performance. A. Bach*1,2, N. Valls3, A. Solans3, and T. Torrent4, University of Wisconsin, Madison, University of Minnesota, Morris.


W179 Hydrated lime bedding treatment for mastitis control. T. A. McCaskey*, R. S. Chettri, C. R. McCarthy, M. B. Brady, and L. I. Chiba, Auburn University, Auburn, AL.

W180 Bedding options for an alternative housing system for dairy cows. E. M. Shane*, M. I. Endres1, D. G. Johnson2, and J. K. Reneau1, University of Minnesota, St. Paul, University of Minnesota, Morris.

W181 Effects of corn particle size and feeding management on dry matter intake, ruminal fermentation, chewing activity and nutrient digestibility in midlactation cows. Z. Cao*, S. Li, and M. Ma, College of Animal Science & Technology, China Agricultural University, Beijing, China.

W182 Impact of simulated selection for feed efficiency and length of breeding season on beef life cycle performance. C. Williams* and T. Jenkins, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.

W183 Agricultural sustainability: The environmental impact of using recombinant bovine somatotropin (rbST) to improve the productive efficiency of one million lactating dairy cows. J. L. Capper*, R. A. Cady2, and D. E. Bauman1, University of Wisconsin, Madison, University of Minnesota, Morris.

W184 Change in natural abundance of 15N and estimation of nitrogen losses from dairy manure during storage by mass balance and nitrogen to phosphorus ratio. M. J. Aguerre*, G. A. Broderick1,2, and M. A. Wattiaux1, University of Wisconsin, Madison, US Dairy Forage Research Center, Madison, WI.

W185 Performance and selenium incorporation in beef heifers grazing pastures growing in saline soils containing high levels of trace minerals. S. O. Juchem*1,2, S. E. Benes1, P. H. Robinson1, P. Vasquez2, M. Brito2, G. Getachew1, and P. Chilibroste1, University of California, Davis, California State University, Fresno, CA, University of California, Davis, CA, Instituto Nacional de Investigación Agropecuaria, Montevideo, Uruguay.


W187 Survival curves and reproductive risk factors for culling in dairy herds. A. De Vries*1, J. Olson1, University of Florida, Gainesville, Pfizer Animal Health, Fort Collins, CO.

W188 Effect of concentrations of progesterone during a timed AI protocol on fertility of lactating dairy cows. J. R. Lima1, J. E. Santos2, F. Rivera1, C. D. Narciso1, R. A. Oliveira2, and R. C. Chebel1, University of California Davis, Tulare, CA, University of Florida, Gainesville, FL.

W189 Effect of change in body condition score during the dry period on incidence of diseases and lactational and reproductive performance of Holstein cows. L. Lima1, J. E. Santos2, and R. C. Chebel1, University of California Davis, Tulare, University of Florida, Gainesville.

W190 Comparison of pregnancy diagnosis strategies by stochastic simulation. A. H. Sanders* and A. De Vries, University of Florida, Gainesville.

W191 Supplementation of progesterone via CIDR inserts during ovulation synchronization protocols in lactating dairy cows. R. C. Chebel1, M. J. Al-Hassan1, P. M. Fricke2, J. E. Santos1, C. A. Martel4, J. S. Stevenson1, R. Garcia1, R. L. Ax2, and F. Moreira1, University of California Davis, Tulare, University of Wisconsin, Madison, University of Florida, Gainesville, Kansas State University, Manhattan, University of Arizona, Tucson, Pfizer Animal Health, New York, NY.
Characterization of postpartum estrous behavior in lactating cows using radiotelemetry in a large dairy. C. R. Johnson*, M. W. Ayers, A. Ahmadzadeh, S. Etter, R. C. Chebel, and J. C. Dalton, Caldwell Research and Extension Center, Caldwell, ID, Caine Veterinary Teaching Center, Caldwell, ID, University of Idaho, Moscow, Canyon County Extension, Caldwell, ID, University of California, Tulare.


Ruminant Nutrition
Management and Miscellaneous Additives – Dairy
Exhibit Hall CDE


Effects of feed bunk competition on the feeding behavior of growing dairy heifers. T. J. DeVries*, and M. A. G. von Keyserlingk, University of Guelph, Kemptville, ON, Canada, The University of British Columbia, Vancouver, BC, Canada.


Viability of commercial active dry yeast products decreases with high-temperature storage. J. Miranda and B. J. Bradford, Kansas State University, Manhattan.


W210  Effect of feed sorting on fecal particle size. M. Fustini*2, D. D. Maulfair1, A. J. Heinrichs1, and A. Formigoni2, 1University of Bologna, Bologna, Italy.

W211  Interaction between particle sizes of alfalfa hay and concentrate on lactation performance, chewing activity, and ruminal pH of dairy cows. M. A. Bal* and E. B. Buyukunal Bal, Kahramanmaras Sutcu Imam University, Turkey.

W212  Effects of live yeast supplementation on lactation performance and ruminal pH of dairy cows fed medium and high levels of dietary concentrate. M. A. Bal*1, S. Goksu1, and V. Akay1, 1Kahramanmaras Sutcu Imam University, Turkey, 2Global Nutritech Ltd., Kocaeli, Turkey.

W213  Efficacy of SOLIS®, NOVASIL™Plus, and MTB-100® to reduce aflatoxin M1 levels in milk of dairy cows fed aflatoxin. R. Kutz*1, J. Sampson1, D. Ledoux1, J. Spain1, and M. Vázquez-Añón1, 1University of Missouri, Columbia, 2Novus International, St. Charles, MO.


W215  Effects of essential oil combinations on in vitro rumen microbial fermentation of a high-concentrate diet for beef cattle. I. Fandiño1, S. Calsamiglia1, A. Ferret1, D. Moya1, J. Martin-Tereso2, and H. ter Wijlen*, 1Universitat Autonoma de Barcelona, Spain, 2Nutreco, The Netherlands.


W217  Effect of feeding essential oils and monensin on fatty acid profiles of milk fat. M. L. He*1, W. Z. Yang1, C. Benchaar1, A. V. Chaves1, and T. A. McAllister1, 1Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Sherbrooke, QC, Canada.


W219  Feeding rumen-protected choline reduces the risk of hepatic lipidosis in transition dairy cows. F. S. Lima1, B. A. Barton*2, and J. E. P. Santos1, 1University of Florida, Gainesville, 2Balchem Co., New Hampton, NY.

W220  Effects of alcohol-fermented feedstuff combinations on in vitro rumen microbial fermentation of a high-concentrate diet for beef cattle. I. Fandiño1, S. Calsamiglia1, A. Ferret1, D. Moya1, J. Martin-Tereso2, and H. ter Wijlen*, 1Universitat Autonoma de Barcelona, Spain, 2Nutreco, The Netherlands.

W221  Effect of feeding polyphenols on growth, health, nutrient digestion, and immunocompetence of calves. R. A. Oliveira1, C. D. Narciso1, R. Bisinotto1, M. A. Ballou*,2, and J. E. P. Santos1, 1University of Florida, Gainesville, 2Texas Tech University, Lubbock.

W222  Changes in milk aflatoxin concentrations in response to investigational sequestering agents added to aflatoxin-contaminated diets fed to lactating Holstein cows. L. Waltman*, S. Davidson, B. A. Hopkins, G. W. Smith, and L. W. Whitlow, North Carolina State University, Raleigh.

W223  Effect of monensin concentration on dry matter intake during the transition period of lactating dairy cows. M. A. Shah*, G. Schroeder1, B. D. Strang1, and H. B. Green1, 1Cargill Animal Nutrition, Elk River, MN, 2Elanco Animal Health, Greenfield, IN.


W225  Effect of physical particle size on ruminal and post-ruminal disappearance of nutrients of a mixed concentrate in Holstein steers. H. Jahani-Azizabadi1, M. Danesh Mesgaran*1, and A. Rahmatimanesh2, 1Ferdowsi University of Mashhad, Mashhad, Mashhad, Iran, 2Heram Talaee Shargh Feed Mill Company, Nishabour, Iran.

W226  Influence of an α-amylase on in vitro ruminal fermentation and starch degradation. W. Hu*, M. E. Persia1, and L. Kung Jr., 1University of Delaware, Newark, 2Syngenta Animal Nutrition, Research Triangle Park, NC.

W227  N and energy synchronization of barley: Effect of variety and growth year. P. Yu* and K. Hart, University of Saskatchewan, Saskatoon, SK, Canada.

W228  Effects of fibrolytic enzymes on in vitro digestibility of destined olive cake. D. Elia1, P. P. Danieli1, P. Bani2, and U. Bernabucci*, 1Dipartimento di Produzioni Animali, Viterbo, Italy, 2Istituto di Zootecnia, Piacenza, Italy.

W229  The effect of alcohol fermented feedstuff made by product on in vitro fermentation characteristics and NDF disappearance. J. S. Shin1, G. Z. Lin2, and B. W. Kim*, 1Kangwon National University, Chunchon, Kangwon, South Korea, 2Linyi Normal University, Linyi, Shandong, China.

W230  Comparison of chemical composition and digestibility among wheat straws treated by white-rot fungi. O. D. Montaño-Valdez*, J. H. Avellaneda-Cevallos1, E. O. Garcia-Flores1, J. M. Tapia-Gonzalez1, G. Rocha-Chavez1, J. E. Morales-Zambrano1, and E. C. Guerra-Medina1, 1Centro Universitario del Sur de la Universidad de Guadalajara, Ciudad Guzman, Jalisco, Mexico, 2Universidad Tecnica Estatal de Quevedo, Quevedo, Los Ríos, Ecuador, 3Centro Universitario de la Costa Sur de la Universidad de Guadalajara, Autlan de la Grana, Jalisco, Mexico.
Ruminant Nutrition
Proteins and Amino Acids - Beef, Sheep and Miscellaneous Ruminants
Exhibit Hall CDE


W236  Dry matter intake and performance of Nellore steers fed diets based on different proportions of soybean and corn silages. W. F. Souza1, O. G. Pereira*, K. G. Ribeiro2, S. C. Valadares Filho1, A. S. Chaves1, F. Zamuner1, and G. A. Aguia1, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Minas Gerais, Brazil.

W237  Efficacy of condensed glutamic acid fermentation solubles as a nitrogen source in ruminant diets. A. I. Soria-Flores* and L. L. Berger, University of Illinois, Urbana.

W238  In vitro gas production kinetics of protein sources used in sheep nutrition. A. S. Juarez-Reyes*, M. Murillo-Ortiz1, M. A. Cerrillo-Soto1, J. F. Obregon2, and F. G. Rios1, 1FMVZ-Universidad Juarez del Estado de Durango, Durango, Durango Mexico, 2FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico.


W242  Oscillating dietary protein in finishing cattle rations to reduce nitrogen inputs, with or without subcutaneous implants does not affect performance or final carcass composition. C. R. Nightingale*, K. L. Swyers, H. Han, T. E. Engle, and S. L. Archibeque, Colorado State University, Fort Collins.

W243  Fractional protein synthesis rate (FSR) in intestinal mucosa of kids: Effect of a diet containing casein or soy protein. U. Schoenhusen1, A. Floeter1, S. Kuhla1, P. Junghans1, C. C. Metges1, K. Huber2, R. Zitnan3, and H. M. Hammon*, 1Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany, 2School of Veterinary Medicine Hanover, Hanover, Germany, 3Institute of Animal Production, Nitra, Slovakia.

Ruminant Nutrition
Rumen Fermentation and Miscellaneous Additives - Beef
Exhibit Hall CDE

W244  Lignocellulolytic activity of Pleurotus ostreatus solid culture on barley straw. L. Luna-Rodriguez1, M. Meneses-Mayo1, G. Mendoza-Martinez2, C. Montalvo-Paquini1, S. S. Gonzalez-Muñoz*, and O. Loera-Corral1, 1Colegio de Postgraduados, Montecillo, Ed. Mexico, Mexico, 2UAM Xochimilco, Mexico D.F., 3Universidad Politecnica de Puebla, Puebla, Mexico, 4UAM Iztapalapa, Mexico D.F.

W245  Feedlot performance, carcass characteristics and liver abscesses in heifers fed MGA, Rumensin and Tylan continuously or withdrawn the last 35 days on feed. G. E. Sides*, R. S. Swingle2, R. C. Borg1, and W. M. Moseley1, 1Pfizer Animal Health, Kalamazoo, MI, 2Cactus Feeders, Cactus, TX.
W246 Effects of feeding different dose levels of melengestrol acetate on feedlot performance, carcass characteristics and estrus activity of feedlot heifers. G. E. Sides*, O. A. Turgeon2, W. C. Koers3, M. S. Davis2, K. Vander Pol2, R. C. Borg1, and D. J. Weigel1, 1Pfizer Animal Health, Kalamazoo, MI, 2Box Technica Research Services, Inc., Salina, KS.

W247 Effects of tannins supplementation on animal growth and in vivo ruminal bacterial populations associated with bloat in heifers grazing wheat forage. B. R. Min*, W. E. Pinchak2, K. Hernandez2, C. Hernandez2, M. E. Hume2, E. Valencia2, and J. D. Fulford1, 1Texas AgriLife Research, Vernon, TX, 2University of Puerto Rico, Puerto Rico, 1USDA-ARS, Southern Plains Agricultural Research Center, Food & Safety Research Unit, College Station, TX, 1Ichthus Education Center, La Trinitaria, Chiapas, Mexico.

W248 Carcass traits of grazing young bulls. H. J. Fernandes*, A. G. Silva2, J. Cavalli, A. A. Rocha2, M. F. Paulino2, L. M. Paiva2*, and R. M. Paula2, 1State University of Mato Grosso do Sul / FUNDECT, Brazil, 2Federal University of Viçosa, Brazil.

W249 Influence of feed restriction and oral vitamin D and E supplementation on meat quality of Canchim heifers. S. A. Matsuhara*, M. D. Arrigoni2, C. L. Martins3, D. D. Millen4, R. D. L. Pacheco*, M. V. Fossa2, L. M. N. Sarti1, J. P. S. T. Bastos1, T. M. Mariani1, H. N. de Oliveira1, S. R. Baldin1, T. C. B. da Silva1, R. S. Barducci1, R. d. O. Roça1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil, 3Apoio FAPESP.

W250 Influence of feed restriction on performance and carcass traits of Canchim heifers. M. Parrilli1, S. A. Matsuhara1, M. D. B. Arrigoni1, C. L. Martins1, D. D. Millen*, R. D. L. Pacheco1, H. N. de Oliveira1, M. V. Fossa1, L. M. N. Sarti1, T. M. Mariani1, J. P. S. T. Bastos1, S. R. Baldin1, R. S. Barducci1, and T. C. B. da Silva1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil, 3Apoio FAPESP.

W251 Supplementation frequency effects on performance of steers grazing tropical grass. J. A. S. Morais1, T. T. Berchielli*, T. M. Mariani1, J. P. S. T. Bastos1, S. R. Baldin1, R. S. Barducci1, and T. C. B. da Silva1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil, 3Apoio FAPESP.


W254 Effect of feeding cinnamaldehyde essential oils and monensin on feedlot cattle performance. W. Z. Yang1, C. Benchaar2, M. L. He*, and K. A. Beauchemin, 1Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Sherbrooke, QC, Canada.

W255 Effect of a rumen buffer derived from calcium carbonate on ruminal bacterial populations associated with bloat in heifers grazing wheat forage. M. Parrilli1, S. A. Matsuhara1, M. D. Arrigoni1, C. L. Martins1, D. D. Millen*, R. D. L. Pacheco1, H. N. de Oliveira1, M. V. Fossa1, L. M. N. Sarti1, T. M. Mariani1, J. P. S. T. Bastos1, S. R. Baldin1, R. S. Barducci1, and T. C. B. da Silva1, 1FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil, 3Apoio FAPESP.

W256 Net energy and protein requirements for maintenance and gain of Nellore steers estimated with deuterium oxide. G. Aiferri*, P. R. Leme1, A. S. C. Pereira1, R. R. P. S. Corte1, M. Z. Moreira1, and D. P. D. Lanna1, 1Universidade de São Paulo, Pirassununga, São Paulo, Brasil, 2FAPESP, São Paulo, São Paulo, Brasil.


W258 In vitro gas production kinetics of regional feedstuffs used in sheep diets in Northwest Mexico. A. S. Juarez-Reyes1, G. Nevarez-Carrasco1, M. A. Cerrillo-Soto*, J. F. Obregon2, and F. G. Rios1, 1FMVZ-Universidad Juarez del Estado de Durango, Durango, Durango, Mexico, 2FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico.


W260 Effects of feeding a polyclonal antibody preparation against Escherichia coli O157:H7 on performance, carcass characteristics and E. coli O157:H7 fecal shedding of feedlot steers. N. DiLorenzo*, C. R. Dahlen, and A. DiCostanzo, 1Texas AgriLife Research, Vernon, TX, 1University of Puerto Rico, Puerto Rico, 1USDA-ARS, Southern Plains Agricultural Research Center, Food & Safety Research Unit, College Station, TX, 1Ichthus Education Center, La Trinitaria, Chiapas, Mexico.


W263 Maternal natural source vitamin E supplementation on suckling calf performance and immune response. M. J. Richardson*, S. L. Lake1, S. D. Eicher2, R. Lemenager1, M. Einstein1, and N. Pyatt1, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN, 3ADM Animal Nutrition Research, Decatur, IN.


Effect of supplemental mixed *Saccharomyces cerevisiae* and *Lactobacillus acidophilus* 30SC on the growth performance of weaned pigs. J. P. Kim*, K. H. Kim1, K. G. Kim2, S. J. Oh1, S. H. Kim2, and K. Y. Whang3, 1Chonnam National University, Gwangju, Korea, 2Korea University, Seoul, Korea.

Effect of supplemental mixed *Saccharomyces cerevisiae* and *Lactobacillus acidophilus* 30SC on the energy, nitrogen, Ca, and P digestibility of weaned pigs. K. H. Kim1, J. P. Kim1, J. G. Kim2, S. J. Oh1, S. H. Kim2, and K. Y. Whang3, 1Chonnam National University, Gwangju, Korea, 2Korea University, Seoul, Korea.

Effect of supplemental mixed *Saccharomyces cerevisiae* and *Lactobacillus acidophilus* 30SC on the immunoglobulin G production of weaned pigs. S. J. Oh*, J. P. Kim1, K. H. Kim1, J. G. Kim2, S. H. Kim2, and K. Y. Whang3, 1Chonnam National University, Gwangju, Korea, 2Korea University, Seoul, Korea.

The effects of seaweed extract inclusion on gut microflora and immune status of the weaned pig. P. Reilly1, T. Sweeney1, K. M. Pierce*, J. J. Callan1, A. Julka2, and J. V. O’Doherty3, 1University College Dublin, Ireland, 2Bioatlanits Ltd, Ireland.

Yam on fermentation characteristics and immune function in pigs. M. J. Bo, Y. L. Yin*, X. F. Kong, Y. Z. Zhang, G. Y. Wu, and B. E. Tan, Laboratory of Animal Nutrition and Human Health and Key Laboratory of Agro-ecology, Changsha, Hunan, P. R. China.

Effect of Chinese herbal ultra-fine powder as a dietary additive on digestion and absorption of amino acids in early-weaned piglets. X. F. Kong1, Q. H. He1, F. G. Yin1, Y. L. Yin1*, G. Y. Wu1,2, B. E. Tan1, and R. L. Huang1, Laboratory of Animal Nutrition and Human Health and Key Laboratory of Agro-ecology, Changsha, Hunan, P. R. China, 2Texas A&M University, College Station.

Effects of dietary supplemental Chinese herbal formula on immune responses in weaned piglets. X. F. Kong, B. E. Tan, Y. L. Yin*, H. J. Liu, F. G. Yin, and M. J. Bo, Laboratory of Animal Nutrition and Human Health and Key Laboratory of Agro-ecology, Changsha, Hunan, P. R. China.

Level of management affects finisher growth and pig composition. J. S. Fix* and M. T. See, North Carolina State University, Raleigh.

*In vivo* antioxidant activity of peptide fractions from porcine plasma albumin in rats. J. Z. Wang*1, 2, H. Zhang1, S. S. Zeng2, and F. Z. Ren1, 1College of Food Science & Nutritional Engineering, China Agricultural University, Beijing, China, 2American Institute for Goat Research, Langston University, Langston, OK.

Influence of weaning age and number of weaning per week on productive performance of sows and piglets. N. Simal1, A. Fuentetaja2, M. Nieto3, M. P. Serrano3, and G. G. Mateos*, 1Universidad Politécnica de Madrid, Spain, 2Copese, Segovia, Spain.

Sow parity and number born alive influence piglet birth weight along with subsequent growth, composition, mortality and endpoint value. J. S. Fix* and M. T. See, North Carolina State University, Raleigh.


Effect of lactation length of on herd-level performance of breeding sows. S. S. Anil*, L. Anil, and J. Deen, University of Minnesota, St. Paul.

Association between claw lesions and farrowing performance of sows. S. S. Anil*, L. Anil, and J. Deen, University of Minnesota, St. Paul.

Evaluation of welfare of gestating sows in conventional gestation stalls and in gestation stalls with widths defined by the sow height. L. Anil*, S. S. Anil, and J. Deen, University of Minnesota, St. Paul.


Expression of Dicer and Ago-2 in porcine ovarian tissue. H. M. Barton* and S. L. Pratt, Clemson University, Clemson, SC.

Effects of the sex and the halothane genotype on carcass and meat quality characteristics in Duroc and Landrace crossbred pigs. L. L. Lo*1, C. C. Tsai1, M. C. Huang3, R. S. Lin1, and T. H. Huang1, 1Chinese Culture University, Taipei, Taiwan, ROC, 2National Chung-Hsing University, Taichung, Taiwan, ROC, 3National Ilan University, Ilan, Taiwan, ROC, 4Taiwan Farm Industry Co. Ltd., Pingtung, Taiwan, ROC.

Identification and quantification of miRNA expression in porcine sperm cells. E. Curry* and S. L. Pratt, Clemson University, Clemson, SC.

SYMPOSIA AND ORAL SESSIONS
ADSA Foundation Scholar Lecture
Dairy Foods
Chair: Lloyd Metzger, South Dakota State University
Sponsor: ADSA Foundation

121
9:30 AM  Introduction

10:20 AM  Discussion

Animal Behavior and Well-Being
Swine
Chair: Ted Friend, Texas A & M University

206
9:30 AM  Introduction of Centennial speaker

10:05 AM  Break
10:15 AM  Effects of facility design on the stress response of market weight pigs during loading and unloading. A. Johnson*, L. Sadler1, M. Faga2, C. Feuerbach1, H. Hill1, R. Bailey1, and M. Ritter4, 1Department of Animal Science, Iowa State University, Ames, 2Iowa Select Farms, Iowa Falls, IA, 3Swift and Co., Marshalltown, IA, 4Elanco Animal Health, Greenfield, IN.

10:30 AM  Effect of trailer design on the behavior of market weight pigs during unloading and lairage. S. Torrey*, H. Gonyou23, J. A. Correa4, R. Bergeron1, T. Widowski1, N. Lewis1, T. Crowe1, C. Dewey5, and L. Faucitano1, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2University of Saskatchewan, Saskatoon, SK, Canada, 3Prairie Swine Centre, Saskatoon, SK, Canada, 4Université Laval, Quebec City, QC, Canada, 5University of Guelph, Guelph, ON, Canada, 6University of Manitoba, Winnipeg, MB, Canada.

10:45 AM  Space requirements of weaned pigs during transport in summer. M. A. Sutherland*12, P. J. Bryer12, B. L. Davis12, and J. J. McGlone12, 1Pork Industry Institute, Lubbock, TX, 2Texas Tech University, Lubbock.

11:00 AM  The effect of 30-hour transport at two space allowances on physiological measures of stress in breeding gilts. P. J. Bryer*, M. A. Sutherland, B. L. Davis, J. Smith, and J. J. McGlone, Pork Industry Institute, Dept. Animal and Food Science, Texas Tech University, Lubbock.


Animal Health IV
Chair: Isis Mullarkey, Virginia Tech
Sponsor: European Association of Animal Production

Sagamore Ballroom 1

246
9:30 AM  Metabolic disorders and immune response in farm animals. N. Lacetera*, U. Bernabucci, B. Ronchi, and A. Nardone, Dipartimento di Produzione Animali, Viterbo, Italy.
Wednesday, July 9, 2008

10:30 AM 247 Administration of a Staphylococcus aureus bacterin to dairy heifers reduces new infection rate and somatic cell counts at time of calving. S. C. Nickerson1, E. Hovingh1, C. Peterson1, S. Brannock1, E. Schaffer1, and P. W. Widel1, 1University of Georgia, Athens, 2Pennsylvania State University, College Park, 3James River Correctional Facility, Goochland, VA, 4Boehringer Ingelheim Vetmedica Inc., St. Joseph, MO.

10:45 AM 248 Serum non-esterified fatty acid and beta-hydroxybutyrate in the transition period and their associations with disease in dairy cows. M. E. Carson1, S. J. LeBlanc1, S. M. Godden2, M. B. Capel3, M. W. Overton4, J. Santos5, K. E. Leslie1, and T. F. Duffield1, 1University of Guelph, Ontario, Canada, 2University of Minnesota, St. Paul, 3Perry Veterinary Clinic, Perry, NY, 4University of Georgia, Athens, 5University of California Davis, Tulare.

11:00 AM 249 Intramammary pathogens from 3755 dairy goats and sheep and farm characteristics from New York State. D. J. Wilson1, R. N. Gonzalez2, P. M. Sears3, L. H. Southwick4, H. F. Schulte5, and G. J. Bennett6, 1Utah State University, Logan, 2Cornell University, Ithaca, NY, 3Michigan State University, East Lansing, 4Lee H. Southwick Consulting, Virgil, NY.

11:15 AM 250 Ability of an immunomodulatory feed additive to reduce infection of the murine mammary gland with Streptococcus uberis, Escherichia coli and Staphylococcus aureus. A. Rowson1, Y. Q. Wang1, E. Aalseth2, N. E. Forsberg1, and S. B. Puntenney1, 1OmniGen Research, Corvallis, OR, 2Aalseth Consulting, Lake Stevens, WA.


11:45 AM 252 Evaluation of a novel chlorine dioxide teat dip on teat end and teat skin health. L. L. Timms*, Iowa State University, Ames.

12:00 PM 253 Sodium chlorite lactic acid teat dip contaminated with Serratia liquefaciens. D. J. Wilson*, J. D. Trujillo, R. T. Skirpstunas, and K. B. Cavender, Utah State University, Logan.

12:15 PM 254 Teat end and skin conditioning evaluation of two experimental heptanoic acid teat dips during winter. L. L. Timms* and J. Morelli2, 1Iowa State University, Ames, 2Ecolab, Inc., St. Paul, MN.

SYMPOSIUM
Bioethics
How Do We Integrate Bioethics into Our Food Animal System?
Chair: Debbie Cherney, Cornell University
101–102

9:30 AM 255 Introduction

9:35 AM 256 ASAS Centennial Presentation: History and future perspectives of bioethics in food animal agriculture. W. R. Stricklin*, University of Maryland, College Park.


10:30 AM 258 Bridging the DVM and PhD gap. P. Ruegg*, University of Wisconsin, Madison.

10:55 AM 259 Break

11:10 AM 259 How to talk truthfully with the public regarding bioethical and animal welfare issues. W. Jamison*, University of Florida, Gainesville.

11:35 AM 259 Roles of surveys and foundation reports in policy decisions. F. B. Norwood* and J. L. Lusk, Oklahoma State University, Stillwater.

12:00 PM 260 Discussion
SYMPOSIUM
Breeding and Genetics
Genome-Wide Selection
Chairs: Filippo Miglior, Agriculture and Agri-Food Canada, and Janice Rumph, Michigan State University
Sponsors: Igenity and Newsham Genetics
500 Ballroom

9:30 AM
Introduction. F. Miglior, Agriculture and Agri-Food Canada, Guelph, ON, Canada.


10:15 AM 261 Reliability of genomic predictions for North American dairy bulls. P. M. VanRadent1, C. P. Van Tassell1,2, G. R. Wiggans1, T. S. Sonstegard3, R. D. Schnabel1, and F. Schenkel1, USDA Animal Improvement Programs Laboratory, Beltsville, MD, 2Bovine Functional Genomics Laboratory, Beltsville, MD, 3University of Missouri, Columbia, 4University of Guelph, Guelph, ON Canada.

10:55 AM 262 Data optimization techniques for large phenotypic and molecular data sets. R. Rekaya*, University of Georgia, Athens.

11:35 AM 263 The next steps in genomic selection: An industry perspective. J. P. Chesnais*, F. Schenkel1, and N. Caron1, Semex Alliance, Guelph, ON, Canada, 2University of Guelph, Guelph, ON, Canada.

12:15 PM Panel Discussion. J. Rumph 1 and F. Miglior2, 1Michigan State University, Lake City, 2Agriculture and Agri-Food Canada, Guelph, ON, Canada.

SYMPOSIUM
Food Safety
Assuring Food Safety in a Globalized Market
Chair: Pamela Ruegg, University of Wisconsin
Sponsor: Elanco
204

9:30 AM 264 Quality and safety concerns of outsourced foods. M. W. Griffiths*, University of Guelph, Guelph, ON, Canada.


10:35 AM 266 FDA’s food protection plan and import safety plan. S. A. Benz*, Center for Veterinary Medicine, Food and Drug Administration, Rockville, MD.

11:05 AM Break

11:20 AM 267 The global threat of foreign animal diseases and their role in food safety. T. McKenna*1 and A. Torres2, 1Wisconsin Veterinary Diagnostic Laboratory, Madison, WI, 2Cornell University, Ithaca, NY.

11:50 AM 268 BSE: Risk communication lessons learned in North America. R. R. Ulmer*1, W. D. Hueston2, and A. Millner1, 1University of Arkansas, Little Rock, 2University of Minnesota, St. Paul.

SYMPOSIUM
Forages and Pastures
Forage-Based Systems for Beef and Dairy Cattle Production: Regional Challenges and Opportunities
Chair: Paul Beck, University of Arkansas
Sponsor: Mycogen
103

9:30 AM 269 Northeast opportunities and challenges for forage-based beef and dairy production. K. J. Soder*, USDA-ARS, Pasture Systems & Watershed Mgmt. Research Unit, University Park, PA.

10:00 AM 270 Forage-based systems for the Upper Midwest. W. K. Coblenz*, US Dairy Forage Research Center, Marshfield, WI.

10:30 AM 271 Opportunities and obstacles for forage-based dairy and beef production in the Southeastern US. J. Andrae*, Clemson University, Clemson, SC.
11:00 AM 272  Forage-based systems for beef and dairy cattle production: Challenges and opportunities in the South Central region. W. A. Phillips, G. W. Horn, and B. K. Northup, USDA-ARS Grazinglands Research Laboratory, El Reno, OK, 2Oklahoma Agricultural Experiment Station, Stillwater, OK.

11:30 AM 273  Forage-based systems for beef production: Western regional challenges and opportunities. K. C. Olson and B. L. Waldron, South Dakota State University, Rapid City, 2USDA-ARS Forage and Range Research Laboratory, Logan, UT.

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Growth and Development
Historical Perspective and Future Direction
Chairs: Michael Azain, University of Georgia, and Jud Heinrichs, Pennsylvania State University
Sagamore Ballroom 5

9:30 AM 9:40 AM
Introduction. Michael Azain.

9:40 AM 274  ASAS Centennial Presentation: The history of growth biology research – A reflection on the episodic nature of science. T. Etherton, Penn State University, University Park.


11:00 AM 276  The role of microRNA on murine mammary epithelial cell and mammary gland. Q. Z. Li and C. M. Wang, Northeast Agricultural University, Harbin, Heilongjiang, China.


11:45 AM 279  Enhanced skeletal muscle protein synthesis rates in pigs treated with somatotropin requires fed amino acids levels. F. A. Wilson, A. Suryawan, R. A. Orellana, H. V. Nguyen, A. S. Jeyapalan, M. C. Gazzaneo, and T. A. Davis, Baylor College of Medicine, Houston, TX.

12:00 PM 280  Changes in the transcriptome of adipose tissue of the dairy heifer during late pregnancy and lactation as measured by gene array analysis: global changes and cell control. J. Sumner, C. Schachtschneider, and J. McNamara, Washington State University, Pullman.

12:15 PM 281  Changes in the transcriptome of adipose tissue of the dairy heifer during late pregnancy and lactation as measured by gene array analysis: changes in specific metabolic control genes. J. Sumner, C. Schachtschneider, J. Vierck, and J. McNamara, Washington State University, Pullman.

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Horse Species I
Chair: Jason Turner, New Mexico State University
104


10:30 AM 283  Pituitary responsiveness to continuously-administered native GnRH at the winter solstice in anovulatory mares and mares with residual ovarian activity. I. C. Velez, M. Amstalden, J. D. Pack, and G. L. Williams, Texas A&M University, College Station.

10:45 AM 284  Patterns of pituitary venous LH release in the luteal and follicular phase mare: Effects of continuous treatment with native GnRH. I. C. Velez, M. Amstalden, J. D. Pack, and G. L. Williams, Texas A&M University, College Station.

11:00 AM 285  Effect of centrifugation technique on post storage characteristics of stallion spermatozoa. M. M. Dean and G. W. Webb, Missouri State University, Springfield.

11:15 AM  Break
11:30 AM  286  Effect of selenium supplementation and dietary energy manipulation on mares and their foals: Selenium concentrations and glutathione peroxidase activity. B. J. Karren1, J. F. Thorson2, C. A. Cavinder1, C. J. Hammer2, and J. A. Coverdale1, 1Texas A&M University, College Station, 2North Dakota State University, Fargo.

11:45 AM  287  Effect of selenium supplementation and dietary energy manipulation on mares and their foals: Equine colostrum quality and passive transfer of IgG. J. F. Thorson1, B. J. Karren2, M. L. Bauer2, C. A. Cavinder1, J. A. Coverdale1, and C. J. Hammer1, North Dakota State University, Fargo, Texas A&M University, College Station.

12:00 PM  288  Differential mRNA expression of amino acid transporters in the equine small and large intestine. A. D. Woodward1, S. J. Holcombe, C. Colvin, J. Liesman, and N. L. Trottier, Michigan State University, East Lansing.


Meat Science and Muscle Biology
Measuring and Manipulating Pork Quality
Chair: Kirk Braden, Angelo State University
Sagamore Ballroom 7

9:30 AM  290  Oxidation results in formation of an intramolecular disulfide bond in μ-calpain. R. Lametsch2, E. Huff-Lonergan1, and S. M. Lonergan1, 1Iowa State University, Ames, 2University of Copenhagen, Copenhagen, Denmark.


10:00 AM  292  Objective and sensory measures of meat quality and fatty acid profile of longissimus intramuscular lipid from pigs fed crude glycerol. P. Lammers*1, B. Kerr2, T. Weber2, K. Bregendahl1, S. Lonergan1, K. Prusa1, D. Ahi1, W. Stoffegen2, W. Dozier III1, and M. Honeyman1, 1Iowa State University, Ames, 2Swine Odor and Manure Management Research Unit, USDA-ARS, Ames, IA, 1Bacterial Diseases of Livestock Research Unit, USDA-ARS, Ames, IA, 4Poultry Research Unit, USDA-ARS, Mississippi State, Mississippi.


10:30 AM  294  Effect of different dietary levels of natural-source vitamin E in grow-finish pigs on pork quality and shelf life. D. D. Boler*1, S. R. Gabriel1, H. Yang2, R. Balsbaugh2, D. C. Mahan1, M. S. Brewer1, F. K. McKeith1, and J. Killefer1, 1University of Illinois, Urbana, 2ADM Alliance Nutrition Inc., Quincy, IL, 3The Ohio State University, Columbus.

10:45 AM  295  Comparison of dose and durations of ractopamine on late finishing pig carcass characteristics and meat quality. L. W. Kutzler1, S. F. Holner1, D. D. Boler1, S. N. Carr2, M. J. Ritter2, C. W. Parks2, F. K. McKeith1, and J. Killefer1, 1University of Illinois, Urbana, 2Elanco Animal Health, Greenfield, IN.

11:00 AM  296  Comparison of growth performance, carcass characteristics, and meat quality of barrows, immunocastrated pigs and entire males. C. Pauly2 and G. Bee*1, 1Agroscope Liebefeld-Posieux Research Station ALP, Posieux, Switzerland, 2Swiss College of Agriculture, Zollikofen, Switzerland.

11:15 AM  297  Effect of gender and slaughter weight on meat quality and weight loss of hams during ripening in Iberian pigs reared under intensive production systems. M. P. Serrano1, D. G. Valencia1, R. Lázaro1, D. Menoyo1, A. Fuentetaja2, and G. G. Mateos*1, 1Universidad Politécnica de Madrid, Spain, 2Copese, Segovia, Spain.

Nonruminant Nutrition
Past and Future of Nonruminant Nutrition
Chairs: Wilson G. Pond, Cornell University, and Nathan Auspurger, JBS United
105–106


9:40 AM  298  ASAS Centennial Presentation: Landmark studies in swine nutrition during the past century. G. L. Cromwell*, University of Kentucky, Lexington.

10:20 AM  Discussion
ASAS Centennial Presentation: Nonruminant nutrition – A proud past but uncertain future. R. A. Easter*, University of Illinois, Urbana.

SYMPOSIUM
Physiology and Endocrinology
Emerging Concepts on Dietary Components that Influence the Physiology and Endocrinology of Domestic Farm Animals
Chair: Mark Estienne, Virginia Tech
Sponsor: Monsanto Company
Sagamore Ballroom 4

9:30 AM Reproductive consequences of nutritionally induced changes in the pH of the bovine reproductive tract. G. A. Perry*, South Dakota State University, Brookings.

10:15 AM Performance, metabolism and immunity in domestic animals fed diets contaminated with Fusarium mycotoxins. T. K. Smith*, University of Guelph, Guelph, ON, Canada.

11:00 AM Effectiveness of supplemental antioxidants for enhancing reproductive function in cattle. P. J. Hansen*, University of Florida, Gainesville.

11:45 AM Phytase: Not just for environmental protection–Novel roles in system physiology. X. G. Lei*1 and J. M. Porres2, 1Cornell University, Ithaca, NY, 2University of Granada, Granada, Spain.

Production, Management and the Environment
Nutrient Management and the Environment
Chair: Walter Owsley, Auburn University
Sagamore Ballroom 2


9:45 AM Characteristics and use of separated manure solids following anaerobic digestion for dairy freestall bedding in three Iowa dairy herds. L. L. Timms*, Iowa State University, Ames.

10:00 AM Aerobic composting or anaerobic stockpiling of beef feedlot manure. M. K. Luebbe*, G. E. Erickson, T. J. Klopfenstein, and J. R. Benton, University of Nebraska, Lincoln.

10:15 AM Effect of dietary protein level and degradability and energy density on ammonia losses from manure in dairy cows. M. Agle1, A. N. Hristov*, S. Zaman1, C. Schneider1, P. Ndegwa2, and V. K. Vaddella2, 1University of Idaho, Moscow, 2Washington State University, Pullman.

10:30 AM Simulating effects of grass management on methane emission in lactating cows. A. Bannink**, M. C. J. Smits1, J. A. N. Mills2, E. Kebrab1, J. L. Ellis1, J. France1, and J. Dijkstra1, 1Animal Sciences Group, Wageningen University Research Centre, Lelystad, the Netherlands, 2University of Reading, Reading, United Kingdom, 3University of Manitoba, Winnipeg, Canada, 4University of Guelph, Guelph, Canada, 5Wageningen University, Wageningen, the Netherlands.

10:45 AM Application of computer models in evaluating alternatives to reduce excess nutrients on a beef farm. M. J. Baker*, D. G. Fox1, and L. O. Tedeschi2, 1Cornell University, Ithaca, NY, 2Texas A&M University, College Station.

11:00 AM Challenges in using flux chambers to measure ammonia and VOC flux from simulated feedlot pen surfaces and retention ponds. N. A. Cole*, R. W. Todd1, D. B. Parker2, M. B. Rhoades2, and E. Caraway2, 1USDA-ARS-CPRl, Bushland, TX, 2West Texas A&M University, Canyon, TX.

11:15 AM Odorant production and persistence of generic E. coli in manure slurries from cattle fed 0, 20, 40, and 60% wet distillers grains with solubles (WDGS). V. H. Varel*, I. E. Wells1, E. D. Berry1, M. J. Speirs1, D. N. Miller2, C. L. Ferrell1, S. D. Shackelford3, and M. Koohmaraie1, 1USDA-ARS, US Meat Animal Research Center, Clay Center, NE, 2USDA-ARS, Agroecosystem Management Unit, Lincoln, NE.
Production, Management and the Environment
Young Stock, Environment and Management
Chair: Micheal Brouk, Kansas State University
109–110
9:30 AM 313 Supplements for replacement beef heifers grazing dry summer California foothills annual range. R. D. Sainz*, L. F. B. Carvalho, L. R. A. Sodré, G. D. Cruz, D. M. Myers, J. W. Oljen, and M. Arana. 1University of California, Davis, 2Federal Rural University of Pernambuco, Recife, PE, Brazil, 3University of São Paulo, Pirassununga, SP, Brazil, 4A. L. Gilbert Company, Oakdale, CA.

9:45 AM 314 Feed intake, gain and feed efficiency of Suffolk ram lambs from a flock emphasizing performance traits. M. C. Benson, A. B. Culham, and G. M. Hill. 1Michigan State University, East Lansing, 2Washington State University, Pullman.

10:00 AM 315 Variation in total mixed rations on farms utilizing feed management software. B. House, L. Holden, and G. Varga. Pennsylvania State University, University Park.


10:30 AM 317 Effect of feeding method and temperament on measures of feed efficiency and age at puberty in Brahman bulls. N. D. Ramirez, D. A. Neuendroff, A. W. Lewis, S. T. Willard, R. C. Vann, S. Bowers, T. H. Welsh, J. D. A. Forbes, R. L. Stanko, and R. D. Randel. 1Texas A&M University, Kingsville, 2Texas AgriLife Research Station, Beeville, TX, 3Texas AgriLife Research and Extension Center, Overton, TX, 4Mississippi State University, Starkville, 5Texas A&M University, College Station, 6Texas A&M University Agricultural Research and Extension Center, Uvalde, TX, 7MAFES-Mississippi State University, Raymond.


11:15 AM 320 Relationship between temperament and chute exit velocity of Senepol calves after weaning. R. W. Godfrey and R. C. Ketring. University of the Virgin Islands, Agricultural Experiment Station, Kingshill, VI.


Ruminant Nutrition
Fats and Fatty Acids
Chair: Paul Kononoff, University of Nebraska
Sagamore Ballroom 3


10:00 AM 325 Effects of supplemental flaxseed or corn on site and extent of digestion in beef heifers grazing summer rangelands in the northern Great Plains. E. J. Scholljegerdes and S. L. Kronberg. USDA-ARS, Northern Great Plains Research Laboratory, Mandan, ND.

10:15 AM 326 The influence of single essences on conjugated linoleic acid and vaccenic acid content in cows' milk. S. La Terra, M. Manenti, F. La Terra, M. Caccamo, G. Azzaro, S. Carpino, and G. Licitra. 1CoRFlLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A., Catania University, Catania, Italy.
10:30 AM 327 Dietary coconut oil and animal fat blend decrease lactational performance of Holstein cows fed a high starch diet. M. Hollmann* and D. K. Beede, Michigan State University, East Lansing.

10:45 AM 328 Effect of supplementation with sunflower oil (SO) or seeds (SS) combined or not with fish oil (FO) on milk production in grazing dairy cows. G. A. Gagliostro*, D. A. Garciaarena, F. Luparia, A. Ferlay, and Y. Chilliard, Instituto Nacional de Tecnologia Agropecuaria, INTA, Balcarce, Buenos Aires, Argentina, Instituto National de la Recherche Agronomique, Saint Genêts Champanelle, France.

11:00 AM 329 Effects of particle size of calcium salts of fatty acids on rates of biohydrogenation and disappearance of essential fatty acids in sacco. E. Block*, E. Evans, C. J. Sniffen, and N. Clark, Church & Dwight Co Inc., Princeton, NJ, Technical Advisory Services Inc., Bowmanville, ON, Canada, Fencrest LLC, Holderness, NH, Atlantic Dairy and Forage Institute, Fredericton Junction, NB, Canada.

11:15 AM 330 Calcium status influences the periparturient cow’s ability to consume and utilize high levels of supplemental ruminal inert fat and is potentially mediated by insulin. L. M. Norat-Collazo*, A. Lukose, P. G. Smith, L. O. Ely, and M. A. Froetschel, The University of Georgia, Athens.


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**Ruminant Nutrition**

**Rumen Fermentation and Microbiology**

Chair: John Wagner, Colorado State University

Sagamore Ballroom 6

9:30 AM 334 Chemotaxis toward glucose and xylose by mixed ruminal protozoa and dose-responsive insulin recovery from wortmannin inhibition by entodiniomorphid cultures. H. L. Diaz*, J. L. Firkins, M. A. Lyons, and J. R. Knapp, The Ohio State University, Columbus, Fox Hollow Consulting, LLC, Columbus, OH.


10:00 AM 336 Extract from Larrea tridentata reduces growth of rumen bacteria. J. Browne-Silva, S. L. Lodge-Ivey*, J. Petersen, R. Reyna-Islas, and M. B. Horvath, New Mexico State University, Las Cruces.


11:00 AM 340 Bacterial population shifts in the rumen of lactating dairy cows within and across feeding cycles. D. G. Welkie, D. M. Stevenson, and P. J. Weimer*, University of Wisconsin, Madison, USDA-ARS, Madison, WI.


11:30 AM 342 Effect of esterified linolenic acid addition on methanogenesis, fermentation and microbes in the rumen of sheep fed diets with different forage to concentrate ratios. C. M. Zhang*, J. X. Liu, Z. P. Yuan, X. W. Yi, W. T. Li, and Y. Q. Guo, Zhejiang University, Hangzhou, P. R. China.
Summary of the effect on ruminal fermentation of Protein Edge® supplementation in continuous culture experiments. C. S. Mooney*, H. M. Dann, C. S. Ballard, K. W. Cotanch, and R. J. Grant, William H. Miner Agricultural Research Institute, Chazy, NY.

Effect of controlled in vitro pH on fermentative activity of ruminal contents from finishing cattle adapted to supplemental dried distiller’s grains. S. Uwituze*, J. M. Heidenreich, T. G. Nagaraja, J. J. Higgins, and J. S. Drouillard, Kansas State University, Manhattan.

Small Ruminant
Goats and Sheep
Chair: Joan M. Burke, USDA, ARS
205

ASAS Centennial Presentation: Impact of animal science research on U.S. goat production and predictions for the future. T. Sahlu*,1, L. J. Dawson1,2, T. A. Gipson2, S. P. Hart1, R. C. Merkel1, R. Puchala1, Z. Wang1, S. Zeng1, and A. L. Goetsch1, 1American Institute for Goat Research, Langston University, Langston, OK, 2Oklahoma State University, Stillwater.

Small Ruminant
Goats and Sheep
Chair: Joan M. Burke, USDA, ARS
205

Swine Species
Chair: Brett J. White, University of Nebraska–Lincoln
107–108


Multi-breed comparison of body composition in swine using dual energy X-ray absorptiometry (DXA) and magnetic resonance imaging (MRI) under special consideration of Cerdo Iberico. A. M. Scholz*, S. Schneider, and P. V. Kremer, Ludwig Maximilians University Munich, Oberschleissheim, Bavaria, Germany.

Performance and carcass characteristics of pigs destined for natural label or commodity pork markets. A. F. Harper*,1, M. J. Estienne1, T. D. Pringle2, and K. A. Alberti1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2University of Georgia, Athens.

Effect of gender and slaughter age of heavy pigs on production of high quality dry-cured hams. M. A. Latorre* 1, L. Ariño2, and B. Blanco3, 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.

Lignocellulose as dietary fiber source in swine nutrition. A. Kroismayr*, J. Leibetseder, C. Plitzner, K. Neufeld, and P. Affentranger, University of Veterinary Medicine, Vienna, Austria; University of Natural Resources and Applied Life Sciences, Vienna, Austria; Animal Nutrition Research Center, Austria, Agromed Austria, Kremsmünster, Austria/EU; UF A AG, Switzerland.


The impacts of vaccination and feeding a gel nutritional supplement on nursery pig performance. L. Layman*, W. Holt, L. Karriker, K. Stalder, B. de Rodas, D. Brown, and A. Johnson, Iowa State University, Ames, Land O’Lakes Purina Feed, Gray Summit, MO.


**SYMPOSIUM**

**Teaching/Undergraduate and Graduate Education**

**The Changing Student and Influence of Technology on Learning**

Chair: John Parrish, University of Wisconsin

120


9:50 AM 363 How current students differ and what impact this has on learning in the classroom. L. C. Martin*, The Ohio State University, Columbus.

10:10 AM 364 Changes that have occurred in animal science teaching. J. A. Sterle* and J. J. Parrish, Texas A&M University, College Station, University of Wisconsin, Madison.


10:40 AM Break

10:55 AM 365 The use of multimedia in the classroom. H. Khatib*, University of Wisconsin, Madison.

11:15 AM 366 The use of podcasts in the classroom. J. J. Parrish*, University of Wisconsin, Madison.

11:35 AM 367 Teaching and learning with an instructional web site. M. A. Wattiaux*, University of Wisconsin, Madison.

11:55 AM Panel Discussion: Can we go too far in adapting your teaching to student needs? D. S. Buchanan, L. C. Martin, J. A. Sterle, H. Khatib, J. J. Parrish, M. A. Wattiaux.

**Danisco International Dairy Science Award Lecture**

Chair: Carmen Moraru, Cornell University

Sponsor: Danisco Animal Nutrition

121

10:30 AM Introduction

10:35 AM Danisco International Dairy Science Award—An overview of the Danisco Award and a summary of the history and results of Dr. Peter Parodi’s, 2008 Danisco Awardee, work. D. Bauman, Cornell University, Ithaca, NY.

11:20 AM Discussion
Nonruminant Nutrition
Feed Additives I
Chairs: Nathan Auspurger, JBS United, and Wilson G. Pond, Cornell University
105–106


11:45 AM  369  Effects of dietary yeast culture supplementation to gestation and lactation diets on performance of sows and litters. S. W. Kim*,1, M. Brandherm2, B. Newton3, D. Cook4, and I. K. Yoon5, 1North Carolina State University, Raleigh, 2Hitch Pork Producers, Guymon, OK, 3Akeley, Lewisburg, OH, 4Diamond V Mills, Cedar Rapids, IA.

12:00 PM  370  In vitro efficacy of yeast cell walls to bind pathogenic bacteria and to influence performance of broiler chickens. A. Ganner*, S. Nitsch, and G. Schatzmayr, Biomin Research Center, Tulln, Lower Austria, Austria.

12:15 PM  371  Effect of enzymatically hydrolyzed yeast supplementation on performance and in protecting broilers against a mild coccidiosis challenge. S. Jalukar*,1, J. Oppy1, and S. Davis2, 1Varied Industries Corporation, Mason City, IA, 2Colorado Quality Research Inc., Wellington, CO.

Physiology and Endocrinology
Effects of Environment and Handling on Performance
Chair: David Miller, University of Illinois
Sagamore Ballroom 7


12:00 PM  374  The influence of bovine temperament on rectal temperature and stress hormones in response to transportation. N. C. Burdick*, J. A. Carroll2, R. D. Randel1, R. C. Vann3, S. T. Willard4, L. C. Caldwell5, J. W. Dailey6, L. E. Hulbert7, and T. H. Welsh Jr.8, 1Agrilife Research, Texas A&M System, Overton, TX, 2USDA-ARS Livestock Issues Research Unit, Lubbock, TX, 3AgriLife Research, Texas A&M System, Overton, TX, 4Mississippi State University, Raymond, 5Mississippi State University, Mississippi State.


12:30 PM  376  Effects of acclimation on performance, physiologic responses, and pregnancy rates of Brahman-crossbred cows. R. F. Cooke*, D. B. Araujo2, G. C. Lamb3, and J. D. Arthington4, 1University of Florida - IFAS, Range Cattle Research and Education Center, Ona, 2University of Florida - IFAS, Animal Sciences, Gainesville, 3University of Florida - IFAS, North Florida Research and Education Center, Marianna.

ADSA Foundation Scholar Lecture
Production
Chair: Lloyd Metzger, South Dakota State University
Sponsor: ADSA Foundation
120

2:00 PM  Introduction


2:50 PM  Discussion
Animal Behavior and Well-Being
Livestock: Swine and Sheep
Chair: Trevor Devries, University of Guelph
101–102

2:00 PM  Introduction of Centennial speaker

2:05 PM  ASAS Centennial Presentation: Animal behavior as a discipline within the American Society of Animal Science: One hundred years of change and promise. W. R. Stricklin*, University of Maryland, College Park.

2:35 PM  Break


3:00 PM  The motivation of dominant and subordinate gestating sows for an enriched group pen. M. R. Pittman*, A. K. Johnson1, J. P. Garner1, R. D. Kirkden1, B. T. Richert1, and E. A. Pajor1, 1Purdue University, West Lafayette, IN, 2Iowa State University, Ames.

3:15 PM  Behavioral changes in young pigs infected with Salmonella. J. Higginson*, J. T. Gray2, and S. T. Millman1, 1Department of Population Medicine, University of Guelph, Guelph, ON, Canada; 2Department of Microbiology & Immunology, Des Moines University, Des Moines, IA; 1Veterinary Diagnostic and Production Animal Medicine, Iowa State University, Ames.

3:30 PM  The social behavior carried out by unacquainted sows on mixing may predict the likelihood of escalation into aggression. J. N. Marchant-Forde*, J. P. Garner2, E. L. Schenck1, A. K. Johnson3, and D. C. Lay Jr.1, 1USDA-ARS, West Lafayette, IN, 2Purdue University, West Lafayette, IN, 3Iowa State University, Ames.

3:45 PM  The effects of ractopamine, gender, and social rank on aggression and peripheral monoamine levels in finishing pigs. R. Poletto*, J. P. Garner1, H. W. Cheng2, B. T. Richert1, and J. N. Marchant-Forde2, 1Purdue University, West Lafayette, IN, 2USDA-ARS-LBRU, West Lafayette, IN.

4:00 PM  Preference for foods by lambs conditioned with rumen distension and contraction. J. J. Villalba* and F. D. Provenza, Department ofWildland Resources, Utah State University, Logan.

4:15 PM  Feeding behavior and rumen pH of lactating dairy sheep fed diets with different starch, NDF, and pNDF content. G. Molle*, F. Boe1, V. Giovannetti1, M. Decandia1, E. Zerbini3, and A. Cannas2, 1AGRIS Sardegna, Dipartimento Ricerca nelle Produzioni Animali, Olmedo, Italy; 2Dipartimento di Scienze Zootecniche, University of Sassari, Italy; 3Cargill Animal Nutrition, Spessa, Italy.

Animal Health V
Chair: James Strickland, USDA-ARS
Sagamore Ballroom 2

2:00 PM  Advances in respiratory disease research. G. D. Snowden*, National Center for Foreign Animal and Zoonotic Disease Defense, College Station, TX.

3:00 PM  An evaluation of tulathromycin treatment at post-weaning movement on the incidence of respiratory disease and on growth in commercial dairy calves. A. Stanton*, S. J. LeBlanc1, R. T. Dingwell1, D. Kelton1, S. T. Millman1, J. Wormuth1, and K. E. Leslie1, 1University of Guelph, Guelph, ON, Canada; 1CY Heifer Farm, Elba, NY.


3:30 PM  Comparison of Brix (sugar) refractometer and colostrometer for evaluation of colostrum quality in dairy cows. P. Dinsmore*1 and A. Skidmore2, 1Colorado State University, Fort Collins; 2Schering-Plough Animal Health, Alexander, NY.

3:45 PM  Thermal imaging of the bovine muzzle and the correlation to rectal temperature. S. M. Behrends*, T. B. Schmidt, P. Ryan, S. Willard, M. McGee, C. Welch, C. Trejo, J. O. Buntyn, and C. Huston, Mississippi State University, Mississippi State.

4:00 PM  Sorting heifers with high risk of bovine respiratory disease based on arrival serum haptoglobin concentration. B. P. Holland*, L. O. Burciaga-Robles, D. L. Step, and C. R. Krehbiel, Oklahoma State University, Stillwater.
SYMPOSIUM
ARPAS Symposium
Livestock Pharmaceuticals: The Past, The Present, The …
Chair: Marit Arana, A.L. Gilbert Co.

2:00 PM  391  Effects of on-arrival vs. delayed clostridial or modified-live respiratory vaccinations on health, performance, bovine viral diarrhea titers, and physiological measures in high-risk, newly received beef calves. J. T. Richeson*, E. B. Kegley1, M. S. Gadberry2, P. A. Beck3, J. G. Powell1, and C. Jones4, 1University of Arkansas, Fayetteville, 2University of Arkansas, Little Rock, 3University of Arkansas, Hope, 4Boehringer-Ingelheim Vetmedica Inc., St. Joseph, MO.

2:05 PM  392  Effect of length of time between maternal separation and shipping on post-weaning performance of beef calves weaned during the fall. J. W. Bolte*, K. C. Olson1, J. R. Jaeger1, T. B. Schmidt1, D. U. Thomson1, B. J. White1, R. L. Larson1, A. Sproul1, L. A. Pachenco1, and M. D. Thomas1, 1Kansas State University, Manhattan, 2Mississippi State University, Starkville.


SYMPOSIUM
ASAS Graduate Student Symposium
Academia, Industry, Government, or None of the Above: Graduation is Coming, What Next?
Chair: Craig Gifford, University of Idaho
Sponsor: American Society of Animal Science
Sagamore Ballroom 7

2:00 PM  398  Applying for an academic position. T. Etherton*, Penn State University, University Park.

2:05 PM  399  How a career in animal science can help save endangered wildlife species. J. L. Brown*, National Zoological Park, Conservation and Research Center, Front Royal, VA.

2:20 PM  400  Careers in government. R. D. Green*, Pfizer Animal Genetics, Sutton, NE.

2:25 PM  401  Graduate student career opportunities in the animal science industry. J. F. Stika*, Certified Angus Beef LLC, Wooster, OH.

2:50 PM  402  Opportunities for graduate students in American Society of Animal Science. A. E. Radunz*, The Ohio State University, Columbus.
<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>403</td>
<td>Validation of multiple marker DNA profiles for carcass merit across multiple populations of beef cattle.</td>
<td>J. D. Nkrumah* and B. W. Woodward, *Merial Limited, Duluth, GA.</td>
</tr>
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<td>2:15 PM</td>
<td>404</td>
<td>Genetic prediction of beef tenderness using a multi-marker SNP panel.</td>
<td>S. P. Miller*1, M. J. Kelly1, and D. J. Nkrumah1, *University of Guelph, Guelph, ON, Canada, 1Merial Limited, Duluth, GA.</td>
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<tr>
<td>2:30 PM</td>
<td>405</td>
<td>Multiple marker DNA profiles for production, fertility, and functional traits in Holstein cattle.</td>
<td>J. D. Nkrumah and B. W. Woodward*, *Merial Limited, Duluth, GA.</td>
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<tr>
<td>3:00 PM</td>
<td>407</td>
<td>Genomic selection of purebreds using data from admixed populations.</td>
<td>A. Toosi*1, R. Fernando1, J. C. M. Dekkers1, and R. L. Quaas2, *Iowa State University, Ames, 1Cornell University, Ithaca, NY.</td>
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<tr>
<td>3:30 PM</td>
<td></td>
<td>Break</td>
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<td>3:45 PM</td>
<td>409</td>
<td>Linkage disequilibrium and persistence of phase in Holstein Friesian, Jersey and Angus cattle.</td>
<td>A. P. De Roos1, B. J. Hayes2, R. J. Spelman1, and M. E. Goddard1, 4, *CRY, Arnhem, the Netherlands, 1Animal Genetics and Genomics, Primary Industries Research Victoria, Attwood, Australia, 2Livestock Improvement Corporation, Hamilton, New Zealand, 4University of Melbourne, Melbourne, Australia.</td>
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<tr>
<td>4:00 PM</td>
<td>410</td>
<td>Estimated linkage disequilibrium in a multi-breed beef herd based on the Illumina BovineSNP50 BeadChip.</td>
<td>M. J. Kelly1, M. Sargolzaei1, Z. Wang1, D. Kolbehdari1, P. Stothard1, F. Schenkel1, S. S. Moore2, and S. P. Miller1, *University of Guelph, Guelph, ON, Canada, 2University of Alberta, Edmonton, AB, Canada.</td>
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<tr>
<td>4:15 PM</td>
<td>411</td>
<td>Linkage disequilibrium of the SLA region loci with malignant melanoma in Sinclair swine.</td>
<td>L. Gomez-Raya1, M. Miller1, C. S. Ho2, V. Kirchhoff1, D. M. Smith2, W. M. Rauw1, D. Thain1, A. Rink1, and C. W. Beattie1, *University of Nevada, Reno, 2University of Michigan, Ann Arbor, 3University of Illinois, Chicago.</td>
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<tr>
<td>4:30 PM</td>
<td>412</td>
<td>QTL with dominance effect affecting residual feed intake on BTA6.</td>
<td>G. C. Márquez1, R. M. Enns1, M. D. Grosz2, and M. D. MacNeil1, *Colorado State University, Fort Collins, 2Monsanto Co., St. Louis, MO, 3USDA, Agricultural Research Service, Miles City, MT.</td>
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**SYMPOSIUM**

**Companion Animals**

**Perceptions and Implications of Companion Animals in Research and Teaching – Domestically and Globally**

**Chair:** Ryan Yamka, Hill’s Pet Nutrition Inc.

**Sponsors:** European Association of Animal Production, Hill’s Science Diet, Iams, and Nestle Purina

**105–106**

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<th>Time</th>
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<th>Title</th>
<th>Speakers</th>
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<tr>
<td>2:00 PM</td>
<td></td>
<td>Introduction. R. Yamka, Hill’s Pet Nutrition Inc.</td>
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<td>2:05 PM</td>
<td>414</td>
<td>ASAS Centennial Presentation: Evolution of companion animals – A perception shift.</td>
<td>L. P. Case<em>1, L. P. Case</em>1, 2University of Illinois, Urbana, 1AutumnGold Consulting, Mahomet, IL.</td>
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<tr>
<td>2:35 PM</td>
<td>415</td>
<td>Past-present perceptions and research in companion animals – A domestic viewpoint.</td>
<td>G. Czarnecki-Maulden*, Nestle Purina Research Center, St. Louis, MO.</td>
</tr>
</tbody>
</table>
2:55 PM 416  Past-present perceptions and research in companion animals – An international viewpoint. P. Nguyen*, 1 L. Prola*, R. C. Nap*, P. P. Mussa*, and J. Nery*, 1National Veterinary School of Nantes, Nantes, France; 2Veterinary School of Turin, Turin, Italy; 3Uppertunity Consultants, Utrecht, the Netherlands.


3:55 PM  Break

4:15 PM 419  Alternatives to live animal models in companion animals: Research location shift. G. Kuhlman* and M. A. Tettick, Procter & Gamble Pet Care Research & Development, Lewisburg, OH.


4:45 PM 421  Computer modeling: An alternative to live companion animal testing. R. M. Yamka* and N. Z. Frantz, Hill’s Pet Nutrition Inc., Topeka, KS.

5:00 PM 422  ASAS Centennial Presentation: The future of teaching and research in companion animal biology in departments of animal sciences. J. McNamara*, Washington State University, Pullman.

**SYMPOSIUM**

**Dairy Foods**

**Changes and Challenges of Probiotics in Dairy Products**

Chair: David McCoy, Chr. Hansen

**121**

2:00 PM 423  Probiotics: From Metchnikoff to bioactives. N. P. Shah*, Victoria University, Melbourne, Victoria, Australia.

2:30 PM 424  Probiotics in natural cheese. B. Dias* and N. Mix, Kraft Foods Inc, Glenview, IL.

3:00 PM 425  Development of yoghurt and specialty milks containing probiotics. C. P. Champagne*, Agriculture and Agri-Food Canada, St. Hyacinthe, QC, Canada.

3:30 PM  Break

3:45 PM 426  Recent trends in the microencapsulation and delivery of probiotics in dairy foods. K. Kailasapathy*, University of Western Sydney, Hawkesbury, NSW, Australia.


**SYMPOSIUM**

**Extension Education**

**From 40 Acres and a Mule to Today: Historical Perspective of Extension Programming**

Chair: Joe Harrison, Washington State University

**109–110**

2:00 PM 428  ASAS Centennial Presentation: History of extension. J. Paterson*, Montana State University, Bozeman, MT.

2:30 PM 429  ASAS Centennial Presentation: Evolution of delivery methods. M. Hutjens*, University of Illinois, Urbana, IL.

3:00 PM 430  ASAS Centennial Presentation: From 40 acres and a mule to today: Historical perspective of extension programming: HorseQuest. E. A. Greene*, University of Vermont, Burlington.

Forages and Pastures II
Chair: Guillermo Scaglia, Louisiana State University
103

2:00 PM 434 Effect of limiting hay access time on dry matter intake by beef cows. C. J. Fleenor*, R. P. Lemenager, M. C. Claeyis, and S. L. Lake, Purdue University, West Lafayette, IN.

2:15 PM 435 Effect of ruminal fermentation on foraging behavior, intake rate, and plasma ghrelin, serum insulin and glucose levels of cattle grazing a vegetative micro-sward. P. Gregorini*1, K. J. Soder1, and R. S. Kensinger1, USDA-ARS Pasture Systems and Watershed Management Research Unit, University Park, PA, Pennsylvania State University, University Park.


3:00 PM 438 Morphological composition of marandu palisadegrass pasture managed under different herbage allowance grazed by dairy cattle in rotational stocking system. A. C. R. Ruggieri*1, E. R. Janusckiewicz1, D. R. Casagrande1, R. A. Reis1, and M. A. Magalhães1, 2São Paulo State University, Jaboticabal, São Paulo, Brazil, 3Conselho Nacional de desenvolvimento Científico e Tecnológico, Brasília, DF, Brazil, 4Fundação de Amparo a Pesquisa do Estado de São Paulo, São Paulo, Brazil.

3:15 PM 439 Evaluation of forage sampling method and chemical composition of diet selection by cattle grazing subtropical forages during the summer. A. Hughes* and M. Hersom, University of Florida, Gainesville.


Horse Species II
Chair: Jason Turner, New Mexico State University
104

2:00 PM 441 ASAS Centennial Presentation: Historical review and future outlook of equine nutrition. H. Hintz*, Cornell University, Ithaca, NY.

3:00 PM 442 Glycemic and insulminemic responses differ in the morning versus the afternoon. L. M. Williamson1, W. B. Staniar*2, and R. J. Geor1, 1Virginia Polytechnic Institute and State University, Blacksburg, Pennsylvania State University, State College.


3:30 PM 444 Glycemic response to meal length in equines. J. R. Bland*, E. L. Wagner1, and W. H. McElhenney2, 1Auburn University, Auburn, AL, 2Tuskegee University, Tuskegee, AL.

3:45 PM Break

Inflammation and vitamin E intake in horses during a CCI**/CCI*** three-day event. C. A. Williams*,1 E. D. Lamprecht1, and A. O. Burk2,1 Rutgers, The State University of New Jersey, New Brunswick, 2University of Maryland, College Park.


Seasonal effects of diet on the omega-6 and omega-3 fatty acid composition of plasma and red blood cells in grazing horses. L. K. Warren* and J. Kivipelto, University of Florida, Gainesville.

Lactation Biology I
Chair: Ben Corl, Virginia Polytech

The acute response to milk removal and the long-term response to frequent milking treatment involve distinct mechanisms. E. H. Wall*, J. P. Bond, and T. B. McFadden, University of Vermont, Burlington.

The effects of increased milking frequency during early lactation on metabolism and mammary cell proliferation in Holstein cows. F. Soberon*,1 J. L. Lukas2, M. E. Van Amburgh1, A. V. Capuco3, and T. R. Overton1,1Cornell University, Ithaca, NY, 2Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD.

Effects of serotonin receptor antagonists on milk protein gene expression in primary bovine mammary epithelial cells. L. Hernandez*1,2, J. Collier1, L. Baumgard1, N. Horserman1, and R. Collier2, University of Arizona, Tucson, 2University of Cincinnati, Cincinnati.


Suppression of bovine αS1-casein gene expression during involution of the mammary gland is associated with increased DNA methylation at a STAT5-binding site in the αS1-casein promoter. K. Singh*, Swanson1, C. Couldrey1, H.-M. Seyfert2, and K. Stelwagen1,1AgResearch Ltd, Ruakura Research Centre, Hamilton, New Zealand, 2Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany.


Effect of the prolactin-release inhibitor Quinagolide on dairy cows. P. Lacasse*, V. Lollivier2, R. M. Bruckmaier1, Y. R. Boisclair1, G. W. Wagner3, and M. Boutinaud4,1Dairy and Swine R&D Centre, Sherbrooke, QC, Canada, 2INRA, Agrocampus Rennes, St-Gilles, France, 3University of Bern, Switzerland, 4Cornell University, Ithaca, NY, 5University of Western Ontario, London, ON, Canada.

Effect of estradiol cypionate injected at dry-off on lactose concentrations in bovine plasma. M. S. Gulay*, M. J. Hayen2, H. H. Head3, and K. C. Bachman2,1Mehmet Akif Ersoy University, Burdur, Turkey, 2University of Florida, Gainesville.

Meat Science and Muscle Biology  
**Beef Quality**  
Chair: Dean Pringle, The University of Georgia  
Sagamore Ballroom 1

2:00 PM 458 National Market Cow and Bull Beef Quality Audit-2007: A survey of producer-related defects. J. D. W. Nicholson1, R. J. Maddock2, R. J. Delmore1, T. E. Lawrence1, W. R. Henning1, T. D. Pringle2, D. D. Johnson3, J. C. Paschal1, R. J. Gill1, J. J. Cleere1, B. B. Carpenter1, R. V. Machen1, J. P. Banta1, J. W. Savell1, D. S. Hale*1, and D. B. Griffin1, 1Texas A&M University, College Station, 2North Dakota State University, Fargo, 3California Poly Technical University, San Luis Obispo, 4West Texas A&M University, Canyon, 5Pennsylvania State University, University Park, 6University of Georgia, Athens, 7University of Florida, Gainesville.

2:30 PM 459 Expression of myosin heavy chain mRNA in skeletal muscle of zilpaterol-HCl fed steers. R. J. Rathmann*1, T. J. Baxa2, J. T. Vasconcelos1, M. L. Galyean1, B. J. Johnson1, and M. F. Miller1, 1Texas Tech University, Lubbock, 2Kansas State University, Manhattan.

2:45 PM 460 Zilpaterol-HCl feeding reduces myosin heavy chain mRNA abundance in skeletal muscle of finishing steers. T. J. Baxa*1, J. P. Hutcheson2, M. F. Miller1, W. T. Nichols2, M. N. Streeter2, D. A. Yates2, and B. J. Johnson1, 1Kansas State University, Manhattan, 2Intervet Inc., Millsboro, DE, 3Texas Tech University, Lubbock.

3:00 PM 461 Effects of ractopamine hydrochloride and zilpaterol hydrochloride fed to beef steers for the final 33 days of the finishing period on growth performance, carcass traits and Warner Bratzler shear force. W. J. Platter1, R. A. Gomez1, W. T. Choat*1, S. M. Scramlin2, and F. K. McKeith2, 1Elanco Animal Health, Greenfield, IN, 2University of Illinois, Urbana.

3:15 PM 462 Sensory attributes of beef from steers finished with corn or high-tannin sorghum. R. E. Larrain*1,2, D. M. Schaefer1, and J. D. Reed1, 1University of Wisconsin, Madison, 2Pontificia Universidad Católica de Chile, Santiago, RM, Chile.

3:30 PM 463 Development of a natural beef production and marketing program for Holstein bull calves. M. J. Baker*1, D. G. Fox1, W. R. Henning2, L. O. Tedeschi1, and D. J. Ketchen1, 1Cornell University, Ithaca, NY, 2Texas A&M University, College Station.

3:45 PM 464 Fatty acid composition of beef finished on various forage species or concentrates. S. K. Duckett*1, J. P. S. Neel2, J. P. Fontenot3, W. Clapham2, and W. S. Swecker Jr.3, 1Clemson University, Clemson, SC, 2USDA-ARS, Beaver, WY, 3Virginia Tech University, Blacksburg.

4:00 PM 465 Effect of finishing steers on different forages or high concentrate diet on rib composition, color, and palatability. S. K. Duckett*1, J. P. S. Neel2, J. P. Fontenot3, W. Clapham2, and W. S. Swecker Jr.3, 1Clemson University, Clemson, SC, 2USDA-ARS, Beaver, WY, 3Virginia Tech University, Blacksburg.

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**SYMPOSIUM**

**Nonruminant Nutrition**

**Oxidative Stress and the Use of Antioxidants for Nonruminant Animals**  
Chair: Sung Woo Kim, North Carolina State University  
Sagamore Ballroom 4

2:00 PM 466 Introduction. S. W. Kim, North Carolina State University.

2:10 PM 466 Oxidative stress during the lifecycle of animals. W. P. Weiss* and D. C. Mahan, The Ohio State University, Wooster and Columbus.

2:50 PM 467 Roles in animals of the antioxidant micronutrients vitamin E, vitamin C, and selenium. R. F. Burk*, Vanderbilt University, Nashville, TN.

3:35 PM 468 Bioavailability of natural and synthetic vitamin E in sows and their progeny. C. Lauridsen*, University of Aarhus, Tjele, Denmark.

Physiology and Endocrinology
The Physiology of Gestation and the Post-Partum Interval
Chair: Rhonda Vann, Mississippi State University
Sagamore Ballroom 6

2:00 PM 470 Fibroblast growth factor 2-induced expression of interferon-tau is mediated by protein kinase C in bovine trophoderm. Q. Yang*, S. E. Johnson, and A. D. Ealy, University of Florida, Gainesville.


2:30 PM 472 Reduced angiogenic factor expression in cotyledonary (COT) arteries of overnourished, obese ewes at midgestation. Y. Ma*, M. J. Zhu1, P. W. Nathanielsz2, and S. P. Ford1, 1University of Wyoming, Laramie, 2University of Texas, San Antonio.

2:45 PM 473 Increased circulating progesterone (P_4) levels during the estrous cycle in offspring of nutrient restricted ewes. L. A. George*, P. W. Nathanielsz2, and S. P. Ford1, 1University of Wyoming, Laramie, 2University of Texas, San Antonio.

3:00 PM 474 Increased macrophage migration inhibitory factor (MIF) in the pancreas of fetuses gestated by overnourished, obese ewes. L. Zhang*, M. J. Zhu1, P. W. Nathanielsz2, and S. P. Ford1, 1University of Wyoming, Laramie, 2University of Texas Health Sciences Center, San Antonio, TX.

3:15 PM 475 Effects of soy-derived phytoestrogen and estradiol exposure on reproductive development in male neonatal pigs. K. Necaise*, K. Moulton1, D. Christiansen1, K. Walters1, M. Crenshaw1, C. Scanes2, and P. Ryan1, 1Mississippi State University, Starkville, 2University of Wisconsin, Milwaukee.

3:30 PM Break

3:45 PM 476 Meta-analysis of progesterone supplementation during early pregnancy in cattle. G. E. Mann*, University of Nottingham, Sutton Bonnington Campus, Loughborough, UK.

4:00 PM 477 Effect of endocannabinoid (EC) agonists on cow corpus luteum (CL) function in vitro. C. W. Weems*, Y. S. Weems1, A. W. Lewis2, D. A. Neuendorff3, and R. D. Randel3, 1University of Hawaii, Honolulu, 2Texas A&M University, Overton.

4:15 PM 478 Peripheral concentrations of insulin are negatively correlated with cytochrome P450 3A activity and mRNA expression in dairy cows. C. O. Lemley*, L. R. Tager, K. M. Krause, and M. E. Wilson, West Virginia University, Morgantown.


Production, Management and the Environment
Disease, Management and Environment
Chair: Micheal Brouk, Kansas State University
205


2:15 PM 482 Reliability of a standardized environmental sampling protocol to quantify Mycobacterium avium spp. paratuberculosis in free-stall dairies. S. S. Aly*, R. J. Anderson2, I. A. Gardner1, R. H. Whitlock1, T. Fyock1, J. M. Adaska4, and J. Jiang1, 1University of California, Davis, 2California Department of Food and Agriculture, Animal Health Branch, Sacramento, CA, 3University of Pennsylvania, Kennett Square, 4California Animal Health and Food Safety Laboratory, Tulare Branch, Tulare, CA.


Incidence of peripartum health related problems in Argentine dairy herds. C. Corbellini1, F. Busso1, F. Bargo2, B. Suarez2, J. Grigera2, M. Podetti2, and G. Tuñon2, INTA, Argentina, 1Elanco, Argentina, 3AACREA, Argentina.

Relationships between production measurements and sow longevity in a university research herd. M. S. Hicks* and W. F. Owsley, Auburn University, Auburn, AL.

SYMPOSIUM
Ruminant Nutrition
Glycerin as a Feed for Ruminants
Chair: Cathy Bandyk, QLF
Sponsors: Prince Agri-Products Inc., and Vi-Cor, Varied Industries Corporation

500 Ballroom

Introduction. C. Bandyk, QLF.

Glycerin as a feed ingredient, official definition(s) and approvals. R. S. Sellers*, American Feed Industry Association, Arlington, VA.

Ruminal and physiological metabolism of glycerin. C. R. Krehbiel*, Oklahoma State University, Stillwater.

Glycerin as a feed for ruminants: Using glycerin in high-concentrate diets. J. S. Drouillard*, Kansas State University, Manhattan.

Using glycerin as a supplement for forage-fed ruminants. B. W. Hess*, S. L. Lake2, and S. A. Gunter1, University of Wyoming, Laramie; 2Purdue University, West Lafayette, IN; 3University of Arkansas, Hope.

Use of glycerin in dairy diets. S. S. Donkin*, Purdue University, West Lafayette, IN.

Small Ruminant
Sheep
Chair: Kenneth M. Andries, Kentucky State University
107–108

ASAS Centennial Presentation: Impacts of animal science research on US sheep production and predictions for the future. C. J. Lupton*, Texas AgriLife Research, San Angelo, TX.

Discussion

Impact of grazing systems on management of gastrointestinal nematodes in weaned lambs in Arkansas. J. M. Burke*, J. E. Miller2, and T. H. Terrill3, USDA, ARS, Booneville, AR; 2Louisiana State University, Baton Rouge; 3Fort Valley State University, Fort Valley, GA.


Withdrawn by author.

Break

Ability of ewes to rebreed while lactating in spring. K. M. Jordan*, J. W. Knight, and D. R. Notter, Virginia Polytechnic Institute and State University, Blacksburg.

Lactational and reproductive effects of melatonin in lactating dairy ewes mated during Spring. G. Caja*, A. A. K. Salama, S. Carné, E. Albanell, X. Such, and R. Casals, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.

4:30 PM 500 Implementing electronic identification for milk recording in dairy sheep. A. Ait-Saidi, A. A. K. Salama, S. Carné*, and G. Caja, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.

Teaching/Undergraduate and Graduate Education
Teaching in the Animal Sciences
Chairs: Jeannette Moore, North Carolina State University, and John Parrish, University of Wisconsin-Madison


2:30 PM 503 The Graduate Experience Program. J. A. Atkins*, D. L. McNamara, and G. W. Jesse, University of Missouri, Columbia, University of Wisconsin, Platteville.


3:00 PM Break

3:15 PM 505 The challenges and opportunities of teaching a virtual introduction to animal science course. M. Latour*, Purdue University, West Lafayette, IN.

3:30 PM 506 Engaging students with service learning within an animal science curriculum at Texas Tech University- a ten year perspective. H. Brady*, Texas Tech University, Lubbock.

3:45 PM 507 Use of eID to monitor classroom attendance. L. D. Luqué* and D. A. Nichols, Kansas State University, Manhattan.

4:00 PM 508 ‘A Postcard Home’ provides opportunity for first-year students to gain writing experience. J. M. Mapes*, G. M. Hill, M. W. Orth, and J. E. Link, Michigan State University, East Lansing.
Thursday, July 10
POSTER PRESENTATIONS
Animal Behavior and Well-Being
Methodology
Exhibit Hall CDE


TH2 Validation of a water HOBO and the Noldus Observer for drinking behavior in the nursery pig. A. M. Meiszberg*, A. K. Johnson1, J. W. Dailey2, J. A. Carroll1, J. R. Garvey1, and N. Krebs1, 1Animal Science, Iowa State University, Ames, 2USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 3Pork Industry Institute, Texas Tech University, Lubbock.

TH3 Temporary glycosuria alters molasses consumption in Holstein calves. C. S. Wilcox*, M. M. Schutz1, S. S. Donkin1, and S. D. Eicher2, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN.

TH4 Effect of alternative models for increasing stocking density on the lying behavior, hygiene, and short-term productivity of lactating Holstein dairy cattle. P. D. Krawczel*, C. S. Mooney1, H. M. Dann1, M. P. Carter1, R. E. Butzler1, C. S. Ballard1, and R. J. Grant1, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Department of Animal Science, The University of Vermont, Burlington.

TH5 Hard water preservative effect of Birjand Quanats to reduce lead acetate toxicity on Capoeta fusca. A. Omidi* and H. Farhangfar, Birjand University, Birjand, Iran.

TH6 Less common complication of traumatic reticulitis in cattle: Abscess on left thoracic wall. A. Omidi*, Birjand University, Birjand, Iran.

TH7 Comparison of attachment to feed ingredients of whole E. coli K88 cells and purified F4/K88 fimbriae. P. M. Becker1, S. Galetti2, J. Van der Meulen1, A. Bannink*, and H. C. A. Widjaja1, Wageningen University Research Centre, Lelystad, the Netherlands, 2University of Milan, Milan, Italy.

TH8 Effects of spray-dried porcine plasma on nasal associated lymphoid tissue in a lung inflammation model in mice. A. Pérez-Bosque1,2, M. Maijó1, L. Miró1, J. Polo1, L. Russell1, J. Campbell1, E. Weaver2, J. Crenshaw1, and M. Moreto*, 1Universitat de Barcelona, Barcelona, Spain, 2APC Europe, Granollers, Barcelona, Spain, 3APC Inc., Ankeny, IA.

TH9 Endophyte infected fescue seed causes vasoconstriction in horses as measured by Doppler ultrasonography. E. S. Moore*, A. G. Parks, L. M. Lawrence, and K. J. McDowell, University of Kentucky, Lexington.

TH10 Survey of Clostridium perfringens Type A prevalence and genotypes in calves and in vitro development of Omni-Bos CB™, a calf specific, Bacillus-based direct fed microbial. C. Wehnes*, V. Patskevich, K. Mertz, and T. G. Rehberger, Agtech Products Inc., Waukesha, WI.

TH11 The effects of feeding tall fescue seed on daily feed intakes of horses. A. G. Parks* and L. M. Lawrence, University of Kentucky, Lexington.

TH12 Hemodynamics in the caudal artery of beef heifers fed different ergot alkaloid concentrations. G. E. Aiken*, J. R. Strickland1, M. L. Looper2, and F. N. Schrick1, 1USDA-ARS-Forage-Animal Production Research Unit, Lexington, KY, 2USDA-ARS-Dale Bumpers Small Farms Research Center, Booneville, AR, 3University of Tennessee, Knoxville.

TH13 Analysis of locomotion scores with altered periparturient management. S. Eicher*, M. M. Schutz2, J. Townsend2, K. Daniels2, S. Donkin2, and A. Parkhurst1, 1USDA-ARS, West Lafayette, IN, 2Purdue University, West Lafayette, IN, 3University of Nebraska, Lincoln.

TH14 Experimental haemonchosis in resistant and susceptible Creole kids. J. C. Bambou*, E. Gonzalez-Garcia, C. de la Chevrotière, R. Arquet, N. Vachiéry, and N. Mandonet, INRA UR143 Unité de Recherches Zootéchniques (URZ), Centre Antilles Guyane, Domain Diclos, 97170 Petit Bourg, Guadeloupe (French West Indies).

TH15 JDIP – Phase II. K. E. Olson*, KEO Consulting, Schaumburg, IL.
Contemporary and Emerging Issues
Exhibit Hall CDE


TH17 Animal biotechnology: The movie. A. L. Van Eenennaam* and W. E. Pohlmeier, University of California, Davis.

Dairy Foods
Dairy Products and Processing I
Exhibit Hall CDE


TH19 Thirty-four percent whey (WPC) and serum protein (SPC) concentrate and 65% serum protein (SP) reduced micellar casein: Production and composition. J. Zulewska*,1, D. M. Barbano2, M. W. Newbold2, M. A. Drake1, E. A. Foegeding1, and C. Moraru2, 1University of Warmia and Mazury, Olsztyn, Poland; 2Cornell University, Ithaca, NY; 3North Carolina State University, Raleigh.

TH20 Comparison of sensory and functional properties of 34% serum (SPC) and 34% whey protein concentrates (WPC). J. P. Evans*,1, P. J. Luck1, E. A. Foegeding1, J. Zulewska*,1, D. M. Barbano2, and M. A. Drake1, 1North Carolina State University, Raleigh; 2Cornell University, Ithaca, NY; 3University of Warmia and Mazury, Olsztyn, Poland.

TH21 The effect of crosslinked β-cyclodextrin treatment on the rheological and sensory properties of ice cream. H. J. Ha* and H. S. Kwak, Sejong University, Seoul, Korea.


TH23 Addition of rice extract improves the quality characteristics and consumer acceptability of banana flavored yogurt. T. Bor*, D. Song, C. W. Seo, and S. A. Ibrahim, North Carolina A&T State University, Greensboro.

TH24 Functional properties of 65% serum protein reduced micellar casein concentrates obtained by microfiltration. C. M. Beliciu1, J. Zulewska2, M. Newbold1, C. I. Moraru*,1, and D. M. Barbano1, 1Cornell University, Ithaca, NY; 2University of Warmia and Mazury, Olsztyn, Poland.

TH25 Surface hydrophobicity of co-extruded and milled corn starch with whey protein concentrate as a function of pH. S. L. Amaya-Llano*,1,2, E. Castano-Tostado1, F. Martinez-Bustos1, and L. Ozimek1, 1Ciencia de Materiales, CINVESTAV Queretaro, Queretaro, Queretaro, Mexico; 2PROPAC, Universidad Autonoma de Queretaro, Queretaro, Queretaro, Mexico; 3University of Alberta, Edmonton, AB, Canada.

TH26 Effect of ultrasound treatment on microbial load in milk. S. Gokavi, T. Silk, and M. Guo*, University of Vermont, Burlington.

TH27 Effects of high pressure homogenization on milk. C. A. Boeneke*, A. Pastorek, and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge.

TH28 Classification of cream butter by infrared spectroscopy and multivariate analysis. S. Herringshaw*, N. Kocaoglu-Vurma, and L. Rodriguez-Saona, The Ohio State University, Columbus.

TH29 Effect of various antioxidants on the characteristics of plain yogurt. B. Brignac1 and K. Aryana*,1; 1Louisiana State University, Baton Rouge; 2Louisiana State University Agricultural Center, Baton Rouge.

TH30 Effect of stabilizer and emulsifier concentration in ice cream. S. L. Cropper*, N. A. Kocaoglu-Vurma, and W. J. Harper, The Ohio State University, Columbus.

TH31 Fluctuation on composition and insoluble aggregates in a whey protein concentrate (WPC) manufacturing line: Implications for quality and function. M. Costa1, M. Gigante2, P. Tong1, and R. Jimenez-Flores*,1; 1University of California, Davis; 2California Polytechnic State University, San Luis Obispo; 3UNICAMP, Campinas-Sao Paulo, Brazil.

TH32 Influence of pulsed electric field processing on protease activity of Lactobacillus acidophilus LA-K in skim milk. O. Cueva1 and K. Aryana*,2; 1Louisiana State University, Baton Rouge; 2Louisiana State University Agricultural Center, Baton Rouge.

TH33 Production of native whey from whole milk. I. Jarto*,1; J. A. Lucey1, D. Zhu1, and K. E. Smith2, 1University of Wisconsin, Madison; 2Wisconsin Center for Dairy Research, Madison, WI.

TH34 Flavor assessments of heated sweet cream butter. E. L. Harvey*, A. M. Renaud, and S. A. Rankin, University of Wisconsin, Madison.
Forages and Pastures III
Exhibit Hall CDE

TH35 Grazing management effects on physical and nutritional characteristics of pastures. M. Haan, J. Russell*, and D. Morrical, Iowa State University, Ames.

TH36 Grazing management effects on selected stream bank characteristics and erosion. M. Haan†, J. Russell*, and J. Koval†, Iowa State University, Ames, USDA-ARS, Ames, IA.

TH37 Ingestive behavior of dairy cattle during the different grazing down process of palisadegrass subjected to rotational stocking. A. C. Ruggieri**, E. R. Januskiewicz†, D. R. Casagrande**, A. G. Pascoa‡, R. A. Reis‡, and M. J. R. Paranhos da Costa‡, São Paulo State University, Jaboticabal, São Paulo, Brazil, Fundação de Amparo a Pesquisa do Estado de São Paulo, São Paulo, Brazil, Conselho Nacional de Desenvolvimento Científico Tecnológico, Brasilia, Distrito Federal, Brazil.

TH38 Behavior of steers grazing novel endophyte tall fescues in southern Arkansas. B. Stewart*, P. Beck†, D. Singh‡, and S. Gunter‡, University of Arkansas, Hope, AR, Barenbrug USA, Tangent, OR.

TH39 Giving beef calves a choice of pasture-type influences behavior and weight gain. H. T. Boland†, G. Scaglia‡, and W. S. Swecker Jr., Virginia Polytechnic Institute and State University, Blacksburg, Iberia Research Station, LSU Agricultural Center, Jeanerette, LA, Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.

TH40 Tall fescue based forage systems supplemented with winter annuals for stocker cattle. B. T. Campbell*, A. E. Fisher†, G. E. Bates‡, J. C. Riggins‡, F. N. Schrick†, and J. C. Waller‡, University of Tennessee, Knoxville, University of Tennessee, Springfield.

TH41 Efficacy of EndoFighter™ for steers grazing endophyte-infected tall fescue pastures during summer. R. Norman†, C. D. Lane Jr.‡, S. S. Block†, A. E. Fisher†, B. T. Campbell†, F. N. Schrick†, and J. C. Waller‡, University of Tennessee, Knoxville, ADM Animal Nutrition Research, Decatur, IL.

TH42 Two year study on finishing beef cattle performance and forage characteristics of ryegrass ( Lolium perenne), rye (Secale cereale) and oats (Avena sativa). A. C. Pereira*, E. J. Bungenstab, J. C. Lin, B. Gamble, S. P. Schmidt, C. R. Kerth, and R. B. Muntifering, Auburn University, Auburn, AL.

TH43 Effect of forage species during finishing on growth rate, final weight and carcass parameters from pasture finished cattle. J. P. S. Neel*, J. P. Fontenot†, W. M. Clapham‡, S. K. Duckett†, E. E. D. Felton†, and W. S. Swecker Jr.‡, USDA-ARS-AFSRC, Beaver, WV, Virginia Polytechnic Institute and State University, Blacksburg, West Virginia University, Morgantown.

TH44 Performance and carcass characteristics of the supplemented or not beef heifers grazing palisade grass (Brachiaria brizantha) on the rainy season. D. R. Casagrande†, R. A. Reis‡, A. C. Ruggieri†, T. T. Berchielli§, M. H. Moretti§, J. F. de Mattos§, and M. A. A. Balalobre§, São Paulo State University, Jaboticabal, São Paulo, Brazil, Fundação de Amparo Pesquisa do Estado de São Paulo, São Paulo, Brazil, Conselho Nacional de Desenvolvimento Científico Tecnológico, Brasilia, Distrito Federal, Brazil, Bellman Nutrição Animal, Mirassol, São Paulo, Brazil.

TH45 Productivity, utilization and nutritive quality of dallisgrass (Paspalum dilatatum) as influenced by stocking density under continuous or rotational grazing. E. J. Bungenstab*, A. C. Pereira, J. C. Lin, L. J. Holliman, and R. B. Muntifering, Auburn University, Auburn, AL.

TH46 Supplementation with different levels and sources of energy for steers on Panicum maximum Jacq cv Tanzania pasture: forage availability, morphological composition and nutritive value. M. C. Ar. Santana*, V. P. B. Euclides*, and A. B. Mancio*, Universidade Estadual Paulista, Jaboticabal, São Paulo, Brazil, Empresa Brasileira de Pesquisa Agropecuária - Embrapa, Campo Grande, Mato Grosso do Sul, Brazil, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil.

TH47 Monensin and Saccharomyces cerevisiae as additive for beef heifers grazing Brachiaria brizantha cv. Marandu. L. M. Abaker Bertipaglia†, G. M. Perucha de Melo*, A. Prates e Oliveira†, R. Andrade Reis*, T. T. Berchielli§, A. S. Ferraudo§, and L. Abaker Bertipaglia†, São Paulo State University, Jaboticabal, São Paulo, Brazil, Conselho Nacional de Desenvolvimento e Tecnológico, Brasília, Distrito Federal, Brazil, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, Brasília, Distrito Federal, Brazil, Fundação de Amparo à Pesquisa do Estado de São Paulo, São Paulo, Brazil.

TH48 Effects of rumen undegradable forage supplementation on forage intake and digestibility of early weaned beef calves consuming stargrass hay and receiving soybean hull supplementation. T. Saraiva, J. M. B. Vendramini*, L. E. Sollenberger†, U. Inyang†, R. Farias†, and J. D. Arrington†, University of Florida, Ona, Florida State University, Gainesville.

TH49 Effect of urea inclusion and cooking time on intake of blocks containing greasy cottonseed meal by beef cows. T. A. Wickersham*, F. M. Rouquette‡, J. E. Sawyer†, and R. O. Dittmar III‡, Texas A&M University, College Station, Texas AgriLife Research, Overton, TX.


TH57  Measures of acid detergent lignin recovery and evaluations of the 2.4 time lignin factor for estimating indigestible NDF. E. Raffrenato*, M. E. Van Amburgh, and P. J. Van Soest, Cornell University, Ithaca, NY.


TH59  Developmental regulation of delta-like protein 1 (DLK1) expression during chicken muscle development and regeneration. J. Shin*, D. Bae, J. A. Deulitis, S. G. Velleman, S. Lim, J. D. Latshaw, M. P. Wick, and K. Lee, The Ohio State University, Columbus.

TH60  Serum amyloid A protein mediates the regulation of docosahexaenoic acid on the expression of porcine genes related to lipid metabolism. S. T. Ding*, C. H. Chen, and H. J. Mersmann, National Taiwan University, Taipei, Taiwan, ROC.


TH63  Effects of maternal low and high protein diets on body composition and skeletal muscle properties of newborn piglets. C. Rehfeldt, C. Kalbe, J. Block, G. Nuernberg, B. Stabenow, D. Loesel*, and C. C. Metges, Research Institute for the Biology of Farm Animals, Dummerstorf, Germany.

TH64  Body composition of transgenic pigs expressing the myostatin pro domain. A. D. Mitchell* and R. J. Wall, USDA-ARS, Animal Bioscience and Biotechnology Laboratory, Beltsville, MD.

TH65  Characterization of putative mammary stem cells in intact and ovariectomized prepubertal heifers. N. Korn, L. Riggs, R. M. Akers, and S. Ellis*, Clemson University, Clemson, SC, Louisiana State University, Baton Rouge, Virginia Polytechnic Institute and State University, Blacksburg.

TH66  Cloning the promoter region for bovine phosphoenolpyruvate carboxykinase gene and identification of propionate responsive region. S. L. Koser*, M. Thomas, and S. S. Donkin, Purdue University, West Lafayette, IN.

TH67  Quantification of glucose-6-phosphatase mRNA abundance in liver of transition dairy cows. E. M. Cedeño*, S. L. Koser, and S. S. Donkin, Purdue University, West Lafayette, IN.

TH68  Plasma and tissue concentrations of glucose, acetate, propionate, lactate, and hydroxybutyrate in calves subjected to conventional and accelerated milk replacer programs. H. A. Weeks*, A. G. Rius, K. M. Daniels, R. M. Akers, C. Umberger, and M. D. Hanigan, Virginia Polytechnic Institute and State University, Blacksburg.
TH69  Effect of β-mannanase enzyme mixture addition to soy-containing milk replacers on growth and health of neonatal calves. M. E. Van Amburgh*, L. Nabte-Solis†, E. B. Helmes‡, D. A. Ross§, and T. D. Sonnenberg∥, 1Cornell University, Ithaca, NY, 2ChemGen, Gaithersburg, MD.


TH71  Increasing levels of dietary corn oil to grazing steers alters lipogenic gene expression. S. K. Duckett*, S. L. Pratt†, and E. Pavan‡, 1Clemson University, Clemson, SC, 2INTA, Balcarce, Argentina.

TH72  Lipogenic gene expression in steers finished on high concentrate diets and pasture with or without energy supplementation. S. K. Duckett*, S. L. Pratt†, and E. Pavan‡, 1Clemson University, Clemson, SC, 2INTA, Balcarce, Argentina.

TH73  Melengestrol acetate enhances adipogenic gene expression in an in vitro muscle-derived cell transdifferentiation model. K. Y. Chung* and B. J. Johnson, Kansas State University, Manhattan.

TH74  More selenium (Se) accumulates in whole blood, red blood cells, and liver of beef heifers when supplemented by an organic vs inorganic source. S. F. Liao*, W. R. Burris, K. R. Brown, J. A. Boling, and J. C. Matthews, University of Kentucky, Lexington.

TH75  Basal content of sugar transporter mRNA in small intestinal epithelia of beef steers is differentially increased by abomasal vs ruminal infusion of starch hydrolysate. S. F. Liao*, D. L. Harmon, E. S. Vanzant, K. R. McLeod, J. A. Boling, and J. C. Matthews, University of Kentucky, Lexington.

TH76  Roles of increased IGF-I expression and the estrogen 17β, androgen and IGF-I receptors in estradiol-17β and trenbolone acetate-stimulated proliferation of cultured bovine satellite cells. E. Kamanga-Sollo†, M. E. White‡, M. R. Hathaway¶, K. Y. Chung∥, B. J. Johnson‡, and W. R. Dayton∥∥, 1University of Minnesota, St. Paul, 2Kansas State University, Manhattan.

TH77  Effects of trenbolone acetate (TBA), Estradiol (E2) and combined TBA/E2 implants on muscle IGF-I and IGF-II mRNA levels in feedlot steers. M. S. Pampusch†, M. E. White‡, M. R. Hathaway¶, K. Y. Chung∥, B. J. Johnson‡, and W. R. Dayton∥∥, 1University of Minnesota, St. Paul, 2Kansas State University, Manhattan.

TH78  Effects of androgen and estrogen (E2) receptor blockers and E2-conjugated BSA on estrogen and trenbolone acetate-stimulated IGF-I expression in cultured bovine satellite cells. E. Kamanga-Sollo†, M. E. White‡, M. R. Hathaway¶, K. Y. Chung∥, B. J. Johnson‡, and W. R. Dayton∥∥, 1University of Minnesota, St. Paul, 2Kansas State University, Manhattan.


TH81  Biological efficiency of crossbred beef cattle finished on feedlot and slaughtered with distinct body weights. R. Mello*†∥∥, M. H. de Faria†∥∥, A. C. de Queiroz†∥∥, F. D. de Resende‡, D. S. Henrique‡, and F. Maldonado∥∥, 1Universidade Federal de Roraima, Boa Vista, RR, Brazil, 2APTA, Colina, SP, Brazil, 3Universidade Federal de Viçosa, Viçosa, MG, Brazil.

TH82  Estimation of carcass and empty body chemical composition of Nellore and Caracu breeds. S. F. M. Bonilha*, L. A. Figueiredo†, R. F. Nardon∥∥, and G. F. Alleoni∥∥, 1Instituto de Zootecnia, Agência Paulista de Tecnologia dos Agronegócios, Sertãozinho, SP, Brazil, 2Texas A&M University, College Station, 3Universidade de São Paulo/ESALQ, Piracicaba, SP, Brazil, 4Instituto de Zootecnia, Agência Paulista de Tecnologia dos Agronegócios, Nova Odessa, SP, Brazil.

Horse Species
Exhibit Hall CDE

TH83  Temporal variables of the Arabian and Morgan Western Pleasure Jog. M. Nicodemus* and A. Luckett, Mississippi State University, Mississippi State.

TH84  Use of chicken vs. chukar (Alectoris chukar) egg yolk as components of freezing media for stallion semen. S. E. Harmon and G. W. Webb*, Missouri State University, Springfield.

TH85  Nutrient composition and selection preferences of forages by feral horses: The horses of Shackleford Banks, North Carolina. S. J. Stuska†, S. E. Pratt‡, H. L. Beveridge*, and M. J. Yoder†, 1Cape Lookout National Seashore, Harkers Island, NC, 2North Carolina State University, Raleigh.

TH86  Estimation of body weight in ponies. G. S. Owen*, E. L. Wagner†, and W. S. Eller‡, 1Auburn University, Auburn, AL, 2Louisiana State University, Baton Rouge.

TH87  Basal insulin and glucose concentrations in horses of North Carolina. K. M. Owens*, S. E. Pratt, L. E. Dowler, and M. T. Cloninger, North Carolina State University, Raleigh.


TH92  Application of forensic science technique to the management of an endangered horse population. E. Bömecke1,2 and N. Gengler1,3, 1Gembloux Agricultural University, Gembloux, Belgium, 2FRIA, Brussels, Belgium, 3FNRS, Brussels, Belgium.

TH93  Sites of active nutrient absorption in the equine gastrointestinal tract. B. E. Aldridge*, T. B. Lescun, and J. S. Radcliffe, Purdue University, West Lafayette, IN.

TH94  Genistein reduces LPS stimulated TNFα release from equine monocytes. A. R. Taylor* and J. A. Clapper, South Dakota State University, Brookings.

TH95  Effect of exercise and superoxide dismutase on systemic antioxidants and nitric oxide in horses. E. D. Lamprecht*, C. A. Bagnell, and C. A. Williams, Rutgers, The State University of New Jersey, New Brunswick.


TH97  Effect of selenium supplementation and dietary energy manipulation on mares and their foals: Foaling parameters and foal physical characteristics. B. J. Karren*, J. F. Thorson2, C. A. Cavinder1, C. J. Hammer2, and J. A. Coverdale1, Texas A&M University, College Station, 2North Dakota State University, Fargo.

TH98  Effect of selenium supplementation and dietary energy manipulation on mares and their foals: Placental dynamics. J. F. Thorson*, B. J. Karren2, M. L. Bauer1, C. A. Cavinder2, J. A. Coverdale2, and C. J. Hammer1, 1North Dakota State University, Fargo, 2Texas A&M University, College Station.


International Animal Agriculture
Exhibit Hall CDE

TH100  A model of personal preparation for the international agricultural teaching and extension program between the United States and China. J. Peng*, Purdue University, West Lafayette, IN.

TH101  Energy and financial analysis of the conversion of a conventional beef cattle production system to an organic beef foodchain in Veracruz, Mexico. P. Fajersson*, G. Alvarado1, G. Benitez2, J. I. González1, J. Nieto1, W. Sangabriel1, and P. Parada2, 1Colegio de Postgraduados, Campus Veracruz, Veracruz, Mexico, 2Carnes La Rumorosa, Poza Rica, Veracruz, Mexico.

TH102  A meta-analysis on effects of supplementing low quality roughages with tree foliages on intake and growth in sheep. A. K. Patra*, West Bengal University of Animal and Fishery Sciences, Belgachia, Kolkata, India.

Lactation Biology
Exhibit Hall CDE

TH103  Identification of internal controls for quantitative PCR in mammary tissue from lactating cows receiving various lipid supplements. A. K. G. Kadegowda1, M. Bionaz2, B. Thering3, L. S. Piperova1, R. A. Erdman1, and J. J. Loor2, 1University of Maryland, College Park, 2University of Illinois, Urbana.

TH104  Gene network analysis in mammary tissue of lactating cows receiving abomasal infusions of butterfat, long-chain fatty acids, or CLA. A. K. G. Kadegowda1, L. S. Piperova1, S. L. Rodriguez-Zas1, R. E. Everts1, H. A. Lewin2, R. A. Erdman1, and J. J. Loor2, 1University of Maryland, College Park, 2University of Illinois, Urbana.

TH105  Differential expression of lipid transporters and their regulators during the lactation cycle in the bovine mammary gland. O. Mani1, M. T. Sorensen2, K. Sejrsen2, R. M. Bruckmaier*1, and C. Albrecht1, 1University of Bern, Switzerland, 2University of Aarhus, Denmark.

TH107  Effects of rumen-protected choline administration on mRNA expressions of selected enzymes involved in mammary lipid metabolism. L. Pinotti*, F. D’Ambrosio, R. Bruckmaier, C. Albrecht, V. Dell’Orto, and A. Baldi.* 1University of Milan, Milan, Italy, 2University of Bern, Bern, Switzerland.

TH108  Hormonal influence on mammary tissue composition in pre-pubertal Holstein heifers. B. P. Huderson*, B. T. Velayudhan, S. E. Ellis, and R. M. Akers. 1Virginia Polytechnic Institute and State University, Blacksburg, 2Clemson University, Clemson, SC.

TH109  Feeding genistein to prepubertal gilts stimulates their mammary development. C. Farmer*, S. Gilani, M.-F. Palin, H. Weiler, M. Vignola, R. K. Choudhary, and A. V. Capuco.* 1Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Sherbrooke, QC, Canada, 2Nutrition Research Division, Health Canada, Ottawa, ON, Canada, 3McGill University, Ste-Anne-de-Bellevue, QC, Canada, 4Nutreco Canada Agresearch, St-Romuald, QC, Canada, 5USDA-ARS, Bovine Functional Genomics Lab, Beltsville, MD.

TH110  Evidence that prolactin does not drive the milk yield response to frequent milking in early lactation. J. G. Titus*, H. M. Crawford, E. H. Wall, G. Giguere, and F. Guay.* 1University of Vermont, Burlington, 2University of Illinois, Urbana.

TH111  Reduced nursing frequency during prolonged lactation in the mouse decreases milk production and increases mammary expression of tryptophan hydroxylase 1 (TPH1), but does not accelerate mammary gland remodeling. D. L. Hadssel, W. Olea, D. Torres, J. George, and R. J. Collier.* 1Baylor College of Medicine, Houston, TX, 2The University of Arizona, Tucson.

TH112  Evaluation and classification of milking disorders in Swiss dairy cattle. C. J. Belo, S. Schlegel, J. Moll, and R. M. Bruckmaier.* 1University of Bern, Bern, Switzerland, 2Swiss Federal Institute of Technology Zurich, Zurich, Switzerland, 3Swiss Brown Cattle Breeders Federation, Zug and ASR, Bern, Switzerland.

TH113  Prestimulation combined with a short waiting time before cluster attachment affects milk removal in dairy cows. S. Kaskous* and R. M. Bruckmaier. 1Damascus University, Damascus, Syria, 2University of Bern, Bern, Switzerland.


TH116  Effect of dry period length on calving related disorders. M. S. Gulay*, M. J. Hayen, K. C. Bachman, and H. H. Head.* 1Michigan State University, East Lansing, 2Université Laval, Ste-Anne-de-Bellevue, QC, Canada, 3University of Florida, Gainesville.

TH117  Dietary energy management during pregnancy and its effects on transition health in dairy heifers. M. S. Laubach, D. B. Carlson, L. Mabasa, K. S. Cho, A. W. Fowler, and C. S. Park.* 1South Dakota State University, Brookings, 2North Dakota State University, Fargo.

TH118  Diet does not affect putative mammary epithelial stem cells in pre-weaned Holstein heifers. K. M. Daniels*, A. V. Capuco, R. E. James, M. L. Mc Gilliard, and R. M. Akers. 1Virginia Polytechnic Institute and State University, Blacksburg, 2USDA-Agricultural Research Service, Beltsville, MD.

Nonruminant Nutrition
Mineral
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TH119  Impact of massive doses of copper or zinc on growth performance and nutrient digestibility of newly weaned piglets. M. Pelletier-Grenier*, A. Giguere, and F. Guay.* 1Université Laval, Quebec, QC, Canada, 2Agriculture and AgriFood Canada, Sherbrooke, QC, Canada.

TH120  Effect of different Ca and P level on early growth of fast-growth lines of Wulong Goose. B. W. Wang*, M. A. Zhang, X. P. Wu, G. L. Liu, and X. H. Jia, Qingdao Nongye University, Qingdao, Shandong Province, China.


Feed preferences in nursery pigs fed diets containing varying fractions and qualities of dried distillers grains with solubles. B. S. Seabolt1, E. van Heugten*, K. D. Ange-van Heugten1, and E. Roura1, North Carolina State University, Raleigh, Lucta SA, Barcelona, Spain.

Effect of dietary crude protein level on serum haptoglobin and pro-inflammatory cytokine concentrations in piglets challenged with Escherichia coli K88. F. O. Opapeju*, R. L. Payne2, and C. M. Nyachoti1, University of Manitoba, Winnipeg, MB, Canada, Evonik-Degussa Corporation, Kennesaw, GA.


Effects of including field peas in diets fed to weanling pigs. H. H. Stein*1 and D. N. Peters2, University of Illinois, Urbana, South Dakota State University, Brookings.

Nonruminant Nutrition
Protein and Amino Acids
Exhibit Hall CDE
TH140  Effects of dietary pine cone meal on egg production, egg quality, serum cholesterol and cholesterol content and fatty acid composition of egg yolk in laying hens. S. O. Shin*, J. H. Cho1, Y. J. Chen1, J. D. Kim1, J. H. Lee1, K. W. Park1, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2CJ CheilJedang, Seoul, Korea, 3Korea National Arboretum, Pocheon, Gyeonggi, Korea.

TH141  Effects of dietary pine cone meal on growth performance, serum cholesterol, carcass quality and fatty acid composition and cholesterol content of meat in broiler chickens. S. O. Shin*, J. H. Cho1, J. D. Kim1, J. H. Lee1, K. W. Park1, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2CJ CheilJedang, Seoul, Korea, 3Korea National Arboretum, Pocheon, Gyeonggi, Korea.


TH143  Effects of dietary pine cone meal on egg production, egg quality, serum cholesterol and cholesterol content and fatty acid composition of egg yolk in laying hens. S. O. Shin*, J. H. Cho1, Y. J. Chen1, J. D. Kim1, J. H. Lee1, K. W. Park1, and I. H. Kim1, 1Dankook University, Cheonan, Chungnam, Korea, 2CJ CheilJedang, Seoul, Korea, 3Korea National Arboretum, Pocheon, Gyeonggi, Korea.


TH146  Evaluation of distillers dried grains with solubles (DDGS) and Allzyme® SSF in grow-finish pigs. J. Pierc* and J. Bannewman, Alltech Inc., Nicholasville, KY.


TH149  Comparison of chromic oxide and acid insoluble ash as digestibility markers in the determination of apparent total tract digestibility in finishing pigs. V. D. Naranjo*, S. Powell, T. D. Bidner, and L. L. Southern, LSU Agricultural Center, Baton Rouge.

TH150  Effects of dried distillers grains and Gromega365™ on sow bratwurst quality. H. White*, K. Hesselbrock1, N. Augspurger2, J. Spencer2, A. Schinckel1, and M. Latour1, 1Purdue University, West Lafayette, IN, 2JBS United, Sheridan, IN.


TH152  L-Tryptophan dietary supplementation stimulated an earlier feed intake and reduced the physical activity of early weaned piglets. M. Anguita1, R. G. Hermes4, J. Gasu1, D. Melchior1, and J. F. Pérez1, 1Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Ajinomoto Eurolysine S.A.S., Paris, France.

TH153  Lysine restriction and realimentation affected growth, blood metabolites, and myostatin and leptin expressions in weaned pigs. Y. X. Yang1, J. Guo2, Z. Jin1, S. Y. Yoon3, J. Y. Choi1, M. H. Wang4, X. S. Piao1, S. J. Oh1, B. W. Kim1, and B. J. Chae4, 1College of Animal Life Sciences, Chungcheon, Kangwon-Do, Republic of Korea, 2School of Biotechnology, Chungcheon, Kangwon-Do, Republic of Korea, 3National Key Lab of Animal Nutrition, China Agricultural University, Beijing, P. R. China.

TH154  Impaired translation initiation activation and reduced protein synthesis in weaned piglets fed a low-protein diet supplemented with essential amino acids. Y. Yin*, D. Deng1, W. Chua2, K. Yao1, T. Li1, R. Huang1, Z. Liu1, and G. Wu1, 1The Chinese Academy of Sciences, Changsha, Hunan, P. R. China, 2Texas A&M University, College Station.

TH155  Effects of dietary protein level on intramuscular fat content and its fatty acid composition in lean and obese genotype finishing pigs. H.-J. Xu1, Y.-L. Liu1, W.-T. Gu3, Y.-L. Yin*, X.-F. Kong1, R.-L. Huang1, W.-J. Tang1, and Z.-Q. Liu1, 1The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, 2West Anhui University, Luan, Anhui, China, 3Wuhan University of Technology, Wuhan, Hubei, China.

TH156  Dietary protein intakes affect expression of the cationic amino acid transporter-1 gene in the small intestine of finishing pigs. C. Y. Shi1, W. Y. Chua, T. J. Li1, M. M. Geng1, S.-Y. Bin1, and Y.-L. Yin*, 1Guangxi Normal University, Guilin, Guangxi, China, 2The Chinese Academy of Sciences, Changsha, Hunan, P. R. China.

TH157  Molecular cloning, distribution and expression of the amino acid transporter y+LAT1 gene in tissues of young Tibet pigs. W. T. Gu1, W. Y. Chua, W. C. Wang1, M. M. Geng1, T. J. Li1, Y. L. Yin*, and G. Y. Wu1, 1The Chinese Academy of Sciences, Changsha, Hunan, P. R. China, 2Texas A&M University, College Station.
Molecular cloning, distribution and expression of the amino acid transporter $b_0^+$ mRNAs in young Tibet pigs. W. Y. Chu¹, W. C. Wang¹, W. T. Gu¹, M. M. Gen¹, T. J. Li¹, Y. L. Yin*,¹, and G. Y. Wu¹,², ¹The Chinese Academy of Sciences, Changsha, Hunan, P. R. China, ²Texas A&M University, College Station.


Ontogenetic development and nutritional regulation of amino acid transporter EAAC1 in intestine of swine. X. Wu¹, C. Y. Xie², Y. L. Yin*,¹, L. Wang¹, W. Y. Chu¹, M. M. Geng¹, T. J. Li², R. L. Huang¹, and Y. Q Hou¹, ¹The Chinese Academy of Sciences, Changsha, Hunan, P. R. China, ²Huazhong Agricultural University, Wu Han, China; ³Wuhan Polytechnic University, WuHan, Hubei, China.

**Physiology and Endocrinology**

**Physiology of Heat Stress**

**Exhibit Hall CDE**


Seasonal differences in gene expression in oocytes from Holstein cows in a subtropical environment as revealed by gene array analysis. P. J. Hansen*, M. Salem², A. M. Brad¹, J. Yao², and G. W. Smith¹, ¹University of Florida, Gainesville, ²West Virginia University, Morgantown, ³Michigan State University, East Lansing.


Effects of elevated ambient temperature on length of gestation and ruminal temperature at parturition of beef cows. E. C. Wright*, M. J. Prado-Cooper, C. L. Bailey, and R. P. Wettemann, Oklahoma Agricultural Experiment Station, Stillwater, OK.

**Physiology and Endocrinology**

**Poultry and Swine Physiology**

**Exhibit Hall CDE**


Detection of microRNA in porcine somatic and reproductive tissues. S. L. Pratt*, E. Curry, and H. M. Barton, Clemson University, Clemson, SC.

Endocrine regulation of colostrum production in primiparous sows. A. Foisnet¹, C. Farmer², M. Etienne¹, J. Le Dividich¹, and H. Quesnel*,¹, ¹INRA, Saint Gilles, France; ²Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada.

Maintenance of pregnancy with Matrix® in PGF₂α-treated sows. C. E. Ferguson*, M. C. Poole, D. M. Gandy, and F. M. LeMieux, McNeese State University, Lake Charles, LA.

Defined pattern of Sertoli cell differentiation in pubertal porcine testes. J. J. Ford* and T. H. Wise, USDA/ARS/USMARC, Clay Center, NE.

Comparison of domestic and feral pig physiology, immunity and growth. B. L. Davis*,¹,², M. A. Sutherland¹,², P. J. Bryer¹,², J. F. Smith¹,², and J. J. McGlone*,¹, ¹Pork Industry Institute, Lubbock, TX; ²Texas Tech University, Lubbock.
Physiology and Endocrinology
Spermatozoa, In Vitro Fertilization, and Embryo Transfer
Exhibit Hall CDE


TH176 Effects of dietary fats differing in n-3/n-6 ratio on oocyte quality in dairy cows. M. Zachut*1,2, I. Dekel1, H. Lehrer1, A. Arieli2, and U. Moallem1, 1Agriculture Research Organization, Bet Dagan, Israel, 2Faculty of Agriculture, Hebrew University, Rehovot, Israel.

TH177 Effects of preincubation of sperm at 38.5 or 40°C before insemination on developmental competence of bovine embryos derived from in vitro fertilization. K. E. M. Hendricks* and P. J. Hansen, University of Florida, Gainesville.


TH179 Effects of dietary fats differing in n-3/n-6 ratio on oocyte quality in dairy cows. M. Zachut*1,2, I. Dekel1, H. Lehrer1, A. Arieli2, A. Arav1, and U. Moallem1, 1Agriculture Research Organization, Bet Dagan, Israel, 2Faculty of Agriculture, Hebrew University, Rehovot, Israel.


TH182 Insulin-like growth factor-1 reduces the anti-development effects of menadione on development of bovine preimplantation embryos. K. E. M. Hendricks* and P. J. Hansen, University of Florida, Gainesville.

TH183 Effect of the addition of hyaluronan to bovine embryo culture on in vitro survival after cryopreservation and in vivo survival following transfer to recipients. L. Bonilla*, J. Block1,2, and P. J. Hansen1, 1University of Florida, Gainesville, 2EmoGen LLC, Gainesville, FL.

TH184 Effect of progesterone concentration during follicular development on fertilization and embryo quality in dairy cows. R. L. A. Cerri*1,2, R. C. Chebel1, F. Rivera2, C. D. Narciso2, R. A. Oliveira2, and J. E. P. Santos1, 1University of Florida, Gainesville, 2University of California Davis, Tulare.

TH185 Milk production and rectal temperature during pregnancy in lactating dairy cow recipients. D. T. G. Jardina*, F. L. Aragon2, M. B. Veras2, S. Soriano1, N. Sobreira1, A. B. Scarpa1, P. L. T. Justolin1, and J. L. M. Vasconcelos1, 1FMVZ, Unesp, Botucatu, SP, Brazil, 2Policlinica Pioneiros, PR, Brazil, 3Farm Colorado, SP, Brazil.

Production, Management, and the Environment
Calf, Young Stock and Stress Management
Exhibit Hall CDE

TH186 Nursery performance in gilts farrowed by females housed in individual stalls and/or group pens during gestation. M. J. Estienne* and A. F. Harper, Virginia Polytechnic Institute and State University, Blacksburg.

TH187 Group feeding dairy calves. D. G. Johnson*, C. Jergenson1, and H. Chester-Jones2, 1University of Minnesota, Morris, 2University of Minnesota, Waseca.

TH188 Impact of an acidifier in milk replacer or calf starter on Holstein heifer performance and health. M. Raeth-Knight*, B. Ziegler1, R. Larson1, S. Hayes2, D. Ziegler4, H. Chester-Jones5, G. Golombeski1, and J. Linn1, 1University of Minnesota, St. Paul, 2Hubbard Foods, Mankato, MN, 3Milk Products, Chilton, WI, 4University of Minnesota, Southern Research and Outreach Center, Waseca.

TH190 Pre- and post weaning performance and health of calves fed texturized calf starters with different processed corn or on a different milk replacer feeding schedule. B. Ziegler*, R. Larson, D. Ziegler, H. Chester-Jones, M. Raeth-Knight, G. Golombeski, and J. Linn, Hubbard Feeds, Mankato, MN, 3 University of Minnesota Southern Research and Outreach Center, Waseca, 4 University of Minnesota, St. Paul.

TH191 Performance of post weaned Holstein heifer calves transitioned to group housing using different management strategies while fed a common diet. D. Ziegler*, B. Ziegler, M. Raeth-Knight, R. Larson, G. Golombeski, J. Linn, and H. Chester-Jones, 1 University of Minnesota Southern Research and Outreach Center, Waseca, 2 Hubbard Feeds, Mankato, MN, 3 University of Minnesota, St. Paul.


TH194 Performance and growth of post weaned Holstein heifer calves at a raising facility. J. Wohlt*, C. Jin, and J. Ferguson, 1 University of Wisconsin, Madison, WI, 2 University of Minnesota Southern Research and Outreach Center, Waseca, 3 University of Minnesota, St. Paul.

TH195 Effect of the origin, month born, and shipment group on growth of Holstein heifers at a raising facility. J. Wohlt*, C. Jin, and J. Ferguson, 1 Rutgers University, New Brunswick, NJ, 2 University of Pennsylvania, Kennett Square.

TH196 The association of mortality and 60 day culling rates with housing, feeding and pasture systems. C. D. Dechow*, R. C. Goodling, 1 Penn State University, University Park, 2 Pennsylvania State Cooperative Extension, University Park.

TH197 How winter conditions affect feed intake of steers in different housing systems. H. Koknaroglu, Z. Otles, T. Mader, T. Purevjav*, and P. Remonatto, 1 Suleyman Demirel University, Department of Animal Science, Isparta, Turkey, 2 Frontier Science and Technology Research Foundation, Madison, WI, 3 Iowa State University, Ames.


TH202 Effect of calving scheme, seasonal vs. year-round, on production, reproductive performance, and culling by organically-managed dairy herds in Southeastern Pennsylvania. K. Griswold*, H. Karreman, and J. High, 1 Penn State Cooperative Extension, University Park, 2 Penn Dutch Cow Care, Gap, PA, 3 Lancaster DHIA, Manheim, PA.

TH203 Influence of horn flies on the behavior of beef cattle. H. T. Boland* and G. Scaglia, 1 Virginia Tech, Blacksburg, 2 Iberia Research Station, LSU Agricultural Center, Jeanerette, LA.

TH204 Description of factors influencing reticular temperatures in lactating dairy cows. J. M. Bewley*, M. E. Einstein, M. W. Grott, and M. M. Schutz, Purdue University, West Lafayette, IN.

TH205 Relationship of temperament and growth in the suckling beef calf. K. J. Matheney*, J. P. Banta, D. A. Neuendorff, T. H. Welsh Jr., R. C. Vann, and R. D. Randel, 1 Texas AgriLife Research and Extension, Overton, 2 Texas AgriLife Research, College Station, 3 Mississippi State University, Raymond.

Ruminant Nutrition

Fats and Carbohydrates – Beef, Sheep, Miscellaneous Ruminants

Exhibit Hall CDE


TH208 Forced-traffic in automatic milking systems effectively reduces the need to fetch cows but alters eating behavior of dairy cattle. A. Bach*†, M. Devant‡, and A. Ferrer‡.

TH209 Effect of physical particle size on ruminal and post-ruminal disappearance of nutrients of a mixed concentrate in Holstein steers. H. H. Jahani-Azizzabadi*, M. Danesh Mesgaran†, and A. Rahmatimaneš‡.

TH210 Comparative effects of whole, reconstituted-rolled, reconstituted-whole, dry-rolled and ground sorghum grain on growth and carcass characteristics in lambs. P. Orozco, R. Lazcano, and L. Corona*, Universidad Nacional Autónoma de México. Facultad de Medicina Veterinaria y Zootecnia.

TH211 Effects of non-fiber carbohydrates supplementation on some blood metabolites of Holstein steers. F. Rezaii, M. Danesh Mesgaran, A. Heravi Mousavi*, and M. Nasiri, Ferdowsi University of Mashhad, Mashhad, Iran.


TH213 Effect of Bacillus cereus var. toyoi supplementation on performance, metabolism, and histological morphology of the digestive tract in young Holstein bulls fed a high-concentrate diet. S. Martí*, A. Bach†‡, and M. Devant‡‡.

TH214 Blood cell profiles and plasma concentrations of glucose and cortisol of Nellore steers and bulls selected for low and high residual feed intake before and following a mild stressor. R. C. Gomes*, M. A. Ballou‡, R. F. Siqueira*, T. R. Stella†, J. A. Negrão†, R. D. Sainz‡, and P. R. Leme†, University of São Paulo, Pirassununga, Brazil.


TH216 The effect of replacing corn with glycerol on rumen fermentation and fiber digestibility. A. A. AbuGhazaleh*, S. Abo El-Nor†, and R. Babu‡‡, Southern Illinois University, Carbondale, †Egyptian National Research Center, Cairo, Egypt.

TH217 Effects of replacing barley with barley grain in finishing diets on blood and rumen metabolites of Holstein male calves. F. Fatehi, K. Reza-Yazdi, M. Dehghan-Banadaky*, M. Moradi-Shahrbak, and H. Bahrami, Tehran University, Karaj, Tehran, Iran.

TH218 Nutritional and growth patterns of Nellore bulls, steers and heifers, fed diets containing two concentrate allowance levels. P. V. R. Paulino*, S. de C. Valdares Filho†, M. A. Fonseca†, M. I. Marcondes†, E. Detmann†, N. K. de P. Souza†, and R. D. Sainz‡, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil.


TH223 Frothy bloat-related shifts in the ruminal bacterial population in steers fed Bermuda grass hay and grazing wheat forage. W. E. Pinchak*, B. R. Min*, C. Hernandez‡, and M. E. Hume‡, Texas AgriLife Research, Vernon, TX, USDA-ARS, Southern Plains Agricultural Research Center, Food and Feed Safety Research Unit, College Station, TX, Ichthus Education Center, La Trinitaria, Chiapas, Mexico.
TH224  Beef heifers performance fed with different forage sources. G. R. Siqueira1,2, R. A. Reis*1,4, R. P. Schocken-Iturrino1,4, F. Dutra de Resende2, T. T. Berchielli4,1, M. de Toledo Piza Roth1,4, and A. P. de Toledo Piza Roth1,4, 1‘São Paulo State University, Jaboticabal, São Paulo, Brazil, 2APTA Regional de Colina, Colina, São Paulo, Brazil, 3Fundação de Amparo Pesquisa do Estado de São Paulo, São Paulo, São Paulo, Brazil, 4Conselho Nacional de Desenvolvimento Científico e Tecnológico, Brasília, Distrito Federal, Brazil.

TH225  Effects of hay restriction with additional co-product supplementation on cow and calf performance and hay disappearance during a winter feeding program. A. Brauch*, J. Sexton, B. Wiegand, M. Kerley, D. Wilson, D. Mallory, H. Smith, M. Ellersieck, and J. Williams, University of Missouri, Columbia.


TH227  Feeding behavior of feedlot cattle from different breed types fed high concentrate diets with different NDF levels. L. M. N. Sarti1,3, M. D. B. Arrigoni1, C. L. Martins1, D. D. Millen1, R. D. L. Pacheco1, S. A. Matsuhash1, M. Parrili1, M. V. Fossa1, J. P. S. T. Bastos1, T. M. Mariani1, R. S. Barducci1, T. C. B. da Silva1, L. F. S. Niero1, S. R. Baldini1, H. N. de Oliveira1,1‘FMVZ/UNESP, Botucatu, São Paulo, Brazil, 2Faculdade de Zootecnia/UNESP, Dracena, São Paulo, Brazil, 3Apoio FAPESP.


TH229  Supplementation programs for wheat straw-based wintering cow programs. K. M. Wood*, I. B. Mandell, and K. C. Swanson, University of Guelph, Guelph, ON, Canada.

TH230  Effect of n-3 PUFA supplementation on embryo recovery rate, quality and gene expression in beef heifers. S. Childs*1,2, F. Carter2, C. O. Lynch1,2, J. M. Sreenan1, P. Lonergan1, A. A. Hennessy1, and D. A. Kenny1, Teagasc Production Research Centre, Athenry, Co. Galway, Ireland, 1University College Dublin, Belfield, Dublin, Ireland, 2Teagasc Food Research Centre, Moorepark, Fermoy, Co. Cork, Ireland.

TH231  Qualitative aspects of the carcass and meat of Nellore cattle fed diet with different levels of fat. J. Duarte Messana*, T. T. Berchielli1, R. Carrilho Canesin1, A. Ferreira Ribeiro1, P. Braga Arcuri1, and P. Moura Dian1, Faculdade de Ciências Agrárias e Veterinárias /UNESP - Campus Jaboticabal, Jaboticabal, São Paulo, Brazil, 2CNPGL/Embrapa, Juiz de Fora, Minas Gerais, Brazil.

TH232  Effects of glycerin supplementation on performance and meat quality of young Holstein bulls fed high-concentrate diets. N. Mach*, A. Bach1,2, and M. Devant1, Animal Nutrition, Management, and Welfare Group, IRTA-Unitat de Remugants, Barcelona, Spain, 2ICREA, Barcelona, Spain.

Ruminant Nutrition
Minerals and Vitamins – Dairy
Exhibit Hall CDE


TH235  Apparent ruminal synthesis and intestinal disappearance of vitamin B12, analogues in dairy cows. D. E. Santschi*1, C. L. Girard1, and R. H. Allen2, 1Teagasc Production Research Centre, Athenry, Co. Galway, Ireland, 2University of Missouri, Columbia.


TH237  Bone development in dairy heifers fed diets with and without supplemental phosphorus. N. M. Esser*, P. C. Hoffman1, W. K. Coblenz2, M. W. Orth1, and K. A. Weigel1, 1University of Wisconsin, Madison, 2US Dairy Forage Research Center, Marshfield, WI, 3Michigan State University, East Lansing.

TH238  Dairy cows might discriminate between vitamin D3 and vitamin D2 in the gastro intestinal tract. L. Hymoeller*1,2, S. K. Jensen2, and M. O. Nielsen1, 1University of Copenhagen, Groenmegaardsvej, Frederiksborg C, 2University of Aarhus, Blichers Allé, Tjele, Denmark.


TH240  Effect of organic trace mineral (4-Plex®) supplementation on dry matter intake, milk production, health events, and body weight in dairy cows. K. S. Hackbart*, R. M. Ferreira1, M. T. Socha1, R. D. Shaver2, M. C. Wiltbank1, and P. M. Fricke1, 1University of Wisconsin, Madison, 2Zinpro Corp., Eden Prairie, MN.
Non-acid-base factors partly responsible for increased urinary calcium excretion when anionic salts are fed. L. Irvine, M. Freeman, D. J. Donaghy, and J. R. Roche, University of Tasmania, Burnie, Australia, DairyNZ, Hamilton, New Zealand.

Influence of a high potassium diet on the excretion of minerals after calving. M. Rérat, A. Philipp, H. D. Hess, F. Dohme, and A. Liesegang, Agroscope Liebefeld-Posieux Research Station ALP, Posieux, Switzerland, University Zürich, Zürich, Switzerland.

Effect of selenium yeast on selenium status, thyroid hormone concentrations and passive transfer of immunoglobulins in dairy cows and calves. K. M. Koenig and K. A. Beauchemin, Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada.


Influence of concentrate and protein levels on milk production by Holstein cows. R. P. Lana, G. F. Sobreira, M. I. Leão, J. A. Freitas, D. C. Abreu, W. C. Lopes, and G. Guimarães, Universidade Federal de Viçosa, Viçosa, MG, Brazil, CNPq, Brasília, DF, Brazil, Universidade Federal do Paraná, Palotina, PR, Brazil.

Blood and ruminal metabolites of early lactating Iranian Holstein cows fed raw or roasted whole soybean. M. H. Fathi Nasri, M. Danesh.

Increasing methionine, lysine or both does not increase milk protein percent in either high producing or low producing dairy cows. H. F. Bucholtz, University of Wisconsin, Madison, Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Lennoxville, QC, Canada.

Carry-over effects of iodine and selenium supplements in lactating dairy cows. M. Battaglia, M. Moschini, G. Piva, and F. Masoero, Università Cattolica del Sacro Cuore, Piacenza, Italy.


**Ruminant Nutrition**

**Proteins and Amino Acids – Dairy**

**Exhibit Hall CDE**

Influence of concentrate and protein levels on milk production by Holstein cows. R. P. Lana, G. F. Sobreira, M. I. Leão, J. A. Freitas, D. C. Abreu, W. C. Lopes, and G. Guimarães, Universidade Federal de Viçosa, Viçosa, MG, Brazil, CNPq, Brasília, DF, Brazil, Universidade Federal do Paraná, Palotina, PR, Brazil.

Blood and ruminal metabolites of early lactating Iranian Holstein cows fed raw or roasted whole soybean. M. H. Fathi Nasri, M. Danesh Mesgaran, R. Valizadeh, and H. Farhangfar, The University of Birjand, Birjand, Iran, Ferdowsi University of Mashad, Mashad, Iran.


Response in feed intake, blood metabolites, and milk production to varying ruminal protein undegradability in early lactation Holstein cows. M. Jahani-Moghadam, H. Amanlou, and A. Nikkhah, Islamic Azad University, Karaj, Iran, Zanjan University, Zanjan, Iran, University of Illinois, Urbana.


Increasing methionine, lysine or both does not increase milk protein percent in either high producing or low producing dairy cows. H. F. Bucholtz, J. S. Liesman, P. N. Naaz, M. J. Stevenson, W. H. Heimbeck, and R. A. Patton, Michigan State University, East Lansing, Upper Peninsula Experiment Station, Chatham, MI, Evonik-Degussa AG, Hanau, Germany, Nittany Dairy Nutrition, Mifflinburg, PA.


Effect of abomasal glucose infusion on splanchnic amino acid metabolism in freshening dairy cows. M. Larsen, N. B. Kristensen, University of Aarhus, Tjele, Denmark.

The performance of calves fed a milk replacer containing wheat protein. A. B. Chestnut and D. L. Carr, Vigortone Ag Products, Hiawatha, IA.


Response of lactating cows to the partial replacement of soybean meal by Optigen® II or urea. J. F. dos Santos, M. N. Pereira, G. S. Dias Júnior, L. L. Bitencourt, N. M. Lopes, S. Síecola Júnior, and J. R. M. Silva, Universidade Federal de Lavras, Lavras, MG, Brazil, Centro Federal de Educação Tecnológica, Januária, MG, Brazil.


Comparative reproduction characterization among four crossbred groups of hair sheep. Prolificacy. W. R. Getz, S. Mobini, and S. Gelaye, Fort Valley State University, Fort Valley, GA.


Do feedstuffs contain a constant protein fraction that is both undegradable in the rumen and indigestible in the small intestine? S. E. Boucher*, C. M. Parsons, and C. G. Schwab, University of New Hampshire, Durham, University of Illinois, Urbana.


Digestibility of corn distillers protein treated with glutamic acid fermentation solubles or not and exposed to heat damage. P. Summer, Adisseo, Commentry, France.


Effects of 2-hydroxy 4-(methylthio) butanoic acid isopropyl ester (HMBI) on the organic matter digestibility (OMD) and energy value of corn dried distillers grains with solubles (DDGS). E. Devillard, L. Ducrocq, C. Richard, and P. A. Geraert, *Global Dairy Consultancy Co. Ltd., Holderness, NH.

In vitro ruminal protein degradation and microbial protein formation of seed legumes. S. Colombini and G. A. Broderick, *University of Milan, Milano, Italy, US Dairy Forage Research Center, Madison, WI.

In situ ruminal degradation of nitrogen fractions of cottonseed and canola meals. T. Tashakkori, M. Daneshgaran, A. R. Heravi Mousavi, and H. Nasri Moghaddam, Ferdowsi University of Mashhad, Mashhad, Iran.

Influence of production traits on the sheep enterprise profitability: A modeling approach. V. Demers Caron, D. Pellerin, and F. W. Castonguay, *Université Laval, Quebec, Quebec, Canada, Agriculture and Agri-Food Canada, Sherbrooke, Quebec, Canada.


Comparative reproduction characterization among four crossbred groups of hair sheep. Prolificacy. W. R. Getz, S. Mobini, and S. Gelaye, *Fort Valley State University, Fort Valley, GA.

Small Ruminant Sheep Exhibit Hall CDE
TH278 Male effect on heat distribution and pregnancy rate to timed AI and throughout the breeding season in postpartum Santa Ines ewes. M. V. Biehl1, A. V. Pires*, I. Susin1, C. Q. Mendes*, F. S. Urano1, R. S. Gentil1, E. M. Ferreira1, G. H. Rodrigues1, and M. L. Day1,1 Escola Superior de Agricultura Luiz de Queiroz (ESALQ)/University of São Paulo (USP), Piracicaba, SP, Brazil; 2The Ohio State University, Columbus.

TH279 Retention of sperm motility, viability and fertility in ram semen after liquid storage at 4°C for up to 96 hours. J. L. Mook, J. R. Collins, and S. Wildeus*, Virginia State University, Petersburg.

TH280 Meat characteristics of crossbred lambs fed normal or heated whole cottonseed 1. R. R. P. S. Corte*, P. R. Leme2, G. Aferri2, A. S. C. Pereira2, and J. C. C. Balieiro2,1 FAPESP, São Paulo, São Paulo, Brazil; 2Universidade de São Paulo, Pirassununga, São Paulo, Brazil.

TH281 Fatty acid composition of meat from crossbred lambs fed normal or heated whole cottonseed 1. R. R. P. S. Corte*, P. R. Leme2, A. S. C. Pereira2, G. Aferri2, and J. C. C. Balieiro2,1 FAPESP, São Paulo, São Paulo, Brazil; 2Universidade de São Paulo, Pirassununga, São Paulo, Brazil.

TH282 Effects of added protein and dietary fat on lamb performance and carcass characteristics when fed differing levels of dried distiller’s grains with solubles. M. L. Van Emon*, A. F. Musselman, P. J. Gunn, M. K. Neary, R. P. Lemenger, and S. L. Lake, Purdue University, West Lafayette, IN.


TH284 Dried distillers grains as a supplement for grazing ewe lambs. I. Susin*, D. D. Clevenger2, G. D. Lowe2, P. A. Tirabasso2, and S. C. Loerch2,1 Escola Superior de Agricultura Luiz de Queiroz (ESALQ)/University of São Paulo (USP), Piracicaba, SP, Brazil; 2The Ohio State University, Wooster.

TH285 Dried distillers grains as a supplement for finishing ewe lambs. I. Susin*, A. Radunz2, D. D. Clevenger2, G. D. Lowe2, P. A. Tirabasso2, and S. C. Loerch2,1 Escola Superior de Agricultura Luiz de Queiroz (ESALQ)/University of São Paulo (USP), Piracicaba, SP, Brazil; 2The Ohio State University, Wooster.

TH286 Effects of added protein and dietary fat on lamb performance and carcass characteristics when fed differing levels of dried distiller’s grains with solubles. M. L. Van Emon*, A. F. Musselman, P. J. Gunn, M. K. Neary, R. P. Lemenger, and S. L. Lake, Purdue University, West Lafayette, IN.

TH287 Effects of added protein and dietary fat on lamb performance and carcass characteristics when fed differing levels of dried distiller’s grains with solubles. M. L. Van Emon*, A. F. Musselman, P. J. Gunn, M. K. Neary, R. P. Lemenger, and S. L. Lake, Purdue University, West Lafayette, IN.


TH292 Apparent digestibility and ruminal parameters of diets containing sugarcane silage with or without additives or fresh sugarcane fed to lambs. R. C. Amaral, A. V. Pires, I. Susin, C. Q. Mendes*, E. M. Ferreira, R. S. Gentil, M. V. Biehl, M. A. A. Queiroz, and G. H. Rodrigues, Escola Superior de Agricultura Luiz de Queiroz (ESALQ)/University of São Paulo (USP), Piracicaba, SP, Brazil.


TH294 Use of salt for limiting supplement intake for hair sheep fed buffel grass (Cenchrus ciliaris L.). H. Morales-Treviño*, M. Mireles2, E. Gutierrez-Ornelas1,2, H. Bernal-Barragan3, J. Colín-Negrete1, F. Sanchez-Dávila1, and C. Rodriguez-Alvarado1,1 Facultad de Agronomía, Universidad Autónoma de Nuevo León, Marín, Nuevo León, México; 2Consorcio Técnico del Noreste de México, Guadalupe, Nuevo León, México; 3Instituto Tecnológico de Altamira, Altamira, Tamaulipas, México.
OTHER EVENTS
ADSA Business Meeting
206
9:30 AM – 10:00 AM

ASAS Business Meeting
203
9:30 AM – 10:30 AM

SYMPOSIA AND ORAL SESSIONS
Dairy Foods Dairy Products and Processing II
Chair: Kayanush Aryana, Louisiana State University
121


10:30 AM  510  Performance comparison of ceramic and polymeric microfiltration (MF) membranes for separation of casein and serum protein (SP) from skim milk at 50°C. J. Zulewska*, M. W. Newbold2, and D. M. Barbano3, University of Warmia and Mazury, Olsztyn, Poland, 2Cornell University, Ithaca, NY.

10:45 AM  511  Functional properties of whey proteins affected by heat and high pressure shearing. M. Dissanayake and T. Vasiljevic*, Victoria University, Melbourne, VIC, Australia.

11:00 AM  512  Production of whey protein concentrate 80 with improved clarity and flavor. I. Jarto*, J. A. Lucey1, S. Damodaran1, S. A. Rankin1, and K. E. Smith2, University of Wisconsin, Madison, 2Wisconsin Center for Dairy Research, Madison, WI.

11:15 AM  513  Production of structured lipids containing palmitic acid for infant milk formulation and characterization of their oxidative stability. C. O. Maduko1, C. C. Akoh1, R. R. Eitenmiller1, and Y. W. Park*2,1, University of Georgia, Athens, 2Fort Valley State University, Fort Valley, GA.

11:30 AM  514  The impact of fat globules’ colloidal stability on the pre-gelation stages of rennet coagulation process. Z. Gaygadzhiev*, M. Alexander, A. Hill, and M. Corredig, University of Guelph, Guelph, ON, Canada.

11:45 AM  515  Impact of changing temperature after measurable gelation on the properties of fermented milk gels. Y. Peng*, D. S Home2, and J. A Lucey1, University of Wisconsin, Madison, 2Formerly of Hannah Research Institute, Ayr, Scotland.

12:00 PM  516  Rheological properties of stirred yoghurts made with whey protein isolate-pectin complexes as stabilizing agent. M.-C. Gentès*1,2, S. L. Turgeon1, and D. St-Gelais2, STELA Dairy Research Centre and Institute of Nutraceuticals and Functional Foods (INAF), Quebec, QC, Canada, 2Food Research and Development Centre, Agriculture and Agri-Food Canada, Saint-Hyacinthe, QC, Canada.

12:15 PM  517  Changes in relative percentages of fatty acids in raw goat milk, its yoghurt and salted yoghurt during manufacture. Z. Guler*1 and Y. W. Park2, Mustafa Kemal University, Antakya, Hatay, Turkey, 2Fort Valley State University, Fort Valley, GA.

SYMPOSIUM
The DC Connection: Science Policy, Research Support, and the Professional Animal Scientist
Chair: Jerry Baker, Executive Director, Sigma Xi
Sponsors: Federation of Animal Science Societies (FASS) and Monsanto Company
Sagamore Ballroom 7

This 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.

10:30 AM  Introduction. Dr. Jerry Baker, Sigma Xi.

10:40 AM  An insider: Serving on the personal staff of a member of Congress. Dr. Christy Oliver, 2007-2008 FASS Congressional Science Fellow.
Deeper inside: Serving on the personal staff of a member of Congress. Dr. Murray Bakst, 2007-2008 FASS Congressional Science Fellow.

Federal support for research in the 2009 budget. Mr. Kei Koizumi, Director R&D Budget and Policy Program Directorate for Science and Policy Programs at AAAS.

Telling the research funding story to someone that matters. Dr. Ashley B. Peterson, Director Legislative Affairs, American Meat Institute.

Questions and wrap-up. Dr. Jerry Baker, Sigma Xi.

SYMPOSIUM
Animal Behavior and Well-Being
Animal Welfare Standards – Who Decides and How?
Chair: Anna Butters-Johnson, Iowa State University
101–102

Welcome


Animal welfare assurance programs in food production: A framework for assessing the options. D. Fraser*, Animal Welfare Program, Faculty of Land and Food Systems and W. Maurice Young Centre for Applied Ethics, University of British Columbia, Vancouver, Canada.

Pressures to regulate animal welfare and food production in the USA. K. Johnson*, Animal Agriculture Alliance, Arlington, VA.

Concluding thoughts

Breeding and Genetics
Computational Issues in Genomic Analysis
Chair: Dorian Garrick, Iowa State University
109–110


Effects of allele frequency estimation on genomic predictions and inbreeding coefficients. P. M. VanRaden1, M. E. Tooker*, and N. Gengler2, USDA Animal Improvement Programs Laboratory, Beltsville, MD, 2Gembloux Agricultural University, Gembloux, Belgium, 3National Fund for Scientific Research, Brussels, Belgium.

Strategies to incorporate genomic prediction into population-wide genetic evaluations. N. Gengler*1,2 and P. M. VanRaden1, 1Gembloux Agricultural University, Gembloux, Belgium, 2National Fund for Scientific Research, Brussels, Belgium, 3USDA Animal Improvement Programs Laboratory, Beltsville, MD.


Statistical design of validation studies for transcriptional profiling experiments. J. P. Steibel*, R. J. Tempelman1, and G. J. M. Rosa2, 1Michigan State University, East Lansing, 2University of Wisconsin, Madison.

Model selection in gene-specific mixed linear models for microarray data with application to joint analysis of multiple experiments. L. Qu, N. Bacciu*, D. Nettleton, and J. C. M. Dekkers, Iowa State University, Ames.

Reconstruction of metabolic pathways for the cattle genome. S. Seo* and H. A. Lewin, Institute for Genomic Biology, University of Illinois, Urbana.
Breeding and Genetics
Current Issues in Swine Breeding
Chair: Eric Antoniou, University of Missouri
107–108


11:00 AM 531 Heritability of longevity in Yorkshire females. M. D. Hoge* and R. O. Bates, Western Illinois University, Macomb, Michigan State University, East Lansing.


12:00 PM 535 Genetic parameters for longitudinal feed intake and weight gain in Durocs. C. Y. Chen*, I. Misztal, S. Tsuruta, W. O. Herring, T. Long, and M. Culbertson, University of Georgia, Athens, Smithfield Premium Genetics Group, Rose Hill, NC.


Dairy Foods
Cheese II
Chair: Kerry Kaylegian, Pennsylvania State University
120

10:30 AM 537 ADSA Pioneer: White cheese development. R. Richter*, Texas A&M University, College Station.

11:00 AM 538 Impact of the type of milk protein used to prepare starter media on properties of Mozzarella cheese. S. Govindasamy-Lucey*, B. Dosti, J. Jaeggi, M. Johnson, and J. Lucey, University of Wisconsin, Madison.

11:15 AM 539 Characterization of Sicilian Pecorino cheese by area of production. S. Carpino, I. Schadt, S. La Terra, G. Belvedere, T. Rapisarda, and G. Licitra, CoRFiLaC, Regione Siciliana, Ragusa, Italy, D.A.C.P.A., Catania University, Catania, Italy.

11:30 AM 540 Effect of brine composition on cheese physical properties in Ragusano cheese. N. Fucà, L. Tuminello, S. La Terra, M. Cacemo, M. Manenti, G. Licitra, and D. J. McMahon, D.A.C.P.A., Catania University, Catania, Italy, CoRFiLaC, Regione Siciliana, Ragusa, Italy, Utah State University, Logan.

11:45 AM 541 Studies on various paneer based spreads. H. A. Kumar and H. G. R. Rao*, Dairy Science College, KVAFSU, Hebbal, Bangalore, Karnataka, India.
Food Safety
Centennial Presentations
Chair: Todd Callaway, USDA-ARS Southern Plains Agricultural Research Center
204

10:30 AM 542 ASAS Centennial Presentation: Developments and future outlook for preharvest food safety. S. P. Oliver*, D. A. Patel, T. R. Callaway, and M. E. Torrence, The University of Tennessee, Knoxville, USDA-ARS Southern Plains Agricultural Research Center, College Station, TX, National Program Leader, Food Safety, USDA-ARS, Beltsville, MD.


Forages and Pastures
Centennial Presentations
Chair: Ted McCollum, Texas AgriLife Extension
Sponsor: Mycogen
104

10:30 AM 544 ASAS Centennial Presentation: Historical perspective on the advances in forage research. J. Burns*, USDA-ARS, Raleigh, NC, North Carolina State University, Raleigh.

11:00 AM 545 ASAS Centennial Presentation: Research and extension needs in forage utilization in the future. F. M. Rouquette Jr.*, L. A. Redmon, G. E. Aiken, G. M. Hill, L. E. Sollenberger, and J. Andrae, Texas AgriLife Research, Texas A&M System, Overton, TX, Texas AgriLife Extension Service, Texas A&M System, College Station, TX, USDA-ARS Forage Animal Production Research Unit, Lexington, KY, University of Georgia, Tifton, University Florida, Gainesville, Clemson University, Clemson, SC.

Horse Species III
Chair: Jason Turner, New Mexico State University
Sagamore Ballroom 2

10:30 AM 546 ASAS Centennial Presentation: History and future outlook of equine science teaching programs. C. H. Wood*, University of Kentucky, Lexington.


11:45 AM 549 Gastric ulcer incidence rate and relationship to other parameters in 40 Standardbred racehorses. R. E. Cate*, B. D. Nielsen, C. I. O’Connor-Robison, H. S. Spooner, J. L. Feldpausch, and H. C. Schott II, Michigan State University, East Lansing.


Lactation Biology III
Chair: Steve Davis, ViaLactia Biosciences (NZ) Ltd.
Sagamore Ballroom 6

10:30 AM 552 ASAS Centennial Presentation: Historical perspective on lactation biology. R. S. Kensinger*, Oklahoma State University, Stillwater.

The persistent milk yield response to frequent milking during early lactation is associated with persistent changes in mammary gene expression. E. H. Wall*, J. P. Bond, and T. B. McFadden, University of Vermont, Burlington.

Gene network analysis in mammary and liver tissue of lactating mice fed trans10, cis12-CLA. A. K. G. Kadegowda1, A. Thatcher2, L. S. Piperova1, S. L. Rodriguez-Zas2, R. A. Erdman1, and J. J. Loor2, 1University of Maryland, College Park, 2University of Illinois, Urbana.

SYMPOSIUM
Meat Science and Muscle Biology
Postmortem Changes in Myofibrillar Protein and the Associated Contribution to Meat Quality
Chair: Giuseppe Bee, Agroscope Liebefeld-Posieux, ALP
Sponsor: European Association of Animal Production
Sagamore Ballroom 1

10:30 AM 556 Historical perspective of postmortem changes in myofibrillar proteins and their relationship to meat quality. F. C. Parrish*, Iowa State University, Ames.


11:15 AM 558 Relationship of postmortem changes in myofibrillar protein to meat quality. E. Huff-Lonergan* and S. Lonergan, Iowa State University, Ames.

11:45 AM 559 New methods to investigate changes in meat and myofibrillar proteins. E. Veiseth*, Matforsk, Ås, Norway.

12:15 PM 560 Post harvest processes that influence myofibrillar protein degradation and meat quality. M. N. Lund1, R. Lametsch*, M. S. Hvid2, and L. H. Skibsted1, 1University of Copenhagen, Frederiksberg, Denmark, 2Danish Meat Research Institute, Roskilde, Denmark.

SYMPOSIUM
Mixed Models Workshop
Session 1
Chair: Rob Tempelman, Michigan State University, Bruce Craig, Purdue University, and Larry Douglas, University of Maryland.

10:30 AM 103 A professional development opportunity in the use of mixed models for the analysis of common experimental designs in the animal sciences. Topic areas include repeated measures analysis, mixed model analysis of categorical data, growth curve modeling using random coefficient, nonlinear, and spline models, and power and sample size determinations for comparing alternative designs for continuous and categorical responses. All presented applications will be based on the new SAS software procedure PROC GLIMMIX.

Nonruminant Nutrition
Distillers Grains for Swine
Chairs: L. Lee Southern, Louisiana State University, and Aaron Gaines, The Maschhoffs Inc.
Sagamore Ballroom 4

10:30 AM 561 Digestible energy and metabolizable energy in distillers dried grains with solubles (DDGS) and enhanced DDGS. J. A. Soares*, H. H. Stein, V. Singh, and J. E. Pettigrew, University of Illinois, Urbana.

10:45 AM 562 Effect of deoiled corn dried distillers grains with solubles (solvent extracted) on growth performance and carcass characteristics of growing and finishing pigs. J. Y. Jacela*, J. M. DeRouchey1, S. S. Dritz1, M. D. Tokach1, R. D. Goodband1, J. L. Nelssen1, J. M. Ben2, K. Prusa2, R. C. Thaler1, and D. E. Little1, 1Kansas State University, Manhattan, 2Iowa State University, Ames, 3South Dakota State University, Brookings, 4DairyNet Inc., Brookings, SD.

11:00 AM 563 Effect of dried corn distillers grains with solubles (DDGS) on growth performance of growing-finishing gilts with previous exposure to DDGS in the nursery. T. E. Burkey*, R. Moreno, E. E. Carney, and P. S. Miller, University of Nebraska, Lincoln.
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<th>Time</th>
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<th>Authors and Affiliations</th>
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<tr>
<td>11:15 AM</td>
<td>564</td>
<td>Alternating dietary inclusion of corn dried distillers grains with solubles did not impact growth performance of finishing pigs. N. R. Augspurger*, G. I. Petersen†, J. D. Spencer†, and E. N. Parr†, IBS United Inc., Sheridan, IN, University of Illinois, Urbana.</td>
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<td>11:30 AM</td>
<td>565</td>
<td>Effects of excess dietary crude protein from soybean meal and distillers dried grains with solubles in diets for finishing pigs. S. C. Williams*, J. D. Hancock, C. Feoli, S. Issa, and T. L. Gugle, Kansas State University, Manhattan.</td>
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**Physiology and Endocrinology**

**Enhancing Reproductive Efficiency**

**Chair: Mark Estienne, Virginia Tech**

205

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<td>11:00 AM</td>
<td>567</td>
<td>Effect of antioxidants on oxidative stress during maturation and in vitro culture of pig embryos. B. D. Whitaker* and J. W. Knight, Virginia Tech, Blacksburg.</td>
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<td>11:15 AM</td>
<td>568</td>
<td>Glycomic analysis of saccharides that bind porcine sperm. E. D. Collins, C. Korneli, and D. J. Miller*, University of Illinois, Urbana.</td>
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<td>11:30 AM</td>
<td>569</td>
<td>The relationship between sperm nuclear shape and boar fertility using Fourier harmonics. K. L. Willenburg*, K. J. Rozeboom, and J. J. Parrish, University of Wisconsin, Madison, ReproQuest, LLC, Fitchburg, WI.</td>
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**Health and Immunology**

**Chair: Ricardo Chebel, University of California**

206

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<td>11:00 AM</td>
<td>574</td>
<td>Withdrawn by author.</td>
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<td>11:15 AM</td>
<td>575</td>
<td>Early weaning alters the acute phase immune response to an endotoxin challenge in beef cattle. J. A. Carroll*, J. D. Artthington, and C. C. Chase Jr, Livestock Issues Research Unit, USDA-ARS, Lubbock, TX, University of Florida-IFAS, Range Cattle Research and Education Center, Ona, FL, SubTropical Agricultural Research Station, USDA-ARS, Brooksville, FL.</td>
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<td>11:30 AM</td>
<td>576</td>
<td>Relationship of temperament and circulating concentrations of cortisol, total protein, and immunoglobulin G with growth in Angus crossbred calves. K. R. Parker*, S. T. Willard, A. N. Musselwhite, R. D. Randel, T. H. Welsh, and R. C. Vann, MAFES/Brown Loum Experiment Station, Raymond, MS, Mississippi State University, Starkville, Texas Agrilife Research, Overton, TX, Texas A&amp;M University, College Station.</td>
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Ruminant Nutrition
Carbohydrate Byproducts – Dairy
Chair: Allen Young, Utah State University
Sagamore Ballroom 5

10:30 AM  579  Feeding two corn milling co-products to dairy cattle: Intake and milk production. A. M. Gehman* and P. J. Kononoff, University of Nebraska, Lincoln.

10:45 AM  580  Endosperm type of dry ground corn grain affects ruminal and total tract digestion of starch in lactating dairy cows. M. S. Allen, R. A. Longuski, and Y. Ying, Michigan State University, East Lansing.

11:00 AM  581  Effects of two dietary non-fiber carbohydrate levels on ruminal fermentation and animal metabolism of lactating cows. M. Blanch, S. Calsamiglia, M. Devant, and A. Bach, 1UB, Spain, 2IRTA, Spain, 3ICREA, Spain.


11:45 AM  584  Ground vs steam-rolled barley grain for lactating cows: A clarification into conventional beliefs. A. Soltani, G. R. Ghorbani, M. Alikhani, and A. Nikkhah, 1Istehfan University of Technology, Isfahan, Iran; 2University of Illinois, Urbana.

12:00 PM  585  Replacement of starch from corn with non-forage fiber from distillers grains in diets of lactating dairy cows. S. D. Ranathunga*, K. F. Kalscheur, A. R. Hippen, and D. J. Schingoethe, South Dakota State University, Brookings.

Ruminant Nutrition
Nitrogen Sources and Utilization
Chair: Paul Kononoff, University of Nebraska
Sagamore Ballroom 3

10:30 AM  586  Effects of feeding triticale dried distillers grains with solubles as a N source on productivity of lactating dairy cows. M. Oba* and T. D. Whyte, 1University of Alberta, Edmonton, AB, Canada.


11:00 AM  588  Digestibility of rumen undegraded amino acids estimated in cecctomized roosters and the modified three-step in vitro procedure. S. E. Boucher*, S. Calsamiglia, M. D. Stern, C. M. Parsons, and C. G. Schwab, 1University of New Hampshire, Durham, 2Universitat Autònoma de Barcelona, Bellaterra, Spain, 3University of Minnesota, St. Paul, 4University of Illinois, Urbana.


11:30 AM  590  Feeding two corn milling co-products to dairy cattle: Nutrient digestibility, purine derivatives excretion, and nitrogen utilization. A. M. Gehman* and P. J. Kononoff, University of Nebraska, Lincoln.

11:45 AM  591  Milk urea concentration as an indicator of ammonia emission from dairy cow houses in a situation with restricted grazing. G. van Duinkerken*, M. C. J. Smits, G. André, P. F. G. Vereijken, L. B. J. Sebek, A. Bannink, and J. Dijkstra, 1Wageningen University and Research Center, Lelystad, the Netherlands, 2Wageningen University and Research Center, Wageningen, the Netherlands.

12:00 PM  592  A meta-analysis of the effects of protein concentration and degradability on milk N efficiency in dairy cows. P. Huhtanen*, A. N. Hristov, and M. Rinne, 1Cornell University, Ithaca, NY; 2Pennsylvania State University, State College, 3MFAFES, South Dakota State University, Brookings.

593 Withdrawn by author.
**SYMPOSIUM**

Swine Species
Intestinal Barrier Function
Chair: Mark E. Wilson, Zinpro Corporation
Sponsors: European Association of Animal Production and Newsham Genetics
105–106


12:00 PM 596  Strategies to minimize inflammatory taxation on animal performance. M. E. Cook*, University of Wisconsin, Madison.

**Forages and Pastures III**
Chair: Ted McCollum, Texas AgriLife Extension
104


12:00 PM 599  Forage species alters animal performance, carcass quality, and fatty acid composition of forage-finished beef produced in summer months. J. Schmidt*, J. Andrae, S. Duckett, M. Miller, and S. Ellis, Clemson University, Clemson, SC.

12:15 PM 600  Performance of finishing steers on corn silage or low grain sorghum silage with corn oil supplementation. V. A. Corriher*, G. M. Hill, and B. G. Mullinix Jr., University of Georgia, Tifton.

**SYMPOSIUM**

ADSA Production Division Symposium
Dairy Replacement Heifers: Cost-Effective Strategies from Weaning to Calving
Chair: Leo Timms, Iowa State University
Sponsor: European Association of Animal Production
Sagamore Ballroom 2

2:00 PM  Introduction. L. Timms, Iowa State University, Ames.

2:05 PM 601  Potential and limitations associated with manipulating dairy replacement heifer nutrition programs. P. C. Hoffman*, University of Wisconsin, Madison.

2:45 PM 602  Using growth monitoring in heifer management and research. A. Bach*, J. Ahedo, and A. Kertz, 1IRTA-Unitat de Remugants, Barcelona, Spain, 2ICREA, Barcelona, Spain, 3Rancho Las Nieves, Mallen, Spain, 4ANDHILL LLC, St. Louis, MO.

3:25 PM  Break


4:20 PM 604  Raising healthy dairy replacements: How we get the job done. G. Goodell*, The Dairy Authority LLC, Greeley, CO.
Animal Health VI
Chair: KC Olson, Kansas State University
Sagamore Ballroom 1

2:00 PM 605 ASAS Centennial Presentation: The promise of proteomics in animal science. J. D. Lippolis* and T. A. Reinhardt, National Animal Disease Center, USDA-ARS, Ames, IA.

2:15 PM 612 Genetic parameters of saturated and monounsaturated fatty acids estimated by test-day model in Walloon dairy cattle. H. Soyeurt*1, C. Bastin1, P. Dardenne2, E. Gicquel3, and N. Gengler1,3, 1University of Brussels, Belgium, 2Wageningen University, The Netherlands, 3National Fund for Scientific Research, Brussels, Belgium.

2:30 PM 613 Genetic parameters of stearoyl coenzyme-A desaturase 9 activity estimated by test-day model. V. M.-R. Arnould*1, N. Gengler1,2, and J. J. Loot, University of Florida, Gainesville.

3:00 PM 616 Effect of casein genotypes on heritability of milk coagulation ability in Holstein Frisian cows. M. Cassandro*1, R. Dal Zotto1, M. De Marchi1, A. Comin1, S. Chessa2, and G. Bittante1, 1Associazione Nazionale Allevatori Frisona Italian, Legnaro, Padova, Italy, 2Department of Veterinary Science and Technology for Food Safety, University of Milano, Italy, 3Canadian Dairy Network, Sherbrooke, QC, Canada, 4Animal Breeding and Genetics Centre, Wageningen University, Wageningen, the Netherlands.

3:45 PM 617 Modeling extended lactation curves in Italian Holsteins. R. Steri1, F. Canavesi2, E. Nicolazzi2, G. Gaspa3, and N. P. P. Macciotta4, 1Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italy, 2Associazione Nazionale allevatori Frisona Italiana, Cremona, Italy, 3Dairy and Swine Research and Development Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 4Animal Breeding and Genetics Centre, Wageningen University, Wageningen, the Netherlands.

4:00 PM 618 Issues in modelling lactation curves with regression splines. N. P. P. Macciotta*, F. Miglior2, A. Cappio-Borlino2, and L. R. Schaeffer4, 1Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italy, 2Dairy and Swine Research and Development Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Canadian Dairy Network, Guelph, ON, Canada, 4CGL, Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada.
Breeding and Genetics
Current Issues in Beef Cattle Breeding
Chair: Janice Rumph, Michigan State University
Sagamore Ballroom 4

2:00 PM 622  ASAS Centennial Presentation: Animal breeding and the Journal of Animal Science: A century of co-evolution. W. Hohenboken*1,2,  1Virginia Polytechnic Institute and State University, Blacksburg,  2Oregon State University, Corvallis.


2:45 PM 624  Estimates of genetic variation for feed intake and other characteristics in growing beef cattle. K. M. Rolfe*, M. K. Nielsen1, C. L. Ferrell2, and T. G. Jenkins3, 1University of Nebraska, Lincoln, 2US Meat Animal Research Center, Clay Center, NE.

3:00 PM 625  Analysis of beef cattle growth with a Kalman filter. S. Forni*, D. Gianola, G. J. M. Rosa, G. de los Campos, and K. A. Weigel, University of Wisconsin, Madison.

3:15 PM 626  Bayesian estimation of the covariance between permanent maternal and temporary environmental effects for weaning weight in beef cattle. R. Cantet*, 1University of Buenos Aires, Buenos Aires, Argentina, 2CONICET, Argentina.

3:30 PM  Break

3:45 PM 627  ASAS Centennial Presentation: Future needs in animal breeding. R. D. Green*, Pfizer Animal Genetics, Sutton, NE.

4:15 PM 628  Genetic trends for production traits of the Montana Line 4 Hereford herd. J. M. Rumph*, D. D. Kress2, K. C. Davis2, D. C. Anderson2, H. C. Van Wagoner1, and D. L. Boss1, 1Michigan State University, Lake City, 2Montana State University, Bozeman, 3Montana State University, Havre.

4:30 PM 629  Clustering of herds to account for heterogeneous variance of docility scores in Limousin cattle. D. W. Beckman* and D. J. Garrick, Iowa State University, Ames.

4:45 PM 630  Estimation of breed and heterosis effects for growth and carcass traits in cattle using published crossbreeding studies. J. L. Williams*, R. Rekaya, and J. K. Bertrand, University of Georgia, Athens.

SYMPOSIUM
Companion Animals
Exotic Animal Nutrition
Chair: Nancy A. Irlbeck, Colorado State University
Sponsors: Hill’s Science Diet, Iams, and Nestle Purina

104

2:00 PM  Introduction – Welcome and Why an Exotic Animal Symposium?

2:10 PM 631  Zoo nutrition: In the beginning. D. E. Ullrey*, Michigan State University, East Lansing.

2:40 PM 632  Forty-plus years of exotic animal management – A director’s perspective. L. Simmons*, Omaha’s Henry Doorly Zoo, Omaha, NE.

3:00 PM 633  Amphibians and reptiles – Trials and tribulations. C. Dikeman*, Omaha’s Henry Doorly Zoo, Omaha, NE.

3:20 PM 634  Carnivores: From mouse to moose. E. S. Dierenfeld*, Saint Louis Zoo, St. Louis, MO.

4:00 PM 636  Ungulates: Are they cows with long necks? M. S. Edwards*, California Polytechnic State University, San Luis Obispo.

4:20 PM 637  Omnivores – Models of metabolism. J. Williams*, Indianapolis Zoological Society, Indianapolis, IN.

4:40 PM  Summary – What is the Future in Exotic Animal Nutrition?

SYMPOSIUM
Contemporary and Emerging Issues
Healthfulness of Dairy and Meat Products
Chair: Edward Stanisiewski, Pfizer
Sponsor: Elanco Animal Health
Sagamore Ballroom 3

2:00 PM 638  The current nutrition environment: Beef lipids in perspective. S. McNeill*, National Cattlemen's Beef Association, Centennial, CO.

2:45 PM 639  Role of animal protein in optimal health. N. Rodriguez*, University of Connecticut, Storrs.


4:15 PM 641  Milk fat globule membrane components and their interactions with lactic acid bacteria. R. Jimenez-Flores*, California Polytechnic State University, San Luis Obispo.

SYMPOSIUM
Dairy Foods
Emerging Nonthermal Food Processing Technologies- Their Potential in Dairy Systems
Chair: Geoffrey Smithers, Food Science Australia
Sponsor: European Association of Animal Production
121

2:00 PM 642  Introduction to nonthermal processing technologies and dairy systems. G. Smithers*, C. Versteeg, and J. Sellahewa, Food Science Australia, Melbourne & Sydney, Australia.

2:15 PM 643  Dairy proteins under pressure: Static high pressure processing to modulate the functionality of dairy proteins. P. Udabage*, M. A. Augustin1, I. R. McKinnon2, A. Kelly1, and C. Versteeg1, 1CSIRO Food Futures Flagship, Food Science Australia, Werribee, Victoria, Australia, 2University of Melbourne, Melbourne, VIC, Australia.

2:40 PM 644  High pressure treatment and bovine milk proteins. A. L. Kelly*, K. Kothari1, 1University College Cork, Cork, Ireland, 2Moorepark Food Research Centre, Fermoy, Co. Cork, Ireland.

3:05 PM 645  Microstructural effects in thermo-sonicated yogurt and other dairy products: Understanding and exploiting the science. G. V. Barbosa-Canovas* and D. Bermudez-Aguirre, Washington State University, Pullman.

3:30 PM 646  Membrane and other processing technologies for dairy fluids: Effectiveness of ultrasound in enhancing productivity. R. Mawson1, S. Kentish1, M. Ashokkumar2, S. Udabage1, and M. Golding*, 1Food Science Australia, Werribee, Victoria, Australia, 2University of Melbourne, Melbourne, Victoria, Australia.

3:55 PM 647  Microbial safety and bioactive efficacy: Effectiveness of pulsed electric field processing of dairy fluids. J. Wan*, K. Shamsi1, Q. Sui1, D. Bermudez-Aguirre1, C. P. Dunne2, G. Barbosa-Canovas*, and C. Versteeg1, 1Innovative Foods Center, Food Science Australia, Melbourne, Australia, 2RMIT University, Melbourne, Australia, 3University of Melbourne, Melbourne, Australia, 4Washington State University, Pullman, 5US Army Natick Soldier Center, MA.


Extension Education

All Species

Chair: Jodi Sterle, Texas A&M University

206

2:00 PM 650 A tool to optimize the length of time a boar is in an AI stud. J. S. Fix*,1, M. T. See1, and D. S. Casey2, 1North Carolina State University, Raleigh, 2Pig Improvement Company, Hendersonville, TN.

2:15 PM 651 State funded genetic enhancement programs: An example from Tennessee. M. L. Spangler* and D. Kirkpatrick2, 1University of Nebraska, Lincoln, 2University of Tennessee, Knoxville.

2:30 PM 652 Transferring technology to beef producers in Missouri to facilitate expanded use of estrus synchronization and AI. D. C. Busch*,1, N. R. Leitman1, D. A. Mallory1, J. F. Bader2, D. J. Wilson1, S. E. Poock1, M. F. Smith1, and D. J. Patterson1, 1University of Missouri, Columbia, 2Merial Limited, Fulton, MO.

2:45 PM 653 Evaluation of on-farm pasteurization systems. J. A. Elizondo-Salazar*,1,2, C. F. Vargas-Rodríguez2, S. C. Donaldson1, B. M. Jayarao1, and A. J. Heinrichs1, 1The Pennsylvania State University, University Park, 2Estación Experimental Alfredo Volio Mata, Costa Rica.

3:00 PM 654 Managing the newly created Livestock Gross Margin for Dairy (LGM-Dairy) insurance under seasonal climate variability. V. E. Cabrera* and D. Solis2, 1New Mexico State University, Clovis, 2University of Miami, Tallahassee, FL.

3:15 PM 655 A stochastic simulation model for assessment of investments in Precision Dairy Farming technologies: Model enhancements and utility demonstration. J. M. Bewley*, M. D. Boechle1, A. W. Gray1, H. Hogeveen2, S. D. Eicher3, and M. M. Schutz4, 1Purdue University, West Lafayette, IN, 2Utrecht University, Utrecht, the Netherlands, 3USDA-ARS, West Lafayette, IN.

3:30 PM 656 Assessing the potential value of automated body condition scoring through stochastic simulation. J. M. Bewley*, M. D. Boechle1, A. W. Gray1, H. Hogeveen2, S. D. Eicher3, and M. M. Schutz4, 1Purdue University, West Lafayette, IN, 2Utrecht University, Utrecht, the Netherlands, 3USDA-ARS, West Lafayette, IN.

3:45 PM 657 Analysis of corn distillers grain for expansion of the FeedAC database to include pre-digestion fractionated high protein distillers’ grains (HP-DG). T. R. Johnson*, J. Goodson2, D. P. Casper3, T. J. Applegate4, K. E. Ilieji4, B. T. Ulrich5, F. P. Lundy III6, and C. G. Schwab7, 1Purdue University, West Lafayette, IN, 2U.S. Department of Agriculture, Agricultural Research Service, Raleigh, NC, 3USDA-ARS, Beltsville, MD, 4USDA-ARS, Blacksburg, VA, 5USDA-ARS, College Station, TX, 6USDA-ARS, New Orleans, LA, 7USDA-ARS, Riverside, CA.

4:00 PM 658 Development of a software to calculate pollutant emissions, resources consumption and best available techniques effects from Spanish farms. C. Pineiro*, G. Montalvo2, M. A. Garcia2, M. Herrero3, and M. Bigueriego4, 1Spanish Ministry of Agriculture, Fisheries and Food, Madrid, Spain, 2Tragsega, S.A., Madrid, Spain, 3Feaspor, Segovia, Spain, 4Spanish Ministry of Agriculture, Fisheries and Food, Madrid, Spain.

4:15 PM 659 Using an iClicker audience response system to engage participants in extension programs. J. Andrae*, Clemson University, Clemson, SC.

Growth and Development

General Topics

Chairs: Anthony Capuco, USDA-ARS, and Aubrey Schroeder, Elanco

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2:00 PM 660 Ovariectomy alters myoepithelial cell populations in the prepubertal bovine mammary gland. K. E. Ballagh1, N. Korn1, L. Riggs2, R. M. Akers3, and S. Ellis*,1, 1Clemson University, Clemson, SC, 2Louisiana State University, Baton Rouge, 3Virginia Polytechnic Institute and State University, Blacksburg.

2:15 PM 661 Dihydroxy vitamin D affects the myogenic potential of porcine satellite cells. A. Qu*, R. P. Rhoads2, and C. H. Stahl*,1, 1Iowa State University, Ames, 2University of Arizona, Tucson, 3North Carolina State University, Raleigh.

2:30 PM 662 Calpain and calpastatin mRNA expressions in skeletal muscle are highly correlated with protein accretion activities in neonatal pigs. Z. Li*, B. Zhao1, X. Yang2, M. Z. Fan3, and J. Yang1, 1University of Hawaii, Honolulu, 2University of Guelph, Guelph, ON, Canada.

2:45 PM 663 A low-fat liquid diet decreases AMPK and increases mTOR phosphorylation in skeletal muscle of 10-day-old pigs. W. Oliver* and J. Miles, USDA, ARS, US Meat Animal Research Center, Clay Center, NE.

3:00 PM 664 Media components including exogenous lipid and PPAR-γ agonists influence the differentiation of primary bovine adipocytes in vitro. A. J. Lengi and B. A. Corl*, Virginia Polytechnic Institute and State University, Blacksburg.

Dry matter intake based on birth weight as weaning criterion in Brown Swiss calves. B. Saremi*, A. Foroughi, and A. Rahimi, Education Center of Jihad-e Agriculture, Mashhad, Khorasan-e Razavi, Iran.

Effects of plane of nutrition and bioavailable trace minerals on growth of transported male dairy calves. J. S. Osorio**, J. K. Drackley1, R. L. Wallace1, D. Rincker1, D. J. Tomlinson1, and T. J. Earleywine1, 1University of Illinois, Urbana, 2Zinpro Performance Minerals, Jeffersonton, VA, 3Land O’ Lakes Animal Milk Products Inc., Madison, WI.

Relationship of ghrelin and leptin with growth performance and carcass composition of beef cattle. J. S. Jennings*, R. H. Pritchard1, K. W. Bruns, A. Trenkle2, J. A. Daniel4, and A. E. Wertz-Lutz1, 1South Dakota State University, Brookings, 2Iowa State University, Ames, 3University of Missouri, Columbia, 4Berry College, Rome, GA.

Sheep differing in exogenous adrenocorticotropin hormone induced cortisol responses are different in body composition and residual feed intake. S. A. Knott1, L. J. Cummins2, F. R. Dunshea*, and B. J. Leury*, 1Charles Sturt University, Wagga Wagga, NSW, Australia, 2Ivanhoe, Cavendish, Victoria, Australia, 3The University of Melbourne, Parkville, Victoria, Australia.

Wool growth is negatively related to exogenous adrenocorticotropin hormone induced cortisol responses in sheep with a low wool growth potential but not with a high potential. G. M. Butler1, M. W. Robertson1, A. J. Tilbrook2, F. R. Dunshea*, and B. J. Leury*, 1The University of Melbourne, Parkville, Victoria, Australia, 2Monash University, Clayton, Victoria, Australia.

SYMPOSIUM
International Animal Agriculture
Welfare in Animal Production, from Science to Practice
Chair: Sergio Calsamiglia, Universitat Autonoma de Barcelona
Sponsor: European Association of Animal Production
101–102

2:00 PM
Introduction. S. Calsamiglia, Universitat Autonoma de Barcelona.

2:05 PM
ASAS Centennial Presentation: The impact of current global challenges in the animal agricultural industry. A. Tewolde*1 and T. Diaz2, 1Inter American Institute for Cooperation on Agriculture - IICA, San José, Costa Rica, 2Food and Agriculture Organization - FAO, Santiago de Chile.

2:45 PM
Farm animal welfare: The science behind the standards. D. Fraser*, University of British Columbia, Vancouver, BC, Canada.

3:25 PM
Strategies to improve animal welfare in poultry production: From science to practice. J. A. Mench*, University of California, Davis.

4:05 PM
Strategies to improve animal welfare in farm animals: From science to practice. X. Manteca*, A. Bach1, S. Calsamiglia1, A. Ferret1, J. Gasas1, and B. Jones2, 1School of Veterinary Science, UAB, Bellaterra, Barcelona, Spain, 2IRTA-Unitat de Remugants & ICREA, Barcelona, Spain, 3Animal Behaviour & Welfare Consultant, Edinburgh, Scotland.

4:45 PM

Lactation Biology III
Chair: Lance Baumgard, University of Arizona
Sagamore Ballroom 6

2:00 PM
Inhibitory effect of unsaturated fatty acids on de novo fatty acid synthesis in bovine mammary epithelial cells. J. W. McFadden*, I. K. Mullarky, and B. A. Corl, Virginia Polytechnic Institute and State University, Blacksburg.

2:15 PM
Lipogenic gene expression in MAC-T cells is affected differently by fatty acids and enhanced by PPAR-gamma activation. A. K. G. Kadegowda*, M. Bionaz2, L. S. Piperova1, R. A. Erdman1, and J. J. Loor1, 1University of Maryland, College Park, 2University of Illinois, Urbana.
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<th>Time</th>
<th>Session</th>
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<tr>
<td>2:30 PM</td>
<td>Comparative MammOmics™ of milk fat synthesis in <em>Mus musculus</em> vs. <em>Bos taurus</em>. M. Bionaz* and J. J. Loor, <em>University of Illinois, Urbana</em>.</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>SREBP1 and Spot14 are acutely down-regulated in mammary tissue during abomasal infusion of trans-10, cis-12 conjugated linoleic acid (CLA) in the dairy cow. K. J. Harvatine*, Y. R. Boisclair, and D. E. Bauman, <em>Cornell University, Ithaca, NY</em>.</td>
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<td>3:00 PM</td>
<td>PPAR-gamma activation and trans-10, cis-12-CLA affect gene expression profiles and intracellular lipid droplet formation and secretion to different extents in MAC-T cells. A. K. G. Kadegowda*, M. Bionaz2, R. E. Everts, H. A. Lewin3, L. S. Piperova1, R. A. Erdman1, and J. J. Loor2, 1University of Maryland, College Park, 2University of Illinois, Urbana.</td>
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<tr>
<td>3:30 PM</td>
<td>Summary discussion: Mechanism of CLA effect on milk fat synthesis.</td>
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<td>4:00 PM</td>
<td>Mammary fat pad but not parenchyma is affected by diet in pre-weaned Holstein heifers. K. M. Daniels*, S. R. Hill1, K. F. Knowlton1, R. E. James1, M. L. McGilliard1, A. V. Capuco2, and R. M. Akers1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2USDA-Agricultural Research Service, Beltsville, MD.</td>
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<tr>
<td>4:15 PM</td>
<td>Hormone interactions modulate mammary growth, morphogenesis and local IGF expression in peripubertal gilts. K. C. Horigan1, J. F. Trott1,2, and R. C. Hovey1,2, 1University of Vermont, Burlington, 2University of California, Davis.</td>
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<td>4:30 PM</td>
<td>Possible involvement of connective tissue growth factor (CTGF) in insulin-like growth factor-I (IGF1) stimulation of proliferation of bovine mammary epithelial cells. Y. Zhou1, A. V. Capuco2, and H. Jiang*, 1Virginia Polytechnic Institute and State University, Blacksburg, 2USDA-ARS, Beltsville, MD.</td>
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**Meat Science and Muscle**

**Biology Meat Science Research: Past, Present, and Future**

**Chair: Dean Pringle, The University of Georgia**

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<tr>
<td>2:00 PM</td>
<td>ASAS Centennial Presentation: A century of pioneers and progress in meat science leads to new frontiers. D. H. Beermann*, University of Nebraska, Lincoln.</td>
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<tr>
<td>3:15 PM</td>
<td>ASAS Centennial Presentation: Current and future meat science research needs. T. H. Powell*2 and R. D. Huffman2, 1American Meat Science Association, Savoy, IL, 2American Meat Institute, Washington, DC.</td>
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<tr>
<td>3:45 PM</td>
<td>Discussion</td>
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### Nonruminant Nutrition
#### Energy Utilization

**Chairs:** Jack Odle, North Carolina State University, and Joe Crenshaw, APC Inc.

105–106

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<th>Time</th>
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<tr>
<td>2:00 PM</td>
<td>Effects of enzyme additions to diets with corn- and sorghum-based distillers dried grains with solubles on growth performance and nutrient digestibility in nursery and finishing pigs. C. Feoli*, J. D. Hancock, T. L. Gugle, S. D. Carter, and N. A. Cole, *Kansas State University, Manhattan, †Oklahoma State University, Stillwater, ‡USDA/ARS, Bushland, TX.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>A multi-substrate enzyme blend for weaned pigs fed corn- or wheat-barley- based diets and its relationship with water acidification. Y. Han*, A. Humphreys, P. Lessard, and M. Vignola, †Nutreco Canada Agresearch, Guelph, ON, Canada, ‡Nutreco Canada West, Winnipeg, MB, Canada, †Nutreco Canada East, St. Hugues, QC, Canada, ‡Nutreco Canada Agresearch, St-Roumuald, QC, Canada.</td>
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<td>3:00 PM</td>
<td>Variation in chemical composition of soybean hulls. F. F. Barbosa*,‡, M. D. Tokach,‡, J. M. DeRouchey,‡, R. D. Goodhand,‡, J. L. Nielson, and S. S. Dritz‡, †Federal University of Viçosa, Viçosa, Minas Gerais, Brazil, ‡Kansas State University, Manhattan.</td>
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<td>3:30 PM</td>
<td>Carbohydrate X gut environment modifier interaction in weaned pigs. B. V. Lawrence*, R. J. Harrell, R. A. Anderson, and F. Navarro, NOVAS International Inc, St. Louis, MO.</td>
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<td>3:45 PM</td>
<td>Dietary fatty acids can alter markers of inflammation in cartilage and synovial fluid from multiparous sows. C. I. O’Connor-Robinson*, J. M. Mapes, J. D. Spencer, and M. W. Orthi, †Michigan State University, East Lansing, ‡JBS United, Sheridan, IN.</td>
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<td>4:00 PM</td>
<td>Effect of pelleting and fat content on energy value of corn for pigs. J. Noblet* and Y. Jaguelin, INRA, Saint Gilles, France.</td>
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<td>4:45 PM</td>
<td>Effect of insoluble and soluble dietary fiber on the standardized ileal digestibility of protein and selected amino acids in growing pigs. V. Halas*, G. Végvári, and L. Babinszky, †Kaposvár University, Kaposvár, Hungary, ‡Corvinus University of Budapest, Budapest, Hungary.</td>
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### Nonruminant Nutrition
#### Feed Additives II

**Chairs:** Don Giesting, Cargill Animal Nutrition, and Robert Dove, University of Georgia

107–108

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<th>Time</th>
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<tr>
<td>2:00 PM</td>
<td>Effects of dietary supplementation of benzoic, formic, and lactic acids on nitrogen balance of pigs. B. J. Min*, D. A. Monson, J. O. Vaughn, and S. W. Kim, †North Carolina State University, Raleigh, ‡Texas Tech University, Lubbock, †Emerald Performance Materials, Kalama, WA.</td>
</tr>
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3:45 PM 712 Effects of EcoCare® feed on growth performance and nutrient excretion of finishing pigs. T. Walraven*, S. Carter, M. Lachmann1, J. Bundy1, J. Jarrett1, and B. De Rodas2, Oklahoma State University, Stillwater, Land O’ Lakes Purina Feed, Gray Summit, MO.

### Physiology and Endocrinology

**Synchronization of Estrus in Cattle**

**Chair: Raymond Nebel, Select Sires**

**205**

2:00 PM 713 ASAS Centennial Presentation: Development of cattle estrus and breeding management. J. W. Lauderdale*, Lauderdale Enterprises Inc., Augusta, MI.

2:30 PM 714 Identification of differential gene expression during transition of bovine corpus luteum from early to mid-phase and their potential role in acquisition of luteolytic sensitivity to prostaglandin F2 alpha. M. P. Gorvanahally*, M. Salem, J. Yao, K. Inskeep, and J. A. Flores, West Virginia University, Morgantown.

2:45 PM 715 Synchronizing new follicular wave emergence in Bos indicus-influenced heifers with estradiol benzoate: Role of the magnitude of the acute increase in progesterone. J. D. Pack*1,2, I. C. Velez1,2, M. Amstalden1,2, and G. L. Williams1,2, Texas A&I University Research, Beeville, TX, Texas A&M University, College Station.


3:45 PM 719 Substitution of estradiol benzoate for GnRH in the Select Synch + CIDR protocol with or without temporary calf removal in Bos indicus-influenced cattle. J. D. Pack*1,2, I. C. Velez1,2, M. Amstalden1,2, and G. L. Williams1,2, Texas AgriLife Research, Beeville, TX, Texas A&M University, College Station.

4:00 PM 720 Ovarian and fertility responses of Holstein heifers after GnRH, progesterone, and PGF2α at five stages of the estrous cycle. J. S. Stevenson*, Kansas State University, Manhattan.


4:30 PM 722 Comparison of pregnancy rates in beef cattle after fixed-time AI using semen processed with two different extenders. D. C. Busch*, N. R. Leitman1, D. A. Mallory1, D. J. Wilson1, J. F. Bader2, J. L. Martin1, M. F. Smith1, and D. J. Patterson1, University of Missouri, Columbia, Merial Limited, Fulton, MO, Accelerated Genetics, Baraboo, WI.

Ruminant Nutrition

Protein and Amino Acids – Beef
Chair: Kristy Dorton, Diamond V
109–110


2:30 PM 726  Effects of increasing level of corn dried distiller’s grains with solubles on intake, digestion, and ruminal fermentation in steers fed backgrounding diets. J. L. Leuppi*, G. P. Lardy, and J. S. Caton, North Dakota State University, Fargo.

2:45 PM 727  Effect of feeding distillers grains on performance and marbling deposition in steers fed high-concentrate or high-forage diets. J. P. Schoonmaker*, A. H. Trenkle, and D. C. Beitz, Iowa State University, Ames, IA.

3:00 PM 728  Effect of wheat-, corn-, and triticale-based distillers grains with solubles on performance and carcass characteristics of growing lambs. L. E. McKeown*1, A. V. Chaves2, M. Oba1, E. Okine1, T. A. McAllister2, and D. Gibb2, 1University of Alberta, Edmonton, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

3:15 PM 729  Feeding dry-rolled or steam-flaked corn with increasing levels of wet distillers grains to finishing steers. C. M. Godsey*, M. K. Luebbe, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska, Lincoln.

3:30 PM 730  Effects of distiller’s grain and probiotic on growth and carcass characteristics of finishing beef steers. F. F. Korthaus*1, E. S. VanZant2, G. Rentfrow2, K. K. Kreikemeier1,2, D. L. Harmon1, and K. R. McLeod1, 1University of Kentucky, Lexington, 2Vit-E-Men, NE.

3:45 PM 731  Effect of varying ruminally degradable to undergradable protein ratio on feed intake, nutrient digestion and N balance of buffalo calves. J. I. Sultan*, A. Javed1, M. Yaqoob2, and P. Akhtar2, 1Institute of Animal Nutrition and Feed Technology, University of Agriculture, Faisalabad, Pakistan, Faisalabad, Punjab, Pakistan, 2University of Agriculture, Faisalabad, Pakistan.

4:00 PM 732  Effects of 20% corn wet distillers grain’s plus solubles in steam-flaked and dry-rolled corn- based finishing diets. J. C. MacDonald1,2, K. H. Jenkins*1, F. T. McCollum III1, and N. A. Cole1, 1Texas AgriLife Research, Amarillo, TX, 2West Texas A&M University, Canyon, 3Texas AgriLife Extension, Amarillo, TX, 4USDA-Agricultural Research Service, Bushland, TX.

4:15 PM 733  Effect of supplementation frequency of soyhulls and corn gluten feed based mix on digestion and nitrogen balance of beef steers. M. E. Drewnoski* and M. H. Poore, North Carolina State University, Raleigh.

Ruminant Nutrition

Rumen Fermentation Modifiers
Chair: Allen Young, Utah State University
Sagamore Ballroom 5

2:00 PM 734  Effect of Rumensin® and Tylan® in feedlot diets containing wet distillers grains plus solubles fed to beef steers. N. F. Meyer*, G. E. Erickson1, T. K. Klopfenstein1, J. R. Benton1, M. K. Luebbe1, and S. B. Laudert1, 1University of Nebraska, Lincoln, 2Elanco Animal Health, Greenfield, IN.

2:15 PM 735  Effect of Rumensin® and Tylan® fed separately on in combination on feedlot performance and carcass characteristics of feedlot cattle. G. J. Vogel*, S. B. Laudert1, and R. S. Swingle2, 1Elanco Animal Health, Greenfield, IN, 2Cactus Feeders, Amarillo, TX.

2:30 PM 736  Interactions of monensin with dietary fat and carbohydrate components on ruminal fermentation and production responses by dairy cows. B. Mathew*, E. R. Oelker, M. L. Eastridge, and J. L. Firkins, The Ohio State University, Columbus.

2:45 PM 737  Effects of Optaflexx™ on ruminal ammonia and amino acid concentrations in cattle fed dry-rolled or steam-flaked corn finishing diets with or without dried distiller’s grains. C. E. Walker* and J. S. Drouillard, Kansas State University, Manhattan.

3:00 PM 738  Effects of cinnamaldehyde-eugenol and capsicum on rumen fermentation and feeding behavior in beef heifers fed a high-concentrate diet. M. Rodriguez-Prado1, S. Calsamiglia1, A. Ferret1, J. Zwieten1, L. Gonzalez1, and D. Bravo*2, 1Universitat Autonoma de Barcelona, Spain, 2Pancosma, Switzerland.

3:30 PM  740  Effects of yeast culture on rumen microbial fermentation of heifers challenged with high-concentrate feeding. D. Moya*1, S. Calsamiglia1, A. Ferret1, J. I. Fandino1, and L. Castillejos2, 1Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Diamond V Europe, Marum, the Netherlands.

3:45 PM  741  Influence of body condition at calving and feed supplementation with yeast culture on feed intake, peripheral blood metabolites and blood mineral concentrations in early lactating dairy cows. R. Allibrahim*, M. Doherty, L. O’Grady, V. Gath, P. Duffy, and F. Mulligan, University College, Dublin, Ireland.

4:00 PM  742  Effect of feeding Diamond V Yeast Culture™ on milk production and dry matter intake in lactating dairy cows: A meta-analysis. A. R. Rabie1, I. J. Lean*1, K. L. Dorton2, M. E. Engstrom2, and W. K. Sanchez3, 1Bovine Research Australasia, Camden, NSW, Australia, 2Diamond V Mills, Cedar Rapids, IA.

4:15 PM  743  Dose-response effects of Rumensin® supplementation on kinetics of biodehydrogenation of fatty acids in the rumen. M. S. Allen* and Y. Ying, Michigan State University, East Lansing.


4:45 PM  745  Effect of ZADO®, as enzymes from anaerobic bacterium, on extent of ruminal fermentation kinetics, microbial protein synthesis and milk production in dairy cows. H. M. Gado*1, M. Hassan2, and A.-F. Z. M. Salem3, 1The University of Cairo, Cairo, Egypt, 2Cairo University, Cairo, Egypt, 3Alexandra University, Alexandria, Egypt.

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**Friday, July 11**

**Animal Behavior and Well-Being**

**Beef and Dairy Cattle**

Chair: Jeremy Marchant-Forde, USDA-ARS and Purdue University

101–102

8:30 AM  746  Effect of receiving weight on predicted days to onset of respiratory disease in feedlot steers. C. M. McAllister*1, B. W. Brigham1, R. M. Enns1, R. L. Weaber2, H. Van Campen1, G. H. Loneragan1, J. L. Salak-Johnson1, C. C. L. Chase1, J. J. Wagner1, and E. J. Pollak2, 1Colorado State University, Fort Collins, 2University of Missouri, Columbia, 3Colorado State University, Fort Collins, 4West Texas A&M, Canyon, 5University of Illinois, Urbana, 6South Dakota State University, Brookings, 7Cornell University, Ithaca, NY.

8:45 AM  747  Correlations among measures of temperament, weight, and gain of steers at placement and reimplant in a commercial feed yard. R. L. Weaber*1, R. M. Enns1, H. Van Campen1, G. H. Loneragan1, J. L. Salak-Johnson1, C. Chase1, J. J. Wagner1, and E. J. Pollak1, 1University of Missouri, Columbia, 2Colorado State University, Fort Collins, 3West Texas A&M University, Canyon, 4University of Illinois, Urbana, 5South Dakota State University, Brookings, 6Cornell University, Ithaca, NY.

9:00 AM  748  The effect of exit velocity at receiving and re-implant on average daily gain and weight at re-implant. A. R. Pepper*1, R. M. Enns1, R. L. Weaber1, H. Van Campen1, G. H. Loneragan1, J. L. Salak-Johnson1, C. C. L. Chase1, J. J. Wagner1, and E. J. Pollak1, 1Colorado State University, Fort Collins, 2Colorado State University, Fort Collins, 3University of Missouri, Columbia, 4West Texas A&M University, Canyon, 5University of Illinois, Urbana, 6South Dakota State University, Brookings, 7Cornell University, Ithaca, NY.

9:15 AM  749  Effect of processing stress on feedlot cattle sickness. B. W. Brigham*1, R. M. Enns1, R. L. Weaber1, H. Van Campen1, G. H. Loneragan1, J. L. Salak-Johnson1, C. C. L. Chase1, J. J. Wagner1, and E. J. Pollak1, 1Colorado State University, Fort Collins, 2University of Missouri, Columbia, 3West Texas A&M University, Canyon, 4University of Illinois, Urbana, 5South Dakota State University, Brookings, 6Cornell University, Ithaca, NY.

9:30 AM  750  Effect of daily ambient temperature and wind speed on sickness of feedlot cattle. S. E. Speidel*1, R. M. Enns1, G. H. Loneragan2, R. L. Weaber1, H. Van Campen1, J. L. Salak-Johnson1, C. C. L. Chase1, J. J. Wagner1, and E. J. Pollak2, 1Colorado State University, Fort Collins, 2West Texas A&M University, Canyon, 3University of Missouri, Columbia, 4University of Illinois, Urbana, 5South Dakota State University, Brookings, 6Cornell University, Ithaca, NY.

9:45 AM  751  Break

10:00 AM  752  Effect of rubber flooring on cow locomotion and gene expression. K. O’Driscoll1, M. M. Schutz1, and S. D. Eicher*1, 1Teagasc, Fermoy, Ireland, 2NUI Dublin, Dublin, Ireland, 3Purdue University, West Lafayette, IN, 4USDA-ARS, West Lafayette, IN.

10:15 AM  753  Effect of feed bunk sprinklers on attendance at un-shaded feed bunks in dry-lot dairies. B. H. Carter*, T. H. Friend, J. E. Sawyer, and M. A. Tomazewski, Texas A&M University, College Station.
10:30 AM 753 Effect of shade on panting score of feedlot cattle exposed to heat stress. J. B. Gaughan*, 1, M. L. Sullivan1, J. Cawdell-Smith1, and T. L. Mader2, 1The University of Queensland, Gatton, Qld, Australia, 2University of Nebraska, Lincoln.


11:00 AM 755 Effects of soil surface temperature on daily water intake in feedlot steers. R. A. Arias*, 1and T. L. Mader2, 1Universidad Católica de Temuco, Temuco, Chile, 2University of Nebraska, Lincoln.


Breeding and Genetics

Dairy, Sheep & Goat – Crossbreeding, Inbreeding & Breed Conservation

Chair: Kent Weigel, University of Wisconsin

Sagamore Ballroom 7

8:30 AM 757 Genetic variation in the threshold of sensitivity to heat stress in Holsteins. J. P. Sánchez*, 1, R. Rekaya2, J. Aguilar2, and I. Misztal23, 1Universidad de León, Campus de Vegazana, León, Spain, 2University of Georgia, Athens, 3Instituto Nacional de Investigación Agropecuaria, Estación Las Brujas, Canelones, Uruguay.

8:45 AM 758 In situ goat conservation population and selection for parasite resistance. J. M. Dzakuma*, 1, B. M. Johnson1, N. C. Beckford1, L. C. Nutt1, and T. M. Craig2, 1Prairie View A&M University, Prairie View, TX, 2Texas A&M University, College Station.

9:00 AM 759 Genetic diversity of US sheep breeds. H. Blackburn1, M. Brown1, S. Wildeus1, R. Stobart1, D. Bixby1, J. Dzakuma2, S. Ericsson1, W. Getz1, N. Cockett2, D. Matsas3, C. Welsh1, S. Spiller1, and D. Waldron4, 1ARS National Animal Germplasm Program, Ft. Collins, CO, 2ARS Grazing Lands Research, El Reno, OK, 3Virginia State University, Petersburg, 4University of Wyoming, Laramie.

9:15 AM 760 Heterogeneity of founder-specific inbreeding depression on birth BW of Ripollesa lambs. J. Casellas*, 1, J. Piedra1, J. E. Romano1, B. M. Johnson1, N. C. Beckford1, L. C. Nutt1, and T. M. Craig2, 1Prairie View A&M University, Prairie View, TX, 2Texas A&M University, College Station.

9:30 AM 761 Type appraisal of Holsteins, Jerseys, and reciprocal crosses under two classification systems. B. G. Cassell*, 1, K. M. Olson1, and A. J. McAllister2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2University of Kentucky, Lexington.

9:45 AM 762 Break

10:00 AM 762 Montbeliarde-sired crossbred cows compared to pure Holstein cows for production, SCS, days open, and body condition score during their first two lactations. A. R. Hazel*, B. J. Heins, L. B. Hansen, A. J. Seykora, D. G. Johnson, J. G. Linn, and J. E. Romano, University of Minnesota, St. Paul.


10:30 AM 764 Number of services per conception, estimated calving interval and lactation length in New Zealand and Mexican Holstein cows in Torreon, Coahuila, Mexico, Case study. T. B. Garcia-Peniche* and A. Aranda-Munguía, 1Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias, Paso del Toro, Veracruz, Mexico, 2Establo La Montaña, Torreon, Coahuila, Mexico.

10:45 AM 765 Puberty and conception in Holsteins, Jerseys and reciprocal crossbred heifers. W. J. Silvia*, K. G. Hall1, C. M. Williams1, A. J. McAllister*, B. G. Cassell1, and S. P. Washburn1, 1University of Kentucky, Lexington, 2Virginia Polytechnic Institute and State University, Blacksburg, 3North Carolina State University, Raleigh.

SYMPOSIUM
Growth and Development
The Molecular Basis for Feed Efficiency
Chairs: Rod Hill, University of Idaho, and Mark Hill, Akey Feeds
Sponsor: Elanco
Sagamore Ballroom 1

8:30 AM
Introduction. R. Hill, University of Idaho.

8:40 AM 767
Mitochondrial efficiency in lines of mice divergently selected for heat loss. J. M. McDonald* and M. K. Nielsen, University of Nebraska, Lincoln.

9:10 AM 768
The molecular basis for feed efficiency in beef cattle. S. S. Moore*, E. L. Sherman¹, J. D. Nkrumah², F. D. Mujabi³, Z. Wang⁴, and P. Stothard⁴, ¹University of Alberta, Edmonton, AB, Canada, ²Merial Limited, Duluth, GA.

9:40 AM 769
Associations between mitochondrial function and feed efficiency in poultry and livestock species. W. G. Bottje*⁴ and G. E. Carstens², ¹University of Arkansas, Fayetteville, ²Texas A&M University, College Station.

10:10 AM 770
Physiological basis for residual feed intake. R. M. Herd*¹ and P. F. Arthur², ¹NSW Department of Primary Industries, Armidale, Australia, ²NSW Department of Primary Industries, Camden, Australia.

10:40 AM 771
Physiological basis for residual feed intake in pigs. C. de Lange* and G. Vander Voort, University of Guelph, Guelph, ON, Canada.

SYMPOSIUM
Mixed Models Workshop
Session 2
Chair: Rob Tempelman, Michigan State University, Bruce Craig, Purdue University, and Larry Douglas, University of Maryland.

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(First session on 7/10, 10:30 AM – 5:00 PM; Interested parties should attend both sessions. Preregistration fee required.)

8:30 AM
A professional development opportunity in the use of mixed models for the analysis of common experimental designs in the animal sciences. Topic areas include repeated measures analysis, mixed model analysis of categorical data, growth curve modeling using random coefficient, nonlinear, and spline models, and power and sample size determinations for comparing alternative designs for continuous and categorical responses. All presented applications will be based on the new SAS software procedure PROC GLIMMIX.

Nonruminant Nutrition
Protein and Feed Additives
Chairs: Lee Chiba, Auburn University, and Kevin Soltwedel, Professional Swine Management LLC

107–108

8:30 AM 772
Bacteria composition, richness and diversity differ in colon digesta of piglets fed diets with different levels of protein and challenged with Escherichia coli K88. F. O. Opapeju*¹, R. L. Payne², D. O. Krause¹, and C. M. Nyachoti¹, ¹University of Manitoba, Winnipeg, MB, Canada, ²Evonik-Degussa Corporation, Kennesaw, GA.

8:45 AM 773
Value of spray-dried egg in pig nursery diets. M. Song*¹, B. G. Harmon², M. T. Che¹, M. U. Steidinger¹, and J. E. Pettigrew¹, ¹University of Illinois, Urbana, ²Raislplitter Feed Technology, Wildwood, MO, ³Swine Nutrition Services Inc., Forrest, IL.

9:00 AM 774
The use of dried bacterial cells in nursery pig diets. R. B. Hinson*¹, J. L. Usry², A. M. Gaines³, and G. L. Allee¹, ¹University of Missouri, Columbia, ²Ajinomoto Heartland LLC, Chicago, IL, ³The Maschhoffs Inc., Carlyle, IL.

9:15 AM 775

9:30 AM 776
Effects of feeding excess crude protein on growth performance and carcass traits in finishing pigs. S. M. Williams*, J. D. Hancock, C. Feoli, S. Issa, and T. L. Gugle, Kansas State University, Manhattan.
9:45 AM 778 Effects of adding an enhanced flavor to the creep feed on the proportion of piglets consuming creep feed and pre-weaning performance. R. C. Sulabo*, J. M. DeRouchey¹, M. D. Tokach¹, C. D. Risley², R. D. Goodband¹, S. S. Dritz¹, and J. L. Nelssen¹, ¹Kansas State University, Manhattan, ²Lucta USA Inc., Northbrook, IL.

10:00 AM 777 Effects of organoleptic properties of the feed and diet complexity on nursery pig performance. R. C. Sulabo*, J. M. DeRouchey¹, M. D. Tokach¹, C. D. Risley², R. D. Goodband¹, S. S. Dritz¹, and J. L. Nelssen¹, ¹Kansas State University, Manhattan, ²Lucta USA Inc., Northbrook, IL.

10:15 AM 779 Diet preference and growth performance in weanling pigs fed diets with Morinda citrifolia (noni). C. Feoli*, J. D. Hancock¹, K. C. Behnke¹, and R. G. Godbee², ¹Kansas State University, Manhattan, ²Morinda Agricultural Products, Orem, UT.

10:30 AM 780 Effects of Morinda citrifolia (noni) and diet complexity on growth performance in weanling pigs. C. Feoli*, J. D. Hancock¹, K. C. Behnke¹, and R. G. Godbee², ¹Kansas State University, Manhattan, ²Morinda Agricultural Products, Orem, UT.

10:45 AM 781 Cloning of Ningxiang porcine growth hormone gene and its construction respectively of prokaryotic and eukaryotic expression vector. W. C. Wang¹, W. Y. Chu¹, W. T. Gu¹, M. M. Geng¹, T. J. Li¹, Y. L. Yin*, and G. Y. Wu¹², ¹The Chinese Academy of Sciences, Changsha, Hunan, P. R. China, ²Texas A&M University, College Station.

SYMPOSIUM
Nonruminant Nutrition
Energy Systems and Alternative Energy Ingredients for Swine
Chair: Kevin Herkelman, Wenger’s Feed Mill Inc.
Sponsors: Archer Daniels Midland Company, European Association of Animal Production, Evonik Degussa Corp., and Novus International

8:30 AM Introduction. K. Herkelman, Wenger’s Feed Mill, Inc.

8:35 AM 782 Recent developments in net energy research for pigs. J. Noblet*, INRA, Saint Gilles, France.

9:15 AM 783 Practical application of the net energy system in swine nutrition. R.T. Zijlstra*¹ and R. L. Payne², ¹University of Alberta, Edmonton, AB, Canada, ²Evonik-Degussa Corporation, Kennesaw, GA.

9:45 AM 784 Impact of the biofuels industry on alternative ingredients available to swine. B. J. Kerr* and T. E. Weber, USDA-ARS-NSTL, Ames, IA.

10:15 AM 785 Effects of feeding increasing levels of glycerol with or without distillers dried grains with solubles in the diet on grow-finish pig growth performance and carcass quality. J. Stevens*, A. Schineckel, M. Latour, D. Kelly, D. Sholly, B. Legan, and B. Richert, Purdue University, West Lafayette, IN.

10:30 AM 786 Effects of increasing dietary glycerol and dried distillers grains with solubles on growth performance of finishing pigs. A. W. Duttlinger*, M. D. Tokach¹, S. S. Dritz², J. M. DeRouchey¹, J. L. Nelssen¹, R. D. Goodband¹, and K. J. Prusa², ¹Kansas State University, Manhattan, ²Iowa State University, Ames.


Ruminant Nutrition
Acidosis, DCAD and Acid-Base Metabolism
Chair: Bill Sanchez, Diamond V Mills

Sagamore Ballroom 2

8:30 AM 788 The relationship between the severity of ruminal acidosis and the expression of genes associated with the absorption and metabolism of volatile fatty acids and glucose in ruminal tissue. G. B. Penner*¹, M. Taniguchi¹, L. L. Guan¹, K. A. Beauchemin², and M. Oba¹, ¹University of Alberta, Edmonton, AB, Canada, ²Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

Friday, July 11, 2008

9:00 AM 790 Effect of dietary cation-anion difference on feedlot performance, N mass balance, and manure pH in open feedlot pens. M. K. Luebbe*, G. E. Erickson, T. J. Klopfenstein, and J. R. Benton, University of Nebraska, Lincoln.


9:30 AM 792 Grain species and cultivars and ruminal acidosis. II. Comparisons and validation of a near infra-red reflectance assay. I. J. Lean*, A. R. Rabiee1, J. L. Black2, S. Nielsen3, and R. H. King4, 1Bovine Research Australasia, Camden, NSW, Australia, 2John L. Black Consulting, Warinoo, NSW, Australia, 3NSW Department of Primary Industries, Orange, NSW, Australia, 4RHK Consulting, Essendon, Victoria, Australia.

9:45 AM 793 Influence of electrolyzed alkaline water on milk production in dairy cows. J. D. Ferguson*, D. Remsberg, and Z. Wu, University of Pennsylvania, Kennett Square.

10:00 AM 794 Timothy hays differing in dietary cation-anion difference affect the capability to maintain calcium homeostasis in dairy cows. V. S. Heron*, G. F. Tremblay, and M. Oba, 1University of Alberta, Edmonton, AB, Canada, 2Agriculture and Agri-Food Canada, Quebec, QC, Canada.

Ruminant Nutrition
Energy and Carbohydrate Byproducts – Beef
Chair: Stacey Gunter, USDA-ARS-SPRRS
Sponsors: ASAS Foundation, and Mycogen
Sagamore Ballroom 4

8:30 AM 795 ASAS Centennial Presentation: Discovery and application of energetic principles to feeding systems for beef cattle. C. Ferrell*1 and J. Oltjen2, 1USDA, ARS, US Meat Animal Research Center, Clay Center, NE, 2University of California, Davis.

9:00 AM 796 ASAS Centennial Presentation: Discovery and application of energetic principles to feeding systems for beef cattle: Use of dynamic models. J. W. Oltjen* and C. L. Ferrell, 1University of California, Davis, 2USDA, ARS, US Meat Animal Research Center, Clay Center, NE.

9:30 AM 797 Introduction of Early Career Award Winner

9:35 AM 798 ASAS Early Career Achievement Award Presentation: Advances in modeling ruminant nutrient utilization. E. Kebreab*, J. Dijkstra*, A. Bannink, and J. France, 1University of Manitoba, Winnipeg, MB, Canada, 2Wageningen University, Wageningen, the Netherlands, 3Wageningen University and Research Centre, Wageningen, the Netherlands, 4University of Guelph, Guelph, ON, Canada.

10:05 AM 800 Q&A for Early Career Award Winner

10:15 AM 799 Effects of feeding high levels of byproducts in different combinations to finishing cattle. M. F. Wilken*, M. K. Luebbe, J. R. Benton, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska, Lincoln.

10:30 AM 801 Nutrient digestibility and utilization by cattle consuming cotton gin mote as a replacement for forage. C. M. Welch* and B. J. Rude, Mississippi State University, Mississippi State.

10:45 AM 802 Beef steer intake and performance when fed whole cottonseed free-choice with hay. G. M. Hill*, M. H. Poore, D. J. Renney, and A. J. Nichols, 1University of Georgia, Tifton, 2North Carolina State University, Raleigh.

11:00 AM 803 Influence of roughage source and level in feedlot diets containing wet distillers grains on ruminal metabolism and nutrient digestibility in steers. J. R. Benton*, G. E. Erickson, T. J. Klopfenstein, N. F. Meyer, and C. D. Buckner, University of Nebraska, Lincoln.


SYMPOSIUM
Triennial Lactation Symposium joint with Lactation Biology
9th ASAS-EAAP International Workshop on the Biology of Lactation in Farm Animals
Chair: Geoffrey E. Dahl, University of Florida
Sponsors: Elanco Animal Health, Monsanto Company, Pfizer Animal Health, and USDA-CSREES
Sagamore Ballroom 3

8:30 AM Introductions


9:30 AM 806 Mammary immunology and protection of the neonate. H. Salmon*, IASP, Lymphocyte et Immunité des Muquesusses, Nouzilly, France.

10:15 AM 807 Characterisation of the bovine RNAse gene family: Evidence for rapid evolution and acquisition of an innate immune function in the mammary gland. T. T. Wheeler*, N. Maqbool1, A. Molenaar1, P. Harris1, and M. Callaghan1, AgResearch, Hamilton, Waikato, New Zealand.

10:30 AM 808 Neonatal protection by an innate immune system of human milk consisting of oligosaccharides and glycans. D. S. Newburg*, Massachusetts General Hospital and Harvard Medical School, Boston, MA.

11:15 AM 809 Immune signaling during mammary development and involution. C. J. Watson*, University of Cambridge, Cambridge, UK.

12:00 PM 810 Effect of lipopolysaccharides on plasminogen activator activity and lactoferrin mRNA expression in a bovine mammary epithelial cell line. C. Pecorini, R. Rebuetti, E. Fusi, F. Galante, L. Rossi, F. Cheli, and A. Baldi*, University of Milan, Milan, Italy.

12:15 PM 811 Pathogen-dependent variations in the innate immune response to intramammary infection. D. D. Bannerman*, USDA-ARS, Beltsville Agricultural Research Center, Beltsville, MD.

Ruminant Nutrition
Feeding Behavior, Chewing and Digestibility
Chair: John Wagner, Colorado State University
Sagamore Ballroom 2


10:30 AM 813 Is chewing efficiency of dairy cows effected by physiological stage? I. Schadt*, J. D. Ferguson2, G. Azzaro1, R. Petriglieri1, C. Guardiano1, and G. Licitra1,1, CoRFiLaC Regione Siciliana, Ragusa, Italy, 2University of Pennsylvania, Kennett Square, D.A.C.P.A. Catania University, Catania, Italy.


11:00 AM 815 Animal feed assessment quality by SMartNose®. T. Rapisarda*, G. Belvedere1, F. La Terra1, A. Cannas1, G. Licitra1, and S. Carpino1, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2University of Sassari, Sassari, Italy, 3University of Catania, Catania, Italy.

11:15 AM 816 Prediction of in vivo diet digestibility in lactating dairy cows from data based on values obtained using sheep. P. Huhtanen*, M. Rinne2, and J. Nousiainen1, 1Cornell University, Ithaca, NY, 2MTT Agrifood Research, Jokioinen, Finland, 3Valio Ltd., Helsinki, Finland.

11:30 AM 817 Depression in nutrient digestibility by lactating dairy cows when dry matter intake is expressed as a multiple of maintenance. D. P. Casper*1 and D. R. Mertens2, 1Agri-King Inc., Fulton, IL, 2USDA-ARS Dairy Forage Research Center, Madison, WI.
SYMPOSIUM
Triennial Lactation Symposium joint with Lactation Biology
9th ASAS-EAAP International Workshop on the Biology of Lactation in Farm Animals
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Sagamore Ballroom 3

2:00 PM 818 Nutritional, hormonal and environmental effects on colostrum in sows. C. Farmer* and H. Quesnel. 1Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Sherbrooke, QC, Canada; 2Institut National de la Recherche Agronomique, UMR SENAH, Saint Gilles, France.


3:00 PM 820 Mastitis control on organic and traditional dairies. P. L. Ruegg*, University of Wisconsin, Madison.


4:00 PM 822 Management effects on colostrogenesis in small ruminants. N. Castro*, J. Capote2, R. M. Bruckmaier3, and A. Argüello1, 1Las Palmas de Gran Canaria University, Arucas, Spain; 2Canarian Agronomic Science Institute, La Laguna, Tenerife, Spain; 3University of Bern, Bern, Switzerland.

4:45 PM 823 Haptoglobin, cortisol, albumin/globulin (A/G) ratio and IGF-1 in goat kids around weaning. D. Magistrelli*, L. Pinotti, and F. Rosi, University of Milan, Milan, Italy.
Numbers following names refer to abstract numbers: a number alone indicates an oral presentation, a T prior to a number indicates a Tuesday poster, a W indicates a Wednesday poster, a TH indicates a Thursday 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>8:00 am-12:00 pm</td>
<td>Exhibit Hall C,D,E</td>
<td>500 Reception Room</td>
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<tr>
<td>12:00 pm-5:00 pm</td>
<td>103</td>
<td>(2:00-3:00 pm) ADSA Production Division Council Meeting; (3:00-4:00 pm) ADSA Production Division Nominating Committee</td>
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<tr>
<td>Evening</td>
<td>104</td>
<td>(5:00-6:00 pm) ADSA Dairy Foods Division Council Meeting</td>
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<td>105-106</td>
<td>(100-300 pm) 2008 &amp; 2009 Program Committee Meeting</td>
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<td>107-108</td>
<td>(3:00-5:00 pm) Late Breaking/Hot Topics Abstract Session</td>
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<td>Speaker Ready Room</td>
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<td>Hospitality Room</td>
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<td>114</td>
<td>SAD Midday Mixer</td>
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<td>115</td>
<td>(2:00-5:00 pm) ASAS Retirees Gathering</td>
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<td>116</td>
<td>Quiz Bowl holding room</td>
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<td>117</td>
<td>SAD Quiz Bowl Preliminary Rounds</td>
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<td>201</td>
<td>(10:00-11:00 am) SAD Officers &amp; Advisor Meeting; (11:00 am-12:00 pm) SAD Quiz Bowl Officials Meeting</td>
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<td>202</td>
<td>SAD Quiz Bowl Preliminary Rounds</td>
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<tr>
<td>7:30 am - 9:30 am</td>
<td>Exhibit Hall C,E</td>
<td>Poster Presentations</td>
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<tr>
<td>9:30 am - 10:15 am</td>
<td>500 Ballroom</td>
<td>ESS Symposium: Horse Genome Toolbox for Animal Science Applications</td>
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<tr>
<td>10:30 am - 12:00 pm</td>
<td>101-102</td>
<td>Forages &amp; Pastures Symposium; Fiber fermentation; Influence of supplemental nonstructural carbohydrates</td>
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<tr>
<td>12:30 pm - 1:00 pm</td>
<td>103</td>
<td>ASAS Graduate Student Business Meeting</td>
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<td>2:00 pm - 4:45 pm</td>
<td>104</td>
<td>ADSA/ASAS Northeast Section GS Competition</td>
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<tr>
<td>5:00 pm - 6:00 pm</td>
<td>105-106</td>
<td>ADSA Southern Section Symposium &amp; Business Meeting</td>
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<tr>
<td>6:00 pm - 7:30 pm</td>
<td>107-108</td>
<td>Extension Education: Has the Land Grant College left the farm?</td>
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**Commercial Exhibits (7:30 am - 6:00 pm)**

- ALPHARMA Beef Cattle Nutrition and Beef Species Joint Symposium - Producing Quality Beef in a Bio-Based Economy
- Joint Symposium - Producing Quality Beef in a Bio-Based Economy
- Bioethics: Value of Bioethics Leadership for Food Animal Agriculture
- Small Ruminant Symposium: The U.S. Goat Meat Industry and Recent Sheep and Goat Activities at the National Research Council of the National Academies
- Forages and Pastures I
- Nonruminant Nutrition: Protein and Amino Acids
- Nonruminant Nutrition: Mineral
- Forages and Pastures I
- Nonruminant Nutrition: Mineral
- ADSA Town Hall Meeting
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<tr>
<th>Room</th>
<th>7:30 am - 9:30 am</th>
<th>9:30 am - 12:30 pm</th>
<th>12:30 pm - 2:00 pm</th>
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<td>111</td>
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<td>Speaker Ready Room</td>
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<td>115</td>
<td></td>
<td>(10:30 am-12:30 pm) ARPAS Exam</td>
<td>ACAN Annual Meeting</td>
<td>(2:00-4:00 pm) ARPAS Exam</td>
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<tr>
<td>116</td>
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<td>(12:30-2:00 pm) Michigan State University Lunch</td>
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<td>(2:00-3:30 pm) Discover Steering Committee</td>
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<td>120</td>
<td></td>
<td>(9:30 am-12:15 pm) Dairy Food: Chemistry and Microbiology</td>
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<td>(2:00-4:00 pm) FASS Ag Guide Workshop</td>
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<td>121</td>
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<td>(9:30 am-12:00 pm) ADSA Dairy Foods GS Competition</td>
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<td>(1:30-5:00 pm) Dairy Foods: Advances in low fat cheese (DMI)</td>
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<tr>
<td>Sagamore Ballroom 2</td>
<td>(9:30 am-12:00 pm) Beef Species Symposium: The Evolution of Beef Cattle Genetic Evaluation</td>
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<td>(2:00-4:30 pm) ASAS Cell Biology Symposium: The Role of MicroRNA on Cell Function</td>
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<tr>
<td>Sagamore Ballroom 3</td>
<td>(9:30 am-12:15 pm) Meat Science: Meat Quality: Regulation of Intramuscular Fat Deposition</td>
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<td>(2:00-4:45 pm) Ruminant Nutrition and Production, Management &amp; Environment Joint Symposium: Designing Field Studies to Evaluate Nutrition Effects on Production, Reproduction and Health of Dairy Cows</td>
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<tr>
<td>Sagamore Ballroom 4</td>
<td>(9:30-11:30 am) Ruminant Nutrition: Forages</td>
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<td>(2:00-4:45 pm) Ruminant Nutrition: Growing Youngstock, Calves and Heifers</td>
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<td>Animal Health I</td>
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<td>Animal Health II</td>
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<tr>
<td>500 Ballroom</td>
<td></td>
<td>Breeding &amp; Genetics Symposium: Genome Wide Selection</td>
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<td>Ruminant Nutrition Symposium: Glycerin as a Feed for Ruminants</td>
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<tr>
<td>500 Reception Room</td>
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<td>(11:45 am-2:00 pm)</td>
<td>ADSA-SAD Awards Luncheon</td>
<td>(2:00-3:00 pm) ADSA-SAD Award and Club Photos</td>
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<tr>
<td>101-102</td>
<td></td>
<td>Bioethics Symposium: How do we integrate bioethics into our food animal system?</td>
<td>(2:00-4:30pm) Animal Behavior and Well-Being: Livestock: Swine and Sheep</td>
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<tr>
<td>103</td>
<td>(9:30 am-12:00 pm)</td>
<td>Forages &amp; Pastures Symposium: Forage-based systems for beef and dairy cattle production: Regional challenges and opportunities</td>
<td>(2:00-3:45 pm) Forages and Pastures II</td>
<td>(5:00-6:00 pm) Racing to Indy: The ASAS Open Forum</td>
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<td>104</td>
<td>Horse Species I</td>
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<td>Horse Species II</td>
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<td>105-106</td>
<td>(9:30-11:30 am) Nonruminant Nutrition: Past and Future of Nonruminant Nutrition; (11:30 am-12:30 pm) Nonruminant Nutrition: Feed Additives I</td>
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<td>Companion Animals: Perceptions and Implications of Companion Animals in Research and Teaching - Domestically and Globally</td>
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<td>107-108</td>
<td>Swine Species</td>
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<td>Small Ruminant: Sheep</td>
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<tr>
<td>109-110</td>
<td>(9:30 am-12:00 pm) Production, Management and the Environment: Young Stock, Environment and Management</td>
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<td>Extension Education Symposium: From 40 acres and a mule to today: Historical perspective of Extension programming</td>
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<td>Teaching/Undergraduate and Graduate Education Symposium: The Changing Student and Influence of Technology on Learning</td>
<td>Programming Meeting</td>
<td>ADSA Foundation Scholar Lecture – Production;</td>
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<td>(3:30-5:00 pm) ASAS JAS Forum (Division/Associate Editors and Authors)</td>
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<td>Division Business Meeting</td>
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<td>121</td>
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<td>ADSA Foundation Scholar Lecture – Dairy Foods; (10:30-11:30 am) Danisco International Dairy Science Award Lecture; (11:30 am-12:30 pm) Dairy Foods Division Business Meeting</td>
<td>Symposium: Changes and challenges of probiotics in dairy products</td>
<td>Symposium: Changes and challenges of probiotics in dairy products</td>
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<td>Sagamore Ballroom 1</td>
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<td>Animal Health IV</td>
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<td>(2:00-4:15 pm) Meat Science and Muscle Biology: Beef Quality</td>
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<td>Sagamore Ballroom 3</td>
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<td>(9:30 am-12:15 pm) Ruminant Nutrition: Fats and Fatty Acids</td>
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<td>Breeding &amp; Genetics: Applications of Genomic Analysis</td>
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<td>Sagamore Ballroom 4</td>
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<td>Nonruminant Nutrition Symposium: Oxidative Stress and the Use of Antioxidants for Nonruminant Animals</td>
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<td>Sagamore Ballroom 6</td>
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<td>(9:30 am-12:15 pm) Ruminant Nutrition: Rumen Fermentation and Microbiology</td>
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<tr>
<td>Sagamore Ballroom 7</td>
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<td>(9:30 am-11:30 am) Meat Science and Muscle Biology: Measuring and Manipulating Pork Quality; (11:30 am-12:45 pm) Physiology and Endocrinology: Effects of Environment and Handling on Performance</td>
<td></td>
<td>(2:00-4:00 pm) ASAS Graduate Student Symposium: Academia, Industry, Government, or None of the Above: Graduation is coming, what next?</td>
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<td>ASAS Graduate Student Lunch and Learn: An Industry Perspective on How to Get a Job</td>
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Program at a Glance

Wednesday, July 9
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<tbody>
<tr>
<td>202</td>
<td></td>
<td>(11:30 am-12:30 pm) ARPAS/PAS Editorial Board Meeting</td>
<td>ADSA DF Division Milk Proteins &amp; Enzyme Committee</td>
<td>(2:30-3:30 pm) ADSA-SAD Committee Meeting - Old and New Officers and Advisors</td>
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<tr>
<td>203</td>
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<td>(8:30-9:30 am) SAD Business Meeting and Election of Officers; (9:30-11:00 am) SAD Student Career Symposium; (11:30 am-12:30 pm) ADSA Production Division Business Meeting</td>
<td>(2:00-4:15 pm) Teaching/Undergraduate and Graduate Education: Teaching in the Animal Sciences</td>
<td>(5:00-6:00 pm) USDA-ARS Staff Update Session</td>
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<tr>
<td>204</td>
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<td>Food Safety: Assuring Food Safety in a Globalized Market</td>
<td>(2:00-4:30 pm) Lactation Biology I</td>
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<tr>
<td>205</td>
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<td>(9:30 am-12:00 pm) Small Ruminants: Goats and Sheep</td>
<td>(2:00-3:45 pm) Production, Management and the Environment: Disease, Management and Environment</td>
<td>(5:00-6:00 pm) Block &amp; Bridle Club</td>
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<tr>
<td>Room</td>
<td>Exhibit Hall C, D, E</td>
<td>500 Reception Room</td>
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<td>Closing reception</td>
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**Thursday, July 10**

- **Exhibit Hall**
  - 7:30 am-3:00 pm; Exhibit Teardown (3:00-6:00 pm)

- **Rooms 101-102**
  - (10:30 am-1:30 pm) Foreages and Pastures: Centennial Presentations; Forages and Pastures III
  - (2:00-4:30 pm) Ruminant Nutrition: Protein and Amino Acids - Beef

- **Rooms 103-104**
  - 9:30 am-5:00 pm; Mixed Models Workshop
  - 10:30 am-12:45 pm; Animal Behavior and Welfare Symposium: Animal Welfare Standards - Who Decides and How?

- **Rooms 105-106**
  - 10:30 am-12:45 pm; Swine Species Symposium
  - 10:30 am-12:45 pm; Exotic Animal Nutrition

- **Rooms 107-108**
  - 10:30 am-12:45 pm; Breeding and Genetics: Current Issues in Swine Breeding
  - 2:00-4:30 pm; Nonruminant Nutrition: Feed Additives II

- **Rooms 109-110**
  - 2:00-4:30 pm; Breeding and Genetics: Computational Issues in Genomic Analysis

- **Rooms 111-113**
  - Speaker Ready Room
  - Presentation Room
  - Pre-Loading Room
  - Hospitality Room
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<th>Room</th>
<th>7:30 am - 9:30 am</th>
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**Program at a Glance**

**Thursday, July 10**

- **115 (2:00-4:00 pm)**: ARPAS Exam
- **116 (2:00-4:00 pm)**: Meat Science and Muscle Biology: Research, Past, Present, and Future
- **120 (10:30-11:45 am)**: Dairy Foods: Cheese I
- **121 (10 am-12:45 pm)**: Dairy Foods: Processing/Products II
- **122 (10 am-12:00 pm)**: Meat Science and Muscle Biology Symposium: Postmortem Changes in Myofibrillar Protein and the Associated Contribution to Meat Quality
- **123 (10 am-12:00 pm)**: Ruminant Nutrition: Nitrogen Sources and Utilization
- **124 (10 am-12:00 pm)**: Nonruminant Nutrition: Distillers Grains for Swine
- **125 (2:00-4:00 pm)**: Animal Health VI
- **126 (2:00-4:00 pm)**: ADSA Production Division Symposium: Dairy Replacement Heifers: Cost Effective Strategies from Weaning to Calving
- **127 (2:00-4:00 pm)**: Contemporary & Emerging: Healthfulness of Dairy and Meat Products
- **128 (2:00-4:00 pm)**: Breeding and Genetics: Current Issues in Beef Cattle Breeding
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<tr>
<th>Room</th>
<th>7:30 am - 9:30 am</th>
<th>9:30 am - 10:30 am</th>
<th>10:30 am - 12:30 pm</th>
<th>12:30 pm - 2:00 pm</th>
<th>2:00 pm - 5:00 pm</th>
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<tbody>
<tr>
<td>Sagamore Ballroom 5</td>
<td></td>
<td></td>
<td>(10:30 am-12:15 pm) Ruminant Nutrition: Carbohydrate Byproducts - Dairy</td>
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<td>Ruminant Nutrition: Rumen Fermentation Modifiers</td>
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<td>Lactation Biology III</td>
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<td>Breeding and Genetics: Breeding for Milk Quality and Test-Day Model Applications</td>
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<td>(12:30-2:30 pm) Feed Analysis Consortium</td>
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<td>204</td>
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<td>(10:30 am-12 pm) Food Safety Centennial Presentations</td>
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<td>Growth and Development: General Topics</td>
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<td>205</td>
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<td>(10:30 am-12:15 pm) Physiology and Endocrinology: Enhancing Reproductive Efficiency</td>
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<td>Physiology and Endocrinology: Synchronization of Estrus in Cattle</td>
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<tr>
<td>206</td>
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<td>(9:30-10:00 am) ADSA Business Meeting</td>
<td>(10:30 am-12:00 pm) Physiology and Endocrinology: Health and Immunology</td>
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<td>(2:00-4:30 pm) Extension Education - all species</td>
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<td>Room</td>
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<td>101-102</td>
<td>Animal Behavior and Well-Being: Beef and Dairy Cattle</td>
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<td>103</td>
<td>Mixed Models Workshop (day 2)</td>
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<td>107-108</td>
<td>(8:30-11:00 am) Nonruminant Nutrition: Protein and Feed Additives</td>
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<td>Growth and Development: Symposium: The molecular basis for feed efficiency</td>
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<td>Sagamore Ballroom 2</td>
<td>(8:30-10:15 am) Ruminant Nutrition: Acidosis, DCAD and acid-base metabolism; (10:15-11:45 am) Ruminant Nutrition: Feeding behavior, chewing and digestibility</td>
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<td>Sagamore Ballroom 3</td>
<td>(8:30 am-5:00 pm) Triennial Lactation Symposium</td>
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<td>Sagamore Ballroom 4</td>
<td>(8:30-11:45 am) Ruminant Nutrition: Energy and Carbohydrate Byproducts - Beef</td>
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<td>Breeding and Genetics: Dairy, Sheep &amp; Goat - Crossbreeding, Inbreeding &amp; Breed Conservation</td>
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Future Meeting Dates

2009

Montreal, Quebec Canada
(ADSA, ASAS, CSAS, AMPA)
July 12-16, 2009

2010

Denver, CO
(ADSA, ASAS, PSA, Western ASAS)
July 11-15, 2010