2005 Joint Annual Meeting

American Dairy Science Association - Canadian Society of Animal Science - American Society of Animal Science

www.fass.org/2005

CONFERENCE INFORMATION and SCIENTIFIC PROGRAM

July 24-28, 2005
Cincinnati, Ohio
Cinergy Center
REPLACEMENT HEIFERS DON’T GROW ON TREES.
THEY GROW ON THE RIGHT NUTRITION PROGRAM.

STEP 1
Feed FERMENTEN® to get heifers milking sooner.

STEP 2
Feed MEGALAC®-R to get cows pregnant sooner.

STEP 3
Repeat Step 1.

If you’re trying to expand your herd, why not grow it from within? Look to ARM & HAMMER® for the one-two combination you need to get heifers into the milking string earlier and lactating cows bred back sooner. FERMENTEN® Rumen Fermentation Enhancer gets heifers milking sooner. And studies show a heifer entering the milking string two months sooner saves $100 in feed and labor, adding to bottom-line profitability. MEGALAC®-R Essential Fatty Acids gets cows pregnant sooner. Together, they’ll help you regain control of your replacement heifer supply—and raising your own replacements not only improves overall profitability, it means fewer biosecurity concerns. For details, contact your nutritionist or feed company today or visit www.ahdairy.com.
Welcome to the Joint Meeting of ADSA-ASAS-CSAS

We’re pleased you’ve joined us in Cincinnati to see old friends, make new ones, and exchange information with other scientists. This second joint meeting of the American Dairy Science Association, the American Society of Animal Science, and the Canadian Society of Animal Science will provide the very best in professional networking and educational opportunities.

We have an outstanding program this year that has something for everyone, including pre-meeting symposia entitled, “Udder Health Management: A Canadian Perspective,” “Vitamin Nutrition of Livestock Animals,” and “Using Functional Genomics for Animal Improvement.” Dennis T. Avery, a Senior Fellow at the Hudson Institute and Director of the Center for Global Food Issues, will be the keynote speaker for the Opening Session.

In an attempt to make the meeting “attendee friendly,” the structure of the meeting has changed for 2005. The poster presentations will be from 7:30 to 9:30 a.m. on Monday, Tuesday, and Wednesday mornings. Scientific Oral Sessions will be from 9:30 a.m. to 12:30 p.m. each morning and from 2:00 to 5:00 p.m. in the afternoon. The lunch break will be from 12:30 to 2:00 p.m. We hope you will find this schedule works well with your overall meeting goals.

The award ceremonies are certain to be on the list of highlights again this year. We have again staggered the ceremonies. The ASAS ceremony will be held on Monday, July 25; the ADSA ceremony will be held on Tuesday, July 26; and the CSAS awards banquet will be on Wednesday, July 27, which will allow you to attend one or all three. An old-fashioned ice cream social, open to all attendees, will be held Tuesday night after the ADSA award ceremony.

We invite all meeting attendees and families to attend the International/Closing Reception on Wednesday, July 27. The keynote speaker will be Hank Fitzhugh.

The agenda for this year’s meeting is a testament to the program organizers who have invested an enormous amount of time and effort to bring distinguished scientists in animal agriculture and animal food products to one place. In addition to several invited speakers, this program includes 31 symposia and almost 1,500 presentations. Many thanks to the ADSA-ASAS-CSAS program committees and staff of ADSA, ASAS, and FASS for their hard work. Our program committee, Joe Ford (Chair), Rick Grant, and Jim Oltjen, along with FASS staff members, Jennifer Gavel, Keely Roy, Louise Audrieth, Ted Veatch, and Aaron Leppin (to name just a few), did a fantastic job. Special thanks go out to the Executive Directors of ASAS and ADSA-Jerry Baker, Paula Schultz, and Brenda Carlson-and to Mike Dugan, Vice President of CSAS, for keeping everything headed in the right direction.

Thank you for participating in the ADSA-ASAS-CSAS joint meeting and for making it a success.
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www.fass.org/2005

Important Message

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

Thank you for your cooperation.

Survey of Meeting Attendees

The program committee has provided the meeting attendees an opportunity to help improve benefits to members and attendees. A survey will be available at the Cyber Cafe during the meeting. The survey should only take a few minutes to complete. When you use the Cyber Cafe to access the Internet or check emails, please take advantage of the opportunity to provide your input and complete the survey. Thank you!
General Meeting Information

Location

The Cincinnati convention center, Cinergy Center, is located in the heart of downtown Cincinnati, connected to all major hotels, shopping and restaurants by an enclosed skywalk. Participants will experience easy accessibility and a compact downtown with first-class hotels, major retail stores and many dining and nightlife options within easy walking distance of the Cinergy Center. The meeting rooms will be equipped for electronic presentations and pre-loaded sessions. The Cyber Café will again be available for attendees to keep up-to-date while at the meeting.

Schedule of Events

The meeting will kick off Sunday evening with the keynote speaker, Dennis T. Avery, and then continue with 3 ½ days of scientific sessions ending on Thursday at noon. The complete schedule of events may be found on page 32 of this program.

Program Format for 2005

Poster Sessions: 7:30 am - 9:30 am
Commercial Exhibits: 7:30 am - 5:00 pm
Scientific Oral Sessions: 9:30 am - 12:30 pm
Lunch Break: 12:30 pm - 2:00 pm
Scientific Oral Sessions: 2:00 pm - 5:00 pm

Registration Hours

Registration will be located in the Elm Street Lobby of the Convention Center. You will pick up your receipt, meeting badge, appropriate tickets, and other meeting materials at the registration desk. Registration hours for the 2005 ADSA-ASAS-CSAS Joint Meeting, including special symposia and other events, will be as follows:

Saturday, July 23 (pre-registered only) 12 pm - 5 pm
Sunday, July 24 7 am - 7 pm
Monday, July 25 6:30 am - 4 pm
Tuesday, July 26 7 am - 3:30 pm
Wednesday, July 27 7 am - 3 pm
Thursday, July 28 8 am - 10 am

Registration Desk Phone: 513-419-7225

Headquarters Hotels

Four Points/Millennium - ASAS HQ
141 West 6th Street
Cincinnati, Ohio 45202
Phone: (513) 352-2100; Fax: (513) 352-2148

Hilton - ADSA HQ
35 West Fifth Street
Cincinnati, Ohio 45202
Phone: (513) 421-9100; Fax: (513) 421-4291

Hyatt
151 West Fifth Street
Cincinnati, Ohio 45202
Phone: (513) 579-1234; Fax: (513) 579-0107

Westin - CSAS HQ
21 E. 5th Street
Cincinnati, Ohio 45202
Phone: (513) 621-7700; Fax (513) 852-5670
Media Check-In

Please check-in at the Registration Desk at the Convention Center.

Business Center

There is a Kinko’s located in the lobby of the Westin hotel.

Speaker Ready Room

The Speaker Ready Room is located in Coat Check Room on the 2nd Floor of the Convention Center. Please follow the signs. This room will be available from 7 am - 5 pm each day of the meeting.

Hospitality Lounge

This area, located in the Convention Center, Room 233, offers meeting attendees a place to relax, get acquainted, or catch up with old friends. It’s also a convenient place when making plans with someone to meet at a specific location. Information on Cincinnati will be posted and/or available here.

Notice to Oral Presenter and Invited Speakers

Please note all session rooms will be equipped with a computer and LCD Projector. All oral presentations and invited speaker presentations will be pre-loaded prior to the meeting.

Poster Presentations

We have dedicated a two-hour block each morning for poster presentations only. The “open posters” will be from 7:30 am - 9:30 am Monday, Tuesday, and Wednesday in the Convention Center, Exhibit Hall A. Oral sessions will not begin until 9:30 am Monday and Tuesday, and 10:30 am on Wednesday.

Each poster presentation will be scheduled for public viewing for the entire day, with the presenting authors available during the “open posters” time (7:30 am - 9:30 am). All posters should be mounted on the board one-half hour prior to the beginning of the day’s session (posters open at 7:30 am). The exhibit hall will open at 6:15 am on Monday, July 25 - Wednesday, July 27. Posters must be removed by 5:30 pm each day.

The poster board surface area is 48” high and 96” wide. 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” high. Presenters must furnish their own tacks or push pins.

Locating the Correct Poster Board

Please look for the poster board number as noted in the program. Each poster board will have a number, which corresponds to the number in the program. Monday posters will have an “M”, Tuesday a “T”, and Wednesday a “W” preceding the board number.

ARPAS Continuing Education Units

The ADSA-ASAS-CSAS Joint Annual Meeting has been approved for up to 28 continuing education units (CEUs) for the American Registry of Professional Animal Scientists certification requirements. Check the schedule of events for the times and location of the exams.

Continuing Education Credits for Veterinarians

The ADSA-ASAS-CSAS Joint Annual Meeting has been approved for continuing education credits by the Ohio Veterinary Medical Board; one credit for each hour in attendance. An application has also been sent to the American Association of Veterinary State Board to approve the joint meeting for continuing education credits for veterinarians.
AAVSB Registry of Approved Continuing Education (RACE)

Participation and attendance at the 2005 ADSA-ASAS-CSAS Joint Meeting has been approved for 12 hours of continuing education credit in jurisdictions which recognize American Association of Veterinary State Boards (AAVSB) Registry of Approved Continuing Education (RACE) approval; however, participants should be aware that some boards have limitations on the number of hours accepted in certain categories and/or restrictions on certain methods of delivery of continuing education. The specific symposia that meet the requirements for CE credit are identified in this program where the RACE statement is found. The ASAS approved RACE provider number is 216 for CE programs. Visit http://www.fass.org/2005 for more information. Certificates will be available at the meeting.

Placement Center

The Placement Center is located in Exhibit Hall A. The job center announcements and resumés will be organized into the following categories for posting and distribution: Animal Behavior & Well-being, Animal Health, Animal Breeding, Companion Animals, Extension, Food Safety, Food Science, Forages & Pastures, Genetics, Growth & Development, International Animal Agriculture, Lactation, Meat Science & Muscle Biology, Non-ruminant Nutrition, Nutrition, Pharmacology & Toxicology, Physiology & Endocrinology, Production & Management, Ruminant Nutrition, and Teaching.

Cyber Café and Internet Connections

Let technology keep you caught up with work and in touch with friends and family during the ADSA-ASAS-CSAS Annual Meeting. The Cyber Cafe, sponsored by Diamond V Mills, is located in Exhibit Hall A.

Wireless in available at a rate of $10 per day, or can be purchased at a 5-day rate. To access, open your Internet browser to receive the Cinergy Convention Center’s connection page. At this site, you will be prompted to enter payment information. There are two main “hot spots” where connection strength is the strongest: areas at the south side of the convention center, main entrance area off of 5th and Elm Streets and the north central area of the center on the second floor.

Transportation

Accessibility

Cincinnati is accessible from three major highways: I-71, I-75 and I-74, while I-275 circles the area. The Greater Cincinnati/Northern Kentucky International Airport boasts 540 daily flights to 110 cities non-stop with service by 14 airlines (Delta, COMAIR, American, American Eagle, Northwest, Northwest Airlink, United, TWA, U.S. Airways Express, Continental Express, Air France, Sabena, Swissair and Skyway).

Transportation in Cincinnati

Shuttle service from the airport to downtown Cincinnati is available for $14 one-way and $24 round-trip through Airport Executive Shuttle (1-800-990-8841).

Cab fare from the airport to downtown Cincinnati is $24 (no charge for extra passengers). Hailing a cab in Cincinnati is not permitted, however visitors may get a cab from any hotel in the city. Buses also run throughout the city -- visit Metro at http://www.sorta.com/ and TANK at http://www.tankbus.org/ for schedules and fares.

If driving on your own, traffic and construction updates are available from ARTIMIS at www.artimis.org.
Special Events

Opening Session
Sunday, July 24 • 7 pm - 8:30 pm
Convention Center, Ballroom A-C, Third Floor

Dennis T. Avery will be the keynote speaker for the 2005 ADSA-ASAS-CSAS Opening Session. Avery’s presentation is entitled, “The Biggest-Ever Surge in Livestock Demand: Scientific and Ecological Challenges.” Avery is a Senior Fellow at the Hudson Institute and is Director of the Center for Global Food Issues. A food policy analyst for the past 30 years, Avery began his career with the US Department of Agriculture, served on the staff of President Lyndon Johnson’s National Advisory Commission of Food and Fiber, and, prior to joining Hudson, was the senior agricultural analyst for the US Department of State.

His analyses of the foreign policy implications of global trends and events in food and agriculture at the US Department of State won him the National Intelligence Medal of Achievement in 1983.

Avery is an outspoken advocate of free trade in farm products and of the environmental importance of well-managed, high-yield farming. He has testified numerous times to both Senate and House Congressional committees on agricultural and conservation issues and has presented papers at the annual meetings of the American Association of the Advancement of Science and many other forums.

Avery is the author of two books, Global Food Progress and Saving the Planet With Pesticides and Plastic: The Environmental Triumph of High-Yield Farming. Avery also writes a weekly, syndicated column for Bridge News and has been published in numerous newspapers, magazines, and scholarly journals including The Wall Street Journal, Washington Times, Des Moines Register, Science, Readers Digest, Feedstuffs, and Farm Journal.

Opening Reception
Sunday, July 24 • 8:30 pm - 10 pm
Convention Center, Ballroom Foyer, Third Floor

End the evening by joining us in the Ballroom Foyer after the Opening Session for socializing with colleagues and friends. Sponsored by SoyBest.

ADSA Town Hall Meeting
Monday, July 25 • 5 pm - 6 pm
Convention Center, Room 243

The ADSA Board of Directors invites you to a Town Hall Meeting on Monday, July 25 from 5:00 pm to 6:00 pm in the Convention Center, Room 243. This is your opportunity to express concerns and praises of the Association. The ADSA Board also seeks your vision of ADSA’s future needs and directions. This is an informal event and all registrants interested in ADSA are welcome.

ASAS Awards Program
Monday, July 25 • 7 pm - 8:30 pm
Four Points, Grand Ballroom

All meeting participants, families, and friends are welcome to attend the 2005 ASAS Awards Program. Please join us at this special event congratulating the 2005 ASAS award winners at the Four Points on Monday, July 25.
ASAS/ADSA/CSAS Graduate Student Mixer
Monday, July 25 • 9 pm - 12 am
Barleycorn’s American Tavern
124 East Sixth Street • Pre-registration is recommended

Join your fellow graduate students from ASAS, ADSA, and CSAS at a mixer at Barleycorn’s American Tavern (http://www.barleycorns.com/)! Located in the heart of the entertainment district between Main and Walnut on Sixth Street, Barleycorn’s American Tavern has been a mainstay in Cincinnati for 29 years. This event will an opportunity to catch up with old friends and make new ones, so don’t miss it.

Undergraduate Dance Party
Monday, July 25 • 8:30 pm - 12:30 am
8:30 pm - 12:30 am
Four Points, Colonnade
Pre-registration is required

Rock the night away with old and new friends. DJ will start taking your music requests at 8:30. Cash bar, soda bar and snacks will be available. Don’t miss this one. It’s always the highlight of the meeting! This event is open to all meeting attendees, including students, advisors and anyone else looking for a fun evening. Hotel is at corner of Fifth and Elm Streets.

5K Fun Run
Tuesday, July 26 • 6:30 am
Meet at the Convention Center, Elm Street Lobby

Join in the fun on Tuesday, July 26 at 6:30 am. Enjoy some Cincinnati sites as you travel this approximate 3 mile course: Start at the Steamboat Park (corner of E. Mehring Way/Broadway). Run east along the Railroad tracks to the entrance of Yeatman’s Cove Park. Continue east along the top of the Serpentine Wall (overlooks the river). Maintain this path through the bridge archway (closest to the river). This will take you into Sawyer Point Park (stay on the path closest to the river). Continue east toward Montgomery Inn Restaurant, stay on the sidewalk next to the parking lot. At the end of the parking lot, Friendship Park begins. Stay on the path to the right and take it until it turns you around then return the same route. T-shirts and refreshments will be provided and medals will be awarded.

Spouses Luncheon
Tuesday, July 26 • 11:30 am - 1:30 pm
The Bankers Club (located on the 30th floor of the Fifth Third Bank Tower, at Fifth and Walnut located on Fountain Square)
Pre-registration Required

This cooking class is way above the rest - 30 floors above Cincinnati that is! Executive Chef Christopher Ropp towers over Fountain Square in The Bankers Club for this culinary cooking experience. Chef Ropp is one of Cincinnati’s best kept secrets, but not for long as he will be the featured Chef of ClubCorp Private Magazine in an upcoming issue. Chef Ropp was recently invited to become part of the Chaine de Rotisserie, at which he was the starting chef for their annual new member orientation dinner. Chef Ropp offers cooking classes to the members of The Bankers Club every month with new and exciting menus.

For the ADSA-ASAS-CSAS Spouses’ Luncheon, Chef Ropp will be preparing, demonstrating, and serving: Summer Greens with Honey Walnut Vinaigrette Dressing, Pork Tenderloin with Caramelized Georgia Peaches and Light Rum Butter, and Sour Cherry Walnut Crisp.

CSAS Annual General Meeting
Tuesday, July 26 • 12:30 pm - 1:30 pm
Convention Center, Room 301 & 302

The 2005 CSAS Annual General Meeting will begin at 12:30 pm. Box lunches are available, but pre-registration is required.
ADSA Awards Program  
Tuesday, July 26 • 7 pm - 8 pm  
Hilton, Pavilion Caprice

All meeting participants, families, and friends are welcome to attend the 2005 ADSA Awards Program. Please join us at this special event in congratulating all of our award winners on Tuesday, July 26 at the Hilton.

2005 ADSA-ASAS-CSAS Ice Cream Social  
Tuesday, July 26 • 8:15 pm - 9:30 pm  
Hilton, Pavilion Caprice

The ADSA-ASAS-CSAS Ice Cream Social will be held from 8:15 pm - 9:30 pm at the Hilton. All meeting participants, families, friends, and award donors are invited to join us for the joint Ice Cream Social.

ADSA Foundation Auction & Raffle  
Tuesday, July 26 • 8:15 pm - 9:30 pm  
Hilton, Pavilion Caprice

Also while enjoying your ice cream, take one more look at the silent auction items and place your last bid. The 2005 auction promises to be more exciting than ever, with more opportunity to get your hands on some fantastic items while catching up with old friends and making new acquaintances. More than 40 items have been donated to this year’s event. Items include an array of milk bottles, framed art, dairy collectibles and much more.

Women & Minority Issues In Animal Agriculture Luncheon & Lecture  
Wednesday, July 27 • 12:30 pm - 2 pm  
Convention Center, Room 263  
Pre-Registration is Required

The ASAS-ADSA Women and Minority Issues Program Committee have planned a luncheon and lecture for the 2005 Joint Meeting. Carolyn Meyers, Provost, North Carolina A&T State University, is the featured speaker and will speak on “Making It Happen: Career and Family”.

International/Closing Reception  
Wednesday, July 27 • 4:30 pm - 6 pm  
Convention Center, Ballroom C

All meeting participants, families and friends are welcome to attend the International/Closing Reception. A welcome will be provided by the ASAS President Jim Males and the ADSA President Mike Hutjens. Hank Fitzhugh is the keynote speaker. Also again this year, you will have the opportunity to indicate your home affiliate on a world map; visit the exhibit hall prior to the International Reception and locate your home on the map with a push pin. The map will be on display during the International Reception.

CSAS Awards Banquet  
Wednesday, July 27 • 7 pm - 9:30 pm  
Hilton, Continental

All meeting participants, families, and friends are welcome to attend the 2005 CSAS Awards Banquet. Pre-registration is required.
ADSA-ASAS Award Donors

ADSA

Alltech, Inc.
ABS Global, Inc.
ADSA Foundation
American Dairy Science Association
American Feed Industry Association
Cargill Animal Nutrition
DMI Inc.
Danisco
DeLaval Inc.
DSM Food Specialties USA, Inc.
Elanco Animal Health
International Dairy Foods Association
Milk Industry Foundation
Land O’Lakes, Inc.
Land O’Lakes, Purina Feed LLC
Merial
National Milk Producers Federation
Nutrition Professionals, Inc.
Pfizer Animal Health, Inc.
Pioneer Hi-Bred International, Inc.
West Agro, Inc.

ASAS

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

Thank you for your support!
Cincinnati Tour Options

With the abundance of things to do in Cincinnati, there will be no formal tours offered during the 2005 ADSA-ASAS-CSAS Annual Meeting. Listed below are some exciting tour options for you to consider while in Cincinnati.

**FAMILY FUN**

**Cincinnati Flower Show** [www.cincyflowershow.com](http://www.cincyflowershow.com); Phone: 513-872-9555

*Endorsed by the Royal Horticultural Society of Great Britain, nation’s largest horticultural exhibition of its kind. Gardens, single genus displays, premier exhibitors, vendors from around the world.*

**Cincinnati Zoo & Botanical Garden** [www.cincinnatizoo.org](http://www.cincinnatizoo.org); Phone: 513-281-4700

*Opened in 1875, exhibits over 500 animal species; 3,000 types of plants on 75 acres. Full calendar of special events.*

**Coney Island** [www.coneyislandpark.com](http://www.coneyislandpark.com); Phone: 513-232-8230

*Opened in 1875, exhibits over 500 animal species; 3,000 types of plants on 75 acres. Full calendar of special events.*

**Jungle Jim’s International Market** [www.junglejims.com](http://www.junglejims.com); Phone: 513-674-6000

*International food lover’s shopping adventure for the whole family! 8,500 wines, 1,600 cheeses, exotic produce; six acres of food from around the world!*
Newport Aquarium  www.newportaquarium.com; Phone: 859-261-7444

13 themed galleries and thousands of aquatic sea creatures; located on the banks of the Ohio River at Newport on the Levee in Newport, KY.

Newport On The Levee  www.NewportOnTheLevee.com; Phone: 859-291-0550

Premier regional entertainment destination: live music, twelve fine restaurants, a comedy club, a cabaret, blues club, 20-screen cinema, the Newport Aquarium, street performers and unique shopping.

Paramount’s Kings Island  www.pki.com; Phone: 513-754-5700

Premier regional theme park with over 85 rides and attractions. Live and interactive entertainment and shows featuring #1 Rated Kids Area and #2 Best Water Park in the U.S.

Robert D. Lindner Family OMNIMAX Theater - Cincinnati Museum Center  www.cincymuseum.org; Phone: 513-287-7000

Experience the thrill of films on the five-story wrap-around screen. World’s largest motion-picture format and state-of-the-art sound. Showtimes vary.

WonderPark  www.wonderparkusa.com; Phone: 513-671-0100

WonderPark is an indoor entertainment park that is fun for children ages 2-12. The facility is enlivened by the bright jungle theme providing a positive atmosphere for families to play.

RECREATION/SPORTS

Cincinnati Reds  www.cincinnatireds.com; Phone: 513-765-7000

Experience America’s pastime and cheer the Reds in the new Great American Ball Park. Tickets available at the Cincinnati Visitors Center at Fifth Third Center on Fountain Square.

Devou Park Golf & Tennis Club  www.landrumgolf.com; Phone: 859-431-8030

18 hole golf facility. Perfect place to play golf. 5 minutes from downtown Cincinnati.

Kentucky Speedway  www.kentuckyspeedway.com; Phone: 859-647-4309

The 66,000-seat Kentucky Speedway showcases stock car and open-wheel races on its 1.5 tri-oval and top country music artists during five event weekends. Visit www.kentuckyspeedway.com

River Downs Racetrack  www.riverdowns.com; Phone: 513-232-8000


Shaker Run Golf Club  www.shakerrungolfclub.com; Phone: 800-721-0007

27 holes of championship golf, open to the public. Large clubhouse, ballroom, locker rooms and pro shop. Visit www.pgmi.net to see our sister properties in the area.

The Golf Ranch Burlington  www.LandrumGolf.com; Phone: 809-282-1110

Northern Kentucky’s premiere golf practice facility. Practice range and short game area. A staff of PGA professionals available for individual and group lessons.

The Golf Ranch Tri-County  www.LandrumGolf.com; Phone: 513-771-6001

Greater Cincinnati’s premiere golf practice facility and Par 3 golf course.
World of Sports  www.LandrumGolf.com; Phone: 859-371-8255

A world of fun for the entire family. 18-hole executive golf course, practice range, miniature golf, billiard hall, fitness center, racquetball, basketball and more.

MUSEUMS

American Classical Music Hall of Fame  www.americanclassicalmusic.org; Phone: 513-621-3263

Celebrates and honors the many facets of classical music in America through engaging exhibits, concerts and a library of international music recordings.

Cincinnati Art Museum  www.cincinnatiartmuseum.org; Phone: 513-721-5204

Enjoy 6,000 years of fine art. Free general admission, special exhibits, the Cincinnati Wing, gift shop and Terrace Café. Open 11 am-5 pm Tue-Sun; 11-9 Wed.

Cincinnati Fire Museum  www.cincyfiremuseum.com; Phone: 513-621-5553

200 years of Cincinnati history and the development of professional firefighting. Interactive fun and learning about fire prevention in a restored firehouse.

Cincinnati History Museum - Cincinnati Museum Center  www.cincymuseum.org; Phone: 513-287-7000

Discover Cincinnati’s rich heritage at the Cincinnati History Museum at the Cincinnati Museum Center, at Union Terminal, where you are invited to see, touch and hear Cincinnati’s past.

Cincinnati Reds Hall of Fame and Museum  www.cincinnatireds.com; Phone: 513-765-7576

With the Cincinnati Red Stockings of 1869, professional baseball and America’s passion for the sport was born right here in Cincinnati! The Reds Hall of Fame and Museum offers a fun, interactive and fascinating look into the sport’s heralded past…..and present!
Cinergy Children’s Museum - Cincinnati Museum Center www.cincymuseum.org; Phone: 513-287-7000
Where learning and fun come together in nine world-class exhibits at the Cinergy Children’s Museum at the Cincinnati Museum Center at Union Terminal.

Harriet Beecher Stowe House Phone: 513-632-5133
Displays artifacts from African American history and documents from the Beecher family at the Cincinnati home of Harriet Beecher Stowe, author of Uncle Tom’s Cabin.

Heritage Village Museum www.heritagevillagecincinnati.org; Phone: 513-563-9484
Through entertaining, educational activities led by costumed interpreters, guests experience 19th century life!

Krohn Conservatory www.cinci-parks.org; Phone: 513-421-4086
Rainforest-under-glass; 5,000 varieties of exotic tropical, desert and orchid plants. One of the country’s largest public greenhouses; beautiful seasonal floral shows. Free admission.

Museum of Natural History & Science - Cincinnati Museum Center www.cincymuseum.org; Phone: 513-287-7000
Explore the creatures and features of the ancient Ohio River Valley and the sciences that shaped them in the Museum of History & Science at Cincinnati Museum Center at Union Terminal.

National Underground Railroad Freedom Center www.freedomcenter.org; Phone: 877-648-4838
Opened summer 2004 on the riverfront-uses exhibits and educational programs to inspire modern action by promoting a better understanding of freedom today from the lessons of the Underground Railroad.

Taft Museum of Art www.taftmuseum.org; Phone: 513-241-0343

William Howard Taft National Historic Site www.nps.gov/wiho; Phone: 513-684-3262
Birthplace of U.S. President and Chief Justice, Supreme Court. Contains restored rooms and museum exhibits. Tours daily 8a.m.-4p.m. Admission free.

PERFORMING ARTS

Aronoff Center for the Arts www.cincinnatiarts.org; Phone: 513-721-3344
Managed by Cincinnati Arts Association, this state-of-the-art venue contains three stunning performance spaces: Procter & Gamble Hall, Jarson-Kaplan Theater and Fifth Third Bank Theater; and features the Weston Art Gallery.

Cincinnati Ballet www.cincinnatiballet.com; Phone: 513-621-5219
Bringing the magic of dance to the Aronoff Center more than 30 times annually, including the holiday favorite, The Nutcracker. Exciting repertoire of classic, neo-classic and contemporary ballet.

Cincinnati Opera www.cincinnatiopera.org; Phone: 513-241-2742
One of the nation’s leading opera companies; performances in June and July at Music Hall; offers programs year-round through “Opera Rap,” a traveling lecture series.
Has your organic zinc lost its magic?

Maybe you’re feeding the wrong zinc.

Two university trials demonstrated statistically greater bioavailability from zinc proteinate (chelate), when compared to zinc methionine complex.

This may explain why you may not be getting the same response from your current zinc complex as you did in the past.

These research studies were reported in the Journal of Animal Science and Animal Feed Science & Technology.

Want to know more?
Talk with your nutritionist about this research. Or, for more info, email CMC at: eme@chelatedmineralscorp.com

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Cincinnati Symphony Orchestra [www.cincinnatisymphony.org; Phone: 513-381-3300]

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A professional Equity theater dedicated to the production of new works and works new to this region. See new plays before they open in NY or LA.

Funny Bone Comedy Club and Restaurant [www.funnyboneonthelevee.com; Phone: 859-957-2000]
The Funny Bone offers the best in nationally recognized stand-up comedy. We also have a fully stocked bar and a full menu restaurant.

Music Hall [www.cincinnatiarts.org; Phone: 513-744-3344]
Managed by Cincinnati Arts Association (CAA), this historic Queen City jewel includes what is judged to be among the best concert theaters in the world.

Riverbend Music Center [Phone: 513-232-5882]
Top name entertainment in an intimate outdoor environment May through Sept. Call for complete listing.

U.S. Bank Arena [www.usbankarena.com; Phone: 513-421-4111]
Year-round, indoor arena seating more than 17,000; features family shows, sports, concerts, Cincinnati Cyclones professional ice hockey team and Cincinnati Swarm arena football team.

SIGHTSEEING

Carew Tower [Phone: 513-241-3888]

Cathedral Basilica of Assumption [www.covcathedral.com; Phone: 859-431-2060]
Small scale Notre Dame with gargoyles & flying buttresses; world’s largest handmade stained glass window; mural-sized oil paintings; Exquisite Venetian mosaics.

Celebrations Riverboats Inc. [www.celebrationriverboats.com; Phone: 513-931-6752]
Inclusive functions - cruising the Ohio River “Port of Cincinnati” with groups of 50-400 passengers. Excellent food and beverage services.

Findlay Market [www.findlaymarket.org; Phone: 513-352-6364]
Open year-round: Wednesday, Friday & Saturday. Open-air marketplace in continuous operation since 1852. Famous for fresh produce and meats.

Mainstrasse Village Association [www.mainstrasse.org; Phone: 859-491-0458]
Centered around Covington’s historic German area, Mainstrasse Village is a collection of unique shops, restaurants and homes. A great place to live, eat, shop and enjoy life.
Meier's Wine Cellars Inc. www.meierswinecellars.com; Phone: 513-891-2900

Visit Ohio’s oldest & largest winery. Tours of winemaking and barrel aging. Tasting room and wine shop. Garden area open June 1 to Labor Day, M-Sat. 9-4 p.m.

Old St. Mary’s Church Phone: 513-721-2988


TOURS

Able Scotsman Tours Phone: 513-351-7673

Historic, entertaining Cincinnati tour. Allow 3 hours (includes stops); see sights from a six-passenger van. Also step-on guide.

Cincinnati Heritage Tours Phone: 513-287-7030

Cincinnati Historical Society guides offer the city’s past with its present. Call for information about currently scheduled public tours.

Cincinnati Preservation Association www.cincinnatipreservation.org; Phone: 513-721-4506

Presents Architreks, walking tours of downtown; Sat-Sun, May-Oct, 2 pm, leaving from the Cincinnati Visitor Center at Fifth Third on Fountain Square.

JLG Tours Phone: 513-563-9380


L.B. Van Travel Service Phone: 513-531-1411

2 hour “Tour of Cincinnati”, over 50 attractions from modern mini-vans, motorcoaches; step-on tour guides; shuttles to casinos, race track, airport. Free pickup in convention area.

Paul Brown Stadium Phone: 513-621-3550

Come see the Home of the Cincinnati Bengals! Tours begin in May and run through mid-August and are offered on Tuesdays, Wednesdays and Thursdays. Tours are available by reservation.

Verdin Bell and Clock Museum www.verdin.com; Phone: 513-241-4010

Tour this architectural landmark. From the vaulted ceilings to the spectacular stained glass windows, this building is both historic and beautiful. Tours include neighborhood, St. Paul, and the history of Ohio’s oldest family owned company, The Vedin Company. Also tour the World Peace Bell.

SHOPPING MALLS

Cincinnati Mills www.cincinnatimills.com; Phone: 513-671-2929

Kenwood Towne Centre www.kenwoodtownecentre.com; Phone: 513-745-9100

Located exit 12 off I-71 at Kenwood & Montgomery Roads, is Cincinnati’s premier fashion-oriented center featuring Lazarus, Dillards, Parisian and 180 specialty stores.
Rookwood Commons/Rookwood Pavilion  www.ShopRookwood.com; Phone: 513-241-5800

Favorite retailers and restaurants in a unique outdoor community setting. Minutes from downtown, exit 6 off I-71.

Tower Place at the Carew Tower  www.towerplace.com; Phone: 513-241-5888

Three levels of shopping and dining with more than 70 stores and restaurants. Please visit the Customer Concierge Center for more information. 10 am - 8 pm Mon-Sat, Noon-5 pm Sun.

Tri-County Mall  www.tricountymallcincinnati.com; Phone: 513-671-012

Conveniently located off I-275 at Exit 42A, Cincinnati’s first mall features two levels of shopping and eateries with over 165 stores including Dillards, Lazarus-Macy’s, JC Penney and Sears.
Exhibit Schedule

Exhibit Hall A

Exhibit Hours
Monday, July 25 ......................... 7:30 am - 5 pm
Tuesday, July 26 ......................... 7:30 am - 5 pm
Wednesday, July 27 ...................... 7:30 am - 5 pm

Exhibitor Setup
Sunday, July 24 ......................... 8 am - 5 pm

Exhibitor Teardown
Wednesday, July 27 ...................... 5:30 pm - 8 pm

Exhibit Hall Floor Plan

Exhibit Hall A
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Website: www.cast-science.org  
Booth(s): 528  
The Council for Agricultural Science and Technology (CAST) is a nonprofit organization composed of 36 scientific societies and many individual, student, company, nonprofit, and associate society members. The mission of CAST is to assemble, interpret, and communicate credible science-based information regionally, nationally, and internationally to legislators, regulators, policymakers, the media, the private sector, and the public.

Cumberland Valley Analytical Services, Inc.  
PO Box 669  
Maugansville, MD 21767  
Phone: (301) 790 1980; (301) 790 1981  
Website: www.foragelab.com  
Booth(s): 217  
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Website: www.drms.org  
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University of Louisville, 435 Lutz Hall
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DSM Nutritional Products, Inc.
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Phone: (973) 257 1063; Fax: (973) 257 8653
Website: www.nutraaccess.com
Booth(s): 518

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Website: www.saf agri.com
Booth(s): 204
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Website: www.soymeal.org
Booth(s): 414
The Soybean Meal INFOcenter website www.soymeal.org provides technical information on soybean meal to nutritionist, feed formulators and livestock and poultry producers. Updated bimonthly, the website features technical information, nutritional reviews, new research articles appearing in the world literature, soybean production and marketing information, and other information of value to the feed formulator. Activities in free bimonthly newsletter, fact sheets, trade shows and access to technical experts. Contacts are www.soymeal.org and info@soymeal.org.

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Schedule of Events

Friday, July 22

12 pm  FASS Board of Directors Meeting  Hilton, Salon HI

Saturday, July 23

7 am - 5 pm  PAACO Board Meeting  Four Points, Pavilion
7:30 am - 5 pm  ADSA Board of Directors Meeting  Hilton, Salon HI
8 am - 5 pm  ASAS Board of Directors Meeting  Four Points, Colonnade B
12 pm - 5 pm  Registration Open
(pre-registered, badge & material pick up only)  Convention Center, Elm Street Lobby
1 pm - 3 pm  SAD Tour: Harbor Sightseeing Cruise on the Ohio River  Board at Covington Landing
7 pm  SAD Block at Cincinnati Red’s Great American Ball Park  Reds vs. Milwaukee Brewers
7:30 pm - 9 pm  ARPAS Executive Committee Meeting  Four Points, Atrium

Sunday, July 24

7 am - 7 pm  Registration Open  Convention Center, Elm Street Lobby
7:30 am - 10 am  ADSA New Board Orientation  Hilton, Salon HI
8 am - 12 pm  ASAS Board of Directors Meeting  Four Points, Colonnade Room B
8 am - 12 pm  CSAS Symposia: Udder Health Management  Convention Center, Room 206
8 am - 5 pm  Exhibit Set Up  Convention Center, Exhibit Hall A
8 am - 5 pm  Student Dairy Clubs Set Up Exhibits  Convention Center, Exhibit Hall A
8 am - 5 pm  ARPAS Governing Board Meeting  Four Points, Pavilion B
8 am - 5 pm  Hospitality Lounge  Convention Center, Room 233
11 am - 12 pm  ADSA Officers and Advisor Meeting  Convention Center, Room 264
12 pm - 1 pm  ADSA-JDS Midday Mixer & Pizza Party  Convention Center, Room 262 & 263
12 pm - 1 pm  ADSA JDS Editors and Journal Management Committee Luncheon  Hilton, Mayflower 1&2
1 pm - 3 pm  ASAS Foundation Board of Trustees Meeting  Four Points, Atrium
1 pm - 5 pm  CSAS Symposia: Vitamin Nutrition of Livestock Animals  Convention Center, Room 206
1 pm - 5 pm  ADSA Journal Management Committee Meeting  Hilton, Mayflower 1&2
1 pm - 5 pm  ADSA-ASAS Quiz Bowl Seating/Preliminary Rounds  Convention Center, Room 260 & 261
2 pm - 3 pm  ADSA Production Division Council Meeting  Convention Center, Room 236
2 pm - 3:30 pm  ADSA Foundation Board of Trustees Meeting  Hilton, Salon A
2 pm - 5 pm  Genomics Symposium: Using Functional Genomics for Animal Improvement  Convention Center, Room 207
3 pm - 4 pm  ADSA Production Division Nominating Committee  Convention Center, Room 236
3 pm - 4 pm  ADSA Production Division Resolutions Committee  Convention Center, Room 234
3 pm - 5 pm  ADSA-ASAS 2005 Program Chairs & Vice Chairs Meeting  Convention Center, Room 211
3 pm - 5 pm  ADSA-ASAS 2006 Program Chairs & Vice Chairs Meeting  Convention Center, Room 211
4:30 pm - 6:30 pm  NAGP Policy Coordinating Committee  Convention Center, Room 210
5 pm - 6 pm  ADSA Dairy Foods Division Council Meeting  Convention Center, Room 234
6:30 pm - 7 pm  ADSA-SAD Quiz Bowl Final Round  Convention Center, Room 261
7 pm - 8:30 pm  2005 ADSA-ASAS-CSAS Opening Session  Convention Center, Ballrooms A-C
8:30 pm - 10 pm  2005 ADSA-ASAS-CSAS Opening Reception  Convention Center, Ballroom Foyer
8:30 pm  SAD Informal Mixer  Gameworks at Newport on the Levee

Monday, July 25

6:30 am - 8 am  ADSA Production Division Extension Breakfast  Hilton, Rookwood
6:30 am - 8 am  ADSA Journal Editorial Board Breakfast/Meeting  Hilton, Rosewood
6:30 am - 8 am  Michigan State University Breakfast  Four Points, Colonnade B
6:30 am - 4 pm  Registration Open  Convention Center, Elm Street Lobby
7:30 am - 8:15 am  ADSA-SAD Exhibit Set up  Convention Center, Exhibit Hall A
7:30 am - 9:30 am  Poster Presentations  Convention Center, Exhibit Hall A
7:30 am - 5 pm  Commercial Exhibits & ADSA-SAD Exhibits Open  Convention Center, Exhibit Hall A
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<tr>
<th>Time</th>
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<td>Job Resource Center</td>
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<td>NAGP Beef Species</td>
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<td>9:30 am - 10:30 am</td>
<td>ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports</td>
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<td>9:30 am - 10:30 am</td>
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<td>Hilton, Rookwood</td>
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<td>12:30 pm - 2:30 pm</td>
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<td>5 pm - 6 pm</td>
<td>NE ASAS/ADSA Business Meeting &amp; Awards</td>
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<td>Informal Calf Gathering</td>
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<td>Don Palmquist Reception</td>
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<td>5:30 pm - 7 pm</td>
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<td>8:30 pm - 12:30 am</td>
<td>Undergraduate Student Dance Party</td>
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<tr>
<td>9 pm - 12 am</td>
<td>ASAS/ADSA Graduate Student Mixer</td>
<td>Convention Center, Room 261</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am</td>
<td>Fun Run</td>
<td>Off Site, Meet in Elm Street Lobby</td>
</tr>
<tr>
<td>6:30 am - 8 am</td>
<td>ADSA Dairy Foods Division Extension Breakfast</td>
<td>Hilton, Salon HI</td>
</tr>
<tr>
<td>6:30 am - 8 am</td>
<td>Kentucky Breakfast</td>
<td>Four Points, Colonnade B</td>
</tr>
<tr>
<td>6:30 am - 8 am</td>
<td>PSU Breakfast</td>
<td>Four Points, Colonnade A</td>
</tr>
<tr>
<td>6:30 am - 8 am</td>
<td>University of Illinois Breakfast</td>
<td>Four Points, Pavillion</td>
</tr>
<tr>
<td>6:30 am - 8 am</td>
<td>Virginia Tech Breakfast</td>
<td>Hilton, Rookwood</td>
</tr>
<tr>
<td>7:30 am - 9 am</td>
<td>ASAS New Board Orientation Breakfast</td>
<td>Four Points, Atrium</td>
</tr>
<tr>
<td>7 am - 3:30 pm</td>
<td>Registration Open</td>
<td>Convention Center, Elm Street Lobby</td>
</tr>
<tr>
<td>7 am - 8 am</td>
<td>ADSA Foundation Estate Planning Breakfast</td>
<td>Hilton, Rosewood</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
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<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>7:30 am - 5 pm</td>
<td>Commercial Exhibits &amp; ADSA-SAD Exhibits Open</td>
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</tr>
<tr>
<td>7:30 am - 5 pm</td>
<td>Job Resource Center</td>
<td>Convention Center, Room 233</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Hospitality Lounge</td>
<td>Convention Center, Room 261</td>
</tr>
<tr>
<td>8:30 am - 9:30 am</td>
<td>ADSA-SAD Business Meeting - Election of Officers</td>
<td>Convention Center, Room 261</td>
</tr>
<tr>
<td>9:30 am - 5 pm</td>
<td>Scientific Oral Sessions</td>
<td>Convention Center, Room 261</td>
</tr>
<tr>
<td>9:30 am - 10:30 am</td>
<td>ADSA-SAD Student Careers Symposium: Leaders in Training</td>
<td>Convention Center, Room 260</td>
</tr>
<tr>
<td>11:30 am - 12:30 pm</td>
<td>ADSA Production Division Business Meeting</td>
<td>Convention Center, Room 236</td>
</tr>
<tr>
<td>11:30 am - 12:30 pm</td>
<td>ADSA Dairy Foods Division Business Meeting</td>
<td>Convention Center, Room 240</td>
</tr>
<tr>
<td>11:30 am - 1:30 pm</td>
<td>2005 Spouses’ Luncheon</td>
<td>The Bankers Club</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>ARPAS Business Meeting</td>
<td>Convention Center, Room 211</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>ADSA Dairy Foods Division Program Planning Lunch</td>
<td>Hilton, Salon HI</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>ASAS Division/Associate Editors Luncheon</td>
<td>Four Points, Pavilion B</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>ASAS Membership Committee Luncheon</td>
<td>Four Points, Atrium</td>
</tr>
<tr>
<td>12:30 pm - 2:30 pm</td>
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<td>Convention Center, Room 262 &amp; 263</td>
</tr>
<tr>
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<td>CSAS Annual General Meeting</td>
<td>Convention Center, Room 301 &amp; 302</td>
</tr>
<tr>
<td>2 pm - 4 pm</td>
<td>ARPAS Exam</td>
<td>Convention Center, Room 210</td>
</tr>
<tr>
<td>2 pm - 5:30 pm</td>
<td>Southern Branch ADSA Symposium &amp; Business Meeting</td>
<td>Convention Center, Room 242</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
<td>Location</td>
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</tr>
<tr>
<td>2:30 pm - 3:30 pm</td>
<td>ADSA-SAD Award Photos</td>
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</tr>
<tr>
<td>3 pm - 4:30 pm</td>
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<td>Convention Center, Room 261</td>
</tr>
<tr>
<td>3:30 pm - 5:30 pm</td>
<td>ASAS JAS Forum (Division/Associate Editors and Authors)</td>
<td>Convention Center, Room 240</td>
</tr>
<tr>
<td>5 pm - 6:30 pm</td>
<td>ADSA Award Donor Dinner</td>
<td>Hilton, Continental</td>
</tr>
<tr>
<td>7 pm - 8 pm</td>
<td>ADSA Awards Program</td>
<td>Hilton, Pavilion Caprice</td>
</tr>
<tr>
<td>8:15 pm - 9:30 pm</td>
<td>2005 ADSA-ASAS-CSAS Ice Cream Social</td>
<td>Hilton, Pavilion Caprice</td>
</tr>
<tr>
<td>8:15 pm - 9:30 pm</td>
<td>ADSA Foundation Auction &amp; Raffle</td>
<td>Hilton, Pavilion Caprice</td>
</tr>
</tbody>
</table>

**Wednesday, July 27**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>6:30 am - 8 am</td>
<td>Purdue University Breakfast</td>
<td>Four Points, Pavilion</td>
</tr>
<tr>
<td>7 am - 3 pm</td>
<td>Registration Open</td>
<td>Convention Center, Elm Street Lobby</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Poster Presentations</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>7:30 am - 5 pm</td>
<td>Job Resource Center</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>7:30 am - 5 pm</td>
<td>Commercial Exhibits Open</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Hospitality Lounge</td>
<td>Convention Center, Room 233</td>
</tr>
<tr>
<td>9:30 am - 10 am</td>
<td>Joint ADSA-ASAS Business Meeting</td>
<td>Convention Center, Room 236</td>
</tr>
<tr>
<td>10 am - 10:30 am</td>
<td>ADSA Business Meeting</td>
<td>Convention Center, Room 241</td>
</tr>
<tr>
<td>10 am - 10:30 am</td>
<td>ASAS Business Meeting</td>
<td>Convention Center, Room 234</td>
</tr>
<tr>
<td>10:30 am - 12:30 pm</td>
<td>CAST Rollout of “Metabolic Modifiers”</td>
<td>Convention Center, Room 205</td>
</tr>
<tr>
<td>10:30 am - 5 pm</td>
<td>Scientific Oral Sessions</td>
<td>Convention Center</td>
</tr>
<tr>
<td>10:30 am - 12:30 pm</td>
<td>CAST Rollout of “Metabolic Modifiers”</td>
<td>Convention Center, Room 205</td>
</tr>
<tr>
<td>11 am - 1 pm</td>
<td>ADSA Board of Directors Meeting</td>
<td>Hilton, Salon HI</td>
</tr>
<tr>
<td>11:30 am - 1 pm</td>
<td>ADSA DF Division Milk Proteins &amp; Enzyme Committee</td>
<td>Four Points, Colonnade A</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>Block &amp; Bridle Club Advisors Meeting</td>
<td>Four Points, Colonnade B</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>ASAS Board of Directors Meeting</td>
<td>Convention Center, Room 263</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>Women &amp; Minority Issues in Animal Agriculture Luncheon &amp; Lecture</td>
<td>Convention Center, Room 236</td>
</tr>
<tr>
<td>12:30 pm - 2 pm</td>
<td>RFAC Business Meeting</td>
<td>Convention Center, Room 234</td>
</tr>
<tr>
<td>2 pm - 3 pm</td>
<td>ARPAS Exam</td>
<td>Convention Center, Room 210</td>
</tr>
<tr>
<td>2:30 pm - 3:30 pm</td>
<td>2005 Retirees Social</td>
<td>Convention Center, Room 262</td>
</tr>
<tr>
<td>4:30 pm - 6 pm</td>
<td>2005 International/Closing Reception</td>
<td>Convention Center, Ballroom C</td>
</tr>
<tr>
<td>5 pm - 8 pm</td>
<td>Commercial Exhibits Dismantle</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>6:30 pm - 10 pm</td>
<td>CSAS Awards Banquet</td>
<td>Hilton, Continental</td>
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</table>

**Thursday, July 28**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am - 9:30 am</td>
<td>ADSA-ASAS Joint Executive Committee Breakfast</td>
<td>Four Points, Colonnade B</td>
</tr>
<tr>
<td>8 am - 10 am</td>
<td>Registration Open</td>
<td>Convention Center, Elm Street Lobby</td>
</tr>
<tr>
<td>8 am - 12 pm</td>
<td>Scientific Oral Sessions</td>
<td>Convention Center</td>
</tr>
</tbody>
</table>
ADSA Student Affiliate Division Program

SAD Special Events

Saturday, July 23

*SAD Tour: Harbor Sightseeing Cruise on the Ohio River*
1:00 pm - 3:00 pm (please arrive 30 minutes prior to boarding)
*Departs from Covington Landing, Covington, KY (directly across the river from downtown Cincinnati)*
*Pre-Registration Required*
Sit back, relax and enjoy the view on a 2-hour private chartered riverboat cruise on the Ohio River. Mix and mingle with other undergraduates from universities across the country. Listen as the Captain guides your adventure with interesting commentary pointing out places of interest and historical landmarks. Cash bar on board.

From hotel, take Race Street South. Turn left onto Theodore Berry Way and across the Roebling Suspension Bridge into Kentucky. After bridge, turn left onto Park Place, left onto Greenup, then left again onto Second. Turn right onto Madison and follow to Covington Landing at end of street.

*SAD Undergraduate Evening Mixer: Student Block at Reds vs. Brewers Ballgame*
7:00 pm
*Great American Ballpark (Cincinnati Riverfront)*
*Pre-Registration Required*
The Cincinnati Reds will be taking on the Milwaukee Brewers. Student block is limited to undergraduates and advisors, please.

Sunday, July 24

*SAD Midday Mixer and Pizza Party*
12:00 pm
*Convention Center, Room 262 & 263*
Plan to join us for the first official event of the SAD Meetings. The mixer is a great way to get some free lunch and get acquainted with other clubs who will be participating in the meetings. Registration is free, but required.

*Dairy Quiz Bowl*
1:00 pm
*Convention Center, Room 260 & 261*
The Dairy Quiz Bowl invites teams from all universities to participate in this year’s event. Seating test will be held immediately following the Midday Mixer and Pizza Party. Once teams are placed, competition will begin and continue throughout the afternoon. The top teams will move onto the final round, which will be held on Sunday evening at 6:30 pm.

*SAD Informal Mixer*
8:30 pm
*GameWorks, Newport on the Levee, 1 Levee Way, Suite 2130, Newport, KY (directly across the river from downtown Cincinnati)*
The ultimate destination for a total entertainment experience where you can eat, drink, party and play. GameWorks provides all the best elements of a great night out in one location, including a full service restaurant with a fantastic menu and casual décor; a cool, high-energy bar; and the most entertaining interactive games and attractions in the world. It’s state-of-the-art fun. Must be over 18 after 9:00 pm.

From downtown Cincinnati: Take I-471 south across the River, then exit #5 towards Bellevue/Newport. Turn right on Park Avenue, then left on KY-8. GameWorks will be at the Levee, on the right.
Monday, July 25

**SAD Dance Party**
8:30 pm - 12:30 am  
*Four Points, Colonnade*

Pre-Registration Required

Rock the night away with old and new friends. DJ will start taking your music requests at 8:30. Cash bar, soda bar and snacks will be available. Don’t miss this one. It’s always the highlight of the meeting! This event is open to all meeting attendees, including students, advisors and anyone else looking for a fun evening. From ADSA Headquarter Hotel, go west one block to Elm Street. Hotel is at corner of Fifth and Elm Streets.

Tuesday, July 26

**SAD Career Symposium: Professional Roundtables**
9:30 am - 10:30 am  
*Convention Center, Room 260*

A variety of professionals are being assembled to talk with you about careers and internships in the dairy industry. Eight professionals representing academia, industry, governmental agencies, and extension, as well as two students currently interning with dairy-related companies, will share with you their experiences and insights into landing the job of your dreams. Each speaker will be at a table, and you will have the opportunity to move from table to table to hear their presentations, and to ask questions and get advice.

**SAD Awards Luncheon**
12:30 pm  
*Convention Center, Room 262 & 263*

Pre-Registration Required

Plan to attend this year’s SAD Awards Luncheon. This year, you’ll be entertained as the students go head to head with ADSA Board Members in a mini-dairy quiz bowl. See who really knows more about the history of ADSA and the dairy industry! There are sure to be a few surprises and plenty of laughs along the way. The afternoon will 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**

**Saturday, July 23**

1 - 3 pm  
SAD Tour: Harbor Sightseeing Cruise on the Ohio River. Board at Covington Landing in Covington, KY via Roebling Suspension Bridge. Arrive 30 minutes prior to boarding

7 pm  
SAD Block at Cincinnati Red’s Great American Ball Park. Reds vs. Milwaukee Brewers

**Sunday, July 24**

8 am - 5 pm  
Student Dairy Clubs Set Up Exhibits. Convention Center, Exhibit Hall A

11 am - 12 pm  
SAD Officers and Advisor Meeting. Convention Center, Room 264

12 pm - 1 pm  
SAD Midday Mixer & Pizza Party. Convention Center, Room 262 & 263

1 pm - 5 pm  
Dairy Quiz Bowl Seating/Preliminary Rounds. Convention Center, Room 260 & 261

6:30 pm - 7 pm  
Dairy Quiz Bowl Final Round. Convention Center, Room 261

7 pm  
ADSA Opening Session & Reception. Convention Center, Ballroom A-C

8:30 pm - ?  
SAD Informal Mixer: Gameworks at Newport on the Levee. Newport, KY directly across the river from downtown Cincinnati via Taylor Southgate Bridge.

**Monday, July 25**

7:30 am - 8:15 am  
Student Dairy Clubs Set Up Exhibits. Convention Center, Exhibit Hall A

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11 am - 4:15 pm  SAD Undergraduate Paper Presentations. Convention Center, Room 261
8:30 pm - 12:30 am  Dance Party. Four Points, Colonnade. Fifth and Elm Streets (across from Convention Center)

**Tuesday, July 26**

8:30 am - 9:30 am  SAD Business Meeting - Election of Officers. Convention Center, Room 261
9:30 am - 10:30 am  SAD Career Symposium: Leaders in Training. Convention Center, Room 260
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3:30 pm - 5 pm  Tear-down SAD Exhibits. Convention Center, Exhibit Hall A
7 pm - 10 pm  ADSA Awards Ceremony, Ice Cream Social and Fun Auction/Raffle. Hilton, Pavilion Caprice

**Wednesday, July 27**

7:30 am - 5 pm  Scientific Posters, Sessions and Exhibits

**Thursday, July 28**

8:00 am - 12 pm  Scientific Sessions
Cincinnati Hotels

HILTON CINCINNATI NETHERLAND PLAZA - FOURTH FLOOR

Hilton
Cinergy Center
Level 2 Floor Plan
Thank you to the 2005 ADSA-ASAS-CSAS Joint Meeting Sponsors!
(as of 6-10-05)

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Bronze
Agri-Marché
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Sunday, July 24

SYMPOSIA AND ORAL SESSIONS

CSAS Mastitis Symposium

Udder health management: A Canadian perspective

Chair: Pierre Lacasse, Dairy and Swine R&D Centre, Lennoxville, QC, Canada


Room 206

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<tr>
<th>Time</th>
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<td>8:00 AM</td>
<td>Opening</td>
<td>Opening</td>
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<tr>
<td>8:05 AM</td>
<td>1</td>
<td>Research networks: The Canadian mastitis research experience. D. Scholl*, University of Montreal, Saint-Hyacinthe, Quebec, Canada.</td>
</tr>
<tr>
<td>9:20 AM</td>
<td>3</td>
<td>Mastitis vaccines: Past, present, and future. G. M. Tomita*, B. G. Talbot2, P Lacasse3, A. A. Potter4, X Zhao5, J Lee5, and D. T. Scholl1, 1University of Montreal, Saint Hyacinthe, Quebec, Canada, 2University of Sherbrooke, Sherbrooke, Quebec, Canada, 3AAFC-Dairy and Swine R&amp;D, Lennoxville, Quebec, Canada, 4University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 5McGill University, Montreal, Quebec, Canada.</td>
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<td>10:05 AM</td>
<td>Break</td>
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<td>10:30 AM</td>
<td>4</td>
<td>Management strategies to maintain udder health. D. Kelton*, University of Guelph, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>5</td>
<td>Mammary tissue damage during mastitis: causes and controls. X. Zhao* and P. Lacasse2, 1McGill University, Ste Anne de Bellevue, Quebec, Canada, 2Agriculture and Agro-Food Canada, Lennoxville, Quebec, Canada.</td>
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<tr>
<td>12:00 PM</td>
<td>Conclusion</td>
<td>Conclusion</td>
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CSAS Vitamin Symposium

Vitamin Nutrition of Livestock Animals

Chair: Johanne Chiquette, Dairy and Swine R&D Centre, Lennoxville, QC, Canada


Room 206

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<td>1:00 PM</td>
<td>Opening</td>
<td>Opening</td>
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<tr>
<td>1:05 PM</td>
<td>6</td>
<td>Vitamin nutrition of livestock animals: Overview from vitamin discovery to today. L. McDowell*, University of Florida, Gainesville.</td>
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<tr>
<td>1:40 PM</td>
<td>7</td>
<td>Enhancing the vitamin content of meat and eggs: Implications for the human diet. A. Sahlin and J. D. House*, University of Manitoba, Winnipeg, MB, Canada.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>8</td>
<td>Impact of B-vitamin supply on major metabolic pathways of lactating dairy cows. C. L. Girard* and J. J. Matte, Agriculture et Agroalimentaire Canada, Lennoxville, Québec, Canada.</td>
</tr>
<tr>
<td>2:50 PM</td>
<td>Break</td>
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<td>3:15 PM</td>
<td>9</td>
<td>Fat-soluble vitamins in reproducing animals: physiological and nutritional basis. F. J. Schweigert*, University of Potsdam, Potsdam, Germany.</td>
</tr>
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</table>
Genomics Workshop

Functional Genomics for Livestock Improvement

Chair: Ted Ferris, Michigan State University

Room 207

Time                  Abstract #
2:00 PM            12                      What is functional genomics? J. Pérez Laspiur* and T. Ferris, Michigan State University, East Lansing.
2:20 PM            13                      Implications of functional genomics for animal breeding programs. J. C. M. Dekkers*, Iowa State University, Ames.
3:10 PM            15                      Functional genomics of reproductive tissues: Creating new knowledge that can be used to solve infertility in farm animals. M. C. Lucy*, University of Missouri, Columbia.
3:35 PM                                       Break
3:50 PM            16                      What has functional genomics taught us about Johne’s disease in cattle? P. Coussens*, K. Skovgaard, and P. Heegaard, Michigan State University, East Lansing, Danish Institute of Food and Veterinary Research, Copenhagen, Denmark.
4:40 PM                                       Discussion

Monday, July 25

POSTER PRESENTATIONS

Animal Health I

Exhibit Hall A

Abstract #
M1 Influence of the mycotoxin fumonisin B₁ on intestinal physiology and immune function in piglets. M. Lessard*, J.-P. Lallés, G. Boudry, B. Séve, and I. P. Oswald, Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada, INRA Systèmes d’Élevage, Nutrition Animale et Humaine, St-Gilles, France, INRA Pharmacologie-Toxicologie, Toulouse, France.

M6 In vitro effects of leptin on bovine immune cells. H. Florez-Diaz* and E. B. Kegley, University of Arkansas, Fayetteville.

M7 Tumor necrosis factor-α (TNF-α), nitric oxide (NO), and xanthine oxidase (XO) responses to endotoxin (LPS) challenge in heifers: effect of estrous cycle phase. S. Kahl* and T. H. Elsasser, USDA, Agricultural Research Service, Beltsville, MD.


M11 Microarray analysis of immunorelevant gene expression in LPS-challenged bovine mammary epithelial cells. R. S. Pareek*, O. Wellnitz*, J. Burton*, and D. Kerr†, University of Vermont, Burlington, Technical University of Munich, Munich, Germany, Michigan State University, East Lansing.

M12 Parenteral administration of glutamine modulates acute phase response in postparturient dairy cows. A. Jafari*, D. Emmanuel†, J. Bell†, R. Christopherson†, G. Murdoch†, J. Woodward†, and B. Ametaj, University of Alberta, Edmonton, Alberta, Canada, Isfahan University of Technology, Isfahan, Iran.

M13 Evaluation of two simple tests for the detection of Cryptosporidium parvum oocysts in calf feces. L. Trotz-Williams†, S. Martin†, D. Martin†, D. Duffield†, K. Leslie*, D. Nydam†, and A. Peregrine†, University of Guelph, Guelph, ON, Canada, Ontario Ministry of Health and Long-Term Care, Etobicoke, ON, Canada, Cornell University, Ithaca, NY, University of Guelph, Guelph, ON, Canada.

**Breeding & Genetics I**

**Exhibit Hall A**

Abstract #

M14 Estimatives of heritability to time in different distances of race in Quarter Horse. S. Oliveira, M. Correa, and M. Mota*, Unesp, Botucatu, SP, Brazil.

M15 Estimatives of repeatability to time in different distances of race in Quarter horse. M. Correa, S. Oliveira, and M. Mota*, Unesp, Botucatu, SP, Brazil.

M16 Simulation model of cashmere goat production system: I. A dynamic herd simulation model & breeding strategies for fiber quality. B. Tseveenjav†, D. J. Garrick†, S. LeValley†, and Z. Yondon†, Colorado State University, Fort Collins, Cashmere Goat Association of Mongolia, Ulaanbaatar, Mongolia.


M19 Genetic polymorphism of b-Lactoglobulin gene in Iranian Karakul sheep by DNA test. A. Javadmanesh*, M. R. Nassiry, H. Ghiasi, A. Samei, and A. Norouzy, University of Mashhad, Mashhad, Khorasan, Iran.

M20 Comparison of maturity rate for bull daughters in the United States and Canada. H. D. Norman†, J. R. Wright*, R. L. Powell†, P. M. VanRaden†, and F. Miglior‡, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada, Canadian Dairy Network, Guelph, ON, Canada.

M21 Factors affecting heifer fertility in US Holsteins. M. Kuhn* and J. Hutchison, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

M22 Effectiveness of estimating individual herd heritabilities using regression techniques. C. D. Dechow* and H. D. Norman‡, Penn State University, University Park, Animal Improvement Programs Laboratory, Beltsville, MD.

M23 Accounting for heterogeneous variances in multi-trait evaluation of Jersey type traits. N. Gengler†, G. Wiggans‡, L. Thornton*, J. Wright†, and T. Druet†, National Fund for Scientific Research, B-1000, Brussels, Belgium, Animal Improvement Programs Laboratory, Beltsville, MD.

M24 Comparison of lifetime relative net income with and without adjustment for opportunity cost. E. Yook, R. Pearson*, and B. Cassell, Virginia Polytechnic Institute and State University, Blacksburg.
Dairy Foods

Cheese

Exhibit Hall A

Abstract #

Chemical, textural and sensory properties of fresh Turkish Kashar cheese. N. Koca*1,2, M. Metin1, and V. B. Alvarez2, 1Ege University, Izmir, Turkey, 2The Ohio State University, Columbus.

Yield enhancement of cottage cheese curd manufacture through milk protein fortification. Methods for quality evaluation. C. Kohen*1,2, R. Hallab1, A. Grandison1, M. Lewis1, and D. Marriott2, 1The University of Reading, Reading, Berkshire, UK, 2Creative Food Systems Limited, Marlow, Buckinghamshire, UK.

A one-dimensional dynamic model of curd syneresis based on viscoelastic properties of curd. M. Castille*, S. Torrealba, and F. Payne, University of Kentucky, Lexington.

Study of the aqueous phase of Prato cheese. V. S. Monteiro and M. L. Gigante*, State University of Campinas, Campinas, SP, Brazil.

Proteolysis of Piacentino Ennese cheese made with different farm technologies. V. Fallico*, C. Pedliggiieri, S. Carpino, and G. Licitra, CoRFinLaC, Ragusa, Sicily, Italy.

Effect of somatic cell count on milk composition and the yield of Prato cheese. G. Mazal1, M. V. Santos2, and M. L. Gigante*1, 1State University of Campinas, Campinas, SP, Brazil, 2University of São Paulo, Pirassununga, SP, Brasil.

Standardization of the time and temperature conditions to evaluate the meltability of Cream cheese. R. R. Monteiro, A. S. Salles, and M. L. Gigante*, State University of Campinas, Campinas, SP, Brazil.
Application of exopolysaccharide-producing cultures in making reduced fat Cheddar cheese. Cryo-scanning electron microscopy observations. A. Hassan* and S. Awad, South Dakota State University, Brookings.


Influence of calcium, phosphorus, residual lactose, and salt-to-moisture ratio (S/M) of Cheddar cheese on glycolysis during ripening. P. Upreti*, L. L. McKay, and L. E. Metzger, MN-SD Dairy Food Research Center, University of Minnesota, St. Paul, MN.

Application of exopolysaccharide-producing cultures in making reduced fat Cheddar cheese. Textural and melting properties. S. Awad*, A. Hassan, and K. Muthukumarapann, South Dakota State University, Brookings.


Mexican Mennonite-style cheese: Sensory profile of young cheeses from Chihuahua, Mexico. D. L. Van Hekken*¹, M. A. Drake², F. J. Molina Corral¹, V. M. Guerrero Prieto¹, and A. A. Gardea³, USDA-ARS, Eastern Regional Research Center, Wyndmoor, PA, ²North Carolina State University, Raleigh, ³Centro de Investigacion en Alimentacion y Desarrollo, Cuauhtemoc, Chih, MX.

Organic acid profiling of commercially available Hispanic cheeses. N. Gonzalez*¹, K. Hein², M. Sancho-Madriz¹, H. Heymann³, and K. Adhikari¹⁵, ¹California State Polytechnic University, Pomona, ²University of California, Davis, ³Kansas State University, Manhattan.

Effect of processing parameters on the rheological properties of cheese milk at cutting and its impact on cheese yield. R. Mishra*, S. Govindasamy-Lucey, M. Johnson, and J. Lucey, University of Wisconsin, Madison.

Effects of various emulsifying salts on the rheological and texture properties of pasteurized process Cheddar cheese. N. Shirashoji¹², J. J. Jaeggi², and J. A. Lucey², ¹Food Research and Development Laboratory, Morinaga Milk Industry Co., Kanagawa, Japan, ²University of Wisconsin, Madison.

The dynamics of sequential casein hydrolysis: An analytical approach. P. Joseph*¹, D. McMahon¹, and C. Oberg², ¹Utah State University, Logan, ²Weber State University, Ogden, UT.

Effects of insoluble calcium phosphate content on rennet coagulating properties of milk. J. Choi*¹, D. S. Horne², and J. A. Lucey³, ¹University of Wisconsin, Madison, ²Charis Food Research, Hannah Research Institute, Ayr KA6 5HL, Scotland.

---

Extension Education

**Exhibit Hall A**

Abstract #

WWW.Foragebeef.ca A new way to promote research. D. McCartney*, Agriculture and Agri Food Canada, Alberta, Canada.

Factors influencing beef producers participation in preconditioned certified calf sales. M. D. Corro*, D. Lalman, R. P. Wettewann, and J. Evans, Oklahoma State University, Stillwater.

Producer experiences in whole farm planning for the production of grass-finished beef. T. M. Johnson*¹, R. E. Morrow², C. A. Wells³, and J. K. Apple⁴, ¹National Center for Appropriate Technology, Fayetteville, AR, ²USDA-ARS, Little Rock, AR, ³Spring Pond Holistic Animal Health, Prairie Grove, AR, ⁴University of Arkansas, Fayetteville.


Use of coal combustion products (fly ash) for reducing mud problems in heavy use areas for dairy cattle. J. A. Pennington*¹, K. W. VanDevender¹, M. C. Andrews², and D. J. Griffin³, ¹University of Arkansas Cooperative Extension Service, Little Rock, ²University of Arkansas Cooperative Extension Service, Clinton, ³University of Arkansas Cooperative Extension Service, Marshall.

HOTCOW - An internet website for heat stress information from the International Dairy Heat Stress Consortium. W. Graves*, N. Graves², P. Hansen², J. Fain³, and A. De Vries³, ¹University of Georgia, Athens, ²University of Florida, Gainesville.

Financial performance of dairies in Florida and Georgia in 2003. A. de Vries¹, R. Giesy¹, L. Ely², B. Broadus¹, C. Vann¹, and B. Butler¹, ¹University of Florida, Gainesville, ²University of Georgia, Athens.

Association between bulk tank milk urea nitrogen and DHI production variables in southern California dairy herds. G. Higginbotham¹, W. VerBoort², N. Peterson*, and J. Santos¹, ¹University of California Cooperative Extension, Fresno, ²California DHA, Fresno, ³University of California Cooperative Extension, San Bernardino, ⁴University of California, Davis, Tulare.
Growth and Development

Growth, Diet and Performance

Exhibit Hall A

Survey of drinking water flow rates in tie-stall and stanchion dairy barns. I. Possin*1, R. Shaver2, and B. Holmes3, 1University of Wisconsin-Extension, Fond du Lac, 2University of Wisconsin, Madison, 3University of Wisconsin, Madison.

Growth and Development

Performance of Holstein and Jersey calves compared with performance of Jersey ' Holstein and Holstein ' Jersey crossbred calves. J. V. Ware*1, S. T. Franklin1, A. J. McAllister1, J. A. Jackson4, and B. G. Cassell1, 1University of Kentucky, Lexington, 2Virginia Polytechnic Institute and State University, Blacksburg.


Improved prediction of retained energy in a dynamic beef cattle growth and composition model accounting for variable maintenance. L. G. Barioni*2, J. W. Oltjen1, and R. D. Sainz1, 1University of California, Davis, 2Embrapa Cerrados, Planaltina, DF, Brazil.


An evaluation of the accuracy of a heart girth tape and the CalfScale® foottape for determination of birth weight of newborn dairy calves. E. Vernooy*1, D. Kelton1, K. Leskie1, T. Duffield1, E. Wilkins1, and L. Wright2, 1University of Guelph, Guelph, ON, Canada, 2Elora Dairy Research Station, Elora, ON, Canada.


Effects of diet and bST on gene expression profile in the liver of heifers. B. J. Lew*1,2, J. S. Liesman 1, T. E Van Dorp 1, M. D. S. Oliveira 2, S. Sipkovsky 1, and M. J. VaneHaar 1, 1Michigan State University, East Lansing, 2Sao Paulo State University (UNESP), Jaboticabal, SP, Brazil.

Leptin and leptin receptor expression in swine tissues in response to in vivo somatotropin treatment. T Ramsay* and M Richards, USDA-ARS, Beltsville, MD.

Effects of Gammulin® on performance in non-stressed neonatal dairy calves. C. C. Stanley*, C. C. Williams, J. M. Heintz, E. M. Rees, and D. T. Gantt, LSU AgCenter, Baton Rouge, LA.

Blood chemical and plasma amino acid profiles of old versus mature young beef cows. G. Sipe*1, B. Zanghi1, G. Wu2, J. Boling1, and J. Matthews1, 1University of Kentucky, Lexington, KY, 2Texas A&M University, College Station, TX.

The effects of feeding ad-lib fresh milk or milk replacer during nursing period on skeletal growth rates of Holstein heifers. U. Moallem*1, D. Werner2, H. Lehrer1, M. Katz1, L. Livshits1, I. Bruckental1, and A. Shamay1, 1Institute of Animal Science, ARO, Israel, 2Extension Service, Ministry of Agriculture, Israel.

Effects of in-ovo administration of monoclonal anti-myostatin antibody on post-hatch chicken growth and muscle mass. Y. S. Kim*1 and H. Y. Jin2, 1University of Hawaii, Honolulu, 2Kangnung National University, Gangnung, Korea.

Impact of dietary-lysine restriction in early-finisher on subsequent growth response to dietary lysine level in late-finisher pigs. J. M. DeDecker*1, M. Ellis1, B. F. Wolter2, and B. A. Peterson1, 1University of Illinois, Urbana, 2The Maschhoffs, Inc., Carlyle, IL.
Horse Species
Exhibit Hall A

Abstract #

M81 Jogging temporal variables as performed under 2005 stock horse breed association guidelines. J. Booker and M. Nicodemus*, Mississippi State University, Mississippi State.

M82 Assessment of calcium, phosphorus, and oxalate intake and excretion by horses grazing Kikuyu grass pastures in Hawaii. V. S. Gusman1, J. R. Carpenter*1, S. C. Miyasaka1, and B. W. Mathews2, 1University of Hawaii, Honolulu, 2University of Hawaii, Hilo.

M83 Fermentation in equine cecal cultures fed low and high starch diets with or without an enzyme supplement. P. M. Yocum*1, V. Fellner1, S. J. McLeod1, and M. Schuler2, 1North Carolina State University, Raleigh, 2Enzitech, LLC, Troy, VA.


Nonruminant Nutrition
Additives and Supplements
Exhibit Hall A

Abstract #

M85 A strawberry flavor in drinking water and feed improves water intake and growth of pigs at weaning. E. Roura*1, D. Solá-Oriol2, and D. Torrallardona2, 1LUCTA SA, Barcelona, Spain, 2IRTA, Centre Mas Bové, Reus, Spain.

M86 Effect of oregano, cinnamon and chili pepper herbal extracts as growth promoters on growth performance of young pigs. G. Velazquez1, A. G. Borbolla*1, G. Mariscal-Landin1, T. Reis de Souza1, and A. Pinelli1, 1Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, 2INIFAP CENID Fisiologia, Ajuchitan, Queretaro, Mexico, 3Universidad Autonoma de Queretaro, Queretaro, Mexico, 4Centro de Investigación en Alimentación y Desarrollo A.C., Mexico City, Mexico.

M87 Intestinal morphology of weaned pigs fed diets containing herbal extracts as growth promoters. G. Velazquez1, A. G. Borbolla*1, G. Mariscal-Landin1, T. Reis de Souza1, and A. Pinelli1, 1Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, 2INIFAP CENID Fisiologia, Ajuchitan, Queretaro, Mexico, 3Universidad Autonoma de Queretaro, Queretaro, Mexico, 4Centro de Investigación en Alimentación y Desarrollo A.C., Mexico City, Mexico.

M88 Effect of essential oils (Fresta F Conc®) supplementation on growth performance, immune response and fecal noxious gas of weaned pigs. J. H. Cho*1, Y. J. Chen1, B. J. Min1, K. S. Son1, H. J. Kim1, O. S. Kwon1, S. J. Kim1, and I. H. Kim1, 1Dankook University, Cheonan, Korea, 2Yuhan Co., Korea.

M89 The effect of dietary garlic and rosemary on grower-finisher pig performance and sensory characteristics of pork. S. Cullen, F. Monahan, and J. O’Doherty*, University College Dublin, Ireland.


M92 Dietary nucleotides supplementation alleviates villus atrophy and improves immune response of early weaned piglets. D. Martínez-Puig*, E. Borda1, E. G. Manzanilla2, C. Chetrit1, and J. F. Pérez2, 1BIOIBERICA S.A., Palafolls, Barcelona, Spain, 2University Autònoma Barcelona, Barcelona, Spain.

M93 Effect of blended organic acids on growth performance and intestinal microflora of post weaning piglets. V. Bontempo*, R. Maiorano, A. Agazzi, B. Tonini, and G. Savoini, Dept Veterinary Sciences and Technology for Food Safety, Milan, Italy.

M94 Large bowel fermentation of resistant starch and conventional fiber supplements in the growing boar. T. C. Rideout*, Q. Liu1, and M. Z. Fan1, 1University of Guelph, Guelph, Ontario, Canada, 2Agriculture and Agri-Food Canada, Guelph, Ontario, Canada.
**Nonruminant Nutrition**

**Mannan-Oligosaccharides, Yeast Culture, and Probiotics**

*Exhibit Hall A*

**M101**

**M102**

**M103**
Effect of dietary Enterococcus faecium on growth performance, nutrients digestibility, hematological change and fecal 

**M104**
Effect of dietary mannan-oligosaccharides and(or) organic zinc on growth performance and prevalence of post-weaning diarrhoea in piglets. M. Castillo*,1, G. Ferrini1, E. G. Manzanilla1, J. Roquet1, J. A. Taylor-Pickard3, J. F. Pérez1, and S. M. Martin-Orúe1, 1Departamento de Ciencia Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Probasco, Barcelona, Spain, 3Alltech Biotechnology Centre, Summerhill, Sarney, Ireland.

**M105**
Effect of dietary mannooligosaccharides and(or) organic zinc on growth performance and prevalence of post-weaning diarrhoea in piglets. M. Castillo*,1, G. Ferrini1, E. G. Manzanilla1, J. Roquet1, J. A. Taylor-Pickard3, J. F. Pérez1, and S. M. Martin-Orúe1, 1Departamento de Ciencia Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Probasco, Barcelona, Spain, 3Alltech Biotechnology Centre, Summerhill, Sarney, Ireland.
Physiology & Endocrinology I
Exhibit Hall A

Abstract #

M113 Desert climatic effects on freezability and some biochemical constituents of Barki ram semen. M. Zeitoun*1 and K. El-Bahrawy2, 1Alexandria University, Alexandria, Egypt, 2Mariout Research Station, Desert Research Center, Ministry of Agriculture, Alexandria, Egypt.

M114 The effects of Pulsatilla miniplex® administrations on some blood values in dairy cows. F. S. Hatipoglu*1, M. S. Guly1, M. Findik2, S. Aslan2, C. Altinsaat2, and G. Atintas2, 1Akdeniz University, Antalya, Turkey, 2Ankara University, Ankara, Turkey.

M115 Estrogens and isoflavones affect porcine muscle satellite cell growth. C. Rehfeldt*, M. Mau, and T. Viergutz, Research Institute for the Biology of Farm Animals, Dummerstorf, Germany.

M116 Use of milk oestradiol in conjunction with milk progesterone analysis to quantify reproductive function in dairy cows. D. V. Scholey, N. R. Kendall*, A. P. F. Flint, and G. E. Mann, University of Nottingham, Sutton Bonington Campus, Loughborough, UK.


M118 Progesterone (P4) Concentrations and Ovarian Response after Insertion of a New or a 7 d Used Intravaginal P4 Insert (IPI) in Proestrus Lactating Cows. R. L. A. Cerri*, H. M. Rutigliano, R. G. S. Bruno, and J. E. P. Santos, University of California, Tulare.

M119 Behavioral and endocrine responses to estradiol-17b (E) in ovariectomized Holstein cows. P. Reames*, T. Hatler, and W. Silvia, University of Kentucky, Lexington.

M120 Bovine uterine temperature measured by novel IC thermometer placed in the uterotubal junction. S. Kamimura*1, E. Kurataki1, N. Roa Avila1, K. Hamana1, K. Morita1, and I. Shibata2, 1Kagoshima University, Kagoshima, Japan, 2Sanyo Electric, Tokyo, Japan.


M122 Repeatability estimate for embryo survival following insemination at PG-induced heats in beef heifers. M. G. Diskin* and J. M. Sreenan, Teagasc Research Centre, Athenry, Co. Galway, Ireland.

M123 Reproductive performance following estrous synchronization of Angus, Brahman and Angus x Brahman crossbred cows. L. Praharani*1, D. O. Rae2, and T. A. Olson2, 1Research Institute of Animal Production, Bogor, Indonesia, 2University of Florida, Gainesville.

M124 The Crestar® protocol with estradiol benzoate, PGF2a, PMSG or GnRH to control estrus cycle and ovulation in beef cows. R. J. C. Moreira*1, A. V. Pires*, D. Z. Muluf, E. H. Madureira2, M. Binelli2, J. R. Gonçalves3, L. G. Lima1, and I. Susin1, 1FEALQ/Universidade de São Paulo, Piracicaba, SP, Brazil, 2FMVZ/Universidade de São Paulo, Pirassununga, SP, Brazil, 3FEALQ, Londrina, PR, Brazil.

M125 Conception rates and serum progesterone concentration in dairy cattle administered gonadotropin releasing hormone five days after artificial insemination. J. M. Howard*1, R. Manzo1, J. C. Dalton2, and A. Ahmadzadeh1, 1University of Idaho, Moscow, 2University of Idaho, Caldwell.

M126 Evaluation of progestagen implants reutilization on pharmacological control of estrus cycle and ovulation in beef cows. D. Z. Muluf, A. V. Pires*1, R. J. C. Moreira1, E. H. Madureira2, M. Binelli2, J. R. Gonçalves3, L. G. Lima1, and I. Susin1, 1FEALQ/Universidade de São Paulo, Piracicaba, SP, Brazil, 2FMVZ/Universidade de São Paulo, Pirassununga, SP, Brazil, 3FEALQ, Londrina, PR, Brazil.

M127 Myostatin inhibits the differentiation of bovine preadipocyte. S. Hirai*, H. Matsumoto, H. Kawachi, T. Matsui, and H. Yano, Kyoto University, Kitashirakawato-oiwake, Sakyo-ku, Kyoto, 606-8502, Japan.

M128 Interrelationships among parity, body condition score (BCS), milk yield, AI protocol, and cyclicity with embryonic survival in lactating dairy cows. H. M. Rutigliano* and J. E. P. Santos, University of California, Tulare.

M129 Ontogeny of hypothalamic gene expression during prepuberal development in the gilt. C. R. Barb*1, R. L. Richardson1, R. Rekaya1, R. R. Kraeling1, and G. J. Hausman1, 1USDA-ARS, Athens, GA, 2University of Georgia, Athens.

M130 Effect of heat stress on the response to superovulation, embryo quality and survival, and the fertility of recipient cows in commercial dairy herds in Mexico. R. Lozano*, M. Aspron1, C. Vasquez2, and E. Gonzalez-Padilla2, 1INIFAP-Mexico, Aguascalientes, Mexico, 2UNAM, Mexico D.F., 3Private consultant, Queretaro, Mexico.

M131 Relationship between milk lactoperoxidase, progesterone and estradiol concentrations during estrus in dairy cows. A. Ahmadzadeh*1, M. L. Silber2, and J. C. Dalton1, 1University of Idaho, Moscow, 2Washington State University, Pullman.
Production, Management and the Environment

Environment and Economics

Exhibit Hall A

Abstract #

M132 Assessing pregnancy status using digital infrared thermal imaging in Holstein heifers. M. Jones¹, A. Denson¹, E. Williams¹, A. Dos Santos¹, K. Graves¹, A. Koub⁰, and S. Willard¹, †Mississippi State University, Mississippi State, ‡Memphis Zoo, Memphis, TN.

M133 Thermography of the vulva in Holstein dairy cows: A comparison of estrus vs. diestrus. M. Jones*, S. Denson, S. Bowers¹, K. Moulton¹, E. Williams¹, K. Graves¹, A. Dos Santos¹, A. Koub⁰, and S. Willard¹, †Mississippi State University, Mississippi State, ‡Memphis Zoo, Memphis, TN.


M136 Effects of feeding yeast culture and propionibacteria on milk glucose, plasma glucose and plasma insulin concentrations in Holstein cows. K. V. Lehlövenya¹, D. R. Stein², M. M. Aleman*, D. T. Allen¹, T. G. Rehberger², D. A. Jones¹, and L. J. Spicer¹, †Oklahoma State University, Stillwater, ‡Agtech Products, Inc., Wakesha, WI.

M137 Supplemental feeding of propionibacteria to lactating dairy cows: Effects on plasma hormones and metabolites. M. M. Aleman*, D. R. Stein¹, D. T. Allen¹, K. W. Gates¹, K. J. Mertz², T. G. Rehberger², D. A. Jones¹, and L. J. Spicer¹, †Oklahoma State University, Stillwater, ‡Agtech Products, Inc., Wakesha, WI.

M138 Effects of population density on growth and vermicompost production of earthworms (Eisenia spp). J. Hernández*, S. Pietrosemoli¹, W. Echeverría¹, R. Palma², A. Faria¹, C. Contreras³, and A. Gomez⁴, †La Universidad del Zulia, Maracaibo, Zulia, Venezuela, ‡Proyecto FONACIT PSI-200000792, Maracaibo, Zulia, Venezuela.

M139 Effects of feeding frequency on growth and reproduction of earthworms (Eisenia spp). J. Hernández¹, S. Pietrosemol⁴, A. Faria¹, R. Palma², and R. Canellón³, †La Universidad del Zulia, Maracaibo, Zulia, Venezuela, ‡Proyecto FONACIT PSI-200000792, Maracaibo, Zulia, Venezuela.

M140 Evaluation of advanced dairy systems shade tracker fans and korral kool coolers on a commercial dairy in Buckeye, Arizona. M. VanBaale¹, D. Ledwith¹, R. Burgos*, R. Collier¹, D. Armstrong¹, J. Smith¹, M. Brouk², and L. Baumgard³, †University of Arizona, Tucson, ‡Kansas State University, Manhattan.

M141 Evaluation of cooling systems to improve lactating Holstein cows comfort in the sub-tropics. C. N. Lee*, N. Keala, University of Hawai‘i–Manoa, Honolulu.


M143 Influence of high temperatures on productive performance of sows. L. M. Ramírez¹, M. Aparicio¹, J. Morales¹, R. Lázaro*, and C. Piñeiro¹, †PigCHAMP Pro Europa, S.A., Segovia, Spain, ‡U. P. Madrid, Spain.

M144 Component and factor analysis of pork farm odor using neural networks. K. Janes, S. Yang, and R. Hacker*, University of Guelph, Guelph, Ontario, Canada.

M145 Chemical and environmental treatment of whole tree juniper bedding to lower fecal coliform counts. M. Gamroth*, L. Swan², †Oregon State University, Corvallis, ‡U.S. Forest Service, Klamath Falls, OR.

M146 Effect of season on ammonia volatilization from urine and beef and dairy feces on pasture. P. Tyler*, K. Cummins, C. Wood, and B. Wood, Auburn University, Auburn University, AL.

M147 Validating N to P ratio for estimating N volatilization from dairy manure. V. Moreira* and C. Coxe, LSU AgCenter SERS, Franklinton, LA.


M149 Effect of dietary nitrogen on estimates of nitrogen emission during manure collection in a freestall barn. M. Aguerre*, T. Hunt¹, C. Weigel², and M. Wattiaux³, †University of Wisconsin, Madison, ‡University of Wisconsin, Platteville.
Abstract #

M150 The use of bioaugmentation to reduce odor and enhance nutrient profile in stored dairy manure. C. Ballard*, 1 K. Cotanch, 1 J. Darrah, 1 E. Thomas, 1 S. Kramer, 1 W. Donohue, 2 and W. Campion, 1 W.H. Miner Agricultural Research Institute, Chazy, NY, 2Pro-Act Microbial, Inc., Portsmouth, RI.

M151 Using nonlactating cattle to improve the transition of lactating cows into a new freestall barn. C. Hill*, M. Greenwood, C. Ballard, and R. Grant, W.H. Miner Agricultural Research Institute, Chazy, NY.

M152 Economic evaluation of pre-synchronization and resynchronization protocols in lactating dairy cows. R. C. Chebel*, 1 H. M. Rutigliano, 2 R. L. A. Cerri, 2 R. Bruno, 2 and J. E. P. Santos, 1 University of Idaho, Caldwell, 2University of California-Davis, Tulare.


M154 A partial budget for change in milking frequency and cow numbers with constrained parlor use. B. Carr, M. McGilliard*, W. White, G. Bethard, and R. Pearson, Virginia Polytechnic Institute and State University, Blacksburg.

M155 Influence of corn vitreousness and processing on site and extent of digestion by feedlot cattle. L. Corona* and R. Zinn, University of California, El Centro.

M156 Corn or soybean hull incorporation into haylage-based backgrounding diets; effect on growth and efficiency during the backgrounding and finishing phases. M. Ko*, C. J. Mader, and K. C. Swanson, University of Guelph, Guelph, Ontario, Canada.

M157 Screening for the effects of natural plant extracts at two pH levels on in vitro rumen microbial fermentation of a high-concentrate beef cattle diet. P. W. Cardozo, 1 S. Calsamiglia*, 1 A. Ferret, 1 and C. Kamel, 2 Universidad Autonoma de Barcelona, Bellaterra, Spain, 2Axis France SAS, Bellegarde-sur-Valserine, Cedex, France.

M158 Monitoring of VFA production during in vitro ruminal incubation. T. F. Martinez, 1 Y. Wang, 1 T. Reuter*, 1 and T. A. McAllister, 1 Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada, 2Departamento de Biologia Aplicada, Universidad de Almeria, Almeria, Spain.

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**Ruminant Nutrition**

**Beef Cattle**

**Exhibit Hall A**

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M156 Effects of replacing corn grain and urea with condensed corn distillers solubles in diets for finishing steers. D. Pingel* and A. Trenkle, Iowa State University, Ames.


M158 Variation in digestibility of undegradable intake protein among feedstuffs. J. MacDonald*, T. Klopfenstein, and G. Erickson, University of Nebraska, Lincoln.

M159 Starch digestion by feedlot cattle: Predictions from analysis of feed and feces for N and starch. R. Zinn*, L. Corona, F. Owens, and R. Ware, University of California, El Centro.

M160 Influence of corn vitreousness and processing on site and extent of digestion by feedlot cattle. L. Corona* and R. Zinn, University of California, El Centro.

M161 Energy required by beef calves was more accurately predicted by effective energy than net energy calculations. J. W. Golden* and M. S. Kerley, University of Missouri, Columbia.

M162 Evaluating the prediction of dry matter intake and average daily gain in backgrounding cattle. M. S. Whetsell*, 1 E. B. Rayburn, 1 J. P. S. Neel, 1 J. P. Fontenot, 1 and W. M. Clapham, 2 West Virginia University, Morgantown, 2United State Department of Agriculture- Agriculture Researchch Service, Apalachian Farming System Research Center, Beaver, WV.

M163 Application of Lineweaver-Burk data transformation to explain animal and plant performance as a function of nutrient supply. R. P. Lana*, 1 R. H. T. B. Goes, 1 L. M. Moreira, 1 A. B. Mancio, 1 and D. M. Fonseca, 1Universidade Federal de Viçosa-DZO, Viçosa, MG, Brazil, 2CNPq, Brasilia, DF, Brazil, 3Universidade Estadual de Maringá, Umuarama, PR, Brazil.

M164 Screening for the effects of natural plant extracts at two pH levels on in vitro rumen microbial fermentation of a high-concentrate beef cattle diet. P. W. Cardozo, 1 S. Calsamiglia*, 1 A. Ferret, 1 and C. Kamel, 2 Universidad Autónoma de Barcelona, Bellaterra, Spain, 2Axis France SAS, Bellegarde-sur-Valserine, Cedex, France.

M165 Treatment of ground wheat with tannins: Effects on VFA production during in vitro ruminal incubation. T. F. Martinez, 1 Y. Wang, 1 T. Reuter*, 1 and T. A. McAllister, 1 Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada, 2Departamento de Biologia Aplicada, Universidad de Almeria, Almeria, Spain.
Effect of mixed culture of Lactobacillus paracasei and Lactobacillus lactis and their fermentation products on ruminal fermentation of a barley grain/barley silage diet. Y. Wang*, J. Baah, L. J. Yanke, and T. A. McAllister, *Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada.


Withdrawn by Author.


Age, body condition, and calf sex effects on maternal conversion and circulating NEFA levels. E. Felton* and J. Warren, West Virginia University, Morgantown.


**Ruminant Nutrition**

**Dairy I**

**Exhibit Hall A**

**Abstract #**

M191 Effect of level of encapsulated vitamin C in starters fed to Holstein calves. J. Garrett*1, D. Putnam1, T. Hill2, J. Aldrich2, and R. Schlotterbeck3, 1Balchem Encapsulates, New Hampton, NY, 2Akey, Lewisburg, OH.


M195 Psyllium in milk replacer increases intestinal volatile fatty acids and tissue mass in neonatal dairy calves. S. J. Cannon*, B. L. Miller2, G. C. Fahey1, L. L. Bauer1, and J. K. Drackley1, 1University of Illinois, Urbana, 2Land O’Lakes, Inc., Webster City, IA.

M196 Number of lactations have no effect on immunoglobulin G concentration of heifer and cow colostrum. S. I. Kehoe*, M. L. Moody, A. J. Heinrichs, and M. R. Long, The Pennsylvania State University, University Park.


M198 Effects of supplementation with propylene glycol or protected fats containing low or high ratio of unsaturated fatty acids to transition cows on production and metabolism. M. Katz*1,2, H. Lehrer1, L. Livshits1, D. Sklan2, and U. Moallem1, 1ARO, Israel, 2Hebrew University, Israel.

M199 Absorption and metabolism of propylene glycol, propanal, and n-propanol in dairy cows dosed intraruminally with propylene glycol. B. Raun, B. Rojen, and N. Kristensen*, Danish Institute of Agricultural Sciences, Tjele, Denmark.


M201 Metabolic profile of transition dairy cows from northwestern Portugal. J. A. A. Pires*1, P. L. Ruegg1, M. D. Salgueiro2, and A. Dias-da-Silva1, 1University of Wisconsin, Madison, 2AGROS, Vila do Conde, Portugal, 3CECAV-UTAD, Vila Real, Portugal.


M203 Effect of growth conditions on mineral composition of rumen microbes. N. Singh*, E. Ungerfeld, and R. Kohn, University of Maryland, College Park.

M204 Relationship among ruminal strong ions and ruminal pH. C. S. Mooney* and M. S. Allen, Michigan State University, East Lansing.


M206 Quantification of net splanchnic inorganic phosphate recycling in lactating dairy cows. N. Cristensen*, B Rojen, B Raun, P Lund, and J Sehested, Danish Institute of Agricultural Sciences, Tjele, Denmark.


Sheep Species
Exhibit Hall A

Abstract #

M215 Estimation of the apparent digestibility of soybean hulls in diets containing increasing concentrations of soybean hulls to replace corn fed to growing lambs. T. Johnson*1 and J. Rekkhis, 1Purdue University, West Lafayette, IN, 2Manouba University, Sidi Thabet, Tunisia.


M220 Carcass traits of hair breed ram and wether lambs on moderate or high level of supplement. J. Burke*1 and J. Apple, 1USDA, Agricultural Research Service, Booneville, AR, 2University of Arkansas, Fayetteville.

M221 Cholesterol, CLA and fat content of lamb loin chops by breed type. S. Duckett*, S. Greiner, and D. Notter, 1University of Georgia, Athens, 2Virginia Polytechnic Institute and State University, Blacksburg.

M222 Growth and parasite resistance of pasture-raised purebred Katahdin and Katahdin crossbred lambs. D. J. Jackson*, N. C. Whitley, J. W. Lemaster1, and S. Schoenian1, 2University of Maryland Eastern Shore, Princess Anne, 3Maryland Cooperative Extension, College Park, MD, 4Western Maryland Research and Education Center, Keedysville, MD.

M223 Effects of deworming hair sheep, wool sheep and meat goats with avermectin and herbs. H. Swartz*, F. Wulff, A. Stewart, and M. Ellersiek2, 1Lincoln University, Jefferson City, MO, 2University of Missouri, Columbia.


M225 Analysis of associations between genotypes at codon 171 and 136 of the prion protein gene and production traits in a survey of market lambs. J. M. Evoniuk*, P. T. Berg, M. L. Johnson, C. L. Stolttenow, C. S. Schauer, K. I. O'Rourke, and D. A. Redmer, North Dakota State University, Fargo, 2USDA, ARS, ADRU, Pullman, WA.

M226 Impact of nutrition and body condition score at conception on gestation length. D. Brake* and J. Daniel, South Dakota State University, Brookings.
The effect of Bio-Mos supplementation on the performance of ewes in late pregnancy and on subsequent lamb performance. M. Foley¹, T. M. Boland¹, M. Guinan¹, S. Andrieu⁎², and T. F. Crosby¹, ¹University College Dublin, Belfield, Dublin, Ireland, ²Alltech Ireland, Dunboyne, Co. Meath, Ireland.

The effects of dietary inclusion of organic selenium (Sel-Plex) on ewe milk selenium level and lamb growth. M. Foley¹, T. M. Boland¹, S. Andrieu⁎², M. Guinan¹, and T. F. Crosby¹, ¹University College Dublin, Belfield, Dublin, Ireland, ²Alltech Ireland, Dunboyne, Co. Meath, Ireland.

Milk yield and milk composition of Santa Ines ewes. I. Susin⁎, A. V. Pires, C. Q. Mendes, I. U. Packer, and R. C. Araujo, ESALQ/University of São Paulo, Piracicaba, SP, Brazil.

Swine Species
Swine Nutrition and Management
Exhibit Hall A

The use of a modified farrowing pen: Effects on lactation performance of heat-stressed sows. C. Farmer⁎¹, T. Widowski², and D. Massé², ¹Agriculture and Agri-Food Canada, Lennoxville, QC, Canada, ²University of Guelph, Guelph, ON, Canada.

Effect of low energy diets fed to high lean pigs slaughtered at 115 kg of body weight. I. Moreira⁎, T. Voorsluys, D. Paiano, I. M. Sartori, M. A. A. Silva, and G. Jacob, Universidade Estadual de Maringá, Maringá, Paraná, Brazil.


Avilamycin in the diet affects intestinal mucosal architecture and mucosa-associated bacteria in weaned pigs. B. Kleessen¹,³, R. Brunner¹, J. Kluess¹, W. Souffrant¹, U. Hennig¹, and C. Metges⁎¹, ¹Research Institute for the Biology of Farm Animals, Dummerstorf, Germany, ³German Institute of Human Nutrition (DIFE) Potsdam, Nutheatal, Germany, ²Institute of Bacteriology and Mycology, University of Leipzig, Leipzig, Germany.

A high-resolution radiation hybrid map for swine. W.-S Liu⁎¹, K. Eyer¹, H. Yasue², B. Roelofs³, H. Hiraïwa², T Shimogiri³, E. Landrito¹, J. Ekstrand¹, M. Treat¹, and C. W. Beattie¹, ¹University of Nevada, Reno, ²National Institute of Agrobiological Sciences, Ikenodai, Tsukuba, Ibaraki, Japan, ³Kagoshima University, Korimoto, Kagoshima, Japan.

Effects of operator and interpreter effects on real-time ultrasonic measures of backfat thickness and longissimus muscle area in pigs. L. L. Lo⁎¹, C. Y. Fang, H. C. Chung, Y. Y. Lin, and C. Y. Lien, National Institute of Agrobiological Sciences, Ikenodai, Tsukuba, Ibaraki, Japan, ¹Kagoshima University, Korimoto, Kagoshima, Japan.

Piglet performance and meat quality at slaughter in response to increased maternal feed allowance during mid gestation. A. Cerisuelo⁎¹, M. Baucells¹, J. Bone², D. Carrión¹, S. Tibble¹, J. Gasa¹, and R. Sala¹, ¹Univeritat Autònoma de Barcelona, Spain, ²Vall Companys Group, Spain, ³PIC España, S.A., Spain, ⁴SCA Ibérica, Spain.

Effect of additional feed allowance during mid gestation on body reserves changes and feed intake during lactation in lean sow genotype. A. Cerisuelo⁎¹, R. Sala¹, D. Carrión¹, J. Coma¹, S. Tibble¹, J. Gasa¹, and M. Baucells¹, ¹Univeritat Autònoma de Barcelona, Spain, ³PIC España, S.A., Spain, ²Vall Companys Group, Spain, ⁴SCA Ibérica, Spain.

Effect of different levels of soybean hulls in growing and finishing pigs diets. I. Moreira⁎¹, A. R. B. Quadros¹,³, A. R. P. Parra¹,³, C. R. Ribeiro¹, N. Silvestrin¹, and C. Scherer¹, ¹Universidade Estadual de Maringá, Maringá, Paraná, Brazil, ²Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil, ³Universidade del Tolima, Ibagué, Tolima, Colombia.

Change in dietary preferences in piglets due to different cereals. D Solà-Oriol¹, E Roura⁎², and D Torrallardona¹, ¹IRTA-Centre de Mas Bové, Reus, Spain, ²Lucta SA, Barcelona, Spain.
Changes in dietary preferences in piglets due to different protein sources. D Solà-Oriol¹, E Roura*, and D Torrallardona¹, ¹IRTA-Centre de Mas Bové, Reus, Spain, ²Lucta, SA, Barcelona, Spain.


Fertility of artificially-inseminated sows presenting abnormal vaginal secretions. F. Medina-Jimenez¹, F. J. Escobar-Medina*, C. F. Arechiga¹, J. J. Hernandez-Berumen¹, G. Rocha-Chavez¹, and J. Becerril¹, ¹Universidad Autonoma de Zacatecas, Zacatecas, Zac. Mexico, ²Minitube Mexico.


Estimation of carcass compositional differences in live breeding swine using real-time ultrasound. T. Perkins*, Southwest Missouri State University, Springfield.

Efficacy of two natural additives, SUPROL® and RepaXOL® as growth promotants for grow-finish pigs. R. Thaler¹, B. Rops¹, B. Christopherson*, and E. Cerchiari¹, ¹South Dakota State University, Brookings, ²SODA Feed Ingredients LLC, Brookings, SD, ³SODA Feed Ingredients Ltd., Ireland.

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM

ALPHARMA Beef Cattle Nutrition

Challenging the Limits of Caloric Intake in Feedlot Cattle

Chair: Robbi Pritchard, South Dakota State University

Sponsors: Alpharma and ASAS Foundation

Ballroom A

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>18</td>
<td>Introduction. Robbi Pritchard, South Dakota State University.</td>
</tr>
<tr>
<td>9:40 AM</td>
<td>18</td>
<td>Sites, rates, and limits of starch digestion and glucose metabolism in growing cattle. G. Huntington*, C. Richards², and D. Harmon³, North Carolina State University, Raleigh, ²The University of Tennessee, Knoxville, ³The University of Kentucky, Lexington.</td>
</tr>
<tr>
<td>10:20 AM</td>
<td>19</td>
<td>Ruminal dynamics during adaptation of beef cattle to high-concentrate diets. M. S. Brown*,¹,¹² West Texas A&amp;M University, Canyon, ²Texas Agricultural Experiment Station, Amarillo.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>18</td>
<td>Overview of various methods used commercially to adapt cattle to finishing diets. T. Milton, Midwest PMS, Grand Island, NE.</td>
</tr>
<tr>
<td>11:40 AM</td>
<td>20</td>
<td>An upper limit for caloric density of finishing diets. C. Krehbiel*, J. Cranston, and M. McCurdy, Oklahoma State University, Stillwater.</td>
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## Breeding and Genetics
### Statistical Methods I

**Chair:** Filippo Miglior, Agriculture and Agri-Food Canada / Canadian Dairy Network

**Room 203**

<table>
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<tr>
<th>Time</th>
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<tr>
<td>9:30 AM</td>
<td>21</td>
<td>Joint modeling of age of dam and age of animal for growth in Gelbvieh by the random regression model. K. Robbins*, I. Misztal, and J. Bertrand, University of Georgia, Athens.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>23</td>
<td>Properties of random regression models using linear splines. I. Misztal*, University of Georgia, Athens.</td>
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<tr>
<td>10:15 AM</td>
<td>24</td>
<td>Calculating the distribution of the correlation between estimated breeding values from different analyses. D. Garrick*, Colorado State University, Fort Collins.</td>
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<tr>
<td>10:30 AM</td>
<td>25</td>
<td>A bivariate quantitative genetic model for a linear Gaussian trait and a survival trait. L. H. Damgaard* and I. R. Korsgaard, Research Centre Foulum, Dept. Genetics and Biotechnology, Bioinformatics and Statistical Genetics, Tjele, Denmark.</td>
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<td>10:45 AM</td>
<td>Break</td>
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<tr>
<td>11:00 AM</td>
<td>26</td>
<td>Bivariate recursive and simultaneous models for milk yield and somatic cell scores. G. de los Campos*, D. Gianola¹, and B. Heringstad², ¹University of Wisconsin-Madison, Madison, ²Norwegian University of Life Sciences, Aas, Norway.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>27</td>
<td>Standard errors of solutions in large scale mixed models, application to linear and curvilinear effects of inbreeding on production traits. N. Gengler¹², and C. Croquet¹², ¹National Fund for Scientific Research, Brussels, Belgium, ²Gembroux Agriculture University, Gembroux, Belgium.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>28</td>
<td>Predictions of test day yields for milk production traits in cattle by partial least squares multiple regression. N. P. P. Macciotta¹, D. Vicario², C. Dimauro¹, N. Baccu¹, and A. Cappio-Borlino¹, ¹Università di Sassari, Sassari, Italia, ²Italian Association of Simmental Cow breeders, Udine, Italia.</td>
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<tr>
<td>11:45 AM</td>
<td>29</td>
<td>Genetic parameters of latent variables related to main traits of lactation curve shape. N. P. P. Macciotta¹, D. Vicario², and A. Cappio-Borlino¹, ¹Università di Sassari, Sassari, Italia, ²Italian Association of Simmental Cow Breeders, Udine, Italia.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>30</td>
<td>Simultaneous estimation of environmental values and genetic parameters in reaction norm model. G. Su*, P. Madsen, M. S. Lund, D. Sorensen, I. R. Korsgaard, and J Jensen, Danish Institute of Agricultural Sciences, Department of Genetics and Biotechnology, Tjele, Denmark.</td>
</tr>
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## Dairy Foods
### Dairy Chemistry

**Chair:** Kayanush Aryana, Louisana State University

**Room 241**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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<tr>
<td>9:45 AM</td>
<td>32</td>
<td>Comparing a gas chromatography/mass spectrometry technique with sensory evaluation in relation to the acceptability of fluid milk. A. A. Glueck-Chaloupka*, C. H. White¹, and W. E. Holmes³, ¹The Kroger Company, Cincinnati, OH, ²Mississippi Agricultural &amp; Forestry Experiment Station, Mississippi State, MS, ³Mississippi State Chemical Lab, Mississippi State, MS.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>33</td>
<td>Novel technique for the differentiation of caseins and whey proteins in confocal scanning laser microscopy. A. Dubert-Ferrandon*, A. Grandison, and K. Niranjan, The University of Reading, Whiteknights, Reading, UK.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>34</td>
<td>Effect of heat and homogenization pressure on activity of xanthine oxidase isolated from buttermilk. C. van den Berg and D. Everett*, University of Otago, Dunedin, New Zealand.</td>
</tr>
</tbody>
</table>
10:30 AM 35 Residues 69-74 of beta-lactoglobulin are responsible for a monoclonal antibody binding to thermal denatured lactoglobulin. C. Y. Song*, M. C. Yang, and S. J. T. Mao, National Chiao Tung University, HsinChu, Taiwan.

10:45 AM 36 Properties of lactoperoxidase isolated from individual cow’s milk by ion-exchange chromatography. A. Grandison*, F. Fonteh, and M. Lewis1, 1The University of Reading, Reading, Berkshire, UK, 2University of Dschang, Dschang, Cameroon.

11:00 AM 37 Evolution and regulation of the casein gene cluster region: A genomics approach. M. Rijnkels*, T. Le, and J. Thomas1, 1Baylor College of Medicine, Houston, TX, Emory University School of Medicine, Atlanta, GA.

11:15 AM 38 Distinguish between native and thermally denatured b-lactoglobulin using a monoclonal antibody as a probe. S. J. T. Mao*, W. L. Chen, M. C. Yang, and W. T. Liu, National Chiao Tung University, Hsinchu, Taiwan.

SYMPOSIUM

Dairy Foods

Extended Shelf Life of Fluid Milk

Chairs: MaryAnne Drake, North Carolina State University and Dave Barbano, Cornell University

Room 242

Time Abstract #
9:30 AM 39 Influence of raw milk quality on fluid milk shelf life. D. M. Barbano*, Y. Ma1, and M. V. Santos2, 1Cornell University, Ithaca, NY, 2Universidade de São Paulo, Pirassununga, SP, Brazil.

10:00 AM 40 Current status of commercial fluid milk quality. K. Boor*, N. Carey, S. Murphy, and R. Zadoks, Cornell University, Ithaca, NY.


11:00 AM 42 Application of microwave processing to extend shelf life of fluid milk. J. Simunovic*, P. Coronel, and D. Clare, North Carolina State University, Raleigh.

11:30 AM 43 Use of microfiltration (MF) to improve fluid milk quality. D. M. Barbano* and M. W. Elwell, Cornell University, Ithaca, NY.

12:00 PM 44 Dairy applications for microfiltration. H. Iversen*, Tetra Pak, Vernon Hills, IL.

Graduate Student Competition

ADSA Dairy Production Graduate Student Paper Competition

Chair: Susan Eicher, USDA-ARS

Room 207

Time Abstract #
9:30 AM 45 Processing barley grain for midlactation dairy cows: Steam-rolling versus grinding. A. Nikkhah*, H. Sadri2, M. Alikhani2, and G. Ghorbani2, 1University of Manitoba, Winnipeg, MB, Canada, 2Isfahan University of technology, Isfahan, Iran.


10:00 AM 47 Increasing time on a high energy diet increases expression of leptin in the mammary gland of prepubertal heifers. L. Davis*, M. Weber Nielsen1, D. Keisler2, L. Chapin1, J. Liesman1, and M. VandeHaar4, 1Michigan State University, East Lansing, 2University of Missouri, Columbia.

10:15 AM 48 Effects of short-term glucagon administration on gluconeogenic enzymes in the liver of mid-lactation dairy cows. E. L. Williams*, S. Rodriguez1, D. C. Beitz2, and S. S. Donkin1, 1Purdue University, West Lafayette, IN, 2Iowa State University, Ames.


**SYMPOSIUM**

**Horse Species**

**Emerging Equestrian Varsity Competition**

Chair: Martha Vogelsang, Texas A&M University

**Room 212**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>51</td>
<td>Integration of academic equine sciences and intercollegiate equestrian programs. G. Potter*, Texas A&amp;M University, College Station.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td></td>
<td>Cooperative Efforts of Athletic and Academic Departments in Establishing Equestrian as a Varsity Sport. Wally Groff, Texas A&amp;M University, College Station.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td></td>
<td>Development of Varsity Equestrian Teams. Greg Williams, Auburn University, AL.</td>
</tr>
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</table>

**SYMPOSIUM**

**Lactation Biology**

**Lactation Persistency**

Chair: Lance Baumgard, The University of Arizona

**Sponsor: EAAP and Monsanto Company**

Symposium meets AA VSB’s RACE requirements for 3 hr CE.

**Room 205**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>52</td>
<td>Albumin, a mammary gland secreting cell keeper. A. Shamay* and Y. Feuermann, Agricultural Research Organization (ARO), the Volcani Center, Institute of Animal Science, Bet Dagan, Israel.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>53</td>
<td>Increased mammary gland oxidative damage and apoptosis during prolonged lactation in the mouse is little affected by overexpression of des(1-3)hIGF-I. D. Hadsell*1,2, D. Torres1,2, and J. George1,2, 1USDA/ARS Children’s Nutrition Research Center, Houston TX, 2Baylor College of Medicine, Houston TX.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>54</td>
<td>Endocrine regulation of mammary function and persistency of lactation. T. B. McFadden*, University of Vermont, Burlington.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>55</td>
<td>Effect of increased milking frequency (4X followed by 2X vs. 3X) in early lactation and its effects on future milk yield. R. Burgos*, L. Odens, L. Baumgard, and M. VanBaale, University of Arizona, Tucson.</td>
</tr>
</tbody>
</table>

**Nonruminant Nutrition**

**Dietary Supplements and Additives**

Chairs: L. Lee Southern, Louisiana State University Agricultural Center and Joe D. Crenshaw, APC, Inc.

**Room 202**

<table>
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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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</table>
11:00 AM 58 Dietary spray-dried plasma and lactating sow feed intake. J. Crenshaw*, J. Mencke‡, R. Boyd‡, J. Campbell¹, B. Allen¹, and L. Russell¹, ¹APC Incorporated, Ankeny, IA, ²The Hanor Company, Franklin, KY.

10:00 AM 59 Effects of Bio-Mos and carbadox on gastrointestinal pH, organ weight and morphology of nursery pigs. J. Miguel* and Pettigrew, University of Illinois, Urbana.

10:15 AM 60 Effect of mannan-oligosaccharides and(or) organic zinc on the intestinal microbiota and immune response of early-weaned pigs. M. Castillo*, C. Rodríguez, S. M. Martín-Peláez¹, J. Roquez², J. A. Taylor-Pickard¹, J. F. Pérez³, and S. M. Martín-Orúe¹, ¹Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, ²Probasca, Barcelona, Spain, ³Alltech Biotechnology Centre, Summerhill, Summerhill, Ireland.

10:30 AM 61 Effect on nursery pig growth performance from phosphorylated mannan oligosaccharide supplementation to the sow and to pigs during the nursery phase. C. L. Bradley*, M. E. Davis¹, D. C. Brown¹, C. V. Maxwell¹, E. A. Halbrook¹, Z. B. Johnson¹, R. Dvorak², and B. Lawrence³, ¹University of Arkansas, Fayetteville, ²Alltech, Inc., Nicholasville, KY, ³Hubbard Feeds, Inc., Mankato, MN.


11:00 AM 63 Effect of an E. coli F4 (K88) probiotic, liquid acidifier, dry acidifier, or plant extract on early-weaned pigs challenged with enterotoxigenic E. coli F4 (K88). Y. Han*, M. Vignola², and J. Brennan¹, ¹Maple Leaf Foods Agresearch, Guelph, Ontario, Canada, ²Shur-Gain Quebec, St-Romuald, Quebec, Canada.

11:15 AM 64 Effect of L-carnitine on growth performance in segregated early weaned pigs. D. C. Brown*, M. E. Davis¹, C. V. Maxwell¹, E. A. Halbrook¹, Z. B. Johnson¹, and J. Woodworth³, ¹University of Arkansas, Fayetteville, ²Lonza, Fairlawn, NJ.

11:30 AM 65 Effect of supplemental chromium level and source on fasting plasma nonesterified fatty acid concentrations in growing pigs. E. B. Kegley*¹ and T. M. Fakler¹, ¹University of Arkansas, Fayetteville, ²Zinpro Corp., Eden Prairie, MN.

11:45 AM 66 The effects of feeding inorganic zinc or zinc amino acid complex to sows during gestation and lactation, and the subsequent effects on the progeny during lactation and the nursery period. R. Payne¹, T. Bidner¹, L. Southern*, and T. Fakler¹, ¹Louisiana State University Agricultural Center, Baton Rouge, ²Zinpro Corp., Eden Prairie, MN.

12:00 PM 67 Effect of fat level in late finishing barrows fed ractopamine HCl (Paylean®). A. M. Gaines*, B. W. Ratliff⁴, P. Srichana¹, G. L. Allee¹, and J. L. Usry², ¹University of Missouri, Columbia, ²Ajinomoto Heartland LLC, Chicago, IL.


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**Physiology and Endocrinology I**

**Chair: Graham C. Lamb, University of Minnesota, Grand Rapids**

**Ballroom B**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>69</td>
</tr>
<tr>
<td>A comparison of progestin-based protocols to synchronize ovulation prior to fixed-time artificial insemination in postpartum beef cows. D. J. Schaefer*, J. F. Bader¹, J. P. Meyer¹, J. K. Haden², M. R. Ellersieck¹, M. F. Smith¹, and D. J. Patterson¹, ¹University of Missouri, Columbia, ²MFA Inc., Columbia, MO.</td>
<td></td>
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</table>

| 9:45 AM       | 70         |
| Resynchronizing estrus with a progesterone (P4) insert and estradiol cypionate (ECP) in cows of unknown pregnancy status. K. N. Galvao*, R. L. A. Cerri¹, H. M. Rutigliano¹, R. G. S. Bruno¹, R. C. Chebel¹,², and J. E. P. Santos¹, ¹University of California, Tulare, ²University of Idaho, Caldwell. |

| 10:00 AM      | 71         |
| Synchronization of ovulation for timed AI (TAI) in Bos indicus-influenced cattle using CIDR-based, GnRH-prostaglandin combinations I: ovarian follicular, luteal and hormonal events associated with suboptimal reproductive outcomes. J. Saldarriaga*, D. Cooper¹, J. Cartmill¹, R. Stanko², and G. Williams¹, ¹Texas A&M University, Beeville, ²Texas A&M University, Kingsville. |

<p>| 10:15 AM      | 72         |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>10:00 AM</td>
<td>80</td>
<td>A review of the 2001 dairy cattle NRC protein and amino acid model - A European perspective.</td>
<td>P. Huhtanen*, MTT Agrifood Research, Finland.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>81</td>
<td>Use of NRC (2001) to examine the relationships between predicted supplies of metabolizable protein (MP), MP-methionine (MP-Met), and MP-lysine (MP-Lys) and actual yields of milk and milk protein.</td>
<td>R. Ordway*, M. J. Stevenson 2, R. A. Patton 3, N. E. Lobos 4, and J. J. Olmos Colmenero 4, 1 University of Wisconsin, Madison, 2US Dairy Forage Research Center, Madison, WI.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>82</td>
<td>Effect of lysine (Lys) supply on its utilization by the mammary gland (MG).</td>
<td>H. Lapiere*, L. Doepel2, E. Milne1, and G. E. Lobley1, Agriculture and Agri-Food Canada, Lennoxville, Quebec, Canada. 3University of Alberta, Edmonton, Alberta, Canada, 4Rowett Research Institute, Aberdeen, UK.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>85</td>
<td>Determination of ruminal escape and metabolizable methionine values of 2-hydroxy-4 (methylthio) butanoic acid (HMB) as a function of dose and mode of supply.</td>
<td>J. C. Robert*, C. Richard, and B. Graulet, Adisseo France SAS, Antony, France.</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>86</td>
<td>Effects of soy gum application to soybean meal on protein degradation by ruminal microbes and intestinal protein digestion.</td>
<td>M. D. Stern*, T. K. Miller-Webster*, W. H. Hoover1, M. Ruiz Moreno1, and C. A. Macgregor2. 1University of Minnesota, St. Paul, 2Rumen Fermentation Profiling Laboratory, West Virginia University, Morgantown, WV, 3Grain States Soya, Inc., West Point, NE.</td>
</tr>
<tr>
<td>12:30 PM</td>
<td>87</td>
<td>Effect of abomasal pectin infusion on digestion and nitrogen balance in dairy cows.</td>
<td>T. F. Gressley* and L. E. Armentano, University of Wisconsin, Madison.</td>
</tr>
</tbody>
</table>

Effects of daily variation in dietary protein concentration on milk production in mid-lactation cows. N. R. St-Pierre* and D. Gerstner, The Ohio State University, Columbus.

Relationship between milk urea nitrogen (MUN) and days open in early lactation dairy cows. M. Nowrozi*, M. Raisianzadeh, and M. Abazari, Agriculture and Natural Resources Research Center of Khorasan, IRAN, Mashhad, Khorasan, IRAN.

SYMPOSIUM

Swine Species

Effects of Maternal Nutrition on Offspring Performance
Chair: Hans H. Stein, South Dakota State University
Sponsor: Archer Daniels Midland, EAAP, and Hypor
Room 200

The need for proper selection of production animals. Tim Safranski, University of Missouri.

The biological basis for prenatal programming of postnatal performance. George Foxcroft, University of Alberta, Edmonton, Alberta, Canada.

Consequences of birth weight for postnatal growth performance. C. Rehfeldt*, Research Institute for the Biology of Farm Animals, Dummerstorf, Germany.

Segregated parity management of sows to improve offspring performance. Dean Boyd, Hanor Inc., Kentucky.

Breeding and Genetics

Dairy Crossbreeding
Chair: Daryl Nash, Ferrum College
Room 244

Improving lowly heritable traits in dairy cattle by crossbreeding. T. Steine* and A. G. Larsgard, Geno Breeding and A.I. Association, Hamar, N-3236, Norway.

Comparison of the production, liveweight, feed intake, health and reproductive performance of Holstein and Jersey Holstein crossbred cows in Australian pasture-based herds. M. Pyman*, M. Auldist, C. Grainger, and K. Macmillan, University of Melbourne, Werribee, Victoria, Australia.

Birth weights, mortality, and dystocia in Holsteins, Jerseys, and their reciprocal crosses in the Virginia Tech and Kentucky crossbreeding project. B. Cassell*, A. McAllister, R. Nebel, S. Franklin, K. Getzewich, J. Ware, J. Cornwell, and R. Pearson, Virginia Polytechnic Institute and State University, Blacksburg, University of Kentucky, Lexington.


Crossbreds of Normande-Holstein, Montbeliarde-Holstein, and Scandinavian Red-Holstein compared to pure Holsteins for days to first breeding, first service conception rate, days open, and survival. B. J. Heins*, L. B. Hansen, and A. J. Seykora, University of Minnesota, St. Paul.
Ruminant Nutrition
Dairy - Grazing
Chair: Steve Washburn, North Carolina State University
Room 243

Time  Abstract #  Title
10:00 AM  98  Genotype and feed effects on BW and BCS profiles for grazing dairy cows. J. R. Roche*, D. P. Berry, and E. S. Kolver, 1Dexcel, Hamilton, New Zealand, 2Teagasc Moorepark, Ireland.
10:30 AM  100  Genotype and feed effects on milk production profiles for grazing dairy cows. J. R. Roche*, D. P. Berry, and E. S. Kolver, 1Dexcel, Hamilton, New Zealand, 2Teagasc Moorepark, Ireland.
10:45 AM  101  Extending lactation in pastoral systems using divergent Holstein-Friesian genotypes and levels of nutrition. E. S. Kolver* and J. Roche, Dexcel Ltd., Hamilton, New Zealand.
11:00 AM  102  Performance of lactating dairy cows fed varying levels of total mixed rations and pasture. R. Vibart*, V. Fellner, J. Burns, and M. Gumpertz, North Carolina State University, Raleigh.
11:15 AM  103  Acidosis in pasture-fed dairy cows: Risk factors and outcomes. E. Bramley1, I. J. Lean2, N. D. Costa3, and W. J. Fulkerson1, 1University of Sydney, Camden, NSW, Australia, 2Bovine Research Australaisa, Camden, NSW, Australia, 3Murdock University, Murdoch, WA, Australia.
11:30 AM  104  Changes of b-carotene content in plasma of cows following different diets: Influence of pasture and farm location. S. Carpino1, P. Palozza2, A. Valdannini1, and G. Licitra1, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2Cagliari University, Cagliari, Italy, 3C.R.I.T.A. Catania University, Catania, Italy.
11:45 AM  105  Omega-3 and conjugated linoleic acid contents in blood plasma of cows grazing on native pasture plants. S. La Terra*, S. Carpino1, S. Banni2, L. Curdeeddu1, M. Caccamo1, and G. Licitra1, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2Cagliari University, Cagliari, Italy, 3C.R.I.T.A. Catania University, Catania, Italy.
12:00 PM  106  Lipid content and fatty acid composition of grasses sampled on different dates through the first 139 d in 2004. P. Mir1, S. Bittman2, D. Hunt3, T. Entz1, and B. Yip1, 1Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Agassiz, BC, Canada.

ADSA-SAD-Original Research
Chair: Ed Jaster, Cal Poly University
Room 261

Time  Abstract #  Title
11:00 AM  107  On-farm Rota-Coronavirus prevention methods. A. Nelkie*, North Carolina State University, Raleigh.
11:30 AM  109  Prostaglandin-induced luteolysis: Effects of dosage and route of administration in lactating Holstein cows. J. Brinkerhoff* and R. Silcox, Brigham Young University, Provo, UT.
11:45 AM  110  Effect of ground canola seed on milk production and composition, and blood metabolites of lactating Holstein cows. F. M. Lewis*, D. R. Bae, M. S. Laubach, W. L. Keller, D. E. Schimek, and C. S. Park, North Dakota State University, Fargo.
12:00 PM  111  Case study of prevention and therapy strategies in a high somatic cell count herd. L. Schultz* and L. Timms, Iowa State University, Ames.
**Graduate Student Competition**

**Southern ADSA Division Paper Competition**

Chair: Donna M. Amaral-Phillips, University of Kentucky

Room 207

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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>11:15 AM</td>
<td>112</td>
<td>Use of formaldehyde-treated protein capsules as a means to protect conjugated linoleic acid from ruminal biohydrogenation.</td>
<td>P. J. Myers*, S. E. Ellis, K. J. L. Burg, and T. C. Jenkins, Clemson University, Clemson, SC.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>114</td>
<td>Evaluation of immunological differences among Jersey, Holstein, and crossbred calves.</td>
<td>J. V. Ware*1, S. T. Franklin1, A. J. McAllister1, J. A. Jackson1, K. I. Meek1, and B. G. Cassell1, University of Kentucky, Lexington, University of Georgia, Athens.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>115</td>
<td>Effect of supplemental energy source on the performance of lactating dairy cows fed diets based on sorghum and ryegrass silage.</td>
<td>J. Boyd* and J. Bernard, University of Georgia, Athens.</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>116</td>
<td>Effects of starch sources on nitrogen capture in dairy cows on pasture.</td>
<td>A. M. Gehman*, J. A. Bertrand, T. C. Jenkins, and B. W. Pinkerton, Clemson University, Clemson, SC.</td>
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**Graduate Student Competition**

**ADSA/ASAS Northeast Paper Competition**

Chair: Thomas G. Hartsock, University of Maryland

Room 211

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<th>Time</th>
<th>Abstract #</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>11:00 AM</td>
<td>117</td>
<td>The effects of damaging ears of corn in the field and the use of potassium sorbate on the fermentation, aerobic stability, and production of mycotoxins in corn silage.</td>
<td>R. S. Teller*1, R. J. Schmidt1, B. M. Moulder1, C. N. Mulrooney1, V. R. Veenema1, L. Kung, Jr.1, and L. S. Whitlow1, University of Delaware, Newark, North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>118</td>
<td>Effects of energy status, breed and plasma metabolites on new intramammary infections in periparturient Holstein and Jersey dairy cows during the transition period.</td>
<td>P. Rezamand*1, S. M. Andrew1, K. M. Moyes2, and R. M. Clark1, University of Connecticut, Storrs, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>119</td>
<td>Effect of ruminally degraded protein source on production performance in Holstein cows.</td>
<td>A. B. Peterson*1, R. L. Baldwin, VF1, and R. A. Kohn1, University of Maryland, College Park, USDA-ARS, Beltsville, MD.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>121</td>
<td>Lactoferin addition to an intensified milk replacer feeding regimen.</td>
<td>K. Cowles*, R. White, N. Whitehouse, and P. Erickson, University of New Hampshire, Durham.</td>
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**ADSA-SAD-Dairy Production**

Chair: Ed Jaster, Cal Poly University

Room 261

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<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>122</td>
<td>Shorter dry periods: A different approach to dry cow management.</td>
<td>C. Lilly*, Virginia Polytechnic Institute and State University, Blacksburg.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>123</td>
<td>Manure as Energy: Converting an abundant waste product to a beneficial energy source.</td>
<td>A. Bush*, University of Kentucky, Lexington.</td>
</tr>
</tbody>
</table>
2:30 PM 124 Accelerated calf growth: You make the call. T. Bridges* and C. Williams, Louisiana State University, Baton Rouge.

2:45 PM 125 Prevention and control of the Bovine Viral Diarrhea virus. J. Sackmann*, Washington State University, Pullman.

3:00 PM 126 The effects of heat stress on reproductive efficiency in dairy cattle. L. Buttes*, University of Wisconsin, River Falls.

3:15 PM 127 Management considerations with shortened dry periods. D. Maulfair*, Penn State University, University Park.

3:30 PM 128 National Animal Identification: What is its future? M. Aguiar* and E. Jaster, California Polytechnic State University, San Luis Obispo.

Breeding and Genetics
Sheep, Swine, and Dog Breeding

Chair: David Casey, Pig Improvement Company

Room 212

Time Abstract #
2:00 PM 129 Assessing connectedness in across-flock genetic evaluations. R. M. Lewis*¹,³, R. E. Crump², L. A. Kuehn¹, G. Simm¹, and R. Thompson³, ¹Virginia Polytechnic Institute and State University, Blacksburg, ²AGBU, University of New England, Armidale, Australia, ³Scottish Agricultural College, Edinburgh, UK, ⁴IACR-Rothamsted, Harpenden, UK.

2:15 PM 130 Evaluating connectedness over time in a group breeding scheme using a sheep paradigm. L. A. Kuehn*, R. M. Lewis¹, and G. J. Nieuwhof², ¹Virginia Polytechnic Institute and State University, Blacksburg, ²Meat and Livestock Commission, Milton Keynes, UK.

2:30 PM 131 Evaluating parameters affecting on economical attributes of kordian sheep in order to estimating of genetic trend in shirvan station. S. A. Shiri*, Agricultural & Natural Resources Research Center of Khorasan, Mashhad, Iran.

2:45 PM 132 Genetic (co)variance components for ewe productivity traits in Katahdin sheep. H. B. Vanimisetti*, D. R. Notter, and L. A. Kuehn, Virginia Polytechnic Institute and State University, Blacksburg.

3:00 PM 133 Break

3:15 PM 133 Genetic factors influencing body weights and condition scores in adult Targhee ewes. R. C. Borg*, D. R. Notter¹, R. W. Kott², and L. A. Kuehn¹, ¹Virginia Polytechnic Institute and State University, Blacksburg, ²Montana State University, Bozeman.


3:45 PM 135 Detection of imprinted quantitative trait loci for growth, carcass, and meat quality traits in swine. N. Vukasinovic*, A. Clutter¹, F. Du¹, M. Lohuis¹, L. Messer¹, J. Bemnewitz², N. Borchers², N. Reinsch², G. Otto², K. Sanders³, and E. Kalm², ¹Animal AG, Monsanto, St. Louis, MO, ²University of Kiel, Kiel, Germany.

4:00 PM 136 Discrete time survival analysis of longevity in a colony of dog guides. J. Cole*, B. Southey², D. Franke³, and E. Leighton¹, ¹Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, ²University of Illinois, Urbana, ³Louisiana State University, Baton Rouge, ⁴Seeing Eye, Inc., Morristown, NJ.
### Breeding and Genetics

**Statistical Methods II**

**Chair:** Jack Dekkers, Iowa State University

**Room 203**

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<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>137</td>
<td>Bayesian inferences on major genes affecting polygenic binary traits: comparison of models and application to osteochondral diseases in pigs. H. N. Kadarmideen*1, L. L. G. Janss2, Swiss Federal Institute of Technology, Zurich, Switzerland, Wageningen University and Research Centre, Lelystad, The Netherlands.</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>140</td>
<td>Experimental design for estimation of breed, heterosis, and QTL effects in cattle. R. M. Thallman*, L. V. Cundiff, and G. L. Bennett, USDA-ARS-USMARC, Clay Center, NE.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>141</td>
<td>Hierarchical Bayesian model for analysis of gene expression data. R. Rekaya* and W. Zhang, University of Georgia, Athens.</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>4:00 PM</td>
<td>144</td>
<td>Analysis of binary responses in presence of extreme case problem classes. R. Rekaya, R. L. Sapp*, and J. K. Bertrand, The University of Georgia, Athens.</td>
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<td>4:15 PM</td>
<td>145</td>
<td>Investigation into a regression model for crossbred performance. T. Lewis*1, J. Woolliams2, and J. Wiseman1, University of Nottingham, Loughborough, Leicestershire, UK, Roslin Institute, Roslin, Midlothian, UK.</td>
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<td>4:30 PM</td>
<td>146</td>
<td>Blup with SAS. Z. Zhang*, Cornell University, Ithaca, NY.</td>
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### Dairy Foods

**Dairy Products and Dairy Processing**

**Chair:** Charles Boeneke, Louisana State University

**Room 241**

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<td>2:00 PM</td>
<td>147</td>
<td>Development of cold resistant strains of bifidobacteria by natural selection. S. Ibrahim*, North Carolina Agricultural and Technical University, Greensboro.</td>
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<tr>
<td>2:15 PM</td>
<td>148</td>
<td>A unique Japanese functional yogurt containing specific egg yolk immunoglobulin to suppress Helicobacter pylori in humans. A. M. Abdou*, K. Horie1, N. Horie1, Y. Kodama1, Y. Hoshikawa1, T. Yamane1, A. Hansen2, and M. Kim1, Pharma Foods International Company, Ltd., Kyoto, Japan, Ghen Corporation, Gifu-City, Japan, Glico Dairy Products Company, Ltd., Tokyo, Japan, Matsushita Memorial Hospital, Osaka, Japan.</td>
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<tr>
<td>2:30 PM</td>
<td>149</td>
<td>Evaluation of process cheese food functionality using various melt-tests. A. C. Biswas*1, R. Kapoor2, L. E. Metzger2, and K. Muthukumarrapan1, South Dakota State University, Brookings, University of Minnesota, St. Paul.</td>
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<tr>
<td>2:45 PM</td>
<td>150</td>
<td>Influence of brine concentration, brine temperature, and presalting on salt uptake by Ragusano cheese. C. Melilli1, D. M. Barbano2, M. Caccamo1, G. Licitra1, and S. Carpin1, CORFiLaC, Ragusa, Italy, Cornell University, Ithaca, NY, D.A.C.P.A., Catania University, Catania, Italy.</td>
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<tr>
<td>3:00 PM</td>
<td>151</td>
<td>Flow cytometry enumeration of individual bacteria in bulk tank raw milk produced in Minas Gerais, Brazil. C. Fonseca, L. Fonseca*, W. Santos, and R. Rodrigues, Laboratory of Milk Quality Analysis-DTIPOA, School of Veterinary Medicine, UFMG/FUNDEP, Belo Horizonte-MG-Brazil.</td>
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3:45 PM 153 Tangential microfiltration of skim milk for removal of Bacillus anthracis spores. N. Datta1, P. Tomasula*, J. Call2, and J. Luchansky1, 1University of Queensland, Australia, 2United States Department of Agriculture, Wyndmoor, PA.

4:00 PM 154 Somatic cell counts and composition of bulk tank raw milk produced in Minas Gerais, Brazil. C. Fonseca, L. Fonseca*, W. Santos, and R. Rodrigues, Laboratory of Milk Quality Analysis-DTIPOA, School of Veterinary Medicine, UFMG/FUNDEP, Belo Horizonte-MG-Brazil.


**SYMPOSIUM**

**Dairy Foods**

**Forum on Cheese Ripening**

Chair: W. James Harper, The Ohio State University

**Room 242**

**Time** | **Abstract #**
--- | ---
156 | Combined abstract for forum on cheese ripening symposium presentations. W. J. Harper*, M. Johnson1, J. Broadbent1, J. Lucey2, and M. Drake3, 1The Ohio State University, Columbus, 2University of Wisconsin, Madison., 3Utah State University, Logan.

3:30 PM | Cheese Ripening - An Historical Perspective. W. J. Harper, The Ohio State University, Columbus.


4:30 PM | Microbiology. J. R. Broadbent, Utah State University, Logan.

4:45 PM | Chemistry/Biochemistry. J. Lucey, University of Wisconsin, Madison.

5:00 PM | Panel Discussion with Audience Participation.

**Graduate Student Competition**

**National ADSA Dairy Foods**

Chair: David W. Everett, University of Otago, New Zealand

**Room 243**

**Time** | **Abstract #**
--- | ---

2:15 PM | Flavor profiles of full fat, reduced fat and cheese fat made from aged Cheddar with the fat removed using a novel process. M. Carunchia Whetstine*, M. Drake1, B. Nelson2, and D. Barbano3, 1North Carolina State University, Raleigh, 2Cornell University, Ithaca, NY.

2:30 PM | Development and application of an image analysis method to quantify calcium lactate crystals on cheddar cheese. P. Rajbhandari* and P. Kindstedt, University of Vermont, Burlington.


3:00 PM | Effect of calcium and moisture on rheological and melting properties of Mozzarella. C. Udayarajan*, D. S. Horne2, and J. Lucey1, 1University of Wisconsin, Madison, 2Charles Food Research, Ayr, Scotland.

3:15 PM | Variations in the trans and CLA content of Ontario milk fat. H. Thomsen*, M. Hernandez2, A. Hill1, and J. Kramer2, 1University of Guelph, Guelph, Ontario, Canada, 2Agriculture and Agri-Food Canada, Food Research Program, Guelph, Ontario, Canada.
# Growth and Development

## Growth Promoters and Growth Measures

**Chair: Hugh Chester-Jones, University of Minnesota**

**Room 200**

| Time       | Abstract # | Title                                                                 | Authors                                                                                       | Institutions                                                                 |
|------------|------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 2:00 PM    | 163        | Dose titration of Optaflexx® (ractopamine HCl) evaluating the effects on growth performance in feedlot steers. | A. Schroeder*, D. Hancock, D. Mowrey, S. Laudert, G. Vogel, and D. Polser                   | Elanco Animal Health, Greenfield, IN.                                           |
| 2:15 PM    | 164        | Dose titration of Optaflexx® (ractopamine HCl) evaluating the effects on standard carcass characteristics in feedlot steers. | A. Schroeder*, D. Hancock, D. Mowrey, S. Laudert, G. Vogel, and D. Polser                   | Elanco Animal Health, Greenfield, IN.                                           |
| 2:30 PM    | 165        | Dose titration of Optaflexx® (ractopamine HCl) evaluating the effects on composition of carcass soft tissues in feedlot steers. | A. Schroeder, D. Hancock, D. Mowrey*, S. Laudert, G. Vogel, and D. Polser                  | Elanco Animal Health, Greenfield, IN.                                           |
| 3:00 PM    | 167        | Effects of ractopamine fed to finishing steers, II - summary of six studies - carcass traits. | S. Laudert, G. Vogel, A. Schroeder, W. Platter*, and M. Van Koevering                     | Elanco Animal Health, Greenfield, IN.                                           |
| 3:15 PM    | 168        | Effect of ractopamine on growth performance of calf-fed Holstein steers. | G. Vogel*1, A. Schroeder1, W. Platter1, M. Van Koevering1, A. Aguilar1, S. Laudert1, J. Beckett1, J. Droulliard1, G. Duff1, and J. Elam1 | Elanco Animal Health, Greenfield, IN. California Polytechnic State University, San Luis Obispo, Kansas State University, Manhattan, University of Arizona, Tucson, Agricultural Technology, Santa Ynez, CA. |
| 3:30 PM    | 169        | Effect of ractopamine on carcass characteristics of calf-fed Holstein steers. | G. Vogel*1, A. Schroeder1, W. Platter1, M. Van Koevering1, A. Aguilar1, S. Laudert1, J. Beckett1, J. Droulliard1, G. Duff1, and J. Elam1 | Elanco Animal Health, Greenfield, IN. California Polytechnic State University, San Luis Obispo, Kansas State University, Manhattan, University of Arizona, Tucson, Agricultural Technology, Santa Ynez, CA. |
| 3:45 PM    | 170        | Dose titration of Optaflexx® (ractopamine HCl) evaluating the effects on growth performance in feedlot heifers. | A. Schroeder*, D. Hancock, D. Mowrey, S. Laudert, G. Vogel, and D. Polser                   | Elanco Animal Health, Greenfield, IN.                                           |
| 4:00 PM    | 171        | Dose titration of Optaflexx® (ractopamine HCl) evaluating the effects on standard carcass characteristics in feedlot heifers. | A. Schroeder*, D. Hancock, D. Mowrey, S. Laudert, G. Vogel, and D. Polser                   | Elanco Animal Health, Greenfield, IN.                                           |
| 4:15 PM    | 172        | Dose titration of Optaflexx® (ractopamine HCl) evaluating the effects on composition of carcass soft tissues in feedlot heifers. | A. Schroeder, D. Hancock, D. Mowrey, S. Laudert, G. Vogel, and D. Polser*                  | Elanco Animal Health, Greenfield, IN.                                           |
SYMPOSIUM

Meat Science and Muscle Biology

Novel Technologies in Muscle Biology/Fresh Meat Research

Chair: Elisabeth Huff-Lonergan, Iowa State University

Sponsors: Elanco Animal Health and USDA-NRI

Ballroom A

Time        Abstract #     Title and Details
2:00 PM     Introduction
3:55 PM     Break
4:10 PM     177             Use of transgenic mouse models to understand proteolytic degradation systems in muscle. M. Spencer*, University of California, Los Angeles.
5:05 PM     178             Application of proteomics in meat research. R. Lametsch*, The Royal Veterinary and Agricultural University, Department of Food Science, Frederiksberg, Denmark.

Nonruminant Nutrition

Weanling Pig Nutrition and Methodology

Chairs: John F. Patience, Prairie Swine Centre Inc., and Douglas R. Cook, Akey

Room 202

Time        Abstract #     Title and Details
2:00 PM     179             Fermented soybean meal as a protein source in nursery diets replacing dried skim milk. S. W. Kim*, R. D. Mateo, and F. Ji, Texas Tech University, Lubbock, TX.
2:30 PM     181             Growth performance, gut health and digestive function in newly weaned pigs fed fermentable proteins and carbohydrates. E. A. Jeaurond* and C. F. M. deLange, University of Guelph, Guelph, Ontario, Canada.
2:45 PM     182             The interaction of net energy concentration and feeding level in weaned pigs. I. Growth, nutrient digestibility and energy utilization. T. F. Oresanya1,2, A. D. Beaulieu1, and J. F. Patience*, 1Prairie Swine Centre Inc., Saskatoon, Saskatchewan, Canada, 2University of Saskatchewan, Saskatoon, Saskatchewan, Canada.
3:00 PM     183             The interaction of net energy concentration and feeding level in weaned pigs. II. Body composition, nutrient deposition rates and plasma IGF-I concentration. T. F. Oresanya1,2, A. D. Beaulieu1, and J. F. Patience*, 1Prairie Swine Centre Inc., Saskatoon, Saskatchewan, Canada, 2University of Saskatchewan, Saskatoon, Saskatchewan, Canada.
3:45 PM     186             Effect of oral N-carbamylglutamate (NCG) supplementation on growth and tissue protein synthesis in piglets. J. Frank*, J. Escobar1, A. Suryawan1, C. Liu1, H. Nguyen1, T. Davis1, and G. Wu2, 1USDA/ARS CNRC, Baylor College of Medicine, Houston, TX, 2Texas A&M University, College Station.
4:00 PM     187             Evaluation of culture independent quantitative real-time PCR of S. bovis in weaning pig. H. B. Lee*, C. S. Kong, M. S. Yun, L. G. Piao, and Y. Y. Kim, Seoul National University, Seoul, South Korea.
Physiology and Endocrinology II

Chair: Brian Crooker, University of Minnesota, St. Paul

Room 205

Time Abstract # Title and Authors

2:00 PM 192 Differential expression of superoxide dismutases (SODs) in bovine corpus luteum during estrous cycle and pregnancy. R. K. Putlum*, C. N. Lee, and Y. S. Kim, University of Hawaii at Manoa, Honolulu.

2:15 PM 193 Effects of changes in systemic progesterone in the first few days after ovulation on uterine retinol binding protein and folate binding protein gene expression in cattle. R. McNeil1,2, R. Fitzpatrick1, J. Sreenan1, and D. Morris1,2, Teagasc, Research Centre, Athenry, Co. Galway, Ireland, 1National Diagnostics Centre, National University of Ireland Galway, Galway, Ireland.

2:30 PM 194 Withdrawn by Author.


3:00 PM 196 Mammary gene expression profiling in cows fed a milk fat-depressing diet using a bovine 13,000 oligonucleotide microarray. J. J. Loor*, L. Piperova2, R. E. Everts1, S. L. Rodriguez-Zas1, J. K. Drackley1, R. A. Erdman2, and H. A. Lewin1, University of Illinois, Urbana, 2University of Maryland, College Park.

3:15 PM Break


3:45 PM 199 The influence of parity, acclimatization to season, and recombinant bovine somatotropin (rbST) on diurnal patterns of prolactin and growth hormone in Holsteins exposed to heat stress. B. C. Pollard*, M. D. Estheimer1, M. E. Dwyer1, P. C. Gentry1, W. J. Weber1, E. Lemke2, L. H. Baumgard3, D. A. Henderson1, B. A. Crooker2, and R. J. Collier1, University of Arizona, Tucson, 2University of Minnesota, Saint Paul.

4:00 PM 200 Leaking cows: Physiological and anatomical reasons. M. Rovai*, M. Kollmann, and R. M. Bruckmaier, Techn. Univ. Munich, Germany.


SYMPOSIUM
Production, Management and the Environment
Impact of Culling Rate on Dairy Profitability
Chair: Ellen Jordan, Texas A&M University
Sponsors: Arm & Hammer Animal Nutrition and Elanco Animal Health

Ballroom B

Time Abstract #
2:00 PM Introduction. E. Jordan, Texas A&M University.
2:10 PM 203 Historical examination of culling of dairy cows from herds in the United States. H. D. Norman* and E. Hare, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.
2:55 PM 204 The impact of timing of the culling event on profitability in dairy herds. R. Cady*, Monsanto, St. Louis, MO.
3:25 PM 205 Culling: nomenclature, definitions and some observations. J. Fetrow*, 1 University of Minnesota, St. Paul, 2 University of Wisconsin, Madison, 3 USDA AIPL, Beltsville, MD.
4:25 PM 207 A bankers view on culling. G. Sipiorski*, Citizens State Bank of Loyal, Loyal, WI.
4:55 PM 208 Genetics of longevity and productive life. K. Weigel*, University of Wisconsin, Madison.
5:45 PM Question and Answer Period

SYMPOSIUM
Ruminant Nutrition
Exploring the Boundaries of Efficiency in Lactation: Metabolic Relationships in Supply of Nutrients in Lactating Cows
Chair: Tilak Dhiman, Utah State University
Sponsor: West Central

Room 206

Time Abstract #
2:00 PM 210 Metabolic relationships in supply of nutrients in lactating cows. H. Tyrrell*1 and K. Cummins2, 1USDA/CSREES, Washington, DC, 2Auburn University, Auburn, AL.
2:30 PM 211 Integration of ruminal metabolism in dairy cattle. J. L. Firkins*, 1 A. N. Hristov2, 1 M. B. Hall3, and G. A. Varga4, 1Ohio State University, Columbus, 2University of Idaho, Moscow, 3USDA, Madison, WI, 4Pennsylvania State University, University Park.
3:00 PM 212 Regulation of key metabolic processes in lactation. S. Donkin*, 1 J. Knapp2, 1 M. VandeHaar3, and B. Bequette4, 1Purdue University, West Lafayette, IN, 2University of Vermont, Burlington, 3Michigan State University, East Lansing, 4University of Maryland, College Park.
3:30 PM Break
Nutrient supply for milk production by splanchnic tissues in dairy cows. C. Reynolds*, 1 The Ohio State University, Wooster, 2 University of Maryland, College Park, 3 J.D. Heiskell & Co., Tulare, CA.


**Ruminant Nutrition**

**Beef – Feedstuffs and Predicting Feed Intake**

Chair: Cody Wright, South Dakota State University

**Room 207**

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Feedlot performance of a new distillers byproduct (Dakota Bran) for finishing cattle. V. Bremer1, G. Erickson1, T. Klopfenstein1, M. Gibson1, K. Vander Pol1, and M. Greenquist1, 1 University of Nebraska, Lincoln, 2 Dakota Gold Research Association, Sioux Falls, SD.

Optimal level of corn distillers dried grains in no roughage diet for pre-conditioned calves. J. Williams*, F. Farias, and M. Kerley, University of Missouri, Columbia.

Grazed forage supplementation with dried distillers grains, corn oil, or corn gluten meal. J. MacDonald*, T. Klopfenstein, and G. Erickson, University of Nebraska, Lincoln.

Effect of dried distillers grains plus solubles or sunflower meal on performance and body condition score on beef cows consuming poor-quality forage. H. Doering-Resch*, C. Wright, K. Tjardes, and K. Bruns, South Dakota State University, Brookings.

Predicting forage intake of steers supplemented dried distillers grains while grazing native summer sandhill’s range. S. Morris*, T. Klopfenstein, and D. Adams, University of Nebraska, Lincoln.

A new equation to predict feed intake by Bos indicus cattle. R. Almeida1,2, C. Boin2, P. R. Leme1, R. F. Nardon1, G. F. Alleoni2, G. M. Cruz2, M. M. Alencar2, and D. P. D. Lanna2, 1 UFPR & PUCPR, Brazil, 2 ESALQ/USP, Brazil, 3 FZE/A/USP, Brazil, 4 IZ Nova Odessa, Brazil, 5 Embrapa São Carlos, Brazil.

Use of chromic oxide and alkane controlled release capsules to estimate intake and digestibility by beef steers. I. Lopez-Guerrero*, J. Fontenot, and G. Scaglia, Virginia Polytechnic Institute and State University, Blacksburg.

The effect of silage microbial inoculant with and without additional preservatives on the aerobic stability of maize silage. S. Hall1, P. Moscardo Morales1, J. K. Margerison*, D. Wilde2, P. Light2, M. Smith2, and N. Adams2, 1 University of Plymouth, Plymouth, Devon, UK, 2 Alltech (UK) Ltd, Stamford, Lincs, UK.

**SYMPOSIUM**

**Sheep Species**

**Management of Gastrointestinal Nematodes in Sheep**

Chair: Joan Burke, USDA, Agricultural Research Service

Sponsor: National Sheep Industry Improvement Center

**Room 211**

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Epidemiology of sheep gastrointestinal nematodes in the U.S. R. Kaplan*, University of Georgia, Athens.

Immunological aspects of nematode parasite control. J. Miller*1 and D. Horohov2, 1 Louisiana State University, Baton Rouge, 2 University of Kentucky, Lexington.

Use of QTL to determine parasite resistance in sheep. N. Cockett*, S. Bishop2, G. Davies2, T. Hadfield1, S. Eng1, and J. Miller3, 1 Utah State University, Logan, UT, 2 Roslin Institute, Midlothian, UK, 3 Louisiana State University, Baton Rouge.
The effects of forages/plants on Haemonchus contortus infection. T. Terrill*, Fort Valley State University, Fort Valley, GA.

Biological control of nematode parasites in sheep. M. Larsen*, Danish Center for Experimental Parasitology, The Royal Veterinary and Agricultural University, Frederiksberg C, Denmark.

Discussion

ADSA-SAD-Dairy Foods
Chair: Ed Jaster, Cal Poly University
Room 261

Time Abstract #
4:00 PM 228 Tres Al Dia. J. Bechtel*, Penn State University, University Park.
4:15 PM 229 Consuming three to four servings of dairy products a day may help end the plague of obesity. D. Cotterill*, University of Kentucky, Lexington.
4:30 PM 230 The power of fortification. B. Lyons* and C. Boeneke, Louisiana State University, Baton Rouge.
4:45 PM 231 Food pyramid’s dairy group minimum level rises to three servings: Two doesn’t cut it. B. House*, Virginia Polytechnic Institute and State University, Blacksburg.

Tuesday, July 26

POSTER PRESENTATIONS

Animal Behavior and Well-being
Behavior, Health and Nutrition
Exhibit Hall A

Abstract #
T1 Ingestive behavior of Holstein steers fed with different particle sizes of Tifton 85 hay. E. S. Pereira*, A. M. V. Arruda, and I. Y. Mizubuti, 1 Universidade Estadual do Oeste do Parana, Marechal Candido Rondon, Parana, Brasil, 2 Universidade Estadual de Londrina, Universidade Estadual de Londrina, Parana, Brasil.

T2 Relationship between feeding behavior, morbidity and vaccination in feedlot cattle. K. S. Schwartzkopf-Genswein*, M. A. Shah, T. A. McAllister, B. M. A. Genswein, M. Streeter, M. Branine, and S. Swingle, 1 Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2 Alpharma Inc., Delaware, 3 Cactus Research Ltd., Amarillo, TX.


Animal Behavior and Well-being
Exhibit Hall A

T5 Comparison of ethograms between penned and ranged young beef cattle. K. Uetake*, T. Ishiwata, R. J. Kilgour, Y. Eguchi, and T. Tanaka, 1 Azabu University, Sagamihara, Kanagawa, Japan, 2 Agricultural Research Centre, NSW Agriculture, Trangie, NSW, Australia.

T6 Choice of attractive conditions by beef cattle in a Y-maze following release from restraint: effects of sheep. T. Ishiwata*, K. Uetake, R. J. Kilgour, Y. Eguchi, and T. Tanaka, 1 Azabu University, Sagamihara, Kanagawa, Japan, 2 Agricultural Research Centre, NSW Agriculture, Trangie, NSW, Australia.
T7 Effect of tagging site in chicks on broiler performance, pecking behavior, and tag retention. J. E. Wohlt*, D. B. Imwalle1, L. S. Katz1, and E. W. Zirkle2, 1Rutgers University, New Brunswick, NJ, 2Zirkle Animal Health LLC, Fairton, NJ.

T8 Determination of piglets’ preferences for drinker types at two weaning ages. S. Torrey* and T. Widowski, University of Guelph, Guelph, ON, Canada.

T9 Effects of intermittent lighting on resting behavior by newly weaned piglets. S. T. Millman*, K. C. Sheppard, M. Madden, and A. E. Valliant, University of Guelph, Guelph, ON, Canada.

Animal Health II
Exhibit Hall A

Abstract #

T10 Continuous measurement of reticular and ruminal pH in dairy cows using a wireless pH system. K. M. Krause*, G. R. Oetzel1, D. Kohn2, D. Kuhn3, and D. Frost4, 1University of Wisconsin, Madison, 2DK2Solutions, LLC, Cave Creek, AZ.

T11 Correlation among ruminal pH and short chain fatty acids in dairy cows affected by Subacute Rumen Acidosis (SARA). M. Morgante*, C. Stelletta1, M. Giansella1, P. Berzaghi2, M. Badan4, A. Lotto5, and I. Andriighetto6, 1Dipartimento di Scienze Cliniche Veterinarie, Legnaro (PD), Italy, 2Dipartimento di Scienze Zootecniche, Legnaro (PD), Italy, 3Cortical Extrasoy S.p.A., Legnaro (PD), Italy.

T12 Acid-base status, and the pH of feces, urine, muzzle and uterus in dairy cows affected by Subacute Rumen Acidosis (SARA). C. Stelletta1, M. Badan4, M. Morgante*, M. Giansella1, P. Berzaghi2, L. Ravarotto1, A. Lotto5, and I. Andriighetto6, 1Dipartimento di Scienze Cliniche Veterinarie, Legnaro (PD), Italy, 2Dipartimento di Scienze Zootecniche, Legnaro (PD), Italy, 3Istituto Zooprofilattico Sperimentale delle Venezie, Legnaro (PD), Italy.


T14 Prevalence of foot lesions observed in dairy herds in Sicily and North Italy. J. D. Ferguson*, G. Azzaro2, C. Scollo2, R. Petriglieri2, A. Cappa3, and G. Licitra3, 1University of Pennsylvania, Kennett Square, PA, 2CoRFiLaC, Regione Siciliana, Ragusa, Italy, 3D.A.C.P.A. University of Catania, Catania, Italy.

T15 The use of infrared and exercise to non-invasively determine lameness in dairy cattle. D. B. Haley*, C. J. Bench2, A. M. de Passille3,4, P. Lepage1, J. Coplyn3, and A. L. Schaefer4, 1Alberta Agriculture, Food & Rural Development, Red Deer, AB, Canada, 2University of Saskatchewan, Saskatoon, SK, Canada, 3Agriculture & Agri-Food Canada, Lennoxville, QC, Canada, 4Agriculture & Agri-Food Canada, Agassiz, BC, Canada, 5Agriculture & Agri-Food Canada, Lacombe, AB, Canada.

T16 Highly sensitive and specific PCR assay for routine mastitis diagnostics: a comparative study of DNA and bacterial culture based methods. L. Salmikivi, P. Bredbacka, and M. Koskinen*, Finnzymes Diagnostics, Espoo, Finland.


T21 Appearance of insulin resistance in dairy cows following a four-day fast to induce hepatic lipidosis. S. Oikawa*, and G. R. Oetzel1, 1Rakuno Gakuen University, Ebetsu, Japan, 2University of Wisconsin, Madison.
Breeding & Genetics II

Tuesday, July 26, 2005

Poster Sessions

Exhibit Hall A

Abstract #

T22 Fine mapping of a bovine twinning rate QTL. E. S. Kim*1, J. Cruickshank1, M. Dentine1, P. J. Berger1, and B. W. Kirkpatrick1, 1University of Wisconsin, Madison, 2Iowa State University, Ames.

T23 Massive verification and mapping of SNP in cattle using the Illumina® BeadStation 500G genotyping system. C. Li*1, B. Murdoch1, Z. Wang1, S. Mckay1, J. Williams5, R. Stone1, S. Hennig1, and S. Moore1, 1University of Alberta, Edmonton, Alberta, Canada, 2Roslin Institute, Roslin, United Kingdom, 3USDA, ARS, US Meat Animal Research Center, Clay Center, NE, 4Max Planck Institut fuer Molekulare Genetik, Ihnestr, Berlin, Germany.


T25 Precision of estimated QTL positions in half-sib designs using combined haplotype sharing TDT and linkage analysis. D. Kolbendar*1,2 and L. R. Schaeffer1, 1University of Guelph, Guelph, Ontario, Canada, 2University of Tehran, Tehran, Iran.

T26 QTL mapping in complex pedigrees: Focusing on inbreeding and overlapping generations. G. Freyer*1 and N. Vukasinovic2, 1Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany, 2Monsanto Animal AG, St. Louis, MO.


T30 Within breed selection of boars for a gene bank. H. Blackburn*1, C. Welsh1, and T. Stewart2, 1USDA-ARS-NAGP, Ft Collins, CO, 2Purdue University, West Lafayette, IN.

T31 Association of a single nucleotide polymorphism in the leptin receptor gene with carcass and meat quality traits in beef cattle. F. Schenkel*1, S. Miller1, S. Moore2, C. Li2, A. Fu3, S. Lobo3, I. Mandell1, and J. Wilton1, 1University of Guelph, Guelph, Ontario, Canada, 2University of Alberta, Edmonton, Ontario, Canada.


T33 Estimation of genetic parameters for image analysis traits on M. longissimus dorsi and M. trapezius of carcass cross section in Japanese Black steers. T. Osawa1, Y. Motohira1, T. Sewaki1, Y. Hiyama1, K. Kamata1, K. Kuchida1, and T. Kato1, 1Obihiro University of Agriculture and Veterinary Medicine, Obihiro-shi, Hokkaido, Japan, 2Tokachi Federation of Agricultural Cooperative, Obihiro-shi, Hokkaido, Japan.

T34 Beef carcass characteristics and sex hormone levels in the longissimus dorsi and adipose tissue in Hanwoo. Y. H. Choy*1, O. S. H. H. Choi2, O. S. Har1, S. K. Son1, C. W. Lee2, and M. G. Baik1, 1Chonnam University, Kwangju, Republic of Korea, 2National Livestock Research Institute, Siwon, Republic of Korea.


T37 Estimation of genetic parameters in Korean swine populations. S.-H. Oh*1, D. H. Lee2, and M. T. See1, 1North Carolina State University, Raleigh, 2Hankyong National University, Ansung, Kyonggi-Do, Korea.

T38 Selection intensity for yield traits, somatic cell score, and days open when culling dairy cows. H. D. Norman*, J. L. Hutchison, M. T. Kuhn, J. R. Wright, and E. Hare, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

T39 Effects of complex vertebral malformation gene on production and reproduction. M. Kuhn*, J. Hutchison, and C. Van Tassell, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

T40 Allele effect for calf survival estimated for US Holstein Population. H. N. Schlesser*, R. D. Shanks1, P. J. Berger2, and M. H. Healey3, 1University of Illinois, Urbana, 2Iowa State University, Ames.

T41 Applying restricted maximum likelihood and bayesian methods to estimate variance components for milk yield in Brazil. A. Falcão*, E. Martins1, C. Costa1, E. Sakaguti1, and J. Mazuchelli1, 1Pontificial Catholic University, Toledo, PR, Brazil, 2Maringá State University, Maringá, PR, Brazil, 3Brazilian Agricultural Research Corporation, Dairy Cattle, Juiz de Fora, MG, Brazil.
The survey of Sistani cows dairy characteristics in rural production conditions. M. R. Birjandi*, Agricultural and Natural Research Resources Center of Khorasan, Mashhad, Khorasan, Iran.

Crossbreed dairy cattle production in the tropical area in Bolivia. J. A. C. Pereira*, J. S. Romero1, Z. B. Johnson2, D. W. Kellogg2, and A. H. Brown2, 1Gabriel Rene Moreno University, Santa Cruz, Bolivia, 2University of Arkansas, Fayetteville.


Dairy Foods
Dairy Chemistry and Dairy Products
Exhibit Hall A

Abstract #

Rapid determination of Swiss cheese composition by infrared spectroscopy. N. Koca1,2, W. J. Harper2, L. Rodriguez-Saona2, and V. B. Alvarez2, 1Ege University, Izmir, Turkey, 2The Ohio State University, Columbus.

Development of a combined sensor technology for monitoring coagulation and syneresis operations in cheese making. M. Castillo*, F. Payne, and A. Shea, University of Kentucky, Lexington.

Effect of the pH on the proteolysis of Prato cheese during ripening. V. S. Monteiro, R. T. A. N. Risse, and M. L. Gigante*, State University of Campinas, Campinas, SP, Brazil.

Effect of NaCl and pH on curd firmness, residual coagulant activity and chemical composition of soft white cheese. S. Awad*, Alexandria University, Alexandria, Egypt.

The effect of calcium removal from milk on casein micelle stability and structure. H. Grimley*, A. Grandison, and M. Lewis, The University of Reading, Reading, UK.

A review of the models for the structure of the casein micelle. E. Ferrandini1, M. Castillo*2,1, M. B. López1, and J. Laencina1, 1University of Murcia, Murcia, Spain, 2University of Kentucky, Lexington.

Porcine milk proteins throughout lactation and isolation of lactoferrin and immunoglobulin. J. Gunness*, M. Monaco1, B. Lonnerdal1, and S. Donovan1, 1University of Illinois, Urbana, 2University of California, Davis.


A novel two-dimensional gel electrophoresis for studing the cress-linking between b-Lactoglobulin and milk proteins. W. L. Chen*, M. T. Huang, and S. J. T. Mao, National Chiao Tung University, Hsinchu, Taiwan.

Concentration of polar MFGM lipids from buttermilk using supercritical carbon dioxide. A. Spence1,2, J. Yee1, M. Qian2, and R. Jimenez-Flores1, 1California Polytechnic State University, San Luis Obispo, 2Oregon State University, Corvallis.

Quantitative determination of thermally derived volatile compounds in milk using solid-phase microextraction and gas chromatography. P. Vazquez-Landaverde*, G. Velazquez1,2, J. Torres1, and M. Qian1, 1Oregon State University, Corvallis, 2Universidad Autonoma de Tamaulipas, Reynosa, Tamaulipas, Mexico.

Quantification of volatile sulfur compounds in milk by solid-phase microextraction and gas chromatography coupled to pulsed-flame photometric detection. P. Vazquez-Landaverde*, G. Velazquez1,2, J. Torres1, and M. Qian1, 1Oregon State University, Corvallis, 2Universidad Autonoma de Tamaulipas, Reynosa, Tamaulipas, Mexico.


Spectrophotometry and DSC correlate with fatty acid differences in milk fat crystallization behavior. L. Lassonde*, E. DePeters2, and R. Jimenez-Flores1, 1California Polytechnic State University, DPTC, San Luis Obispo, 2University of California, Davis.


The comparison of freeze drying and stirring processes for recycling of crosslinked b-cyclodextrin used for cholesterol removal in milk and cream. S. H. Kim, E. M. Han, J. Ahn, and H. S. Kwak*, Sejong University, Seoul, Korea.

Microencapsulated isoflavone to apply into milk and hypocholesterolemic effect. B. J Jeon, N. C. Kim, E. M. Han, and H. S. Kwak*, Sejong University, Seoul, Korea.


Forages and Pastures
Additives, Nutrient Content, and Quality
Exhibit Hall A


Dietary cation-anion difference of forage grasses as affected by species and chloride fertilization. G. F. Tremblay*, S. Pelletier1,2, H. Brassard3, G. Bélanger1, P. Seguin1, R. Drapeau1, A. Brégard1, R. Michaud1, and G. Allard2, 1Agriculture and Agri-Food Canada, Québec, QC, Canada, 2Université Laval, Québec, QC, Canada, 3McGill University, Montréal, QC, Canada.

Ruminal dry matter, crude protein, neutral detergent fiber and acid detergent fiber degradation parameter kinetics of Vicia villosa, Festuca ovina, and Taeniatherum caput-medusae. P. Shawrang*, A. Nikkhah1, and A. A. Sadeghi2, Tehran University, Karaj, Iran, 1Islamic Azad University, Tehran, Iran.


Alfalfa yield and nutritive quality as influenced by air quality in west-central Alberta. J. Lin*, M. Nosal, R. Muntifering1, and S. Krupa1, 1Auburn University, Auburn, AL, 2University of Calgary, Calgary, Alberta, Canada, 3University of Minnesota, St. Paul.

In situ DM and N disappearance of ryegrass (Lolium multiflorum)-rye (Secale cereale) mixed swards fertilized with different N rates. J. M. B. Vendramini*, L. E. Sollenberger1, J. D. Arthington1, A. Adegbola1, J. C. B. Dubeux, Jr1, S. M. Interrante1, and R. L. Stewart, Jr1, 1University of Florida, Gainesville, 2University of Florida, Ona, 3Virginia Polytechnic Institute and State University, Blacksburg.

Effects of lactic acid bacteria and formic acid on the silage quality of whole crop rice. B. W. Kim*, G. S. Kim1, K. A. Albrecht2, and K. I. Sung1, 1Kangwon National University, Chunchon, Kangwon-Do, South Korea, 2University of Wisconsin, Madison.

Harvesting alfalfa at different stage of growth on nutrient concentrations and digestibility. G. Ayangbile*, K. Kammes, D. Spangler, R. Smith, and K. Thompson, Agri-King Inc., Fulton, IL.
The effects of temperature, rainfall, month of harvest, and/or pasture management on the mineral composition of kikuyu grass (Pennisetum clandestinum). V. T. Humphreys*, J. R. Carpenter, and B. W. Mathews, 1University of Hawaii at Manoa, Honolulu, 2University of Hawaii, Hilo.

Effect of dry versus plastic wrapped hay on concentration of crude protein and digestible dry matter in large round baled hay. E. Rayburn, W. Shockey*, J. Hatton, and B. O’Doherty, 1West Virginia University, Morgantown, 2USDA, NRCS, Kingwood, WV, 3WVCA, Morgantown.


Predictive models for goat cheese yield using milk composition. S. S. Zeng*, K. Soryal, B. Fekadu, and M. Villaquiran, 1School of Agric. & Applied Sciences, Langston University, Langston, OK, 2Desert Research Center, Matareya, Cairo, Egypt, 3Debub University, Awassa, Ethiopia.


Effect of feeding system on performance test traits of young meat bucks in a central performance test. T. A. Gipson*, L. J. Dawson, and T. Sahlu, E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, 2Oklahoma State University, Stillwater.

Factors influencing urea space estimates in goats. A. Asmare1,2, L. J. Dawson, R. Puchala, T. A. Gipson, M. Villaquiran, I. Tovar-Luna, G. Animut1,3, T. Ngwa, R. C. Merkel, G. Detweiler, and A.L. Goetsch*, 1Langston University, Langston, OK, 2Alemany University, Dire Dawa, Ethiopia, 3Oklahoma State University, Stillwater.

Effects of insulin administered to a perfused area of skin on mohair growth in Angora goats. R. Puchala*, S. G. Pierzynowski, A. L. Goetsch, and T. Sahlu, E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK.

Heritability of kidding rates and the effect of number of offspring per litter on kid birth weights in the Caprine species. N. Buzzell*, J. Altbuch, S. Blash, D. Melican, and W. Gavin, GTC Biotherapeutics, Spencer, MA.


Factors influencing pregnancy rate after AI with fresh and chilled semen in meat goats treated with melengestrol acetate. S. Wildeus* and J. R. Collins, Virginia State University, Petersburg.


Goat Species
Growth, Genetics, Physiology, Health, and Products
Exhibit Hall A
Graduate Student Competition
CSAS Only
Exhibit Hall A

Abstract #

T94 Validation of a new equation predicting digestible energy of forage for sheep. M. Vachon*1,2, J. F. Bernier1, G. Allard1, A. Brégard1, and D. Pellerin1, 1Université Laval, Québec, Québec, Canada, 2Centre d’expertise en production ovine du Québec, La Pocatière, Québec, Canada.

T95 Nutrient digestibility of diets containing graded levels of meat and bone meal for pigs and ducks. S. A. Adedokun* and O. Adeola, Purdue University, West Lafayette.

T96 Growth performance, carcass characteristics and fat quality of pigs fed Manitoba-grown corn cultivars. F. O. Opapeju*, C. M. Nyachoti, and J. D. House, University of Manitoba, Winnipeg, MB, Canada.

T97 Bioavailability of phosphorus in peas for growing pigs. A. M. Hawkins*, C. M. Nyachoti1, B. A. Slominski1, and H. A. Weiler1, 1Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 2Department of Human Nutritional Sciences, University of Manitoba, Winnipeg, MB, Canada.

T98 True phosphorus digestibility and the endogenous phosphorus losses associated with barley for pigs. Y. Shen*, R. R. Hacker, and M. Z. Fan, University of Guelph, Guelph, Ontario, Canada.


T100 Persistence of the cp4 epsps transgene in ruminal and duodenal fluids from sheep fed diets containing Roundup Ready® canola meal. T. Alexander*1,2, R. Sharma1, W. Dixon2, E. Okine2, and T. McAllister1, 1Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada, 2University of Alberta, Edmonton, AB, Canada.

Meat Science and Muscle Biology
Meat Quality Prediction and Enhancement
Exhibit Hall A

Abstract #

T101 Prediction of monounsaturated fatty acid in the rib eye marbling of Japanese Black by image analysis using high resolution digital image. K. Kuchida*, Y. Hirayama1, A. Oka1, E. Iwamoto2, and M. Fukushima3, 1Obihiro University of Agriculture and Veterinary Medicine, Obihiro-shi, Hokkaido, Japan, 2Hyogo Prefectural Agricultural Institute, Kasai-shi, Hyogo, Japan, 3Hyogo Prefectural Hokkubu Agricultural Institute, Wadayama-cho, Hyogo, Japan.

T102 Development of photography equipment for the cross section of beef and its use in the evaluation of beef marbling and color of rib eye. K. Takahashi*, K. Kuchida, T. Horii1, M. Nami2, T. Honma3, H. Kotsuka, and H. Tsukuda, 1Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan, 2Hokkaido Industrial Research Institute, Sapporo, Hokkaido, Japan, 3Hayasaka Science and Engineering Corporation, Sapporo, Hokkaido, Japan, 4Livestock Improvement Association of Japan, Makubetsu, Hokkaido, Japan.

T103 Prediction of BMS number by image analysis and comparison of estimated BMS numbers in different cross sections of Holstein steers. Y. Hamasaki*, K. Kuchida, S. Hidaka, K. Shimada, and M. Sekikawa, Obihiro University of Agriculture & Veterinary Medicine, Obihiro-shi, Hokkaido, Japan.

T104 Prediction of total and regional carcass lean content by DXA cross-sectional analysis of pork carcasses. A. Mitchell*, A. Scholz2, and V. Pursel1, 1USDA, Agricultural Research Service, Beltsville, MD, 2Ludwig Maximillians University-Munich, Oberschleissheim, Germany.


T106 Relationship of pork longissimus muscle fatty acid profile with pork loin texture and sensory traits. S. Lonergan*, K. Stalder1, T. Knight1, R. Goodwin2, K. Prusa1, and D. Beitz1, 1Iowa State University, Ames, 2Goodwin Family Farms, Ames, IA.

T107 Effect of dietary conjugated linoleic acids (CLA) and sex on intramuscular collagen and bone characteristics in heavy pig. G. Maiorano*, A. Manchisi1, K. Paolone1, L. Costanza1, M. Musella2, and C. Corino2, 1University of Molise, Campobasso, Italy, 2University of Milano, Milano, Italy.

Effect of sire line and sex on productive performance and carcass quality of Iberian pigs. M. P. Serrano1, D.G. Valencia1, R. Lázaro1, A. Fuentetaja2, and G.G. Mateos*, 1Universidad Politécnica de Madrid, Madrid, Spain, 2Copesia, Segovia, Spain.

Comparison of mineral content in beef, lamb and pig meat. G. Maiorano*, C. Cavone, C. Tarasco2, L. De Tullio2, and E. Gambacorta3, 1University of Molise, Campobasso, Italy, 2ARPA Molise, Campobasso, Italy, 3University of Basilicata, Potenza, Italy.

Effect of sex and castration ages on fatty acids composition of longissimus muscle in Hanwoo. N. H. Park*, J. Jeong1, S. S. Lee1, K. C. Lee2, and C. B. Choi2, Livestock Research Institute, National Agricultural Cooperative Federation, Anung, Korea, 2Yuengnam University, Kyungsan, Korea.

Eating quality of forage-finished beef produced in Hawaii as compared to the imported mainland beef. M. DuPonte*, J. Dobbs, H. M. Zaleski, and Y. S. Kim, University of Hawaii, Honolulu.


Meat quality on female calves feeding high oil corn. G. J. Depetris*, F. J. Santini1,2, E. L. Villarreal1, E. E. Pavan1, and D. H. T124


Effect of dietary L-Arginine inclusion rate on stress responses in pigs subjected to a high-intensity handling model. M. J. Ritter*, M. Ellis1, D. H. Baker1, C. R. Bertelsen1, and K. K. Keffaber2, 1University of Illinois, Urbana-Champaign, 2ELANCO Animal Health, Greenfield, IN.

Enhancement with varying phosphate types, concentrations, and pump rates, without sodium chloride on beef biceps femoris quality and sensory characteristics. R. T. Baublits*, F. W. Pohlman, A. H. Brown, and Z. B. Johnson, University of Arkansas, Fayetteville.

Enhancement effects of phosphate type, concentration, and pump rate, without sodium chloride on beef biceps femoris instrumental color characteristics. R. T. Baublits*, F. W. Pohlman, A. H. Brown, and Z. B. Johnson, University of Arkansas, Fayetteville.

Withdrawn by Author.

Nonruminant Nutrition

Amino Acids and Dietary Restrictions

Exhibit Hall A

Development of the enzymes of homocysteine metabolism from birth through weaning in the pig. D. M. Ballance* and J. D. House, Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada.

Effects of increasing true ileal digestible amino acid to lysine ratios on grower pig performance. A. Yager*, D. Sholly, L. Wilson, J. Beagle, R. Hinson, K. Saddoris, M. Walsh, B. Richert, A. Sutton, and J. S. Radcliffe, Purdue University, West Lafayette, IN.

Effect of dietary L-Arginine inclusion rate on stress responses in pigs subjected to a high-intensity handling model. M. J. Ritter*, M. Ellis1, D. H. Baker1, C. R. Bertelsen1, and K. K. Keffaber2, 1University of Illinois, Urbana-Champaign, 2ELANCO Animal Health, Greenfield, IN.

Effects of protein source and metabolizable energy concentration on the growth of the pancreas, stomach, and small intestine in early-weaned pigs. T. Buhay*, S. Carter, R. Cueno, M. Lachmann, J. Park, and J. Schneider, Oklahoma State University, Stillwater.


Effect of mash conditioning temperature on performance of broilers fed pellets containing spray-dried plasma. J. M. Campbell*, J. D. Crenshaw1, L. E. Russell1, K. C. Behnke2, and P. M. Clark2, 1APC, Inc., Ankeny, IA, 2Kansas State University, Manhattan.

A spreadsheet program for identifying the limiting amino acids in various combinations of feed ingredients for swine. G. L. Cromwell* and B. G. Kim, University of Kentucky, Lexington.
### Nonruminant Nutrition

**Feedstuffs and Processing**

**Exhibit Hall A**

**Abstract #**

**T131** The effects of fermented soy protein in creep diet on growth performance in piglets and backfat loss in lactating sows. B. J. Min*1, O. S. Kwon1, K. S. Son1, J. H. Cho1, Y. J. Chen1, I. H. Kim1, S. S. Lee2, and W. T. Cho3, 1Department of Animal Resource & Science, Dankook University, Cheonan, Korea, 2Genebiotech Co. Ltd., Korea.

**T132** Effect of wheat gluten and spray-dried egg protein on growth performance of nursery pigs. H. Yang1, T. Shipp*2, J. Less3, T. Radke1, M. Ceca1, and D. Holzgrafe1, 1ADM Alliance Nutrition, Quincy, IL, 2ADM Animal Health and Nutrition, Quincy, IL, 3ADM Specialty Feed Ingredients, Decatur, IL.


**T134** The effect of dietary crude protein level, cereal type and exogenous enzyme supplementation on nutrient digestibility, nitrogen excretion, faecal volatile fatty acid concentration and ammonia emissions from pigs. J. M. O’Connell, J. J. Callan, and J. V. O’Doherty*, University College Dublin, Ireland.

**T135** Effect of ground flaxseeds on the performance and carcass traits of finishing pigs. K. Sasaki*1, S. K. Baidoo2, and Q. Yang2, 1Akita Prefectural Livestock Experiment Station, Jingui-aza, Kamioka-machi, Senboku-gun, Akita-ken 019-1701, Japan, 2University of Minnesota, Minneapolis, Minneapolis, Minnesota.

**T136** Effect of barley substitution for corn on pigs fed diets containing ractopamine. B. Kremer*1 and B. Zimprich2, 1Purdue University, West Lafayette, IN, 2Ransom County Extension Service, Ransom County, ND.

**T137** Condensed corn distillers’ solubles in swine liquid feeding: growth performance and carcass quality. J. M. Squire*, E. A. Jeaurond, and C. F. M. de Lange, University of Guelph, Guelph, ON, Canada.

**T138** Ileal amino acid digestibility in wheat dried distillers’ grains with solubles fed to growing pigs. Y. Lan*, F. O. Opapeju, and C. M. Nyachoti, University of Manitoba, Winnipeg, MB, Canada.

**T139** True phosphorus digestibility associated with lentils for growing pigs. Z. R. Wang*1, C. B. Yang2, Y. L. Yin1, Y. L. Yin1, T. Archbold1, and M. Z. Fan1, 1College of Animal Science, Xinjiang Agricultural University, Urumqi, Xinjiang, China, 2The Chinese Academy of Sciences, Changsha, Hunan, China.

**T140** Additivity of apparent and true fecal phosphorus digestibility measured in soybean meal, peas, faba bean, corn, oats, broken rice meal, rough rice meal, buckwheat, and sorghum for growing pigs. R. J. Fang1, K. N. Wang2, C. H. Huang1, J. H. He1, J. R. Wang2, Y. L. Yin1, and M. Z. Fan1, 1The Chinese Academy of Sciences, Changsha, Hunan, China, 2Sichuan University of Agriculture, Yuan, Sichuan, China.

**T141** Nutritional evaluation of sorghum for pigs and broiler chicks. E. K. D. Nyannor*1, S. A. Adedokun1, B. R. Hamaker2, G. Ejeta1, and O. Adeola1, 1Purdue University, West Lafayette, IN, 2Purdue University, West Lafayette, IN.

**T142** Amino acid digestibility in dry extruded-expelled soybean meal fed to pigs and poultry. F. O. Opapeju*, C. M. Nyachoti, A. Golian, and L. D. Campbell, University of Manitoba, Winnipeg, MB, Canada.
Daylength induces changes in leptin and leptin receptors gene expression in adipose tissue of lactating dairy cows. U. Bernabucci*, N. Lactera¹, L. Basirico¹, F. Rueva³, D. Pirazzi¹, B. Ronchi¹, E. Seren¹, and A. Nardone¹, ¹Dipartimento Produzioni Animali, Viterbo, Italy, ²Dipartimento Patologia, Diagnostica e Clinica Veterinaria, Perugia, Italy, ³Dipartimento Morfofisiologia Veterinaria e Produzioni Animali, Bologna, Italy.

Relationship between serum leptin concentration and BW, feed intake, ultrasound traits and carcass merit of hybrid beef cattle. J. D. Nkrumah*, C. Hansen¹, D. H. Keisler², C. Li³, B. Irving¹, Z. Wang¹, and S. S. Moore¹, ¹University of Alberta, Edmonton, Alberta, Canada, ²University of Missouri, Columbia.

Failure of short term feed restriction to effect leptin secretion and subcutaneous adipose tissue expression of leptin or long form leptin receptor (Ob-r) in the prepuberal gilt. H. A. Hart*¹, M. J. Azain¹, G. J. Hausman², D. E. Reeves³, and C. R. Barb¹, ¹University of Georgia, Athens, GA, ²USDA-ARS, Athens, GA.


Failure of short term feed restriction to effect leptin secretion and subcutaneous adipose tissue expression of leptin or long form leptin receptor (Ob-r) in the prepuberal gilt. H. A. Hart*¹, M. J. Azain¹, G. J. Hausman², D. E. Reeves³, and C. R. Barb¹, ¹University of Georgia, Athens, GA, ²USDA-ARS, Athens, GA.

Sequencing, chromosomal mapping and expression of the bovine deiodinase type II (DIO2) and deiodinase type III (DIO3) genes. E. E. Connor*¹, E. C. Laiaakis¹, V. M. Fernandes¹, J. L. Williams², and A. V. Capuolo¹, ¹USDA-ARS, BARC, Bovine Functional Genomics Laboratory, Beltsville, MD, ²Roslin Institute (Edinburgh), Midlothian, Scotland, UK.


Effect of interval from timed AI to initiation of resynchronization of ovulation using Ovsynch on fertility of lactating dairy cows. R. A. Sterry*¹, M. L. Welle¹, and P. M. Fricke¹, ¹University of Wisconsin, Madison, ²Miltrim Farms, Inc., Athens, WI.

Effects of the time of PGF2α in fixed time embryo transfer protocol on synchronization and conception rates in IVF fresh embryo recipients. O. G. SáFilho, J. L. M. Vasconcelos*, R. M. Santos, E. Oba, and G. C. Perez, FMVZ-UNESP, Brazil.


Leptin gene polymorphisms and selection for milk yield in Holstein cows. S. H. Wu*, W. J. Weber¹, Y. Da¹, H. Chester-Jones¹, L. B. Hansen¹, Y. R. Boisclair², and B. A. Crooker¹, ¹University of Minnesota, St. Paul, ²Cornell University, Ithaca, NY.

Efficacy and economic value of estrous synchronization. K. Evenson*, J. Johnson, S. Prien, and J. Blanton, Texas Tech University, Lubbock.


Production, Management and the Environment
Nutrition and Management
Exhibit Hall A

Abstract #
T160 Electronic identification of young lambs with mini-bolus and effects on intake and digestibility during fattening. J. J. Ghirardi, G. Caja, C. Flores, and D. Garin, "Universitat Autònoma de Barcelona, Bellaterra, Spain, Universitat de la República, Montevideo, Uruguay.

T161 Comparison of half- and full-duplex electronic ear tags and intraperitoneally injected transponders in the implementation of traceability under commercial conditions in pigs. C. Santamarina, M. Hernández-Jover, D. Babot, and G. Caja, Universitat de Lleida, Lleida, Spain, Universitat Autònoma de Barcelona, Bellaterra, Spain, Centre UdL-IRTA, Lleida, Spain.

T162 Struvite crystallizer product as a phosphorus supplement for growing chicks. R. Kincaid, J. Harrison, T. Benson, and D. Davidson, Washington State University, Pullman, Washington State University, Puyallup, Multiform Harvest Inc., Seattle, WA.


T164 Effects of pre-weaning management on performance beef steers during a 30-d feedlot receiving period. R. Cooke, X. Qiu, E. Pereira, G. Marquezini, J. Vendramini, C. Chase, S. Coleman, and J. Archington, University of Florida, Range Cattle Research and Education Center, Ona, USDA-ARS, Brooksville, FL, Universidade Estadual Paulista, Botucatu, SP, Brazil.

T165 Effects of pre-weaning management on the acute phase protein response of transported beef steers during a 30-d feedlot receiving period. X. Qiu, R. Cooke, E. Pereira, G. Marquezini, J. Vendramini, C. Chase, S. Coleman, and J. Archington, University of Florida, Range Cattle Research and Education Center, Ona, USDA-ARS, Brooksville, Universidade Estadual Paulista, Botucatu, SP, Brazil.


T169 Advantages of complex and chelated forms of zinc fed to bulls in a forage-fed bull test. R. C. Vann, H. Maxwell, C. G. Beyer, A. Denson, and S. T. Willard, MAFES-Brown Loam Experiment Station, Raymond, MS, Mississippi Forage Bull Test, Tylerstown, MS, Columbia Animal Hospital, Columbia, MS, Trouw Nutrition, Highland, IL, Mississippi State University, Mississippi State.

T170 Fate of Fusarium graminearum on barley grain during in vitro and in situ ruminal incubation. Y. Wang, S. L. Scott, D. L. McLaren, Z. Matic, G. D. Inglis, and T. A. McAllister, Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada, Agriculture and Agri-Food Canada Research Centre, Brandon, MB, Canada.


T172 The effect of feeding time on tympanic temperature of steer calves during winter. S. M. Holt, R. H. Pritchard, South Dakota State University, Brookings.


T175 Performance of Holstein heifer calves fed texturized calf starters varying in molasses content. D. Ziegler, R. Larson, and J. Linn, University of Minnesota Southern Research and Outreach Center, Waseca, Hubbard Feeds, Mankato, MN, University of Minnesota, St. Paul.

T176 Effect of feed refusal amount on feeding behavior and production in Holstein cows. P. French, J. Chamberlain, and J. Warmtjes, Oregon State University, Corvallis, University of California-Davis, Davis.

Principal component and multivariate analysis of milk fatty acid composition data from experiments designed to induce dietary milk fat depression in lactating cows. A. K. G. Kadegowda*, L. S. Piperova, and R. A. Erdman, University of Maryland, College Park.

In sacco forage fiber degradation in the rumen of lactating cows fed high- or low-forage diets supplemented with flaxseed or flaxseed oil. C. Benchaa*1, H. V. Petit1, T. A. McAllister2, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Lennoxville, QC, Canada., 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 3Laval University, Quebec, QC, Canada.

Effects of flaxseed and flaxseed oil supplementation on ruminal fermentation characteristics, and ruminal ciliate protozoal populations in cows fed high- or low-forage diets. C. Benchaa*1, H. V. Petit1, T. A. McAllister2, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Lennoxville, QC, Canada., 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 3Laval University, Quebec, QC, Canada.

Effect of flaxseed and flaxseed oil supplementation on digestion, milk production, and milk composition in dairy cows fed diets with different forage levels. C. Benchaa*1, H. V. Petit1, T. A. McAllister2, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Lennoxville, QC, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 3Laval University, Quebec, QC, Canada.


Effect of feeding different levels of lauric acid on ruminal protozoa, and milk production in dairy cows. A. Faciola*1, G. Broderick2, A. Hristov3, and M. Leão4, 1University of Wisconsin, Madison, 2University of Idaho, Moscow, 3University of Florida, Gainesville, 4Universidade Federal de Viçosa, Viçosa, MG, Brazil.

Effect of feeding ground versus whole safflower seed and safflower oil on milk fatty acid composition in cows. R. Mohammed, D. Lee, E. Tong, S. Parmley, G. Khorasani, and L. Doepel*, University of Alberta, Edmonton, Alberta, Canada.


Effect of varying levels of free fatty acids from palm oil on milk production and feed intake in Holstein cows. S. Mosley*, E. Mosley1, B. Hatch1, J. Szasz2, A. Corato3, N. Zacharias1, D. Howes1, and M. McGuire1, University of Idaho, Moscow, University of Padova, Padova, Italy, 2University of Padova, Padova, Italy, 3Howes Management Services, Nampa, ID.


Effect of supplementation with Ca-salts of fish oil on omega-3 fatty acids in milk fat. E. Castaneda-Gutierrez*1, W. R. Butler1, M. J. de Veth1, A. L. Lock1, D. A. Dwyer1, D. Luchini2, and D. E. Bauman1, Cornell University, Ithaca, NY, Bioproducts Inc., Fairlawn, OH.


The effect of docosahexaenoic acid on the production of vaccenic acid and conjugated linoleic acid from unsaturated C18 fatty acids in rumen cultures. A. AbuGhazaleh*, G. Appgar, and B. Jacobson, Southern Illinois University, Carbondale.

Production of trans monoenes and conjugated linoleic acid in continuous cultures fed diets containing fish oil and sunflower oil with decreasing levels of forage. A. AbuGhazaleh*, B. Jacobson, R. Buckles, and K. Kalscheur, *Southern Illinois University, Carbondale, South Dakota State University, Brookings.

Conjugated linoleic acid (CLA) content of milk and meat products and its intake in humans. T. R. Dhiman*, A. L. Ure, and S. Nam, Utah State University, Logan.

Conjugated linoleic acid from water buffaloes milk fat in tropical region. S. Fernandes, W. Mattos, S. Matarazzo, and M. Gama, *Universidade Estadual do Sudoeste da Bahia, Itapetinga, Bahia, Brazil, Universidade de Sao Paulo, Piracicaba, Sao Paulo, Brazil.


Glucose rate of appearance (Ra) responses to isoenergetic infusions of glucose (GLC), propionic acid (C3) and non essential amino acids (NEAA) in dairy cows. S. Lemosquet, E. Delamare, J. Guinard-Flament, and H. Lapierre, UMR INRA Agrocampus Rennes Production du Lait, St-Gilles, France, AAC, Lennoxville, Canada.

Effect of casein (Cas) and propionate (C3) supply on whole body protein kinetics in lactating dairy cows. G. Raggio, G. E. Lobley, S. Lemosquet, H. Rulquin, and H. Lapiere, *Laval University, Quebec, QC, Canada, **Rowett Research Institute, Aberdeen, UK, INRA, Saint Gilles, France, Agriculture and Agri-Food Canada, Lennoxville, QC, Canada.


Effect of rumen energy and nitrogen balance on milk urea nitrogen in Chinese Holstein cows. S. W. Zhai, Y. Takeda, and Y. Ma, *Zhejiang University, Hangzhou, Zhejiang, China, **Northwest Sci-Tech University of Agriculture and Forestry, Yangling, Shaanxi, China.


Monensin and oil can have additive and synergistic effects on performance and milk fatty acid profiles. E. da Costa Eifert, R. de Paula Lana, D. P. D. Lanna, M. I. Leao, and P. B. Arcuri, Supported by, CNPq, Brasil, LCNA-ESALQ/USP, Piracicaba, Brasil, DZO-UFV, Vicsos, Brasil, Embrapa, Dairy Cattle.


Performance of dairy cows fed ensiled high moisture corn of a flint or a dent hybrid. F. M. J. Costa, J. F. dos Santos, and M. N. Pereira, Universidade Federal de Lavras, Lavras, Minas Gerais, Brazil.


Effects of physically effective NDF on ruminal pH and nutrient digestion of dairy cows fed diets based on corn silage. W. Z. Yang and K. A. Beauchemin, Research Center, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.


The effect of silage additives and delayed filling on the fermentation of ryegrass silage. R. Schmidt*, D. Kleinschmit, R. Tellier, and L. Kung, University of Delaware, Newark.

T213 Adding value to corn through the use of a corn grazing system on dairy farms. T. R. Smith*1, M. Boyd1, G. Triplett1, A. Chapa1, C. Herndon1, J. Murphy2, and B. J. McClenton1, 1Mississippi State University, Starkville, 2Coastal Plain Branch Experiment Station, Newton, MS.


T217 Effects of time of feeding and forage to concentrate ratio on rumen fermentation and productivity of lactating dairy cows. A. Nikkhah*, J. C. Plaizier, C. Furedi, and A. D. Kennedy, University of Manitoba, Winnipeg, MB, Canada.

T218 Effect of free stall pen design on feeding behavior. R. Mentink*, K. Nordlund, T. Bennett, and N. Cook, University of Wisconsin, Madison.

T219 Effect of feed intake variation on the performance of dairy cows in early lactation. M. A. Shah*1, K. S. Schwatzkopf-Genswein1, P. S. Mir1, and M. R. Murphy2, 1Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2University of Illinois, Urbana.

T220 Effect of forage particle size on sorting dietary particles by dairy cows. W. Z. Yang* and K. A. Beauchemin, Research Center, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

T221 Effects of corn grain endosperm type and conservation method on milk production and feeding behavior of lactating dairy cows. Y. Ying* and M. S. Allen, Michigan State University, East Lansing.

T222 Effects of feeding time and forage to concentrate ratio on water intake and drinking behavior of dairy cows. J. Plaizier*, D. Fulawka, A. Nikkhah, and A. Kennedy, University of Manitoba, Winnipeg, MB, Canada.

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Ruminant Nutrition
Methodology and Modeling
Exhibit Hall A

Abstract #

T223 Influence of fermentation method on NDF degradation parameter estimates. D. Bossen1, D. R. Mertens*2, and M. R. Weisbjerg1, 1Danish Institute of Agricultural Sciences, Foulum, Denmark, 2US Dairy Forage Research Center, Madison, WI.

T224 The application of a novel, wireless, automated system for determining the fermentation gas production kinetics of feeds. A. Adesogan*2, S. Kim12, and N. Krueger1, 1University of Florida, Gainesville, 2Gyeongsang National University, Jinju, South Korea.

T225 Comparison of two molecular methods to assess the shift in bacterial population in continuous culture receiving fresh alfalfa or hay with different concentrations of sucrose. C. Ribeiro*, S. Karnati, J. Sylvester, Z. Yu, and M. Eastridge, The Ohio State University, Columbus.

T226 Measurement of volatile fatty acid interconversion as a means to study the role of thermodynamics in the control of fermentation. E. Ungerfeld*, B. Bequette, S. Owens, and R. Kohn, University of Maryland, College Park.


T229 Effect of sampling time on blood metabolites to dairy cows given amino acids, starch and glucose infusions. I. Schei*12, I. A. Boman1, L. T. Mydland1, and H. Volden12, 1Norwegian University of Life Sciences, As, Norway, 2TINE BA, As, Norway.

T230 Estimating methane emissions from grazing dairy cattle using the SF6 tracer technique. S. Cooper*, M. Main1, C. Benchaar12, D. Lynch1, and A. H. Fredeen1, 1Nova Scotia Agricultural College, Truro, Nova Scotia, Canada, 2Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Lennoxville, Quebec, Canada, 3Organic Agriculture Centre of Canada, Truro, Nova Scotia, Canada.

T231 Development and evaluation of empirical equations to predict feed passage rate in cattle. S. Seo*1, L. O. Tedeschi1, C. G. Schwab1, and D. G. Fox1, 1Cornell University, Ithaca, NY, 2University of New Hampshire, Durham.
Ruminant Nutrition

Small Ruminants

Exhibit Hall A

Abstract #

T238 Effect of dietary copper supplementation on fatty acid profile of muscle, mesenteric, and subcutaneous adipose tissue in goat kids. E. Ellis1, W. Bergen1, S. Solaiman1, and K. Cummins1, 1 Auburn University, Auburn, 2 Tuskegee University, Tuskegee, AL.

T239 The effect of dietary n-6/n-3 fatty acid ratio on feed intake, digestibility, and fatty acid profiles in muscle of growing lambs. S. C. Kim1,2, A. T. Adesogan1, C. R. Staples1, and L. Badinga1, 1 University of Florida, Gainesville, 2 Gyeongsang National University, Jinju, Gyeongsangnam-do, Korea.

T240 The effect of supplemental feeding duration on performance of Balouchi ewes. V. Kashki1, M. R. Kianzad2, M. Raisianzadeh1, M. Nowrozi1, and A. Davtalabzarghi1, 1 Agriculture and Natural Resources Research Center of Khorasan, Mashhad, Khorasan, Iran, 2 Animal Science Research Institute of Iran, Karaj, Tehran, Iran.

T241 Vitamin E improves the number of transferable embryos and born lambs in superovulated ewes. H. Luo*, S. Zhu, and Z. Jia, China Agricultural University, Beijing, PR. China.


T244 Apparent digestibility of pomegranate seed feed to sheep. R. Feizi*, A. Ghodratnama1, M. Zadehifar2, M. Danesh Mesgaran1, and M. Raisianzadeh1, 1 Agricultural and Natural Resources Research Center of Khorasan, Mashhad, Khorasan, Iran, 2 Animal Science Research Institute Iran, Karaj, Tehran, Iran, 3 Ferdowsi University of Mashhad, Mashhad, Khorasan, Iran.

T245 Effect of feeding pistachio skins on feed intake, milk yield and milk composition in lactating saanen goats. A. A. Naserian and A. Mahdavi, University of Tehran, Karaj, Tehran, Iran.


T247 Comparative effects of soybean meal, canola meal, cull chickpeas and cull chickpeas-meat meal on apparent digestibility of diet for sheep. J. F. Obregon*, J. A. Moroyoqui, J. L. Verdugo, and A. Estrada, FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Sinaloa, Mexico.

T248 The effect of treated wheat straw with molasses, urea and calcium hydroxide on performance of feedlot lambs. R. Feizi* and A. Mohrrey1, 1 Agricultural and Natural Resources Research Center of Khorasan, Mashhad, Khorasan, Iran, 2 Shahrekord University, Shahrekord, Chaharmahal Bakhtiari, Iran.

Teaching/Undergraduate and Graduate Education
Exhibit Hall A

T250  Determining graduation rate of students who initially enrolled as animal science majors at the University of Missouri during a consecutive four-year period. G. Jesse* and M. Ellersieck, University of Missouri, Columbia.


T252  Perceptions of high school students towards Advanced Life Science: Animals, academic honors curricula. A. Huerta*, B. Hains, and M. Balschweid, Purdue University, West Lafayette, IN.

SYMPOSIA AND ORAL SESSIONS

ADSA Foundation Scholar Award Lecture - Dairy Foods
Chair: Wendy Powers, Iowa State University
Sponsor: ADSA Foundation
Room 240

9:30 AM                  Process cheese: Identification of critical formulation and manufacturing parameters that can be used to control functionality. L. Metzger, University of Minnesota, St. Paul.

Animal Health I
Chair: R.L. Larson, University of Missouri
Room 212

Time    Abstract #


9:45 AM    233  Herd level risk factors for non-infectious and infectious causes of lameness for Ontario dairy herds. G. Cramer*, K. Lissemore, D. Kelton, C. Guard, and K. Leslie, University of Guelph, Guelph, ON, Canada, Cornell University, Ithaca, NY.

10:00 AM   234  Lactate Dehydrogenase and N-acetyl-b-D-glucosaminidase activities in bovine milk as measures of clinical mastitis. M. G. G. Chagunda*, T. Larsen, M. Bjerring, and K. L. Ingvartsen, Danish Institute of Agricultural Sciences, Department of Animal Health, Welfare and Nutrition, Tjele, Denmark.


10:30 AM   236  Evaluation of the PetrifilmÔ Culture System for the identification of mastitis bacteria as compared to standard bacteriological methods. K. Leslie*, M. Walker, E. Vernooy, and A. Bashiri, University of Guelph, Guelph, Ontario, Canada, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, Prince Edward Island, Canada.


11:00 AM    Break

11:30 AM 239  A model to predict the reproductive status of cattle throughout the reproductive cycle. N. C. Friggens* and M. G. G. Chagunda, Danish Institute of Agricultural Sciences, Tjele, Denmark.


12:00 PM 241  Performance and health of group-housed dairy calves fed milk automatically verses manually. R. Engelbrecht Pedersen*, F. Skjøth1, J. Tind Sørensen2, and J. Hindhede2, 1Danish Agricultural Advisory Service, Denmark, 2Danish Institute of Agricultural Sciences, Denmark.


**SYMPOSIUM**

**Beef Species**

**Vertical Coordination in the Beef Industry:**

**Implications for Animal, Information, and Enterprise Management**

**Chair: Chris Reinhardt, Intervet, Inc.**

**Ballroom A**

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>243</td>
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<td>10:00 AM</td>
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<td>11:00 AM</td>
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<td>11:30 AM</td>
<td>247</td>
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**Breeding and Genetics**

**Dairy Cattle Breeding for Non-Production Traits I**

**Chair: Gary Rogers, University of Tennessee**

**Room 203**

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<th>Time</th>
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<tr>
<td>9:30 AM</td>
<td>247</td>
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<td>9:45 AM</td>
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<td>10:00 AM</td>
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<td>10:15 AM</td>
<td>250</td>
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<tr>
<td>10:30 AM</td>
<td>251</td>
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</table>
Variance components of test-day milk, fat, and protein production, and somatic cell score from all parities of dairy cows in South-eastern Sicily estimated with a random regression model. A. P. W. De Roos*1, M. H. Pool1, M. Caccamo1, G. Azzaro1, J. D. Ferguson1, and G. Licitra1, 1NRS, Arnhem, The Netherlands, 2Animal Sciences Group, Lelystad, The Netherlands, 3CoRFiLaC, Regione Siciliana, Ragusa, Italy, 4University of Pennsylvania, Kennett Square.

Forages and Pastures

Beef Cattle and Pastures

Chair: Gary Hill, University of Georgia

Room 207

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>253</td>
<td>Timing of herbage allocation 1. Effect on daily grazing pattern of beef heifers. P. Gregorini*1,2, M. Eirin1, R. Refi1, R. Flores2, and O. Ansini1, 1FCyF Universidad Nacional de La Plata, La Plata, Buenos Aires, Argentina, 2University of Arkansas, Fayetteville.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>254</td>
<td>Timing of herbage allocation 2. Effect on beef heifer weight gain, body condition score and daily herbage intake. M. Eirin1, P. Gregorini*1,2, C. Masino1, R. Refi1, M. Ursino1, and O. Ansini1, 1FCyF Universidad Nacional de La Plata, La Plata, Buenos Aires, Argentina, 2University of Arkansas, Fayetteville.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>255</td>
<td>Fatty acid composition in subcutaneous and intramuscular fat of steers grazing pasture supplemented with corn oil. E. Pavan*1,2 and S. Duckett1, 1University of Georgia, Athens, 2Instituto Nacional de Tecnologia Agropecuaria, Balcarce, Bs. As., Argentina.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>256</td>
<td>Corn oil supplementation to pasture fed steers: in vivo digestibility, performance and carcass traits. E. Pavan*1,2, S. Duckett1, and J. Long1, 1University of Georgia, Athens, 2Instituto Nacional de Tecnologia Agropecuaria, Balcarce, Bs. As., Argentina.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>257</td>
<td>Effects of winter stocker growth rate and finishing diet on beef rib composition and color. R. N. Sonon, Jr.*1, S. K. Duckett1, J. Neel1, C. Realini1, J. Fontenot1, and W. Clapham2, 1University of Georgia, Athens, 2USDA-ARS, Beaver, WY, 3Virginia Polytechnic Institute and State University, Blacksburg.</td>
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<tr>
<td>10:45 AM</td>
<td>258</td>
<td>Cow-calf performance on Coastal or Tifton 85 pastures with access to aescynomene for creep grazing. V. A. Corriher*1, G. M. Hill1, J. G. Andrae1, M. A. Froetschel1, and B. G. Mullinix, Jr.1, 1University of Georgia, Tifton, 2University of Georgia, Athens.</td>
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<tr>
<td>11:00 AM</td>
<td>259</td>
<td>Coastal, Russell, and Tifton 85 bermudagrass hay and supplement intake and digestion by steers. G. M. Hill*1, J. G. Andrae2, B. C. Hand1, and B. G. Mullinix, Jr.1, 1University of Georgia, Tifton, 2University of Georgia, Athens.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>260</td>
<td>Effects of winter stocker growth rate and finishing diet on beef longissimus fatty acid composition. R. N. Sonon, Jr.*1, S. K. Duckett1, J. Neel1, C. Realini1, J. Fontenot1, and W. Clapham2, 1University of Georgia, Athens, 2USDA-ARS, Beaver, WY, 3Virginia Polytechnic Institute and State University, Blacksburg.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>261</td>
<td>Volatile flavor compounds in beef from cattle finished on pastures or concentrates. S. Duckett*1, J. Neel2, W. Clapham2, and J. Fontenot3, 1University of Georgia, Athens, 2USDA-ARS, Beaver, WY, 3Virginia Polytechnic and State University, Blacksburg.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>263</td>
<td>Effect of condensed corn distiller soluble supplementation on the fatty acid composition of ribeye steaks from pasture-fed and feedlot steers. H. Koknaroglu*1, P. Tsengeg2, T. Knight2, D. Beitz2, and P. Hoffman2, 1Suleyman Demirel University, Isparta, Turkey, 2James Madison University, Virginia.</td>
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# Graduate Student Competition

**CSAS Only**

**Chair:** Johanne Chiquette, Agriculture Canada

**Room 243**

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<th>Time</th>
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<tr>
<td>9:30 AM</td>
<td>265</td>
<td>Diurnal Variation of Blood Metabolites in Response to Time of Feeding and Dietary Forage to Concentrate Ratio in Lactating Dairy Cows.</td>
<td>A. Nikkhah*, J. C. Plaizier, C. Furedi, and A. D. Kennedy, University of Manitoba, Winnipeg, MB, Canada.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>266</td>
<td>Citrulline synthesis limits whole-body arginine synthesis in piglets fed an arginine deficient diet.</td>
<td>K. L. Urschel*, A. K. Shoveller, R. Uwiera, P. B. Pencharz*, and R. O. Ball, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada, Health and Laboratory Animal Sciences, University of Alberta, Edmonton, Alberta, Canada, Departments of Paediatrics and Nutritional Science, University of Toronto, Toronto, Ontario, Canada.</td>
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<tr>
<td>10:00 AM</td>
<td>267</td>
<td>Early weaning up-regulates the capacity of the small intestinal sucrase-isomaltase and maltase-glucoamylase hydrolysis of maltose in the neonatal pig.</td>
<td>D. Lackeyram*, D. Pham, Q. Liu, Y. Mine, M. Bakovic, B. L. Nichols, and M. Z. Fan, University of Guelph, Guelph, Ontario, Canada, Agri-Food Canada, Guelph, Ontario, Canada.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>268</td>
<td>Ultrasound evaluation of intramuscular fat content in yearling beef bulls.</td>
<td>R. Bergen*, S. Miller, I. Mandell, and C. Campbell, University of Guelph, Guelph, Ontario, Canada.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>269</td>
<td>Evaluation of the NRC (1996) model for predicting feed requirements for beef cows in western Canada.</td>
<td>J. L. Bourne*, J. J. McKinnon, H. C. Block, and H. A. Lardner, University of Saskatchewan, Saskatoon, SK, Canada, Western Beef Development Centre, Humboldt, SK, Canada.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>270</td>
<td>Postnatal changes of pancreatic and hepatic fractional protein synthesis rates in piglets measured by an intraperitoneal flooding dose of L-[ring-2H5]phenylalanine.</td>
<td>X. Yang, L. Liu, G. Werchola, Y. Mine, Q. Liu, and M. Fan, University of Guelph, Guelph, ON, Canada, Agri-Food Canada, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>271</td>
<td>Changes in the plasma citrulline concentration are a predictor of alterations in gut mucosal morphology and functions in the piglet.</td>
<td>D. Lackeyram*, D. G. Burrin, Y. Mine, and M. Z. Fan, University of Guelph, Guelph, ON, Canada, Baylor College of Medicine, Houston, TX.</td>
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**SYMPOSIUM**

**Growth and Development**

**Postnatal Development as a Harbinger of Future Performance**

**Chair:** Mike Akers, Virginia Tech

**Sponsor:** EAAP

**Room 200**

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### Lactation Biology

**Conjugated Linoleic Acid**

**Chair: Lance Baumgard, The University of Arizona**

**Room 211**

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<th>Time</th>
<th>Abstract #</th>
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<tr>
<td>9:30 AM</td>
<td>279</td>
<td>Direct assessment of the conversion of trans-vaccenic acid (TVA) to cis-9, trans-11 conjugated linoleic acid (CLA) in lactating dairy cattle. E. Mosley* and M. McGuire, University of Idaho, Moscow.</td>
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<tr>
<td>9:45 AM</td>
<td>280</td>
<td>Quantitative importance of endogenous cis-9, trans-11 conjugated linoleic acid synthesis in dairy cows. K. Shingfield*, S. Ahvenjärvi, V. Toivonen, A. Vanhatalo, and P. Huhtanen, MIT Agrifood Research Finland, Jokioinen, Finland.</td>
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<tr>
<td>10:00 AM</td>
<td>281</td>
<td>Trans-10, cis-12 conjugated linoleic acid reduces milk fat synthesis in lactating sheep. A. L. Lock¹, J. W. Perfield II*, B. M. Teles², D. E. Bauman¹, and L. A. Sinclair², Cornell University, Ithaca, NY.</td>
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<tr>
<td>10:15 AM</td>
<td>282</td>
<td>A comparison of trans-10, cis-12 CLA effectiveness at inducing milk fat depression (MFD) in early vs. established lactation. C. Moore, J. Kay, R. Rhoads, and L. Baumgard*, University of Arizona, Tucson.</td>
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<tr>
<td>10:30 AM</td>
<td>283</td>
<td>The effect of conjugated linoleic acid on cell growth and glucose transport in bovine mammary cells. A. F. Keating¹,², F. Q. Zhao², R. J. Weselak¹, and J. J. Kennelly¹, Dairy Research Group, Agricultural, Food and Nutritional sciences, University of Alberta, Edmonton, Canada.</td>
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<tr>
<td>10:45 AM</td>
<td>284</td>
<td>Trans-9, cis-11 conjugated linoleic acid (CLA) reduces milk fat synthesis in lactating dairy cows. J. W. Perfield II*, A. L. Lock¹, A. Sæbø², J. M. Grinari¹, and D. E. Bauman¹, Cornell University, Ithaca, NY.</td>
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Nonruminant Nutrition
Amino Acids


Room 202

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<th>Time</th>
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<tr>
<td>9:45 AM</td>
<td>287</td>
<td>The methionine requirement varies between individual weaned pigs fed a corn-soybean diet. S. Moehn*, A. Shoveller1, M. Rademacher2, and R. Ball1, 1University of Alberta, Edmonton, Alberta, Canada, 2Degussa AG, Hanau, Germany.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>288</td>
<td>Biological effectiveness of commercial methionine sources in piglet diets based on an equimolar trial design. M. Locatelli*1 and R. Hall2, 1Degussa Corporation, Kennesaw, GA, 2Consultant, Franklin, IN.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>289</td>
<td>Effect of replacing fish meal with synthetic amino acids in diets for 8 to 15 kg pigs. B. W. Ratliff*1, A. M. Gaines1, G. L. Allee1, and J. L. Usry2, 1University of Missouri-Columbia, Columbia, 2Ajinomoto Heartland LLC, Chicago, IL.</td>
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<tr>
<td>10:45 AM</td>
<td>291</td>
<td>Effects of protein source on true ileal digestible (TID) isoleucine:lysine ratio in pigs from 58 to 76 kg. S. X. Fu1, R. W. Fent1, P. Srichana1, B. W. Ratliff1, G. L. Gary1, and J. L. Usry2, 1University of Missouri-Columbia, 2Ajinomoto Heartland, LLC, Chicago, IL.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>292</td>
<td>Effect of L-Lysine·HCl supplementation in 52 to 104 kg pigs reared under commercial conditions. P. Srichana*, A. M. Gaines1, B. W. Ratliff1, G. L. Allee2, and J. L. Usry3, 1University of Missouri, Columbia, 2Ajinomoto Heartland LLC, Chicago, IL.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>293</td>
<td>Response of boar and gilt pigs in the weight range 60 to 100 kg to lysine concentration in the diet. M. K. O’Connell1,2, P. B. Lynch1, J. V. O’Doherty2, and P. G. Lawlor1, 1Moorepark Research Centre, Fermoy, Co. Cork, Ireland, 2University College, Belfield, Dublin, Ireland.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>295</td>
<td>Nutrition induced variation in body composition, compensatory growth, cortisol and leptin in growing pigs. H. R. Martinez* and C. F. M. de Lange, The University of Guelph, Guelph, Ontario, Canada.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>296</td>
<td>Impact of time of feeding of lysine-deficient diets and dietary protein level on the intramuscular fat content of pork. E. Castaneda*1,2, M. Ellis1, and F. McKeith1, 1University of Illinois, Urbana-Champaign, 2Consejo Nacional de Ciencia y Tecnologia, Mexico, Distrito Federal, Mexico.</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>297</td>
<td>The effect of feeding frequency on energy and amino acid digestibility by growing pigs. A. Pahm*, F. Chastanet, C. Pedersen, and H. H. Stein, South Dakota State University, Brookings.</td>
</tr>
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</table>

Physiology and Endocrinology III
Chair: Arnold Hippen, South Dakota State University, Brookings

Room 205

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>10:00 AM</td>
<td>300</td>
<td>Effect of maternal undernutrition on capillary vascularity of the bovine placentome. K. Vonahme*, L. Reynolds1, P. Borowicz1, D. Miller1, B. Caton1, B. Hess2, and S. Ford2, 1North Dakota State University, Fargo, 2University of Wyoming, Laramie.</td>
</tr>
</tbody>
</table>
Production, Management and the Environment

Health and Reproduction

Chair: Sandy Johnson, Kansas State University

Room 242

9:30 AM 309 Clinical and subclinical diseases predisposing to Johnne’s disease. E. Raizman*, S. Wells1, S. Godden1, M. Oakes2, and J. Fetwo1, 1University of Minnesota, St Paul, 2University of Minnesota, Minneapolis.

9:45 AM 310 Evaluation of environmental sampling to determine distribution and herd infection status for Mycobacterium avium subspecies paratuberculosis. J. Lombard*, R. Smith1, B. Wagner1, and B. McCluskey1, 1USDA:APHIS:VS; Centers for Epidemiology and Animal Health, Fort Collins, CO, 2Cornell University, Ithaca, NY.

10:00 AM 311 Evaluation of fecal culture pooling methods for detection of Mycobacterium avium subspecies paratuberculosis in a beef herd. S. Jensen*, J. Lombard1,2, and F. Garry1, 1Colorado State University, Fort Collins, 2USDA:APHIS:VS; Centers for Epidemiology and Animal Health, Fort Collins, CO.

10:15 AM 312 Effects of photoperiod on immune function in piglets at three different weaning ages. S. R. Niekamp*, M. A. Sutherland, G. E. Dahl, and J. L. Salak-Johnson, University of Illinois, Urbana.

10:30 AM Break


11:00 AM 314 Clinical trial testing the effect of vaccination or direct-fed microbial products on colonization of E. coli O157:H7 at the terminal rectum of cattle. R. Peterson*, D. Smith, R. Moxley, T. Klopfenstein, G. Erickson, and S. Hinkley, University of Nebraska - Lincoln, Lincoln.

11:15 AM 315 Factors influencing first service conception rate in Ragusa and Pennsylvania dairy herds. J. D. Ferguson*, G. Azzaro2, M. Caccamo2, and G. Licitra2, 1University of Pennsylvania, Kennett Square, 2CoRFlaC, Regione Siciliana, Ragusa, Italy, 3D.A.C.P.A., University of Catania, Catania, Italy.

11:30 AM 316 Disposal reporting and disposition of culled cows by parity and herd size. A. H. Sanders* and H. D. Norman, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.
### Ruminant Nutrition

#### Dairy - Transition Cows

**Chair: Gabriella A. Varga, Pennsylvania State University**

**Room 206**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
</tr>
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<tbody>
<tr>
<td>9:45 AM</td>
<td>318</td>
<td>Microarray analysis of the immunoregulatory actions of OmniGen-AF in periparturient dairy cattle.</td>
<td>Y. Wang*, J. Burton2, and N. Forsberg1, 1Oregon State University, Corvallis, 2Michigan State University, East Lansing.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>319</td>
<td>Effect of CLA dose on milk production in early lactation dairy cows.</td>
<td>M. J. de Veth*, W. M. van Straalen2, W. Koch1, T. Keller1, R. Hayler1, and A. - M. Pfeiffer1, 1BASF-AG, Offenbach, Germany, 2Schothorst Feed Research B.V., Lelystad, The Netherlands.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>320</td>
<td>Dietary L-carnitine alters hepatic fatty acid metabolism and decreases liver lipid in periparturient Holstein cows.</td>
<td>D. B. Carlson*, N. B. Litherland3, J. W. McFadden1, A. D’Angelo1, J. C. Woodworth2, and J. K. Drackley1, 1University of Illinois, Urbana, 2Lonza, Inc., Fair Lawn, NJ.</td>
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</table>

### Ruminant Nutrition

#### Dairy and Beef - Minerals

**Chair: Terry Engle, Colorado State University**

**Ballroom B**

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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>325</td>
<td>Dietary cation-anion difference and dietary protein effects on performance and acid-base status of dairy cows in early lactation.</td>
<td>W. Hu*, M. R. Murphy1, P. D. Constable1, and E. Block2, 1University of Illinois, Urbana, 2Church &amp; Dwight Co., Inc., Princeton, NJ.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>326</td>
<td>Dietary cation-anion difference effect on performance and acid-base status of dairy cows in early lactation.</td>
<td>W. Hu*, M. R. Murphy1, P. D. Constable1, and E. Block2, 1University of Illinois, Urbana, 2Church &amp; Dwight Co., Inc., Princeton, NJ.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>327</td>
<td>Utilization of phosphorus in lactating cows fed varying amounts of phosphorus and sources of fiber.</td>
<td>Z. Wu*, Pennsylvania State University, University Park.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>328</td>
<td>Estimate of phosphorus (P) maintenance requirement of lactating dairy cows over a range of feed intake rates.</td>
<td>Z. H. Myers and D. K. Beede*, Michigan State University, East Lansing.</td>
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</table>
Ruminant Nutrition

Small Ruminants

Chair: Art Goetsch, Langston University

Room 241

<table>
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<th>Time</th>
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<tr>
<td>9:30 AM</td>
<td>337</td>
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<td>9:45 AM</td>
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<td>11:15 AM</td>
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<td>11:30 AM</td>
<td>345</td>
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</table>

Nutritional evaluation of broccoli (Brassica oleracea) fodder for goats. K. R. Yadav*, B. S. Tewatia, and S. S. Khirwar, CCS Haryana Agricultural University, Hisar, Haryana, India.

Effects of linseed and cottonseed supplementation on fatty acid composition of goats milk and muscle of suckling kids. A. Nudda*, G. Battacone, S. Fancellu, and G. Pulina, University of Sassari, Sassari, Italy.

Effects of feeding oilseeds on total tract nutrient utilization and milk composition of lactating ewes. R. Zhang, A. Mustafa*, and X. Zhao, McGill University, Ste-Anne-De-Bellevue, QC, Canada.

Lactational effects of including soybean oil in the concentrate of dairy goats to increase CLA in milk. M. A. Bouattour, R. Casals*, E. Albanell, X. Such, and G. Caja, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.

Effects of addition of different fats to flushing diet on reproduction in ewes. A. Nikkhah*, H. Sadeghi Panah, and A. Zare, University of Tehran, Karaj, Tehran, Iran.

Effects of abomasal infusion of wheat starch or cottonseed oil on performance of lactating Sannen dairy goats. M. Bashtani, A. A. Naserian*, and R. Valizadeh, Ferdowsi University of Mashhad, Mashhad, Khorasan, Iran.

Effects of abomasal infusion of glucose or cottonseed oil on performance of lactating Sannen dairy goats. M. Bashtani, A. A. Naserian*, and R. Valizadeh, Ferdowsi University of Mashhad, Mashhad, Khorasan, Iran.

The effect of live yeast (Saccharomyces cervisiae-1026) on rumen fermentation parameters and blood metabolites of sheep. M. Nowrozi*, M. Danesh Messgaran2, and M. Abazari1, 1Agriculture and Natural Resources Research Center of Khorasan, IRAN, Mashhad, Khorasan, Iran, 2Ferdosi university, IRAN, Mashhad, Khorasan, Iran.

Effect of two beta-adrenergic agonists and low energy diet on carcass composition, adipose cell size, blood hormones and metabolites in an Iranian fat-tailed breed of sheep. M. Nowrozi*, M. Abazari1, M. Raisianzadeh1, A. Zare Shahnaz1, and M. Mohammadi1, 1Agriculture and Natural Resources Research Center of Khorasan, Mashhad, Khorasan, Iran, 2Tehran University, Karaj, Tehran, Iran, 3Guilan University, Rasht, Guilan, Iran.
# SYMPOSIUM

## Teaching/Undergraduate and Graduate Education

**Scholarship of Teaching as Related to Promotion and Tenure**

**Chair:** Michel A. Wattiaux, University of Wisconsin-Madison

**Room 244**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td>11:35 AM</td>
<td></td>
<td>Discussion: Creating a Culture Where Teaching is Valued.</td>
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## Breeding and Genetics

**International Evaluation of Dairy Bulls – In Honor of Dr. Rex Powell**

**Chair:** Duane Norman, Animal Improvement Programs Laboratory

**Room 203**

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<tr>
<th>Time</th>
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<tr>
<td>11:00 AM</td>
<td></td>
<td>Introductory remarks. Duane Norman, *AIPL.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>349</td>
<td>Dr. Powell’s contribution to international comparison of dairy bulls. F. Miglior<em>1,2, 1</em>Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre, Lennoxville, QC, 2*Canadian Dairy Network, Guelph, ON, Canada.</td>
</tr>
</tbody>
</table>
OTHER EVENTS

ADSA Production Division Business Meeting
Room 236
11:30 AM

ADSA Dairy Foods Business Meeting
Room 240
11:30 AM

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM

ADSA Southern Section Symposium
Innovative Approaches to Address the Changing Needs of Our Dairy Industry

Chair: Brinton Hopkins, North Carolina State University

Sponsor: Pfizer Animal Health

Room 242

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td></td>
<td>Introduction. Brinton Hopkins, <em>North Carolina State University, Raleigh.</em></td>
</tr>
<tr>
<td>2:05 PM</td>
<td>352</td>
<td>Innovative staffing models to enhance dairy educational programs. V. Ishler*, L. Holden, and R. Stup, <em>Pennsylvania State University, University Park.</em></td>
</tr>
<tr>
<td>2:35 PM</td>
<td></td>
<td>Overview of our Undergraduate Student Internship Program. M. Douglas Kenealy, <em>Iowa State University.</em></td>
</tr>
<tr>
<td>3:05 PM</td>
<td>353</td>
<td>A dairy consultant’s perspective on the changing needs of our dairy industry. N. Ohanesian*, <em>Consulting Nutritionist, Clovis, CA.</em></td>
</tr>
<tr>
<td>3:35 PM</td>
<td></td>
<td>Presentation of the Southern ADSA Honor Award.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>354</td>
<td>Meeting the changing needs of the dairy industry: perspective from an AI company. M. A. Faust*, A. Knuth, C. Marti, N. Michael, and A. Storch, <em>ABS Global, Inc., DeForest, WI.</em></td>
</tr>
<tr>
<td>5:00 PM</td>
<td></td>
<td>Discussion and Questions for Presenters</td>
</tr>
<tr>
<td>5:30 PM</td>
<td></td>
<td>Southern Branch ADSA Business Meeting</td>
</tr>
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</table>
Breeding and Genetics

Genetics of New and Emerging Traits

Chair: Bennet Cassell, Virginia Tech

Sponsor: Newsham Genetics

Room 203

Time Abstract #

2:00 PM 355 Emerging traits of interest to the livestock industries: scrapie resistance in sheep. R. M. Lewis*1 and B. Villanueva2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Scottish Agricultural College, Edinburgh, UK.

2:45 PM 356 Effects of different strategies for breeding towards scrapie resistance in East Friesian milk sheep on inbreeding levels and production traits. F. de Vries*, H. Hamann, C. Drogemuller, and O. Distl, University of Veterinary Medicine, Hannover, Germany.

3:00 PM 357 Association analyses between the prion protein locus and reproductive and weight traits in Ripollesa sheep. J. Casellas*, J. Piedrafita, G. Caja, R. Bach, and O. Francino, 1Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Associació Nacional de Criadores d'Ovis de Raça Ripollesa, Monells, Spain.

3:15 PM Break

3:30 PM 358 QTL Scan for disposition in Bos taurus x Bos indicus cattle families. M. Wegenhoft*, J. Sanders, and C. Gill, Texas A&M University, College Station.

3:45 PM 359 Are time-budgets of dairy cows affected by genetic improvement of milk yield? P. Lovendahl* and L. Munksgaard, Danish Institute of Agricultural Sciences, Tjele, Denmark.


4:15 PM 361 Fine mapping of a QTL in a swine population selected for ovulation rate. M. Mousel*, G. Rohrer, K. Leymaster, and R. Christensen, USDA-ARS; U.S. Meat Animal Research Center, Clay Center, NE.

4:30 PM 362 Genetics of immune response in Canadian dairy cows and potential use in selection. R. Rupp1, A. Hernandez1, F. Miglior*,3, and B. Mallard1, 1Ontario Veterinary College, Guelph, ON, Canada, 2Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada, 3Canadian Dairy Network, Guelph, ON, Canada.

4:45 PM 363 Electrical conductivity of milk are genetically correlated to mastitis. E. Norberg*1, G. W. Rogers2, J. B. Cooper2, and P. Madsen1, 1Department of Genetics and Biotechnology, Danish Institute of Agricultural Sciences, Tjele, Denmark, 2University of Tennessee, Knoxville.

Dairy Foods

Cheese I-Cheddar, Mozzarella and Kashar Cheeses

Chair: D.L. Van Hekken, USDA, Wyndmoor, PA

Room 241

Time Abstract #

2:00 PM 364 Effects of incorporation of probiotic Lactobacillus acidophilus, Lb. casei, Lb. paracasei and Bifidobacterium spp. on proteolytic patterns and production of organic acid in Cheddar cheese. L. Ong1, A. Henriksson2, and N. P. Shah*1, 1Victoria University, Werribee Campus, School of Molecular Sciences, PO Box 14428 melbourne City MC, Vic 8001 Australia, 2DSM Food Specialties, Moorebank, NSW, Australia.


2:30 PM 366 Moisture retention and salt uptake in Cheddar curds made from milk preacidificed with carbon dioxide: a possible solution to the salt whey problem. B. Nelson* and D. Barbano, Cornell University, Ithaca, NY.

3:00 PM Break

3:15 PM 367 Mathematical modeling of buffering properties of Cheddar cheese. P. Upreti*, P. Buhlmann, and L. E. Metzger,
1University of Minnesota, St. Paul, 2University of Minnesota, Minneapolis.

3:30 PM 368 Effect of emulsifying salts on the state of calcium in pasteurized process Cheddar cheese. N. Shirashoji*, 1, J. J. Jaeggi, and J. A. Lucey, 1Food Research & Development Laboratory, Morinaga Milk Industry Co., Kanagawa, Japan; 2University of Wisconsin, Madison.

3:45 PM 370 The effect of cheese temperature on the texture and shredding of mozzarella. K. Lim*, A. Bostley, and C. Chen, Wisconsin Center for Dairy Research, Madison, WI.

4:00 PM 371 The use of fat replacers in low-fat fresh kashar cheese: composition, proteolysis and yield. N. Koca* 1,2 and M. Metin, 1Ege University, Izmir, Turkey; 2The Ohio State University, Columbus.

SYMPOSIUM

Extension Education

Cow Comfort on Commercial Dairy Operations

Chairs: Richard Norell, University of Idaho and Twig Marston, Kansas State University

Sponsor: Monsanto Company and Pfizer Animal Health

Room 244

Time Abstract #
2:00 PM 372 Maximizing cow comfort on dry lot dairies. D. Armstrong*, J. Smith, and M. VanBaale, 1University of Arizona, Tucson, 2Kansas State University, Manhattan.


3:00 PM 374 Maximizing cow comfort in free-stall facilities. D. Weary*, University of British Columbia, Vancouver, BC, Canada.

3:30 PM Break

3:45 PM 375 Factors influencing time budgets of dairy cattle. R. Grant*, W. H. Miner Agricultural Research Institute, Chazy, NY.

4:15 PM 376 Animal welfare audits on dairy operations. J. Reynolds*, University of California, Tulare, CA.

4:45 PM Panel Q/A session

Food Safety

Pathogen Control Interventions

Chair: John Sofos, Colorado State University

Room 212

Time Abstract #
2:00 PM Introduction

2:05 PM 377 Essential oils in feed: Development of a quantification method. D. Bellenot, V. Hocde, J.-Y. Anizon, Y. Riou, C. Ionescu, C. Genouel, C. Langella, T. Banchereau, S. Oguey, V. Guitton, A. Guyonvarch, P. Metra, F. Recouillac, S. Kerros, P. Schupfer, ITEIPMAI, Chemillé, France; ARCHIMEX, Vannes, France; TECALIMAN, Nantes, France; DGCCR-F-Marseille, Marseille, France; DGCCR-Remes, Rennes, France; CCPA DELTAVIT, Janzé, France; LAREAL, Saint-Nolff, France; TECHNA, Coueron, France; AXISS FRANCE S.A.S, Bellegarde-sur-Valserine, France; PHYTOSYNTHÈSE, Saint Bonnet de Rochefort, France; INZO, Paris, France; EVIALIS, Vannes, France; PANCOSMA, Genève, Switzerland; INTERFET-CRINA, Gland, Switzerland.
PROCEEDINGS OF THE 6TH INTERNATIONAL CONFERENCE ON ANIMAL FEEDING SYSTEMS
TUESDAY, JULY 26, 2005

SYMPOSIUM
Forages and Pastures
Emerging Techniques for Predicting Forage Quality
Chair: Debbie Cherney, Cornell University

Ballroom A

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<tr>
<td>2:00 PM</td>
<td></td>
<td>Welcome. Debbie Cherney, Cornell University</td>
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<tr>
<td>2:05 PM</td>
<td></td>
<td>Background to Symposium. Sam Coleman.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>384</td>
<td>Impact of cell wall lignification on forage digestibility. H. Jung*1,2, USDA-ARS, St. Paul, MN, University of Minnesota, St. Paul.</td>
</tr>
<tr>
<td>2:40 PM</td>
<td>385</td>
<td>New applications of near-infrared reflectance spectroscopy for forage quality assessment. S. Coleman*, USDA ARS Subtropical Agricultural Research Station, Brooksville, FL.</td>
</tr>
<tr>
<td>3:05 PM</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>386</td>
<td>The need for new approaches in predicting forage quality: challenging the conventional wisdom. J. Moore*, University of Florida, Gainesville.</td>
</tr>
<tr>
<td>3:40 PM</td>
<td>387</td>
<td>Application of rates of fermentation to prediction of forage intake. M. Blummel*1 and E. Grings2, ILRI, Patachery, Andhra Pradesh, India, USDA-ARS, Miles City, MT.</td>
</tr>
<tr>
<td>4:05 PM</td>
<td></td>
<td>Challenges for assessing forage intake of grazing animals. Eric Vanzant.</td>
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<tr>
<td>4:30 PM</td>
<td></td>
<td>Discussion</td>
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TUESDAY, JULY 26, 2005 ORAL SESSIONS
### Meat Science and Muscle Biology

**Muscle Growth and Fresh Meat Quality**  
**Chair: Steven Lonergan, Iowa State University**  
**Room 243**

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<th>Authors</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>388</td>
<td>Myostatin regulates MyHC isoform expression during myoblast differentiation in cattle.</td>
<td>S. Hayashi*, K. Watanabe, Y. Miura, S. Hayashi, M. Miyake, H. Aso, S. Ohwada, and T. Yamaguchi, Tohoku University, Sendai, Japan.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>389</td>
<td>Influence of the IGF-II genotype on the calpastatin activity in three muscle in relation to age and development.</td>
<td>K. Van den Maagdenberg¹, A. Stinckens⁵, E. Claey’s¹, N. Buys², and S. De Smet¹, ¹Laboratory of Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Ghent, Belgium, ⁵Centre for Animal Genetics and Selection, Department of Animal Production, K.U.Leuven, Leuven, Belgium.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>390</td>
<td>Cardiac and skeletal muscle protein synthesis and activation of translation initiation factors are stimulated by leucine, but not isoleucine or valine, in neonatal pigs.</td>
<td>J. Escobar*, J. Frank, A. Suryawan, H. Nguyen, and T. Davis, USDA/ARS, Children’s Nutrition Research Center, Baylor College of Medicine, Houston, TX.</td>
</tr>
<tr>
<td>3:15 PM</td>
<td></td>
<td>Break</td>
<td></td>
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<tr>
<td>3:45 PM</td>
<td>393</td>
<td>The fatty acid composition of Longissimus muscle from grazing cattle supplemented with sunflower oil and fishoil.</td>
<td>E. Ermias¹², F. J. Monaham³, and A. P. Moloney*, ¹Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland, ²University College Dublin, Belfield, Dublin, Ireland.</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>394</td>
<td>Effects of corn oil supplementation on carcass quality, rib composition, and tenderness of implanted Angus, Brangus, and Hereford Heifers.</td>
<td>J. Long*, S. Duckett¹, G. Hill², and H. Crowe¹, ¹University of Georgia, Athens, ²University of Georgia, Tifton.</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>395</td>
<td>Effect of castration of females on productive performance and carcass quality of Iberian pigs.</td>
<td>M. P. Serrano¹, D. G. Valencia¹, R. Lázaro¹, M. Nieto², and G. G. Mateos*, ¹Universidad Politécnica de Madrid, Spain, ²Copese, Segovia, Spain.</td>
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### SYMPOSIUM

**Milk Protein and Enzymes**  
**Milk Protein Interactions**  
**Chair: Rafael Jimenez-Flores, California Polytechnic State University, San Luis Obispo**  
**Room 211**

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<tr>
<td>2:00 PM</td>
<td></td>
<td>Introduction.</td>
<td>Rafael Jimenez-Flores, California Polytechnic State University, San Luis Obispo, CA.</td>
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<td>2:50 PM</td>
<td>398</td>
<td>Process-induced intermolecular bonds in milk protein gels and their impact on rheological properties.</td>
<td>J. Hinrichs*, University of Hohenheim, Germany.</td>
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</tbody>
</table>
3:35 PM Break

4:00 PM 399 The 500 Myr story of the evolution of phosphoproteins that made milk possible. C. Holt* and R. A. Clegg, Hannah Research Institute, Ayr, UK.

4:45 PM 400 HAMLET, an alpha-lactalbumin folding variant that induces tumor cell apoptosis. C. Svanborg*, University of Lund, Sweden.

SYMPOSIUM

Nonruminant Nutrition

Stable Isotope Tracer Techniques for Nonruminant Nutrition Research and Their Practical Applications

Chair: Ming Z. Fan, University of Guelph, and Hans H. Stein, South Dakota State University

Sponsor: Cambridge Isotope Laboratories and Elanco Animal Health

Room 202

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TUESDAY, JULY 26, 2005 ORAL SESSIONS

Tuesday Orals 113

Physiology and Endocrinology IV

Chair: Thomas Adams, University of California, Davis

Room 200

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<th>Time</th>
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<td>2:00 PM</td>
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<td>2:30 PM</td>
<td>408</td>
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<td>2:45 PM</td>
<td>409</td>
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</table>
3:00 PM 410 Fatty acid composition of the porcine conceptus in response to maternal omega-3 fatty acid supplementation. A. E. Brazle*1, B. J. Johnson1, E. C. Tegtmeier1, S. K. Webel1, and D. L. Davis1, 1Kansas State University, Manhattan, 2United Feeds, Inc., Sheridan, IN.

3:15 PM 411 Effects of stress on performance and the immune response in pigs infected with porcine reproductive and respiratory syndrome virus. M. Sutherland*1, S. Niekamp1, W. Van Alstine2, and J. Salak-Johnson1, 1University of Illinois, Urbana, 2Purdue University, West Lafayette, IN.

3:30 PM Break

3:45 PM 412 Effects of albuterol on the physiology of finishing pigs. D. Lay*1, J. Marchant Forde1, B. Richert2, R. Marchant Forde1, and K. McMunn1, 1USDA-ARS; Livestock Behavior Research Unit, W. Lafayette, IN, 2Purdue University, W. Lafayette, IN.

4:00 PM 413 Evidence for coordinated regulation of IGFBP-5, four and a half lim (FHL) 2, and a disintegrin and metalloprotease (ADAM) 9 expression in osteoblasts. K. E. Govoni*1, A. Kramer1, E. Winter1, D. J. Baylink1,2, and S. Mohan1,2, 1MDC, JL Pettis VAMC, Loma Linda, CA, 2Loma Linda University, Loma Linda, CA.

4:15 PM 414 Immunization of pigs against chicken (c)GnRH-II and lamprey (l)GnRH-III: Effects on gonadotropin secretion and testicular function. A. Bowen*1, S. Khan2, L. Berghman3, J. Kirby4, and J. Vizcarra1, 1Texas Tech University, Lubbock, 2Clark Atlanta University, Atlanta, GA, 3Texas A&M University, College Station, 4University of Arkansas, Fayetteville.

4:30 PM 415 Application of glycerol as an optical clearing agent to enhance photonic transference and detection of Salmonella typhimurium through pig skin. K. Moulton*1, F. Lovell1, E. Williams1, P. Ryan1, A. Karsi1, M. Lawrence1, D. Lay2, E. Jansen1, S. Willard2, and D. L. Davis1, 1USDA-ARS Livestock Behavior Research Unit, West Lafayette, IN, 2Vanderbilt University, Nashville, TN.

4:45 PM 416 Factors affecting days open and days to first breeding in Iranian Holsteins. A. Heravi Moussavi*1, M. Danesh Mesgaran1, and R. Noorhakhsh2, 1Ferdowsi University, Mashhad, Khorasan, Iran, 2Institute of Standards and Industrial Research, Mashhad, Khorasan, Iran.

Production, Management and the Environment

Nutrition, Management, and Environment

Chair: Wayne Greene, Auburn University

Room 206

Time Abstract #

2:00 PM 417 Assessment of dairy farm management practices through internet connections. G. Licitra*1,2, J. D. Ferguson1, G. Azzaro1, M. Caccamo1, and A. Cappa1, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A., University of Catania, Catania, Italy, 3University of Pennsylvania, Kennett Square, 4APA, Vicenza, Italy.

2:15 PM 418 Evaluation of models to predict phosphorus (P) excretion of dairy cattle fed a range of P concentrations during different stages of the dry period and lactation. Z. H. Myers and D. K. Beede*1, 1University of Manitoba.


2:45 PM 420 Effects of winter feeding systems on cow performance, feeding site soil nutrients and pasture growth. H. Lardner*1, P. Jungnitsch1, J. Schoenau2, and T. Highmoor1, 1Western Beef Development Centre, Saskatchewan, Saskatchewan, Canada, 2University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

3:00 PM 421 Effects of feeding varying concentrations of dry distillers grains with solubles to finishing steers on performance and odorant emissions. C. Benson*, K. Tjardes, and C. Wright, 1South Dakota State University, Brookings.

3:15 PM Break

3:30 PM 422 Factors influencing ammonia emissions from beef cattle feedlots using forced-air wind tunnels. D. Sherwood*, G. Erickson, T. Kloepenstein, and D. Schulte, 1University of Nebraska.

3:45 PM 423 Assessment of strategies to reduce ammonia, methane, and nitrous oxide emissions from gestating and lactating sows. C. Piñeiro*1, G. Montalvo1, and M. Bigeriego1, 1PigCHAMP Pro Europa, S.A., Segovia, Spain, 2Fragsega, S.A., Madrid, Spain, 3Spanish Ministry of Agriculture, Fisheries and Food, Spain.

4:00 PM 424 Improving estimates of enteric methane emissions from cattle in Canada. K. Ominski*, D. Boadi, and K. Wittenberg, 1University of Manitoba, 2University of Manitoba, Winnipeg, Manitoba, Canada.
**Ruminant Nutrition**

**Dairy – Fiber and Digestion**

*Chair: Ken Griswold, Pennsylvania State University*

**Room 207**

**Tuesday, July 26, 2005**

**Orals**

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<th>Time</th>
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<tr>
<td>2:00 PM</td>
<td>427</td>
<td>Validation of propionate challenge test methodology. B. J. Bradford*, A. D. O’Toole, A. S. Nash, and M. S. Allen, Michigan State University, East Lansing.</td>
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<tr>
<td>3:15 PM</td>
<td>432</td>
<td>Effects of the number of cycles at suboptimal pH on rumen bacterial fermentation in a dual flow continuous culture system. M. Cerrato*, S. Calsamiglia, and A. Ferret, Universitat Autonoma de Barcelona, Bellaterra, Spain.</td>
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<td>3:30 PM</td>
<td>433</td>
<td>Acidosis in dairy cows. E. Bramley, I. J. Lean*, N. D. Costa, and W. J. Fulkerson, University of Sydney, Camden, NSW, Australia, Bovine Research Australasia, Camden, NSW, Australia, Murdoch University, Murdoch, WA, Australia.</td>
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<td>3:45 PM</td>
<td>434</td>
<td>Effects of graded levels of wheat-barley concentrate on subacute ruminal acidosis (SARA), lipopolysaccharide endotoxins (LPS) and acute phase proteins in steers. G. N. Gozho*, J. C. Plaizier, and D. O. Krause, University of Manitoba, Winnipeg, MB, Canada.</td>
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<tr>
<td>4:00 PM</td>
<td>435</td>
<td>Method to measure feed particles by image analysis. G. Licitra, M. Caccamo, I. Schadt, J. D. Ferguson, G. Gennuso, and G. Azzaro, CoRFiLaC, Regione Siciliana, Ragusa, Italy, D.A.C.P.A., Catania University, Catania, Italy, University of Pennsylvania, Philadelphia.</td>
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<td>4:30 PM</td>
<td>437</td>
<td>Pretrial intake affects relative intake, digestion, and production responses of lactating cows to alfalfa and grass silages. J. A. Voecker Linton* and M. S. Allen, Michigan State University, East Lansing.</td>
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## Ruminant Nutrition

### Dairy - Calves and Heifers

Chair: Michael J. VandeHaar, Michigan State University

Room 205

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<tr>
<td>2:00 PM</td>
<td>439</td>
<td>An evaluation of the calf and heifer models within the 2001 Dairy NRC publication.</td>
<td>M. Van Amburgh*, Cornell University, Ithaca, NY.</td>
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<td>2:30 PM</td>
<td>440</td>
<td>Feeding neonatal calves starters with different protein concentrations in conventional and high protein milk replacer feeding regimes.</td>
<td>M. Hill*, J. Aldrich, and R. Schlotterbeck, Akey, Lewisburg, OH.</td>
</tr>
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<td>2:45 PM</td>
<td>441</td>
<td>Effects of continuous versus periodic milk availability on the behavior and performance of dairy calves.</td>
<td>F. Wolf¹, M. Hotzel¹, M. von Keyserlingk*¹, and D. Weary², ¹Univ. de Santa Catarina, Brazil, ²Animal Welfare Program, University of British Columbia, Vancouver, Canada.</td>
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<td>3:00 PM</td>
<td>442</td>
<td>Effects of weaning age and milk feeding frequency on calf growth, health and rumen parameters.</td>
<td>S. I. Kehoe* and A. J. Heinrichs, The Pennsylvania State University, University Park.</td>
</tr>
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<td>3:15 PM</td>
<td>443</td>
<td>Effect of Apex botanicals on calves fed pasteurized milk or milk replacer (MR) during the nursery phase and subsequent grower phase until four months of age.</td>
<td>M.k Hill*, J. Aldrich, and R. Schlotterbeck, Akey, Lewisburg, OH.</td>
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<td>Break</td>
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<td>4:15 PM</td>
<td>446</td>
<td>Using mixture enzyme as feed additive in growing diets of young Holstein calves.</td>
<td>A. Naserian¹, B. Saremi*, and M. Sari¹, ¹Ferdowsi University, Mashhad, Khorasan Razavi, Iran, ²Animal Science Department, Education Centre of Khorasan Jihad-Agriculture, Mashhad, Khorasan Razavi, Iran.</td>
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<td>4:45 PM</td>
<td>448</td>
<td>The effects of altering dry matter intake on rumen digestion and turnover in dairy heifers.</td>
<td>G. I. Zanton* and A. J. Heinrichs, Pennsylvania State University, University Park.</td>
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Wednesday, July 27

POSTER PRESENTATIONS

Animal Behavior and Well-being

Dairy Cattle, Housing Management and Stress

Exhibit Hall A

Abstract #


W2 Effect of freestall size and surface on frequency and type of use by lactating dairy cows. K. Cummins*, L. Carlson, J. Grubbs, and B. Rickman, Auburn University, Auburn.

W3 Regrouping dairy cattle and subsequent effects on dominance rank and milk production. B. Sandmann*, J. Swanson, J. Shirley, and J. Smith, Kansas State University, Manhattan.


Animal Behavior and Well-being

Sow Housing, Management and Stress

Exhibit Hall A

Abstract #

W6 Analysis of the association between farrowing and lactation factors and sow removal. S. S. Anil*, L. Anil1, J. Deen1, S. K. Baidoo1, and R. D. Walker2, 1University of Minnesota, Saint Paul, 2SROC, University of Minnesota, Waseca.

W7 Evaluation of the effect of group size and structure of gestation housing on production performance and removal of sows in pens with electronic sow feeders (ESFs). L. Anil*, S. S. Anil1, J. Deen1, S. K. Baidoo1, and R. D. Walker2, 1University of Minnesota, Saint Paul, 2SROC, University of Minnesota, Waseca.

W8 Evaluation of the effect of group size and structure on welfare of gestating sows in pens with electronic sow feeders (ESFs). L. Anil*, S. S. Anil1, J. Deen1, S. K. Baidoo1, and R. D. Walker2, 1University of Minnesota, Saint Paul, 2SROC, University of Minnesota, Waseca.

W9 Effects of a modified farrowing pen on sow maternal behavior. N. Devillers*, M.-C. Meunier-Salaün, and C. Farmer, 1AAFC, Dairy and Swine R & D Centre, Lennoxville, QC, Canada, 2INRA, UMR Système d’Elevage Nutrition Animale et Humaine, Saint Gilles, France.

Animal Behavior and Well-being

Swine Handling, Transportation and Stress

Exhibit Hall A

Abstract #

W10 The fatigued pig syndrome. M. Ritter*, M. Ellis1, M. Benjamin2, E. Berg1, P. DuBois3, J. Marchant-Forde4, A. Green3, P. Matzat5, P. Mormede6, T. Moyer7, K. Pfalzgra8, M. Siemens9, J. Sterle10, T. Whiting11, B. Wolter12, 1University of Illinois, Urbana, 2ELANCO Animal Health, Canada, 3University of Missouri, Columbia, 4Cargill, KS, 5USDA-ARS, IN, 6USDA-APHIS, CO, 7ELANCO Animal Health, MO, 8Lab Neurogenetique et Stress, France, 9Hatfield Quality Meats, PA, 10Tyson Fresh Meats, AR, 11Smithfield Foods, Inc., VA, 12Texas A&M University, College Station, 13Agriculture & Food, Canada, 14The Maschhoffs, Carlyle, IL, 15National Pork Board, IA.
Animal Health III
Exhibit Hall A

Abstract #

W16 Gnathostomosis occurrence in wild vertebrates in the south of Sinaloa State, Mexico. E. Torres*, S. Sánchez, C. De la Cruz, J. J. Portillo, and A. Lafoñ, 1EB-Universidad Autónoma de Sinaloa, Culiacan, Sinaloa, Mexico, 2FCQ-Universidad Autónoma de Sinaloa, Culiacan, Sinaloa, Mexico, 3FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Sinaloa, Mexico, 4FZ-Universidad Autónoma de Chihuahua, Chihuahua, Chihuahua, Mexico.


W19 Temporal changes in rectal temperature and serum prolactin of weaned brahman-influenced heifers previously grazing endophyte-infected tall fescue pasture. G. Aiken*, and M. Looper, 1USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY, 2Dale Bumpers Small Farms Research Center, Booneville, AR.


W22 Growth performance of postweaning piglets fed diets containing flaxseed. S. Durand*1,2, A. Guigère, M. Lessard, and J.-F. Bernier, 1Université Laval, Québec, Quebec, Canada, 2Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, Quebec, Canada.

W23 Characterization of Bacterial Populations in the Gut of Piglets Treated with Probiotics by Using PCR Analysis. N. Gagnon*, E. Degagné, G. Talbot, M. Dupuis, P. Ward, D. Roy, T. A. Tompkins, and M. Lessard, 1Dairy and Swine Research and Development Centre, Agriculture and Agri-Food Canada, Lennoxville, Quebec, Canada, 2Food Research and Development Centre, Agriculture and Agri-Food Canada, St. Hyacinthe, Quebec, Canada, 3Institut Rosell-Lallemand Inc, Montreal, Quebec, Canada.

W24 Probiotics and yeast modulate acute phase response in feedlot steers. A. Jafari*, V. Emmanuel, K. Beauchemin, J. Leedle, and B. Ametaj, 1University of Alberta, Edmonton, Alberta, Canada, 2Isfahan University of Technology, Isfahan, Iran, 3Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, 4Chr. Hansen, Inc., Milwaukee, WI.

W25 Effects of bacterial direct-fed microbials on mediators of acute phase response in feedlot steers. D. Emmanuel*, A. Jafari1, K. Beauchemin, J. Leedle, and B. Ametaj, 1University of Alberta, Edmonton, Alberta, Canada, 2Isfahan University of Technology, Isfahan, Iran, 3Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, 4Chr. Hansen, Inc., Milwaukee, WI.

W26 Relationship of prepartum plasma nonesterified fatty acids (NEFA) to periparturient production, health and reproduction of Jersey cows. G. Higginbotham*, J. Merriam, E. Nogueira, and J. Santos, 1University of California Cooperative Extension, Fresno, 2Ahlem Farms, Hilmar, CA, 3University of California, Tulare.
Beef Species

Exhibit Hall A

Abstract #

W27 Calves energy retention and efficiency to weaning in Nellore, British x Nellore and Continental x Nellore crossbred calves. L. Calegare1, M. M. Alencar2, G. M. Cruz2, and D. P. D. Lanna*1, 1Animal Growth and Nutrition Lab, ESALQ/USP, Piracicaba, SP, Brazil, 2Embrapa, Sao Carlos, SP, Brazil.

W28 The relationship between infrared thermography and residual feed intake in cows. A. L. Schaefer*1, J. Basarab2, S. Scott3, J. Colyn1, D. McCartney1, J. McKinnon1, E. Okine1, and A. K. W. Tong1, 1Agriculture and Agri-Food Canada, Lacombe, Alberta, Canada, 2Alberta Agriculture Food and Rural Development, Lacombe, Alberta, Canada, 3Agriculture and Agri-Food Canada, Brandon, Manitoba, Canada, 4University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 5University of Alberta, Edmonton, Alberta, Canada.


W30 Evaluation of SafeGuard® (fenbendazole) oral drench in addition to Ivomec® (ivermectin) pour-on vs. Dectomax® (doramectin) injectable alone on parasite load, performance and carcass merit of finishing heifers. C. D. Reinhardt*, J. P. Hutcheson, and W. T. Nichols, Intervet, Inc., Millsboro, DE.


W32 Evaluating rapid methods for determination of total conjugated linoleic acid in beef fat. M. E. R. Dugan*, D. C. Rolland1, and J. K. G. Kramer1, 1Agriculture and Agri-Food Canada, Lacombe, Alberta, Canada, 2Agriculture and Agri-Food Canada, Guelph, Ontario, Canada.


W34 Weight and carcass characteristics of nelore, guzerat-nelore and brahman-nelore steers. E. Ribeiro*1, J. Hernandez2, E. Zanella3, M. Shimokomaki1, S. Prudencial-Ferreira1, E. Youssef1, H. Ribeiro1, and J. Reeves3, 1Universidade Estadual de Londrina, Londrina, PR, Brazil, 2Washington State University, Pullman, 3Universidade de Passo Fundo, Passo Fundo, RS, Brazil.

Companion Animals

Nutritional and Health Considerations for Companion Animals I

Exhibit Hall A

Abstract #

W35 Metabolic & histopathological effects of the somatotropin/insulin-like growth factor axis on bone healing in a canine unstable gap fracture healing model. F. Buonomo*1 and D. Millis2, 1Monsanto Company, Animal Science Division, St. Louis, MO, 2University of Tennessee, Knoxville.

W36 Antioxidants to protect petfood diets enriched in essential fatty acids from autoxidation. T. Tanner* and L. Deffenbaugh, Kemin Industries, Inc., Des Moines, IA.

W37 Cloning and in vitro characterization of dog PepT1 and development of a polarized cell model to study PepT1 trafficking and regulation. B. Zanghi*1, N. Etienne1, A. Matthews1, E. Miles1, G. Davenport2, and J. Matthews1, 1University of Kentucky, Lexington, 2The IAMS Company, Lewisburg, OH.

W38 Feeding of chicken or soy protein-based diet differentially affects in vivo PepT1 uptake capacity in dogs. B. Zanghi*1, G. Sipe1, G. Davenport2, and J. Matthews1, 1University of Kentucky, Lexington, 2The IAMS Company, Lewisburg, OH.
Dairy Foods

Dairy Microbiology and Dairy Processing

Exhibit Hall A

Abstract #

W39  Quality characteristics and consumer acceptance of yogurt fortified with date fiber. I. Hashim*, A. Khaul, and H. Afifi, UAE University, Al Ain, United Arab Emirates.

W40  Effect of milk heat treatment on the growth and viability of Bifidobacterium animalis Bb12 during fermentation and storage of yogurt. L. Fachin and W. Viotto*, State University of Campinas - UNICAMP, Faculty of Food Engineering, Department of Food Technology, Campinas, SP, Brazil.

W41  Effect of Propionibacterium freudenreichii PS-1 on the growth and viability of Bifidobacterium animalis Bb12 during fermentation and storage of yogurt. L. Fachin and W. Viotto*, State University of Campinas - UNICAMP, Faculty of Food Engineering, Department of Food Technology, Campinas, SP, Brazil.

W42  Development of symbiotic goat’s milk yogurt beverage. S. Li*, S. Gokavi, and M. Guo, University of Vermont, Burlington.

W43  Fat free plain yogurt manufactured with inulins of various chain lengths and Lactobacillus acidophilus or Lactobacillus casei. K. Aryana*, S. Begum, and P. McGrew, Louisiana State University Agricultural Center, Baton Rouge.

W44  Fat free lemon and strawberry flavored yogurts fortified with folic acid. C. Boeneke* and K. Aryana, Louisiana State University Agricultural Center, Baton Rouge.

W45  Physical and sensory attributes of stirred yogurts: impact of the physical properties of initial gel and breakdown process. W. J. Lee* and J. A. Lucey, University of Wisconsin, Madison.


W48  Assessment of potential probiotic properties of Latobacilli strains isolated from traditionally home-made Koumiss in Inner Mongolia of China. H. Zhang*, T. Sun*, J. Xu*, L. Wang*, Y. Yun1, B. Menghe1, R. Wu1, J. Wang1, and M. R. Guo2, Inner Mongolia Agricultural University, Huhhot, Inner Mongolia, China; University of Vermont, Burlington.

W49  High protein buttermilk powder; manufacture and properties. V. V. Mistry* and J. R. Dornellas, South Dakota State University, Brookings.

W50  Effects of packaging material, storage temperature, and fat content on the changes of the chemical composition of Ultra-pasteurized milk bottled in amber polyethylene Terephthalate (PET) containers. J. Bailard*, W. Harper, M. Pascall, and V. Alvarez, The Ohio State University, Columbus.


W53  Characterization of slow acid-producing Streptococcus thermophilus strains. R. J. McCarthy*, O. Anggraeni, W. J. Harper, and P. D. Courtney, The Ohio State University, Columbus.

W54  Application of exopolysaccharide-producing cultures in making reduced fat Cheddar cheese. Composition and proteolysis. S. Awad*, A. Hassan, and F. Halaweish, South Dakota State University, Brookings.

W55  Propionibacterium freudenreichii growth is differentially affected by the serum of Swiss cheese slurries prepared with different Lactobacillus helveticus strains. P. Limpisathian*, W. J. Harper, and P. D. Courtney, The Ohio State University, Columbus.

W56  Processing factors that affect the quality of pilot plant scale Swiss type cheese. C. J. Kuo*, N. Koca, T. Ji, V. B. Alvarez, and W. J. Harper, The Ohio State University, Columbus.
Food Safety
Control of Hazards

Chair: John N. Sofos, Colorado State University

Exhibit Hall A

Abstract #

W57  Effects of in-feed anti-salmonella egg yolk antibodies on shedding and antibiotic resistance of bacteria in swine. S. Rattanatabtimtong*, A. Mathew, S. Chattin, E. Jarboe, and R. Clift, University of Tennessee, Knoxville.

W58  Effect of grain processing on performance and fecal shedding of E. coli O157 in finishing feedlot heifers. B. E. De penbusch*, E. R. Loe, M. C. Corrigan, T. G. Nagaraja, and J. S. Drouillard, Kansas State University, Manhattan.

W59  Effect of monensin and tylosin on shedding of Escherichia coli O157:H7 by feedlot cattle. T. A. McAllister*, S. J. Bach, T. R. Callaway, 1 Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada, 2 Agriculture and Agri-Food Canada Research Centre, Summerland, BC, Canada, 3 USDA-ARS, College Station, TX.

W60  Clinical trial testing the effect of vaccination and direct-fed microbials on prevalence of E. coli O157:H7 in commercial beef feedlots. R. Peterson*, D. Smith, R. Moxley, T. Klopfenstein, G. Erickson, and S. Hinkley, University of Nebraska, Lincoln, NE.


W63  Relationship between kind, repose time and ruminal content consistence on bovine regurgitation at slaughter. F. G. Rios*, M. F. Moreno, J. J. Portillo, and G. Contreras, FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico.

W64  Lead levels in three commercial brands of pasteurized milk from northern Mexico. J. A. Sosa-Garcia, M. Garcia-Carrillo, M. C. Hernandez-Serrano, and R. Rodriguez-Martinez, 1 Universidad Autonoma Agraria Antonio Narro - Unidad Laguna, Torreon, Coahuila, Mexico, 2 Universidad Autonoma de Coahuila, Torreon, Coahuila, Mexico.

W65  Application of automatic flow cytometry as a conventional method for determination of total bacterial count in Brazil. L. D. Cassoli, A. C. O. Rodrigues, A. Coldebella, L. C. Roma, Jr, and P. F. Machado, 1 University of Sao Paulo (USP), Piracicaba, SP, Brazil, 2 EMBRAPA Suinos e Aves, Concordia, SC, Brazil.

W66  Milk quality and new regulations in Brazil. A. C. O. Rodrigues*, L. D. Cassoli, and P. F. Machado, Clinica do Leite, ESALQ, USP, Piracicaba, SP, Brazil.


Forages and Pastures
Feeding and Management

Exhibit Hall A

Abstract #


W69  Nutritive value and proper level of mixed feeding of Atriplex canescens and Panicum antidotale in Balouchi sheep. V. Kashki* and H. Tavakoli, Agriculture and Natural Resources Research Center of Khorasan, Mashhad, Khorasan, Iran.


W71  Afternoon harvest and greater ruminal degradability of supplemental protein interact to increase digestibility and voluntary intake of switchgrass (SG) hay fed to beef steers. G. Huntington* and J. Burns, 1 North Carolina State University, Raleigh, 2 USDA-ARS, Raleigh, NC.

W72  Effects of eugenol, terpin-4-ol, a-terpineol, and methyl eugenol on consumption of alfalfa pellets by sheep. R. Estell*, E. Fredrickson, D. Anderson, and M. Remmenga, 1 USDA ARS Jornada Experimental Range, Las Cruces, NM, 2 New Mexico State University, Las Cruces.
W88  Conserved whole-crop wheat and forage maize feeding value relative to grass silage and adlibitum concentrates for beef cattle. K. Walsh*, P. O’Kieley1, and F. O’Mara2, 1Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland, 2University College Dublin, Belfield, Dublin, Ireland.

W74  Cool-season grasses for dry cow forage. J. H. Cherney* and D. J. R. Cherney, Cornell University, Ithaca, NY.

W75  Effects of winter stocker growth rate and finishing diet on beef Longissimus vitamin and mineral composition. R. N. Sonon, Jr.*, S. K. Duckett1, J. Neel2, S. Sellappan1, J. Fontenot1, and W. Clapham3, 1University of Georgia, Athens, 2USDA-ARS, Beaver, WY, 3Virginia Polytechnic Institute and State University, Blacksburg.


W77  Effect of level oil supplementation and carcass cooling temperature on beef tenderness of pasture-finished steers. E. Pavan*1,2 and S. Duckett1, 1University of Georgia, Athens, 1Instituto Nacional de Tecnologia Agropecuaria, Balcarce, Bs. As., Argentina.

W78  Effect of feeding eastern gamagrass on growth of meat goats. A. Faucette*, J. Bartlett, and E. Rhoden, Tuskegee University, Tuskegee, AL.

W79  Enhancing conjugated linoleic acids (CLA) and omega-3 fatty acids in milk from cows fed green chopped forage. T. R. Dhiman*, S. A. Hagos1, J. L. Walters1, and S. Tamminga2, 1Utah State University, Logan, 2Wageningen University, Wageningen, The Netherlands.

Goat Species

Nutrition, Grazing, and Forages

Exhibit Hall A

Abstract #

W80  Grazing behavior and energy expenditure by sheep and goats co-grazing grass/forb pastures at three stocking rates. G. Animut*, A. L. Goetsch1, G. E. Aiken1, R. Puchala1, G. Detweiler1, C. R. Krehbiel2, R. C. Merkel1, T. Sahlul1, L. J. Dawson2, and Z. B. Johnson1, 1Langston University, Langston, OK, 2Oklahoma State University, Stillwater, 3USDA ARS Dale Bumpers Small Farms Research Center, Booneville, AR, 4Oklahoma State University, Stillwater, 5University of Arkansas, Fayetteville.


W83  Postweaning performance by crossbred Boer kids consuming pelleted alfalfa subsequent to grazing at different stocking rates. A. Asmare1,2, A. K. Patra*, R. Puchala1, G. Detweiler1, T. A. Gipson3, T. Sahlul1, and A. L. Goetsch1, 1Langston University, Langston, OK, 2Alemaya University, Dire Dawa, Dire Dawa, Ethiopia.

W84  Growth and carcass traits of percentage and crossbred boer wether goat kids raised under different production systems. C. Shoemaker*, S. Solaiman1, C. Kerth1, W. Jones1, and D. Bransby1, Auburn University, Auburn, AL, 2Tuskegee University, Tuskegee, AL.

W85  Effect of initial body condition of Boer x Spanish yearling wethers and level of nutrient intake on change in mass of internal organs and tissues. A.T. Ngwa*, L.J. Dawson2, R. Puchala1, G. Detweiler1, R.C. Merkel1, I. Tovar-Luna1, T. Sahlul1, and A.L. Goetsch1, 1Langston University, Langston, OK, 2Alemaya University, Dire Dawa, Dire Dawa, Ethiopia.

W86  Change in energy expenditure by meat goats with varying levels of feed intake. A. Asmare*, R. Puchala1, R.C. Merkel1*, T. Sahlul1, and A.L. Goetsch1, 1Langston University, Langston, OK, 2Oklahoma State University, Stillwater.


W89  Relationship between in vitro gas production and cell wall compounds in the diet selected by goats grazing a poor quality rangeland in North Mexico. A. Cerrillo-Soto*, G. Nevarez-Carrasco, R. Montoya-Escalante, and A. Juarez-Reyes, Universidad Juarez del Estado de Durango, Durango, Dgo, Mexico.
In situ ruminal digestion kinetics and volatile fatty acid production rate in goats fed premium quality dehydrated alfalfa hay supplemented with three levels of a concentrate mix. N. E. Brown*, J. Bing, and R. N. Corley, III, Tuskegee University, Tuskegee, AL.

**Growth and Development**

**Physiology of Growth and Development**

*Exhibit Hall A*

**Abstract #**

W90 DNA regulatory activity and RNA expression of the sequence surrounding the callipyge mutation. A. Skipwith*1, A. Perkins1, T. Shay2, S. Eng3, D. Moody1, N. Cockett2, and C. Bidwell1, 1Purdue University, West Lafayette, IN, 2Utah State University, Logan.


W94 Growth rate, feed efficiency (FE), and IGFBP-2 and -3 in beef cattle treated with exogenous bovine (b) ST beginning at 200d, 250d and 300d of age. B. Velayudhan*, K. Govoni, T. Hoagland, and S. Zinn, University of Arkansas, Pine Bluff, AR, University of Minnesota, St. Paul.


W96 Effect of dietary conjugated linoleic acid on adiposity and the adipose-transcriptome. K. M. Hargrave*, D. Pomp, and J. L. Miner, University of Nebraska, Lincoln.

W97 Decreased expression of DLK1 in the livers of 8 wk old callipyge lambs. J. N. Fleming*1, J. M. Smith1, T. S. Hadfield2, S. L. Eng3, D. E. Moody1, N. E. Cockett2, and C. A. Bidwell1, 1Purdue University, West Lafayette, IN, 2Utah State University, Logan.

W98 Exogenous ghrelin elevates plasma growth hormone concentrations in steers allowed ad libitum intake. A. E. Wertz-Lutz*1, M. J. Meyer2, Y. R. Boisclair2, and M. E. Van Vliet1, 1Agriculture Canada, Ottawa, ON, Canada, 2University of Minnesota, St. Paul.


W101 Effects of dietary conjugated linoleic acid on adiposity and the adipose-transcriptome. K. M. Hargrave*, D. Pomp, and J. L. Miner, University of Nebraska, Lincoln.


W103 Growth rate, feed efficiency (FE), and IGFBP-2 and -3 in beef cattle treated with exogenous bovine (b) ST beginning at 200d, 250d and 300d of age. B. Velayudhan*, K. Govoni, T. Hoagland, and S. Zinn, University of Arkansas, Pine Bluff, AR, University of Minnesota, St. Paul.


W105 Effect of ovariectomy and estradiol administration on bovine skeletal muscle insulin-like growth factor-I (IGF-I) and b-adrenergic receptor (bAR) messenger RNA (mRNA) abundance. E. K. Sissom*1, M. J. Meyer2, Y. R. Boisclair2, M. E. Van Amburgh1, and B. J. Johnson1, 1Kansas State University, Manhattan, 2Cornell University, Ithaca, NY.

W106 Effects of restricted feed intake on plasma levels of IGF-I and abundance of hepatic IGF-I and GH receptor mRNA in channel catfish. B. Peterson* and B. Small, USDA/ARS Catfish Genetics Research Unit, Stoneville, MS.
W107 Zinc finger binding protein 89 (ZBP-89) is a potential transcription factor for the bovine growth hormone receptor 1A promoter. H. Jiang*, Q. Xu, and L. Springer, Virginia Tech, Blacksburg.


W109 The expression of genes related to adipocytes in Lee-Sung Pigs. S. T. Ding*, H. C. Wang, Y. H. Ko, and C. L. Chen, National Taiwan University, Taipei, Taiwan.

W110 Role of the translational insulin signaling machinery in the anabolic effect of n-3 polyunsaturated fatty acids in growing steers. M. C. Thivierge*, L. Dombrowski*, A. A. Gingras1, and A. Marette1, Université Laval, Quebec, QC, Canada, Laval University Hospital Research Ctr., Quebec, QC, Canada.

W111 Effect of myostatin on avian myogenic satellite cells and embryonic myoblasts. D. McFarland*, S. Velleman2, J. Pesall1, and C. Liu2, South Dakota State University, Brookings, Ohio State University, Wooster.

W112 A novel regulatory mechanism of muscle protein anabolism in steers. A. A. Gingras*1, P. Y. Chouinard1, Y. Couture2, P. Julien1, P. Dubreuil2, A. Myre1, K. Bergeron1, T. A. Davis4, and M. C. Thivierge1, Université Laval, Quebec, Canada, Université de Montréal, Quebec, Canada, Laval University Medical Ctr (CHUL), Quebec, Canada, Baylor College of Medicine, Houston, Texas.

International Animal Agriculture

Exhibit Hall A

Abstract #

W113 Environmental factors and genic parameters for birth weight in the indigenous Chiapas ovine breed. G. Campos1, H. Castro-Gámez1, R. López1, R. Pérezgros1, and H. Castillo-Juérez*, Universidad Nacional Autónoma de México, Ciudad Universitaria, México D.F., Universidad Autónoma de Chiapas, Teopisca Center, Los Altos de Chiapas, México, Universidad Autónoma Metropolitana, Calzada del Hueso, México D.F.

W114 Design of breeding objective including trypanotolerance for African cattle smallholders. U. Janben-Tapken*, Y. Li, and H. N. Kadarmideen, Swiss Federal Institute of Technology, ETH Zentrum, Zurich, Switzerland.

W115 Using the n-alkane technique to estimate the herbage intake of steers grazing Zoysia japonica grassland. Y. Zhang*, Y. Togamura2, and K. Otsuki2, China Agricultural University, Beijing, PR China, National Institute of Livestock and Grassland Science, Tochigi, Japan.

Lactation Biology

Exhibit Hall A

Abstract #

W116 Udder morphology and milking characteristics in dairy goats milked once- or twice-daily. A. A. K. Salama1, G. Caja*1, M. Rovai2, R. Casals1, and A. Martí2, Universitat Autònoma de Barcelona, Bellaterra, Spain, Universitat Miguel Hernández de Elche, Orihuela, Spain.


W118 Mid term lactational effects of once- versus twice-daily milking in Manchega and Lacaune dairy ewes. V. Castillo*, X. Such, G. Caja, E. Albanell, and R. Casals, Universitat Autònoma de Barcelona, Bellaterra, Spain.

W119 Incidences of calving related disorders of Holstein cows supplemented with low dose of bST prepartum and during early lactation. M. S. Gulay*, M. Liboni1, M. J. Hayen2, and H. H. Head2, Akdeniz University, Turkey, University of Florida, Gainesville.

W120 Association between dry period length (30 or 60 d) and calving related disorders. M. S. Gulay*, M. J. Hayen2, and H. H. Head2, Akdeniz University, Turkey, University of Florida, Gainesville.

W121 Assessing changes in mammary gland gene expression using a cDNA microarray in the dairy cow following administration of bovine somatotropin. J. Kelsey*, A. Nudda1, A. Corato1, E. Mosley1, S. Mosley1, B. Williams1, J. Grimberg1, D. Henderson1, J. Hoying2, K. Greer1, and M. McGuire1, University of Idaho, Moscow, University of Arizona, Tucson.

W122 Fatty acid composition of porcine milk throughout lactation and comparison to human and bovine milk. S. Donovan*, S. Taylor2, and E. DePeters2, University of Illinois, Urbana, University of California, Davis.
The effect of conjugated linoleic acid (CLA) on transcriptional activation of the Stearoyl-CoA desaturase gene in bovine mammary cells. A. F. Keating*,1, F. Q. Zhao2, and J. J. Kennelly1, 1University of Alberta, Edmonton, Canada, 2University of Vermont, Burlington.


Use of an immortalized bovine mammary epithelial cell line (MAC-T) to measure the mitogenic activity of extracts from heifer mammary tissue: effects of body weight. K. M. Daniels*, 1, P. L. Boyle1, M. L. McGilliard1, M. J. Meyer2, M. E. Van Amburgh3, and R. M. Akers1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Cornell University, Ithaca, NY.

Use of 13C-mass isotope distribution analysis (MIDA) to define precursors for lactose and amino acid synthesis by bovine mammary explants. B. J. Bequette*,1, S. L. Owens1, S. W. El-Kadi1, N. E. Sunny1, and A. Shamay2, 1University of Maryland, College Park, 2The Volcani Center, Bet Dagan, Israel.

Withdrawn by Author.

Composition and size of mammary glands of pregnant gilts according to gland anatomical location. F. Ji*1, W. L. Hurley2, and W. L. Hurley2, 1Texas Tech University, Lubbock, TX, 2University of Illinois, Urbana.

Influence of weaning on caecal microbiota of pigs: use of real-time PCR and t-RFLP. M. Castillo*, 1, S. M. Martín-Orúe1, E. G. Manzanilla1, M. Roca2, and J. Gasa1, 1Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Centre de Recerca en Sanitat Animal, Bellaterra, Barcelona, Spain.
Available energy from fermentation in the hindgut in growing pigs fed with different levels of dietary fiber. M. Anguita¹, N. Canibe², J. F. Pérez*_¹, and B. B. Jensen², ¹Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, ²DIAS, Research centre Foulem, Tjele, Denmark.

An automated algorithm to estimate body protein and lipid deposition patterns in growing pigs from growth and feed intake curves. G. Vander Voort* and K. de Lange, University of Guelph, Guelph, Ontario, Canada.

Dual-energy x-ray absorptiometry for determination of body composition in a porcine model of obesity development. C. A. Baldwin* and T. S. Stahly, Iowa State University, Ames.


Nonruminant Nutrition

Minerals

Exhibit Hall A

Abstract #

W144 Genetic background and phosphorus nutrition affect bone strength and gene expression in young pigs. L. Hittmeier, R. Lensing, L. Grapes, M. Rothschild, and C. Stahl*, Iowa State University, Ames.


W148 Dietary selenium sources in swine: maternal transfer to embryos. M.-È. Fortier¹, H. Quesnel², J.-F. Bilodeau¹, A. GiguÈre³, J.-P. Laforest¹, and J. J. Matte*, ¹UniversitÈ Laval, QuÈbec, Canada, ²Institut de la Recherche Agronomique, St-Gilles, France, ³Agriculture et Agroalimentaire Canada, Lennoxville, QuÈbec, Canada.

W149 The comparative effects of organic and inorganic selenium on selenium transfer from sows to nursing pigs. I. Yoon*¹ and E. McMillan², ¹Diamond V Mills, Inc., Cedar Rapids, IA, ²MapleLeaf Foods Agresearch, Burford, Ontario, Canada.

W150 Supplementation of potassium-diformate (Formi®), as an alternative to antibiotics, on growth performance, morphological changes of small intestine and immune responses in weanling Pig. M. S. Yun, W. S. Joo*, H. F. Long, W. G. Park, and Y. Y. Kim, Seoul National University, Seoul, South Korea.

W151 Diet acidity fails to match zinc oxide in improving weaner pig performance. H. Miller*¹, P. Blanchard², and P. Toplis³, ¹University of Leeds, Leeds, West Yorkshire, UK, ²Frank Wright Ltd, Ashbourne, Derbyshire, UK, ³Primary Diets Ltd, Ripon, North Yorkshire, UK.


W153 Magnesium absorption from drinking water in rats. A. Ohata*, H. Ohmori, T. Matsui, and H. Yano, Kyoto University, Katsushirakawa-oitake, Sakyo-ku, Kyoto, 606-8502, Japan.

Physiology & Endocrinology III
Exhibit Hall A

Abstract #
W155 Effects of early gestational undernutrition in the cow on fetal growth and placental composition. S. Ford*, C. Sanders1, K. Vonnahme2, and B. Hess1, 1University of Wyoming, Laramie, 2North Dakota State University, Fargo.

W156 Production system under which ewes are selected alters nutrient availability to the fetus in response to early pregnancy undernutrition. G. Wu*, W. Shi1, T. Spencer1, B. Hess2, P. Nathanielsz2, and S. Ford1, 1Texas A&M University, College Station, 2University of Wyoming, Laramie, 3University of Texas, San Antonio.

W157 Effect of eicosapentaenoic acid on lipid composition and prostaglandin synthesis in bovine endometrial cells in vitro. J. W. Green*, J. K. Ahola1, T. E. Engle1, and P. D. Burns1, 1University of Northern Colorado, Greeley, 2University of Idaho, Caldwell, 3Colorado State University, Fort Collins.


W161 Specific gGlutamate and nucleoside transport activities of Madin-Darby bovine kidney (MDBK) cells are inhibited by the ergopeptide bromocriptine. E. Miles*, J. Boling, and J. Matthews, University of Kentucky, Lexington.

W162 An observational analysis of twin births, calf sex ratio, and calf mortality in Holstein dairy cattle. N. Silva del Rio*, S. Stewart2, P. Rapnicki2, Y. M. Chang1, and P. M. Fricke1, 1University of Wisconsin, Madison, 2University of Minnesota, St Paul.

W163 Effects of diet energy concentration and fat addition on reproductive performance and hormone profiles of beef cows. J. E. Rossi*, N. M. Long1, W. M. Graves2, G. M. Hill1, and B. G. Mullinix, Jr., 1University of Georgia, Tifton, 2University of Georgia, Athens.


W165 Effects of limb origin and twenty-four hour storage on contractile response of bovine lateral saphenous vein to norepinephrine. J. L. Klotz*, A. C. Vevoda1, L. P. Bush1, and J. R. Strickland1, 1FAPRU, USDA-ARS, Lexington, KY, 2University of Kentucky, Lexington.


W167 Effects of increasing energy density and cooling treatment on ovarian function in postpartum dairy cows under heat stress conditions. J. Y. Wang* and J. C. Kung, Tunghai University, Taichung, Taiwan.

Production, Management and the Environment
Health and Reproduction
Exhibit Hall A

Abstract #
W168 Biosecurity practices related to cattle purchases. F. Hoe and P. Ruegg*, University of Wisconsin, Madison.

W169 Biosecurity practices used during dairy herd expansion. J. Dalton*, R. Norell1, and M. Chahine1, 1University of Idaho, Caldwell, 2University of Idaho, Idaho Falls, 3Twin Falls Research and Extension Center, Twin Falls.

W170 Do dairy producers manage dairy bulls to limit biosecurity and infertility risk? J. Dalton*, R. Norell2, and M. Chahine1, 1University of Idaho, Caldwell, 2Idaho Falls Research and Extension Center, Idaho Falls, 3Twin Falls Research and Extension Center, Twin Falls.

W171 Optimum month of pregnancy to maximize average daily milk production in Holstein cows. M. Terre* and A. Bach1, 1Unitat de Remurgants-IRTA (Institut de Recerca i Tecnologia Agroalimentàries), Barcelona, Spain, 2ICREA (Institució Catalana de Recerca i Estudis Avançats), Barcelona, Spain.
Ruminant Nutrition

Feed Additives and Feedstuffs

Exhibit Hall A

Abstract #

W183

W184
Feed intake, nutrient digestibility, milk production, and milk composition in cows fed cinnamaldehyde, yucca saponins extract, and condensed tannins. C. Benchaar*1, T. A. McAllister2, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Laval, QC, Canada, 2University of Minnesota, St. Paul, MN, USA, 3University of Idaho, Twin Falls, ID, USA.

W185
Effects of cinnamaldehyde, yucca saponins extract and condensed tannins on ruminal fermentation characteristics, and ciliate protozoal populations in the rumen of lactating dairy cows. C. Benchaar*1, T. A. McAllister2, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Laval, QC, Canada, 2University of Minnesota, St. Paul, MN, USA, 3University of Idaho, Twin Falls, ID, USA.

W186
Effects of cinnamaldehyde, yucca saponins extract and condensed tannins on ruminal degradation of soybean meal, grass silage, and corn in lactating dairy cows. C. Benchaar1, T. A. McAllister2, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Laval, QC, Canada, 2University of Minnesota, St. Paul, MN, USA, 3University of Idaho, Twin Falls, ID, USA.

W187
Ruminal degradation kinetics of corn silage with different additives. P. A. Katsuki1, E. S. Pereira2, B. M. O. Ramos1, F. B. Moreira1, E. L. A. Ribeiro1, M. A. Rocha1, A. P. Pinto1, V. R. Loyola1, R. Salmazo1, T. R. Casimiro1, T. C. Alves1, and I. Y. Mizubuti1, 1Universidade Estadual de Londrina, Londrina, Paraná, Brazil, 2Universidade Estadual do Oeste do Paraná, Marechal Cândido Rondon, Paraná, Brazil.
Effects of adding polyethylene glycol 4000 or urea to high tannin high moisture sorghum grain on ruminal degradation in beef cattle. M. D. Montiel*, 1, J. C. Elizalde*, 1, L. Giorda*, 1 and F. Santini*, 1, 1CONICET, Argentina, 2Fac. Cs. Agrarias UNMdP-INTA Balcarce, Argentina, 3EEA INTA Manfredi, Argentina.

Fermentation and fatty acid biohydrogenation in continuous cultures fed soybean meal with and without added lecithin. C. M. Thompson*, 1, S. J. Freeman*, 1 P. W. Jardon*, 1 and T. C. Jenkins*, 1Clemson University, Clemson, SC, 2West Central Soy, Ralston, IA.

Effects of eugenol and thymol on rumen microbial fermentation in continuous culture. L. Castillejos, S. Calsamiglia*, 1 and A. Ferret, Universitat Autonoma de Barcelona, Bellaterra, Spain.

Effects of different dose levels of essential oils compounds on in vitro methane production by mixed ruminal bacteria. J. Chiquette* and C. Benchaar, Dairy and Swine Res. & Dev. Centre, Lennoville, Quebec, Canada.

The effects of adverse environmental conditions on controlled-release property of Optigen® 1200. V. Akay*, 1Alltech, Inc., Nicholasville, KY.


Application of carbohdrase inhibitors to moderate rumen fermentation: In vitro evaluation. S. M. Speight* and D. L. Harmon, University of Kentucky, Lexington.

Fibrolytic enzyme and diets for cattle and sheep I. In vitro disappearance of dry matter and fiber. R. Moreno-Jaramillo*, 1 S. González*, 1 J. Pinos-Rodriguez*, 1, G. Mendoza-Martínez*, 1, R. Bárceca-Gama*, 1, J. Herrera-Haro*, 1, 1Universidad Autónoma Gabriel René Moreno de Santa Cruz de la Sierra, Santa Cruz de la Sierra, Santa Cruz, Bolivia, 2Colegio de Postgraduados, Montecillo, Estado de México, México, 3Universidad Autónoma de San Luis Potosí, San Luis Potosí, México, 4Universidad Autónoma Chapingo, Texcoco, Estado de México, México.

Fibrolytic enzyme and diets for cattle and sheep II. In vitro disappearance of dry matter and neutral detergent fiber. R. Moreno-Jaramillo*, 1 S. González*, 1, J. Pinos-Rodriguez*, 1, G. Mendoza-Martínez*, 1, R. Bárceca-Gama*, 1, J. Herrera-Haro*, 1, L. Miranda-Romero*, 1Universidad Autónoma Gabriel René Moreno de Santa Cruz de la Sierra, Santa Cruz de la Sierra, Santa Cruz, Bolivia, 2Colegio de Postgraduados, Montecillo, Estado de México, México, 3Universidad Autónoma de San Luis Potosí, San Luis Potosí, México, 4Universidad Autónoma Chapingo, Texcoco, Estado de México, México.

Effects of fibrolytic enzymes and soybean oil on dairy sheep performance and nutrient digestibility. M. A. Bouattour, R. Casals*, 1Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain.

Effect of feeding a Saccharomyces Cerevisiae yeast culture on reproduction, body condition score (BCS) and lameness in dairy cows under heat stress. R. G. S. Bruno*, 1 H. M. Rutigliano, R. L. A. Cerri, P. H. Robinson, and J. E. P. Santos, University of California, Ralston, CA.

Effects of live yeast supplementation on ruminal pH of loose-housed dairy cattle. A. Bach*, 1, C. Iglesias*, 1, M. Devant*, 1 and N. Rafols*, 2Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain.


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Influence of dietary silymarin on hematic parameters and oxidative stress in periparturient dairy goats. D. Tedesco*1, S. Galletti1, S. Spaguolo1, P. Abrescia1, and L. Ferrara2, 1University of Milan, Milan, Italy, 2ISPAAM-CNR, Naples, Italy.

Sorghum grain physical, chemical and genotype characteristics influence ruminal degradation in cattle. M. D. Montiel*1,2, J. Elizalde1,2, L. Giorda1, and F. Santini1,2, 1CONICET, Argentina, 2Fac. Cs. Agrarias UNMdP-INTA Balcarce, Argentina.

Nitrogen fractions and fibers of commercial nonforage fiber sources for ruminants in central Iran. G. R. Ghorbani*1 and A. Nikkhah1, 1Isfahan University of Technology, Isfahan, Iran, 2University of Manitoba, Winnipeg, Manitoba, Canada.

Intake and apparent digestibility in Holstein Steers fed diets containing Tifton 85 hay with different particle sizes. E. S. Pereira*1, A. M. V. Arruda1, and I. Y. Mizubuti2, 1Universidade Estadual do Oeste do Paraná, Marechal Cândido Rondon, Paraná, Brasil, 2Universidade Estadual de Londrina, Londrina, Paraná, Brasil.

The determination of fermentation characteristics of Iranian beet pulp, sunflower head and forages using gas production technique. M. Ziabakhsh, A. Taghizadeh*, H. Abdoli, G. A. Moghaddam, A. Tahmasbi, and P. Yasan, Tabriz University, Tabriz, East Azarbayjan, Iran.

Relationship between in vitro dry matter disappearance and gas production of some feedstuffs. H. Abdoli, A. Taghizadeh*, and A. Tahmasbi, Tabriz University, Tabriz, East Azarbayjan, Iran.

Nutritive value of pistachio hulls and effect on feed intake, milk production and composition in lactating dairy cows. P. Vahmani*, A. A. Naserian, J. Arshami, and M. Ghafurian, Ferdowsi University of Mashhad, Khorasan, Iran.

The influence of urea treatment on in vitro gas production of pomegranate peel. R. Feizi*1, A. Ghodratnama1, M. Zahedifar2, M. Danesh Mesgaran1, and M. Raisianzadeh1, 1Agricultural and Natural Resources Research Center of Khorasan, Mashhad, Khorasan, Iran, 2Animal Science Research Institute Iran, Karaj, Tehran, Iran, 3Ferdowsi University of Mashhad, Mashhad, Khorasan, Iran.

Carbohydrate and protein fractions and ruminal kinetics of Tifton 85 grass (Cynodon Spp.) silages. E. S. Pereira*, A. M. V. Arruda1, and I. Y. Mizubuti2, 1Universidade Estadual do Oeste do Paraná, Marechal Cândido Rondon, Paraná, Brasil, 2Universidade Estadual de Londrina, Londrina, Paraná, Brasil.


Fermentation characteristics and microbial succession of silage from organic residues of orange (Citrus sinensis) and pineapple (Ananas comosus) processing plants. S. Pagán*, A. Rodriguez, and E. Valencia, University of Puerto Rico, Mayagüez, Puerto Rico.

Silages carbohydrate fractions and degradation rates estimated by gas production technique. E. S. Pereira*1, A. M. V. Arruda1, and I. Y. Mizubuti2, 1Universidade Estadual do Oeste do Paraná, Marechal Cândido Rondon, Paraná, Brasil, 2Universidade Estadual de Londrina, Londrina, Paraná, Brasil.
Ruminant Nutrition

Protein and Amino Acids

Exhibit Hall A

Abstract #

W223  Use of Synchrotron FTIR microspectroscopy to determine the effect of heat treatment on protein secondary structures of brown and golden flaxseeds at a cellular level in relation to nutritive value of protein: A novel approach. P. Yu*1, I. J. McKinnon1, H. W. Soita1, C. R. Christensen2, and D. A. Christensen1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Canadian Light Source, Saskatoon, SK, Canada.

W224  The role of protein matrix in the digestion of corn grain: Assessment by scanning electron microscopy. Y. Wang*1, D. Sapienza2, V. J. H. Sewalt1, Z. Xu1, and T.A. McAllister1, 1Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada, 2Sapienza Analytica, LLC, Johnston, IA, 3Kemin AgriFoods North America, Des Moines, IA.

W225  Development of an in vitro technique to monitor the fate of true proteins of feedstuffs in the rumen. A. A. Sadeghi* 1 and P. Shawrang2, 1Islamic Azad University, Tehran, Iran, 2Tehran University of Medical Sciences, Tehran, Iran.

W226  Degradability characteristics of crude protein of some feedstuffs in ruminants using in vitro technique. A. Taghizadeh*1, H. Abdoli1, A. Tahmasbi1, and R. Noori2, 1Tabriz University, Tabriz, East Azarbayjan, Iran, 2Ekrami Highschool, Training and Education Ministry, Tabriz, East Azarbayjan, Iran.

W227  Effects of adaptation time of a specific blend of essential oils on rumen nitrogen metabolism and fermentation profile in sheep. L. Castillejos1, S. Calsamiglia* 1, A. Ferret1, and R. Losa, 1Universitat Autonoma de Barcelona, Bellaterra, Spain, 2AKZO NOBEL/CRINA SA, Gland, Switzerland.

W228  Exogenous proteolytic enzymes improve in vitro degradation of alfalfa hay but not alfalfa silage. J.-S. Eun* and K. A. Beauchemin, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada.

W229  Amino acid content of residues from in vitro and S. griseus incubations. D. A. Ross* and M. E. Van Amburgh, Iowa State University, Ames, IA.

W230  Estimation of duodenal microbial N flow: Level of agreement between two methods of analysis. R. Martineau*1, H. Lapierre2, D. R. Oueller1, D. Pellerin1, and R. Berthiaume2, 1Université Laval, Québec, Canada, 2Dairy and Swine R&D Centre, AAFCC, Lennoxville, Québec, Canada.

W231  Efficiency of microbial N supply (EMNS) and digestibility of N in dairy cows fed timothy conserved as restrictively- or extensively-fermented silage or as hay. R. Martineau*, H. Lapierre, D. R. Ouellie, D. Pellerin1, and R. Berthiaume2, 1Université Laval, Québec, Canada, 2Dairy and Swine R&D Centre, AAFCC, Lennoxville, Québec, Canada.

W232  Endogenous nitrogen (EN) flows: Effects of methods of conservation of timothy in lactating dairy cows. D. R. Ouellt1, R. Berthiaume1, G. Holtrop1, G. E. Lobley1, R. Martineau1, and H. Lapiere1, 1Agriculture and Agri-Food Canada, Lennoxville, Canada, 2BIOS, Aberdeen, UK, 3Rowett Research Institute, Aberdeen, UK, 4Department of Animal Science, U. Laval, Québec, Canada.

W233  Effects of glutamate on microbial efficiency and metabolism in continuous culture of ruminal contents and on performance of mid-lactation dairy cows. H. M. Dann1, C. S. Ballard1, R. J. Grant1, K. W. Cotanch1, M. P. Carter1, and M. Suekawa2, 1W.I. Miner Agricultural Research Institute, Chazy, NY, 2Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.


W236  Determination of the first-limiting amino acid for milk production in dairy cows consuming a high concentrate diet containing corn and soybean meal. H. S. Kim1, J. M. Yeo*1, K. S. Ki1, and C. -H. Kim2, 1Dairy Science Division, National Livestock Research Institute, Rural Development Administration, South Korea, 2Department of Animal Life and Resources, Hankyong National University, South Korea.


The effects of Aliment feed supplement and Sequent feed supplement on rumen digestibility, protein synthesis and ruminal disappearance. M. Vazquez-Anon*, Novus International, Inc, St. Louis, MO.

Effects of corn source with or without supplementation of lysine and methionine on milk production in dairy cows. C.-H. Kim*, H. S. Kim1, and J. M. Yeo1, Hankyong National University, Ansung, Gyeonggi, Korea, 1Dairy Science Division, National Livestock Research Institute, Rural Development Administration, Cheonan, Chungbuk, Korean.

Effect on milk protein of reducing crude protein intake while maintaining methionine and lysine: A field study. L. E. Armentano1, R. A. Patton*, and M. J. Christians1, 1University of Wisconsin, Madison, 2Nittany Dairy Nutrition, Mifflinburg, PA, 3Degussa Corporation, Kennesaw, GA.

Digestibility and N flux in steers fed diets with differing sources of supplemental protein. J. Eisemann*, G. Huntington, and M. Poore, North Carolina State University, Raleigh.

Effect of RDP source on production and ruminal metabolism of lactating dairy cows. S. M. Reynal*1 and G. A. Broderick2, 1University of Wisconsin, Madison, 2US Dairy Forage Research Center, Madison, WI.


Influence of slow-release urea on N balance and nutrient absorption of steers. C. C. Taylor*1, N. A. Elam1, S. E. Kitts1, K. R. McLeod1, D. E. Axe1, and D. L. Harmon1, 1University of Kentucky, Lexington, 2Mosaic, Riverview, FL.

Encapsulated slow release urea in lactating dairy cow diets impacts microbial efficiency and metabolism in continuous culture. J. Garrett*, T. Miller-Webster2, W. Hoover2, C. Sniffen1, and D. Putnam1, 1Balchem Encapsulates, New Hampton, NY, 2West Virginia University, Morgantown, 3Fencrest, LLC, Holderness, NH.

The effects of Aliment feed supplement and Sequent feed supplement on rumen digestibility, protein synthesis and ruminal disappearance. M. Vazquez-Anon*, Novus International, Inc, St. Louis, MO.


Feed conversion and efficiency of NPK utilization in lactating dairy cows. A. R. Castillo*, J. E. P. Santos2, and J. H. Kirk3, 1University of California, Merced, 2University of California, Tulare.

Manure production of heifers fed diets varying in forage, grain, and byproduct content. S. R. Hill*, K. F. Knowlton, R. E. James, R. E. Pearson, G. Bethard, K. P. Pence, and S. W. Wilson, Virginia Polytechnic Institute and State University, Blacksburg.

Heritability and permanent environmental effect for fleece quality assessed by an ancient Tzotzil indigenous evaluation system. H. Castro-Gámez1, G. Campos1, R. López1, R. Perezgrovas2, and H. Castillo-Juárez*, 1Universidad Nacional Autónoma de México, Ciudad Universitaria, México, 2Universidad Autónoma de Chiapas, Chiapas, México, 3Universidad Autónoma Metropolitana-Xochimilco, Calzada del Hueso, México D.F.
**OTHER EVENTS**

Joint ADSA-ASAS Business Meeting  
Room 236  
9:30 AM

ADSA Business Meeting  
Room 241  
10:00 AM

ASAS Business Meeting  
Room 234  
10:00 AM

**SYMPOSIA AND ORAL SESSIONS**

**ADSA Foundation Scholar Award Lecture - Dairy Production**  
Chair: Wendy J. Powers, Iowa State University, Ames  
Sponsor: ADSA Foundation  
Room 200

<table>
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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 AM</td>
<td>449</td>
<td>Implementing waste solutions for dairy and livestock farms. K. F. Knowlton, Virginia Polytechnic Institute &amp; State University, Blacksburg.</td>
<td></td>
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</table>

**Animal Behavior and Well-being**  
Swine Transportation, Handling & Feed Restriction  
Chair: Janeen Salak-Johnson, University of Illinois  
Room 211

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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>10:30 AM</td>
<td>449</td>
<td>Effects of albuterol on behavioral and heart rate responses of finishing pigs to handling. J. Marchant-Forde*, K. McMunn1, B. Richert2, D. Lay Jr.1, and R. Marchant-Forde1, USDA-ARS, Livestock Behavior Research Unit, W. Lafayette, IN; Purdue University, W. Lafayette, IN.</td>
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<tr>
<td>10:45 AM</td>
<td>450</td>
<td>Characterizing hunger in swine utilizing metabolic parameters during 36 h of imposed feed deprivation. M. Toscano*, D. Lay, Jr.1, B. Craig2, and E. Pajor2, USDA-ARS-LBRU, West Lafayette, IN; Purdue University, West Lafayette, IN.</td>
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<tr>
<td>11:00 AM</td>
<td>451</td>
<td>A model for the study of dead and down pigs associated with transport: effects of maternal pheromone on pigs in transit. C. Lewis*, N. Krebs1,2, L. Hulbert1,2, and J. McGlone1,2, Pork Industry Institute, Lubbock, TX; Texas Tech University, Lubbock.</td>
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</tbody>
</table>
Beef Species
Chair: Chris Reinhardt, Intervet, Inc.
Room 243

10:30 AM 452
Relationships between residual feed intake, ultrasound, and temperament traits in Brangus heifers. P. A. Lancaster, G. E. Carstens, E. G. Brown, R. D. Randel, T. H. Welsh, Jr., T. D. A. Forbes, D. T. Dean, and A. D. Herring, Texas Agricultural Experiment Station, College Station, Texas Agricultural Experiment Station, Overton, Texas Agricultural Experiment Station, Uvalde.

10:45 AM 453
Relationships between feed efficiency and real-time ultrasound traits in growing and finishing steers. E. G. Brown, G. E. Carstens, J. T. Fox, S. A. Woods, D. T. Dean, A. D. Herring, S. Moore, and P. C. Genho, Texas Agricultural Experiment Station, College Station, King Ranch, Kingsville, TX.

11:00 AM 454
Optimizing use of distiller’s grains in finishing cattle diets. B. E. Depenbusch, J. S. Drouillard, E. R. Loe, and M. E. Corrigan, Kansas State University, Manhattan.

11:15 AM 455
Effects of vegetable and animal lipid sources on meat sensory attributes and longissimus muscle fatty acid profile from yearling beef steers. E. R. Loe, J. S. Drouillard, K. A. Hachmeister, and F. N. Owens, Kansas State University, Manhattan, Pioneer Hi-Bred International, Des Moines, IA.

11:30 AM 456
Effects of source of lipid on finishing cattle performance and carcass characteristics. E. R. Loe, J. S. Drouillard, and F. N. Owens, Kansas State University, Manhattan, Pioneer Hi-Bred International, Inc., Des Moines, IA.

11:45 AM 457

12:00 PM 458

Breeding and Genetics
Beef Cattle Breeding and Genetics
Chair: Michael MacNeil, USDA Livestock and Range Research Laboratory
Sponsor: Newsham Genetics
Room 203

10:30 AM 459
Educating beef cattle breeders on the use of genomic technology for quantitative traits. W. Shafer, American Simmental Association, Bozeman, MT.

11:15 AM
Discussion

11:30 AM 460
Using appropriate genetic evaluations to make better selection decisions. D. Garrick, Colorado State University, Fort Collins.

11:45 AM 461

12:00 PM 462
Strategies to optimize feed intake recording capacity for performance evaluated beef bulls. S. Miller, University of Guelph, Guelph, Ontario, Canada.

12:15 PM 463
Danisco International Dairy Science Award Lecture
Chair: W. James Harper, The Ohio State University, Columbus
Sponsor: Danisco USA Inc.
Room 236

Time
10:30 AM Milk protein processing and functionality. P. A. Munro, Fonterra Cooperative Group, Palmerston North, New Zealand.

Extension Education
Environment and National Animal Identification System
Chairs: Richard Norell, University of Idaho and Jodie Pennington, University of Arkansas
Room 244

Time Abstract #
10:45 AM 465 Development of an on-farm feed management assessment tool for use with dairy comprehensive nutrient management plans. L. VanWieringen, J. Harrison*, R. Kincaid, A. Hristov, R. Sheffield, M. Gamroth, P. French, T. Downing, and A. Sutton, 1Washington State University, Pay- alup, 2University of Idaho, Moscow, 3Oregon State University, Corvallis, 4Purdue University, West Lafayette, IN.
11:00 AM 466 Evaluation of whole-farm nutrient balances on a commercial dairy operation. T. Nennich*, J. Harrison, D. Davidson, J. Werkhoven, and A. Werkhoven, 1Texas A&M University, Stephenville, 2Washington State University, Puyallup, 3Werkhoven Dairy, Monroe, WA.
11:15 AM 467 Sampling strategies to determine nutrient flows on a commercial dairy operation. T. Nennich*, J. Harrison, D. Davidson, J. Werkhoven, and A. Werkhoven, 1Texas A&M University, Stephenville, 2Washington State University, Puyallup, 3Werkhoven Dairy, Monroe, WA.
11:30 AM 468 Implementing the NAIS. K. Olson*, J. Mattison, G. Marrs, D. Sheldon, and B. Dokkebakken, NDHIA, Columbus, OH.
12:00 PM 470 Utilizing RFID technology to enhance accuracy of identification and data entry in herd recording. M. Tomaszewski*, J. Clay, and P. Dukas, 1Texas A&M University, College Station, 2North Carolina State University, Raleigh.
12:15 PM 471 Use of radio frequency identification (RFID) ear tags and barcoded labels for identification of laboratory submissions. S. Stewart*, C. Cloboes, B. Dokkebakken, and S. Eicker, 1University of Minnesota, St. Paul, 2Minnesota DHIA, Buffalo, MN, 3Valley Ag Software, Tulare, CA.

Extension Education
Training Programs, Program Evaluation, and Economics
Chairs: Twig Marston, Kansas State University and Justen Smith, Utah State University
Room 240

Time Abstract #

Documenting the impact of continuing and extension education on changing adult behavior. D. Moore*1 and H. Slotnick2, 1University of California, Davis, 2University of North Dakota, Grand Forks.

Benchmarking dairy information for efficient decision making using interactive visual tools. G. Boda*, R. Lacroix, and K. M. Wade, McGill University, Montreal, QC, Canada.

Changing to an internet-based aquaculture service program. G. J. Burtle*, University of Georgia, Tifton.

Youth livestock handling safety education. J. Yost* and S. Boyles, The Ohio State University, Columbus.

Factors influencing the value of West Virginia feeder cattle. P. Osborne*, E. Rayburn, and J. Pritchard, West Virginia University, Morgantown.

Beef artificial insemination economics. W. Ellis*, Southeast Missouri State University, Cape Girardeau.

SYMPOSIUM

FASS Symposium on Toxic Levels of Minerals

Chair: Kirk Klasing, University of California, Davis
Symposium meets AAVSB's RACE requirements for 2 hr CE.

Ballroom A

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<th>Time</th>
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<tr>
<td>10:30 AM</td>
<td>480</td>
<td>Sources and bioavailabilities of toxic levels of minerals. J. W. Spears*1 and J. P. Goff2, 1North Carolina State University, Raleigh, 2USDA, National Animal Disease Center, Ames, IA.</td>
</tr>
<tr>
<td>10:55 AM</td>
<td>481</td>
<td>Toxic levels of minerals in the diets of animals. J. Goff*1 and J. Spears2, 1National Animal Disease Center, USDA-ARS, Ames, IA, 2North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>482</td>
<td>Potential adverse effects on humans consuming excess minerals in animal products. J. Greger*1, F. Nielsen2, and K. Klasing1, 1University of Connecticut, Storrs, 2Grand Forks Human Nutrition Center, Grand Forks, ND, 3University of California, Davis.</td>
</tr>
<tr>
<td>11:35 AM</td>
<td>483</td>
<td>New developments in selenium toxicity. X. G. Lei*, Cornell University, Ithaca, NY.</td>
</tr>
<tr>
<td>11:55 AM</td>
<td>484</td>
<td>The toxicity of minerals that may be advocated for animal health and production through reasons other than nutritional need. F. Nielsen*, USDA/ARS/Grand Forks Human Nutrition Research Center, Grand Forks, ND.</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>485</td>
<td>New developments in heavy metal toxicity. K. Klasing*, University of California, Davis.</td>
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Nonruminant Nutrition

Feed Ingredients and Processing

Chair: C. Robert Dove, University of Georgia

Room 206

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>10:30 AM</td>
<td>486</td>
<td>Effects of menhaden fish meal or oil on the performance and immune response of nursery pigs. A. Gaines*1, J. Carroll1, R. Fent1, and G. Allee1, 1University of Missouri, Columbia, 2Livestock Issues Research Unit, ARS-USDA, Lubbock, TX.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>488</td>
<td>Near infra-red reflectance spectroscopy for prediction of amino acids in feed ingredients leads to important cost savings in diet formulation. J. Goodson*1, D. Hoehler1, J. Fontaine2, B. Schirmer2, and A. Jaeger2, 1Degussa Corporation, Kennesaw, GA, 2Degussa AG, Hanau, Germany.</td>
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### Production, Management and the Environment

**Dairy and Livestock Management**

**Chair:** Dan Waldner, Cargill Animal Nutrition

**Room 202**

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<th>Time</th>
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<tr>
<td>10:45 AM</td>
<td>495</td>
<td>Repeatability of measures of Brahman bull temperament and their association with serum cortisol concentrations. K. Curley, Jr.*1,2, J. Paschal1, T. Welsh, Jr.1, and R. Randel1, 1Texas Agricultural Experiment Station, College Station, 2Texas Agricultural Experiment Station, Overton.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>496</td>
<td>Postpartum productivity of suckled beef cows supplemented with the fibrolytic enzyme Cattle-Ase™. L. Jonovich*1,2, D. Neuendorff2, A. Lewis2, T. Welsh, Jr.1, and R. Randel1, 1Texas Agricultural Experiment Station, College Station, 2Texas Agricultural Experiment Station, Overton.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>497</td>
<td>Production traits differ in different breedtypes of suckled beef cows. L. Jonovich*1,2, D. Neuendorff2, A. Lewis2, T. Welsh, Jr.1, and R. Randel1, 1Texas Agricultural Experiment Station, College Station, 2Texas Agricultural Experiment Station, Overton.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>499</td>
<td>Economic study of milk production in Iran. A. Karbasi*1 and A. Sarvari2, 1Zabol Islamic Azad University, 2Zabol University.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>500</td>
<td>Development of an intraruminal device for data sampling and transmission. A. K. Sievers*1, K.-H. Suedekum2, H.-J. Laue1, N. B. Kristensen1, and S. Wolffram1, 1University of Kiel, Kiel, Germany, 2University of Bonn, Bonn, Germany.</td>
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Production, Management and the Environment

Heat Stress

Chair: Andrew Skidmore, Blue Seal Feeds

Room 242

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tr>
<td>10:30 AM</td>
<td>502</td>
<td>Evaluation of environmental conditions in 4 and 6 row freestall barns that are tunnel ventilated with evaporative pads and located in Indiana. J. F. Smith*, M. J. VanBaale, M. J. Brouk, B. Prokop, and J. P. Harner. Kansas State University, Manhattan, The University of Arizona, Tucson.</td>
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<td>11:15 AM</td>
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<td>Break</td>
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<tr>
<td>12:15 PM</td>
<td>508</td>
<td>Evaporative heat loss from pigs at different temperature and relative humidity. T.T. Huynh, J. A. Aarnink, J. A. Heetkamp, and B. Kemp. Livestock and Environment, Wageningen University and Research Center, the Netherlands. Animal Nutrition Group, Wageningen University and Research Center, the Netherlands.</td>
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Ruminant Nutrition

Dairy – Feed Additives

Chair: Bill Sanchez, Diamond V Mills

Room 207

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tr>
<td>11:00 AM</td>
<td>511</td>
<td>Impact of rumens premix on reproductive performance in dairy cows. T. Duffield, S. LeBlanc, D. McClary, H. Green, and J. Wilkinson. University of Guelph, Guelph, ON, Canada, Elanco, Greenfield, IN.</td>
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Effect of an enzyme mixture on dairy cow performance. S. Ghasemi* and A. A. Naserian, Ferdowsi University, Mashhad, Khorasan, Iran.

Sheep Species

Chair: Noelle Muggli-Cockett, Utah State University

Room 241

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<th>Time</th>
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<tr>
<td>11:15 AM</td>
<td>518</td>
<td>Reproductive performance and milk yield in Awassi and its crosses with either Charollais or Romanov breeds. R. Kridli*1, A. Abdullah1, N. AL-Smadi1, and M. Momani-Shaker2, 1Jordan University of Science and Technology, Irbid, Jordan, 2Czech University of Agriculture, Prague, Czech Republic.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>520</td>
<td>Change in ultrasound loin and fat measurements in growing lambs of different breeds. C. Hiemke*, D. Thomas, T. Taylor, and R. Gottfredson, *University of Wisconsin, Madison.</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>522</td>
<td>Interaction of copper oxide wire particles and molybdenum sulfate in lambs. J. Burke*1, J. Miller2, and D. Pote1, 1USDA, Agricultural Research Service, Booneville, AR, 2Louisiana State University, Baton Rouge.</td>
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Swine Species

Swine Nutrition and Management

Chair: Teresa Parr, Zymetrics

Room 212

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<tr>
<td>10:30 AM</td>
<td>523</td>
<td>Studies on causes of sow disposal at different parities of Large White sows. J. Arango*1, I. Misztal1, S. Tsuruta1, M. Culbertson2, and W. Herring3, 1University of Georgia, Athens, 2Smithfield Premium Genetics, Roanoke Rapids, NC.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>524</td>
<td>Relations between lactation-, and slaughter/carcass traits in pigs. E. F. Knol*, D. T. Prins, and R. Bergsma, Institute for Pig Genetics (IPG), Beuningen, The Netherlands.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>525</td>
<td>Estimation of variance components including competitive effects of Large White growing gilts. J. Arango*1, I. Misztal1, S. Tsuruta1, W. Herring2, and M. Culbertson3, 1University of Georgia, Athens, 2Smithfield Premium Genetics, Roanoke Rapids, NC.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>526</td>
<td>The effect of different grinding grades of soybean hulls on nutrient digestibility and performance in starting pigs (15-30kg). I. Moreira*1, M. Kutchenko1, D. Paiano1, C. Scapinello1, A. E. Murakami2, and A. R. B. Qradros1, 1Universidade Estadual de Maringá, Maringá, Paraná, Brazil, 2Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>527</td>
<td>Reduced crude protein effects on aerial emissions from swine. W. Powers*1, S. Bastyr1, and B. Kerr2, 1Iowa State University, Ames, 2USDA-ARS, Ames, IA.</td>
</tr>
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</table>
11:45 AM 528  Effects of albuterol on the growth and carcass characteristics of finishing pigs. B. Richert*, R. Hinson1, R. Marchant-Forde2, D. Lay, Jr., K. McMunn, and J. Marchant-Forde2, 1Purdue University, West Lafayette, IN, 2USDA-ARS, Livestock Behavior Research Unit, West Lafayette, IN.


Animal Behavior and Well-being

Sow and Boar Behavior and Housing
Chair: Jeremy Marchant-Forde, USDA-ARS, Livestock

Room 211

Time                  Abstract #


11:45 AM         532  The effects of boar presence on the frequency of agonistic behaviour, occurrence of shoulder scratches and stress response of group-housed bred sows. M. J. Séguin*, R. M. Friendship1, R. N. Kirkwood2, A. J. Zanella2, and T. M. Widowski1, 1University of Guelph, Guelph, ON, 2Michigan State University, East Lansing.

12:00 PM          533  Effects of space on individual- and group-kept dry sows: behavior and immune status. J. L. Salak-Johnson*, M. A. Sutherland, M. J. Horsman, S. L. Rodriguez-Zas, and S. R. Niekamp, University of Illinois, Urbana.

Women & Minority Issues in Animal Agriculture Luncheon

Chair: Ray McKinnie, North Carolina A&T State University

Room 261

Time


SYMPOSIUM

ADSA Production Division

Forage Analysis: Concept to Application

Chair: Rick Grant, W.H. Miner Agricultural Research Institute, Chazy, NY

Sponsor: ARPAS

Symposium meets AA VSB's RACE requirements for 6 hr CE.

Ballroom B

Time                  Abstract #

2:00 PM           Introduction. Rick Grant.

2:10 PM            534  Dairy nutritionist survey on forage carbohydrate analysis: Implications for methodology application. L. Chase*, M. Raeth-Knight1, J. Linn1, and W. Mahanna1, 1Cornell University, Ithaca, NY, 2University of Minnesota, St.Paul.

2:30 PM            535  Starches and sugars: conceptual and analytical challenges. M. B. Hall*, U. S. Dairy Forage Research Center, USDA-ARS, Madison, WI.

3:15 PM            536  Applying starch and sugar analyses in dairy nutrition. S. Emanuele*, Land O’ Lakes Inc., Caledonia, NY.

3:45 PM            Break
4:00 PM 537  NDF digestibility: conceptual and analytical challenges. M. S. Allen*, Michigan State University, East Lansing.


5:15 PM  Panel Discussion

6:00 PM  Break


**Animal Behavior and Well-being**

**Weaning and Animal Welfare**

**Chair: Drew A. Vermeire, Nouriche Nutrition Ltd.**

**Room 211**

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<tr>
<td>2:00 PM</td>
<td>539</td>
<td>Effect maze task on salivary cortisol of pigs at weaning and on subsequent fear response. J. Siegford*, G. Rucker, and A. Zanella, Michigan State University, East Lansing.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>540</td>
<td>Odor preference of pre-weaning piglets to biologically relevant and non-relevant odors. N. Krebs* and J. McGlone, Texas Tech University, Lubbock.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>541</td>
<td>Performance and behavior of calves reared in groups or individually following an accelerated-growth feeding program. M. Terre*, A. Bach, and M. Devant, 1Unitat de Remugants-IRTA (Institut de Recerca i Tecnologia Agroalimentàries), Barcelona, Spain, 2ICREA (Institució Catalana de Recerca i Estudis Avançats), Barcelona, Spain.</td>
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<tr>
<td>2:45 PM</td>
<td>542</td>
<td>Weaning cattle in two stages reduces the behavior changes typically associated with weaning stress. D. B. Haley* and J. M. Stookey, 1Western College of Veterinary Medicine, Saskatoon, SK, Canada, 2Alberta Agriculture, Food &amp; Rural Development, Red Deer, AB, Canada.</td>
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**Animal Health II**

**Chair: Harlan J. Howard, Division of Production Drugs, CVM**

**Room 212**

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<td>2:15 PM</td>
<td>544</td>
<td>The early detection of bovine respiratory disease (BRD) with infrared thermography and treatment with nitric oxide. A. L. Schaefer*, B. J. Perry, N. J. Cook, J. S. Church, C. Miller, and A. Stenzler, 1Agriculture and Agri-Food Canada, Lacombe, Alberta, Canada, 2Pulmonox Medical Inc, Edmonton, Alberta, Canada, 3Alberta Agriculture Food and Rural Development, Lacombe, Alberta, Canada.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>545</td>
<td>Cytokine expression of T cell subsets in bovine peripheral blood. S. Tanaka*, K. Miyazawa, K. Watanabe, S. Ohwada, H. Aso, and T. Yamaguchi, Tohoku University, Sendai, Japan.</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>546</td>
<td>Probiotics affect the establishment of T lymphocytes in the gut and prevent bacterial translocation in pigs. M. Lessard*, M. Dupuis, N. Gagnon, J. Matte, J. M. Fairbrother, E. Farnworth, and J. Goulet, 1Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada, 2Montreal University, St-Hyacinthe, QC, Canada, 3Agriculture and Agri-Food Canada, Food Research and Development Centre, St-Hyacinthe, QC, Canada, 4Laval University, FSAA, Québec, QC, Canada, 5Institut Rosell Lallemand inc., Montreal, QC, Canada.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>547</td>
<td>Long-term effects of weaning age on immune function of pigs. S. R. Niekamp*, M. A. Sutherland, and J. L. Salak-Johnson, University of Illinois, Urbana.</td>
</tr>
</tbody>
</table>
3:15 PM  548
A comparison of serum harvesting methods and different instruments for total solid refractometry in calves to determine failure of passive transfer. B. Jarvie, M. Wallace, N. Perkins, and K. Leslie*, University of Guelph, Guelph, ON, Canada.

3:30 PM  549
Effects of OmniGen-AF on growth and innate immune function in growing rats: identification of a mechanism of action. E. Georges*, Y. Wang, and N. Forsberg, Oregon State University, Corvallis.

3:45 PM  550
The process of porcine M cell differentiation within the follicle-associated epithelium. K. Miyazawa*, A. Hisashi, K. Takashi, K. Taketomo, K. Watanabe, S. Ohwada, and T. Yamaguchi, Tohoku University, Sendai, Japan.

4:00 PM  551
Comparison of direct-fed microbial and antibiotic supplementation on peripheral blood immune cell populations of weanling pigs. M. E. Davis*, D. C. Brown1, C. V. Maxwell1, Z. B. Johnson1, and T. Rehberger1, University of Arkansas, Fayetteville, 2Agtech Products, Inc., Waukesha, WI.

4:15 PM  552

4:30 PM  553

4:45 PM  554
Peripheral and core body temperature sensing using radio-frequency implants in steers challenged with lipopolysaccharide. E. D. Reid* and G. E. Dahl, University of Illinois, Urbana.

Breeding and Genetics
Dairy Cattle Breeding for Non-Production Traits II
Chair: Marj Faust, ABS
Sponsor: Select Sires
Room 203

Time    Abstract #

2:00 PM  555
Including important traits with low heritability in workable dairy progeny tests in the US. R. Pearson* and B. Cassell, Virginia Polytechnic Institute and State University, Blacksburg.

2:45 PM    Discussion

3:00 PM  556
Effect of herd by sire interaction variance on genetic evaluations. P. M. VanRaden and M. E. Tooker*, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

3:15 PM  557
Quantifying the level of heat stress in a southeastern dairy using weather recording on- and off-farm. M. Freitas*, I. Misztal*, J. Bohmanova*, and J. West, University of Georgia, Athens, Universidade Federal de Vícosa, Vícosa, MG, Brazil.

3:30 PM  558
Test-day model that accounts for heat stress of Holsteins in the United States. J. Bohmanova*, I. Misztal*, S. Tsuruta*, D. Norman*, and T. Lawlor*, University of Georgia, Athens, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, Holstein Association, Brattleboro, VT.

3:45 PM    Break

4:00 PM  559
Reproduction data in USDA database. G. Wiggans*, Animal Improvement Programs Laboratory, Agricultural Research Service, Beltsville, MD.

4:15 PM  560

4:30 PM  561
Genetic parameters for conception rate and days open in Holsteins. S. Tsuruta*, C. Huang, I. Misztal*, T. J. Lawlor, and J. S. Clay, University of Georgia, Athens, Holstein Association Inc., Brattleboro, VT, Dairy Records Management Systems, Raleigh, NC.
Companion Animals
Nutritional and Health Considerations for Companion Animals II, Pet Food and Ingredient Technology, Inc.
Chair: Russell L. Kelley, The Iams Company
Sponsor: The Iams Company
Room 244

Time   Abstract #                Title and Authors
2:00 PM Welcome and Introduction. Dr. Diane Hirakawa.
2:10 PM 562 Effects of food and water intake on variation in ileal digesta viscosity among dogs fed a maintenance diet. C. Dikeman* and G. Fahey, Jr., University of Illinois, Urbana.
2:40 PM 564 Effect of body size and diet on total dietary fiber digestibility in dogs. D. Hernot*, H. Dumon1, V. Biourge2, L. Martin1, and P. Nguyen1, 1National Veterinary School, Nantes, France, 2Royal Canin Research Center, Aimargues, France.
2:55 PM 565 Effect of body size and dietary fiber level on fecal bacterial mass and fecal quality in dogs. D. Hernot*, V. Biourge, H. Dumon1, L. Martin1, and P. Nguyen1, 1National Veterinary School, Nantes, France, 2Royal Canin Research Center, Aimargues, France.
3:10 PM Break
3:45 PM 567 Encapsulation to deliver a steady-state level of dietary lutein to an animal via dry pet food. L. Deffenbaugh*, Kemin Industries, Inc., Des Moines, IA.
4:00 PM 568 Effect of rosemary extract ingestion on canine serum antioxidant levels. W. Gamble*, Kemin Nutrisurance, Des Moines, IA.
4:15 PM 569 A multi-center clinical study of the effect of docosohexanoic acid (DHA) on joint inflammation and mobility in dogs with mild to moderate osteoarthritis. F. Buonomo*, D. Grohs, M. Conzemius, S. Johnston, and D. Millis, 1Monsanto Company, Animal Science Division, St. Louis, MO, 2Iowa State University, Ames, 3VA-MD Regional College of Veterinary Medicine, Blacksburg, VA, 4University of Tennessee, Knoxville.
4:45 PM Reception

Dairy Foods
Cheese II-Cream, Process, Italian and Other Cheeses
Chair: Joe Schlesser, U. S. Food and Drug Administration
Room 241

Time   Abstract #                Title and Authors
2:00 PM 570 Effect of the pH on the microstructure, firmness and meltability of cultured Cream cheese. R. R. Monteiro1, D. Q. Tavares1, P. S. Kindstedt2, and M. L. Gigante*, 1State University of Campinas, Campinas, SP, Brazil, 2University of Vermont, Burlington.
2:15 PM 571 Effect of the addition of potassium sorbate on the stability of cream cheese. A. S. Salles1, A. A. Vitali2, P. S. Kindstedt1, and M. L. Gigante*, 1State University of Campinas, Campinas, SP, Brazil, 2Institute of Food Technology, Campinas, SP, Brazil, 3University of Vermont, Burlington.
2:45 PM 573 Effect of somatic cell count on Prato cheese ripening. G. Mazal¹, M. V. Santos², and M. L. Gigante*¹, ¹State University of Campinas, Campinas, SP, Brazil, ²University of Sao Paulo, Pirassununga, SP, Brasil.

3:00 PM Break

3:15 PM 574 Effect of mixing speed during manufacture and type and level of emulsifying salt used on the microstructure of process cheese. R. Kapoor*, S. K. Garamella Purna, and L. E. Metzger, University of Minnesota, St. Paul.

3:30 PM 575 Nutraceutical components of Pecorino Toscano cheese. M. M. Pantozioanni¹, S. Rapaccini¹, A. Bucioni¹, M. Mele², A. Serra², and F. Petacchi¹, ¹University of Florence, Firenze, Italy, ²University of Pisa, Pisa, Italy.

3:45 PM 576 Changes in sensory properties of Ragusano cheese from cows raw milk at different level of pastures. S. Carpino¹, G. Marino¹, and G. Licitra¹², ¹CoRFiLaC, Regione Siciliana, Ragusa, Italy, ²D.A.C.P.A. Catania University, Catania, Italy.

SYMPOSIUM

Food Safety

The Future of Food Safety: An Issue of National Importance

Chair: John N. Sofos, Colorado State University and Todd R. Callaway, USDA/ARS

Symposium meets AAVSB’s RACE requirements for 4 hr CE.

Room 202

Time Abstract #
2:00 PM Introduction.
2:05 PM 577 Foodborne illness and antibiotic resistance: Types, sources and extent of problem. M. P. Doyle*, University of Georgia, Griffin.
2:45 PM 578 Ethical issues surrounding food-borne illness: Who is responsible? B. Rollin*, Colorado State University, Fort Collins.
3:15 PM 579 Pathogen control in the field. What can we do to reduce pathogens entering the abattoir? T. Edrington*, T. Callaway, K. Genovese, R. Anderson, and D. Nisbet, USDA-ARS-SPA, Food and Feed Safety Research Unit, College Station, TX.
3:45 PM Break
4:15 PM 580 Pathogen control during processing: What we can do to reduce pathogens in the processing plant. J. Sofos*, Colorado State University, Fort Collins.
4:45 PM 581 The economics of pathogen control in the meat industry: Who is going to foot the bill? R. Huffman*, American Meat Institute Foundation, Washington, DC.
5:15 PM Food Safety as a Critical National Issue. E. Murano, Texas A&M University, College Station.

SYMPOSIUM

Goat Species

Educational Resources and Field Experiences to Enhance and Promote Goat Production and Management

Chair: Sandra Solaiman, Tuskegee University, AL

Room 243

Time Abstract #
2:00 PM 582 Fitness indicators among Boer, Kiko, and Spanish does managed on pasture in central Tennessee. R. Browning, Jr.*, T. Payton, B. Donnelly, P. Pandya, M. L. Leite-Browning, W. Hendrixson, S. Kebe, and M. Byars, IAgER-Tennessee State University, Nashville.
2:15 PM 583 Goat sales and price patterns in West Virginia. D Singh-Knights¹, D Smith¹, and M Knights¹, ¹West Virginia University, Morgantown, ²The University of the West Indies, St. Augustine, Trinidad.
Formation of the Missouri Boer Goat Association. E. Walker*1, S. Hamilton2, and B. Watts³, 1Southwest Missouri State University, Springfield, ²University of Missouri, Columbia, ³Missouri Boer Goat Association, Springfield.

Symposium Introduction & Comments Sandra Solaiman, Tuskegee University, Alabama.

Using the internet to extend the reach of small ruminant extension programs in Maryland. S. Schoenian* and C. Fritz, University of Maryland Cooperative Extension, Keedysville.

Extension and teaching goat production in Mexico. S. Arbiza¹, M. Perez¹, and M. Huerta*², ¹Facultad de Estudios Superiores Cuautitlan, UNAM, Cuautitlan Izcalli, Mexico, ²Universidad Autonoma Chapingo, Chapingo, Mexico.

University strategies to solve problems in goat production. A. S. Juarez-Reyes and M. A. Cerrillo-Soto*, Universidad Juarez del Estado de Durango, Durango, Dgo, Mexico.


Roundtable Discussion: Goat Educational Resources and Efforts.

International Animal Agriculture
Chair: John Forrest, Purdue University
Room 240


Meat production using crop residues from eight maize cultivars as feed for sheep. S. Fernandez-Rivera*¹ and S. Twumasi-Afriyie², ¹International Livestock Research Institute, Addis Ababa, Ethiopia, ²International Maize and Wheat Improvement Center, Addis Ababa, Ethiopia.

Post tsunami disaster livestock development: Can the vulnerability be reduced? The case of Aceh, Indonesia. C. Wollny* and G. Tesfahun, Georg-August University, Goettingen, Germany.

Lactation Biology
Chair: Geoffrey Dahl, University of Illinois
Room 242

Evidence of a role of prolactin in mediating photoperiodic effects during the dry period. H. M. Crawford*, J. L. Dauderman¹, D. E. Morin¹, T. B. McFadden², and G. E. Dahl³, ¹University of Illinois, Urbana, ²University of Vermont, Burlington.


Effects of milking interval on hourly milk secretion rate in goats. G. Pulina*, S. Fancellu, G. Battacone, and A. Nudda, University of Sassari, Sassari, Italy.


Leptin alters albumin synthesis in the bovine mammary gland. Y Feuermann¹,², J. S. Mahjeesh³, and A Shamay*¹, ¹Agriculture Research Organisation The Volcani center, Bet Dagan Israel, ²The Hebrew University of Jerusalem, Rehovot, Israel.
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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>3:15 PM</td>
<td>598</td>
<td>Effects of continuous milking (CM) and prostaglandin E, (PGE,;) on mammary gene expression in dairy cows. E. L. Annen*, P. C. Gentry, R. Sprissler, D. L. Hadsell, A. V. Capuco, and R. J. Collier, University of Arizona, Tucson, Baylor College of Medicine, Huston, TX, USDA-ARS, Beltsville, MD.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>599</td>
<td>Effects of continuous milking (CM) and bovine somatotropin (bST) on mammary gene expression in primiparous cows. E. L. Annen*, P. C. Gentry, R. Sprissler, D. L. Hadsell, A. V. Capuco, and R. J. Collier, University of Arizona, Tucson, Baylor College of Medicine, Huston, TX, USDA-ARS, Beltsville, MD.</td>
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<td>3:45 PM</td>
<td>Break</td>
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<tr>
<td>4:40 PM</td>
<td>603</td>
<td>Inhibitory effects of human and porcine milk oligosaccharides on sialic acid dependent and sialic acid independent strains of rotavirus. K. Ochonicky, S. Donovan, T. Kuhlenschmidt, and M. Kuhlenschmidt, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>4:55 PM</td>
<td>604</td>
<td>Glucose and histidine affect the phosphorylation state of translation initiation factor 2 in the bovine mammary gland in vivo. C. A. Toerien, D. R. Trout, and J. P. Cant, University of Guelph, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>5:10 PM</td>
<td>708</td>
<td>Mammary use of glucose when milk yield is reduced by once daily milking and/or feed restriction in dairy cows. J. Guinard-Flament, E. Delamare, S. Lemosquet, and Y. David, UMR INRA-Agrocampus Rennes Production du Lait, Rennes, France.</td>
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**SYMPOSIUM**

**Physiology and Endocrinology**

**Effects of Maternal Nutrient Supply on Embryonic and Fetal Development and Postnatal Performance**

**Chair:** Brian Crooker, University of Minnesota, St. Paul

**Sponsor:** EAAP

**Ballroom A**

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<th>Time</th>
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<tr>
<td>2:40 PM</td>
<td>606</td>
<td>Pre-gestational ewe management systems alter the impacts of early maternal undernutrition on fetal growth and offspring quality. S. Ford, J. M. Du, B. Hess, and P. Nathanielsz, University of Wyoming, Laramie, University of Texas, San Antonio.</td>
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<td>3:20 PM</td>
<td>Break</td>
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<tr>
<td>3:35 PM</td>
<td>607</td>
<td>Timing of nutrient restriction and programming of fetal adipose tissue development. M. Symonds, H. Budge, M. Granamnigham, T. Stephenson, and D. Gardner, Centre for Reproduction and Early Life, Institute of Clinical Research, University Hospital, Nottingham, UK.</td>
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Ruminant Nutrition
Beef - Feedlot

Chair: David Bohnert, Oregon State University

Room 206

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<th>Abstract #</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>609</td>
<td>Effect of cooked molasses block supplementation and flax on newly received calf performance. D. Larson*, M. Bauer¹, G. Lardy¹, and J. Stewart², ¹North Dakota State University, Fargo, ²Tublicks, LLC, Wyndmere, ND.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>610</td>
<td>Effects of winter growing program on visceral organ mass and oxygen consumption in beef steers. M. McCurdy*, C. Krehbiel¹, G. Horn¹, and J. Wagner², ¹Oklahoma State University, Stillwater, ²Continental Beef Research, Lamar, CO.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>611</td>
<td>Influence of phase-feeding on performance of beef steers. J. Gleghorn¹, P. Defoor¹, M. L. Galyean², G. C. Duff³, and N. A. Cole⁴*, ¹New Mexico State University, Clayton, ²Texas Tech University, Lubbock, ³University of Arizona, Tucson, ⁴USDA-Agricultural Research Service, Bushland, TX.</td>
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<tr>
<td>2:45 PM</td>
<td>612</td>
<td>Relationship of residual feed intake with metabolic rate, methane production and energy partitioning in beef cattle. J. D. Nkrumah*, E. K. Okine¹, G. W. Mathison¹, K. Schmid¹, C. Li¹, J. A. Basarabi¹, M. A. Price¹, Z. Wang¹, and S. S. Moore¹, ¹University of Alberta, Edmonton, Alberta, Canada, ²Alberta Agriculture, Food and Rural Development, Lacombe, Alberta, Canada.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>613</td>
<td>The relationship between mitochondrial DNA content, single nucleotide polymorphisms and feed efficiency in crossbred Angus steers. W. H. Kolath*, M. S. Kerley, and J. W. Golden, University of Missouri, Columbia.</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>614</td>
<td>Evaluation of the effects of dietary antioxidant (Agrado⁶) on feedlot performance and carcass characteristics. M. Vazquez-Anon*, F. Scott¹, B. Miller¹, and T. Peters², ¹Novus International, St Louis, MO, ²Dekalb Feeds, Rock Falls, IL.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>615</td>
<td>Effects of dietary sunflower seeds (SS) and Tylosin phosphate on production parameters, carcass characteristics and liver abscess incidence in European crossbred steers. C. Ross, P. Mir⁴, and M. Shah, Agriculture And Agri-Food Canada, Lethbridge, AB, Canada.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>616</td>
<td>Effect of Bos Koolus on dry matter intake, rectal temperature and respiration rate of grain fed steers exposed to hot conditions. J. Gaughan*, R. van Barneveld¹, and D. Cadogan³, ¹The University of Queensland, Gatton, Qld, Australia, ²Becan Consultancy Group, South McLean, Qld, Australia, ³Feedworks, Eagle Farm, Qld, Australia.</td>
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<tr>
<td>4:00 PM</td>
<td>617</td>
<td>Feedlot performance response by steers to oral doses of polyclonal antibody preparations against Streptococcus bovis or Fusobacterium necrophorum. N. DiLorenzo*, C. R. Dahlen, A. DiCostanzo, and G. C. Lamb, University of Minnesota, St Paul.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>619</td>
<td>Effects of roughage level and Fibrozyme™ supplementation on performance and carcass characteristics of finishing beef steers. J. J. Cranston* and C. R. Krehbiel, Oklahoma State University, Stillwater.</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>620</td>
<td>Fatty acid composition of diets, metabolism and deposition in edible tissue of pasture-and feedlot-finished cattle. J. Guay*, J. Fontenot¹, W. Swecker¹, J. Neef¹, J. Herbein¹, W. Clapham², G. Scaglia¹, and A. Abaye¹, ¹Virginia Polytechnic Institute and State University, Blacksburg, ²USDA/ARS, Beaver, WV.</td>
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## Ruminant Nutrition

**Dairy - Fats**

**Chair:** Maurice Eastridge, The Ohio State University

**Room 207**

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<tr>
<td>2:00 PM</td>
<td>621</td>
<td>Fatty acid composition in rumen bacteria isolated from ruminal and duodenal digesta. B. Vlaeminck¹, R. J. Dewhurst², and V. Fievez*¹, ¹Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Ghent, Belgium, ²Institute of Grassland and Environmental Research, Aberystwyth, UK.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>622</td>
<td>Proportions of solid- (SAB) and liquid-associated (LAB) rumen bacteria in duodenal content as estimated by bacterial odd and branched-chain fatty acids. B. Vlaeminck¹, R. J. Dewhurst², and V. Fievez*¹, ¹Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Ghent, Belgium, ²Institute of Grassland and Environmental Research, Aberystwyth, UK.</td>
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<tr>
<td>2:30 PM</td>
<td>623</td>
<td>Development of an in vitro method to estimate fat digestibility in the small intestine of ruminants. T. Glindemann¹, K.-H. Suedekum*¹,², and E. Wisker¹, ¹University of Kiel, Kiel, Germany, ²University of Bonn, Bonn, Germany.</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>624</td>
<td>Conversion of oleic acid to 10-hydroxy and 10-keto stearic acids in vitro and their accumulation in milk of cows fed added fat. T. C. Jenkins*, A. A. AbuGhazaleh, E. J. Thies, and M. B. Riley, Clemson University, Clemson, SC.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>625</td>
<td>Effect of feeding supplemental palmitic acid (C 16:0) on performance of lactating dairy cows under summer heat. J. L. Warnetjes*¹, P. H. Robinson¹, E. Galo¹, E. J. DePeters¹, and D. Howes¹, ¹University of California, Davis, ²Dairy Consulting Services of California, Inc., Madera, CA, ³Howes Consulting Inc., Nampa, ID.</td>
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<tr>
<td>3:15 PM</td>
<td>626</td>
<td>Effect of different levels of nonfiber carbohydrates with and without supplemental fat on production and composition of Holstein dairy cows. M. Bashtani, A. A. Naserian*, and R. Valizadeh, Ferdowsi University of Mashhad, Mashhad, Khorasan, Iran.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>627</td>
<td>Milk fat trans-10 C18:1, trans-10 cis-12 CLA and trans-9 cis-11 CLA: association with fish oil-induced milk fat depression. M. A. S. Gama¹, J. M. Griniari¹, P. C. Garnsworthy¹, P. H. M. Rodrigues¹, P. R. Leme¹, L. W. O. Souza¹, and D. P. D. Lanna*¹, ¹ESALQ-USP, Piracicaba, SP, Brazil, ²University of Hensinki, Finland, ³University of Nottingham, UK, ⁴FZEA-USP, Pirassununga, Brazil.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>628</td>
<td>Source and amount of pelleted cottonseed influences fat digestibility and milk fat composition through ruminal metabolism of fatty acids in lactating cows. C. Reveneau*, M. L. Eastridge, and J. L. Firkins, The Ohio State University, Columbus.</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>629</td>
<td>Effect of feeding whole fuzzy cottonseed with elevated concentrations of free fatty acids on production of lactating dairy cows. K. M. Cooke* and J. K. Bernard, The University of Georgia, Tifton.</td>
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## Animal Behavior and Well-being

**Dairy Cattle Housing, Management and Stress**

**Chair:** Marcia I. Endres, University of Minnesota

**Room 211**

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<tr>
<td>3:00 PM</td>
<td>630</td>
<td>The use of animal-based measures to evaluate tie stall design on dairy farms in Ontario. K. Zurbrigge*,¹, D. Kelton², N. Anderson¹, and S. Millman², ¹Ontario Ministry of Agriculture and Food, Guelph, Ontario, Canada, ²University of Guelph, Guelph, Ontario, Canada.</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>631</td>
<td>The comparison between cow behavior to free stall and straw bedding system. S. Ghasemi* and A. A. Naserian, Ferdowsi University, Mashhad, Khorasan, Iran.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>632</td>
<td>Immune function and oxidative stress vary by management and lactation stage for dairy cows in pasture-based production systems. K. Saker*,¹, J. Fike¹, S. Washburn², and A. Meir³, ¹Virginia Polytechnic Institute and State University, Blacksburg, ²North Carolina State University, Raleigh, ³Center for Environmental Farming Systems, Goldsboro, NC.</td>
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Animal Behavior and Well-being
Cattle, Pain Stress and Welfare
Chair: Ed L. Fredrickson, USDA, Agricultural Research Service
Room 211

Time                  Abstract #

4:00 PM            634                    Does ketoprofen alleviate acute pain during dehorning? S. Millman*, T. Duffield, K. Lissemore, S. James, and L. Misch, University of Guelph, Guelph, ON, Canada.


4:30 PM            636                    A comparison of cattle temperament scores by breed type using different types of temperament scoring. J. Baszczak*, T. Grandin, S. Gruber, and J Tatum, Colorado State University, Fort Collins.

OTHER EVENTS

International Reception
Invited Speaker - Hank Fitzhugh, “Animals are where the people are. How ASAS-ADSA-CSAS can be there too.”
4:30 PM - 6 PM
Ballroom C

Thursday, July 28

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM
Animal Behavior and Well-being
Attitudes Toward Animal Welfare and Human Animal-Interactions
Chair: Adroaldo J. Zanella, Animal Behavior and Welfare Group, Michigan State University
Sponsor: Pfizer Animal Health

Symposium meets AAVSB’s RACE requirements for 3 hr CE.
Room 206

Time                  Abstract #

8:30 AM                                      Introductions and symposium format A.J. Zanella, Michigan State University

8:40 AM            637                    Human and animal interaction and welfare issues at the farm level. P. Hemsworth*, University of Melbourne, Werribee, Vic, Australia.

9:30 AM            638                    Assessment of student attitudes about companion and food animal welfare. J. Osborne*, C. Gasser3, S. Boyles1, J. Kinder1, and P. Hemsworth2, 1The Ohio State University, Columbus, 2Animal Welfare Centre, Victoria, Australia.
9:45 AM 639  Attitudes to farm animal welfare: Survey results of US animal science and veterinary college faculty. C. Heleski*, A. Mertig, and A. Zanella, 1Michigan State University, East Lansing, 2Middle Tennessee State University, Murfreesboro.

10:00 AM 640  Development of a web-based course in animal welfare. C. Wickens*, J. Siegford, and A. Zanella, Michigan State University, East Lansing.

10:15 AM  General discussion

10:45 AM  Concluding remarks - Speakers

SYMPOSIUM

A FASS Symposium on Antibiotic Resistance

Chair: Gary Cromwell, University of Kentucky, Lexington and Rodney Preston, Pagosa Springs, CO

Sponsors: Animal Health Institute, Elanco Animal Health, Intervet, National Pork Board and Phibro

Room 244

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>Introduction. G. Cromwell, R. Preston, University of Kentucky, Lexington, Pagosa Springs, CO.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>The growth promoter ban five years later - the Danish experience. J. Waddell, Sutton Veterinary Clinic, Sutton, NE.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>The animal arm of the national antimicrobial resistance monitoring system - an eight year journey. P. Fedorka-Cray, USDA-ARS, Athens, GA.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>Quantifying potential human health risks and benefits of animal antibiotics. T. Cox, Cox Associates, Denver, CO.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>Comments and Questions</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Adjourn</td>
</tr>
</tbody>
</table>

SYMPOSIUM

Animal Health

Alpharma Symposium: Animal Health: Acidosis in Dairy Cattle

Chair: Robert L. Larson, University of Missouri

Sponsors: Alpharma and Pfizer Animal Health

Symposium meets AAVSB’s RACE requirements for 3 hr CE.

Ballroom A

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>Ruminal acidosis: beyond the rumen. M. B. Hall, U.S. Dairy Forage Research Center, USDA-ARS, Madison, WI.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Discussion - all speakers.</td>
</tr>
</tbody>
</table>
Breeding and Genetics

Dairy Cattle Breeding for Production and Non-Production Traits

Chair: Chad Dechow, The Pennsylvania State University

Room 203

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>644</td>
<td>Productive life including all lactations, longer lactations, and calf value.</td>
<td>P. M. VanRaden* and M. E. Tooker, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>645</td>
<td>Effect of inbreeding on functional longevity in Canadian dairy breeds.</td>
<td>A. Sewalem*1,2, G. Kistemaker1, F. Miglior1,2, and B. Van Doormaal2, 1Agriculture and Agri-Food Canada, Guelph, ON, Canada, 2Canadian Dairy Network, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>646</td>
<td>Relationship between somatic cell count and functional longevity in Canadian dairy breeds.</td>
<td>A. Sewalem1,2, G. Kistemaker2, and B. Van Doormaal2, 1Agriculture and Agri-Food Canada, Guelph, ON, Canada, 2Canadian Dairy Network, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>647</td>
<td>Detection and confirmation of quantitative trait loci affecting traits of lifetime profit index on 23 chromosomes in Canadian Holstein cattle.</td>
<td>Y. Pan1,2, J. P. Chesnais1,2, N. Bissonnette1, N. Caron1, G. B. Jansen4, Y. Plante1, and E. B. Burnside1,2, 1The Semex Alliance, Saint-Hyacinthe, Quebec, Canada, 2L’Alliance Boviteq, Saint-Hyacinthe, Quebec, Canada, 4Dairy and Swine Research and Development Centre, AAFC, Lennoxville, Quebec, Canada, 5CGIL, Animal and Poultry Science, University of Guelph, Guelph, Ontario, Canada, 3Saskatchewan Research Council, Saskatoon, Saskatchewan, Canada.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>649</td>
<td>Genetic gains in milk, fat and protein yields of the Holstein breed in Brazil.</td>
<td>C. N. Costa*, N. M. Teixeira1, A. F. Freitas1, J. A. Cobuci1, and K. Haguinha2, 1Embrapa Gado de Leite, Juiz de Fora-MG, Brazil, 2Brazilian Holstein Association-ABCBRH, São Paulo-SP, Brazil.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>Break</td>
<td></td>
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<tr>
<td>10:15 AM</td>
<td>650</td>
<td>A phenotypic study of test-day yields recorded on Holstein-Friesian cows under Tunisian conditions.</td>
<td>A. Ben Gara*, B. Rekik, M. Mrad, and B. Khouildi, Ecole Supérieure d’Agriculture de Mateur, Mateur, Bizerte, Tunisia.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>651</td>
<td>Genetic evaluation and best prediction of lactation persistency.</td>
<td>J. Cole* and P. VanRaden, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>653</td>
<td>Effect of the bovine solute carrier/sulfate transporter (SLC26a2) gene on foot and leg traits in newborn calves.</td>
<td>A. M. Scholz4, S. Nueske1, I. Medugorac2, D. Seichter1, J. Hampe1, and M. Foerster2, 1Experimental Farm of the Veterinary Faculty, University Munich, Oberschleissheim, Germany, 2Institute of Animal Breeding of the Veterinary Faculty, University Munich, Munich, Germany, 3Animal Breeding Research Munich e.V., Poing, Germany.</td>
</tr>
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## SYMPOSIUM

**Companion Animals**

New Advances in Pet Health, Nutrition and Reproductive Management

Chair: Diane Hirakawa, The Iams Company

Sponsor: The Iams Company

Symposium meets AA VSB’s RACE requirements for 3.5 hr CE.

**Room 212**

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<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td></td>
<td>Introduction. Dr. Diane Hirakawa, <em>The Iams Company</em>.</td>
<td></td>
</tr>
<tr>
<td>8:40 AM</td>
<td>655</td>
<td>Maximizing conception rates using fresh cooled or frozen canine semen. R. Hutchison*, <em>Animal Clinic Northview, Inc., North Ridgeville, OH.</em></td>
<td></td>
</tr>
<tr>
<td>9:25 AM</td>
<td>656</td>
<td>Improving puppy trainability through nutrition. R. Kelley*, <em>The Iams Company - Research &amp; Development, Lewisburg, OH.</em></td>
<td></td>
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<tr>
<td>10:00 AM</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>10:15 AM</td>
<td>657</td>
<td>Research advances in carotenoid nutrition and immunology of dogs and cats. B. Chew* and J. S. Park, <em>Washington State University, Pullman, WA.</em></td>
<td></td>
</tr>
<tr>
<td>11:00 AM</td>
<td>658</td>
<td>Critical issues in aging and cancer: Implications for effective cancer prevention. D. Waters<em>1,2, 1</em>Purdue University Center on Aging and the Life Course, West Lafayette, IN, 2<em>Gerald P. Murphy Cancer Foundation, West Lafayette, IN.</em></td>
<td></td>
</tr>
<tr>
<td>11:45 AM</td>
<td></td>
<td>Panel Discussion. Dr. Diane Hirakawa, <em>The Iams Company</em>.</td>
<td></td>
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## SYMPOSIUM

**Extension Education**

Current Topics in Dairy Management: Transition Cows

Chairs: Jodie Pennington, University of Arkansas and Justen Smith, Utah State University

Sponsor: Monsanto Company

Symposium meets AA VSB’s RACE requirements for 2.5 hr CE.

**Ballroom B**

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<th>Authors</th>
</tr>
</thead>
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<td>8:30 AM</td>
<td>659</td>
<td>Manipulating the transition udder: Where dairy management meets mammary gland biology. T. B. McFadden*, <em>University of Vermont, Burlington.</em></td>
<td></td>
</tr>
<tr>
<td>10:00 AM</td>
<td>662</td>
<td>Impact of increased milking frequency during early lactation. M. VanBaale*, D. Ledwith, J. Thompson, R. Collier, and L. Baumgard, <em>University of Arizona, Tucson.</em></td>
<td></td>
</tr>
<tr>
<td>10:30 AM</td>
<td></td>
<td>Panel Q/A session.</td>
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### Forages and Pastures

**Composition and Quality**

**Chair: Sam Coleman, USDA ARS SubTropical Agricultural Research Station**

**Room 211**

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<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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<td>8:30 AM</td>
<td>663</td>
<td>Ruminal and post ruminal crude protein digestion of halophyte forages (Kochia scoparia, Atriplex domorphostegia) determined by various procedures. A. Riasi*1, M. Stern2, M. Danesh Mesgaran1, and M. Ruiz Moreno2, 1University of Mashhad, Mashhad, Khorasan, Iran, 2University of Minnesota, St. Paul.</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>664</td>
<td>Factors affecting the quality of corn silage grown in hot, humid areas 1: Effect of delayed sealing, simulated rainfall and ensiling temperature. A. Adesogan*1 and S. Kim1-2, 1University of Florida, Gainesville, 2Gyeongsang National University, South Korea.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>665</td>
<td>Factors affecting the quality of corn silage grown in hot, humid areas 2: Effect of applying two dual-purpose inoculants or molasses. A. Adesogan*1, M. Huisden1, K. Arriola1, S. Kim1-2, and J. Foster1, 1University of Florida, Gainesville, 2Gyeongsang National University, Jinju, South Korea.</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>666</td>
<td>Comparison of hays harvested at three stages of grass maturity in their effects on chewing activity and ruminal pH fluctuation of cows. F. Dohme* and A. Muenger, Agroscope Liebefeld-Posieux, Swiss Federal Research Station for Animal Production and Dairy Products (ALP), Posieux, Fribourg, Switzerland.</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>667</td>
<td>Comparative effect of brown midrib sorghum-sudan and corn silages on lactational performance, nutrient digestibility, and phosphorus retention in Holstein dairy cows. H. M. Dann1, C. S. Ballard2, E. D. Thomas1, K. W. Cotanch1, C. T. Hill1, R. J. Grant*1, R. Rice1, and W. Townsend2, 1W. H. Miner Agricultural Research Institute, Chazy, NY, 2Garrison &amp; Townsend, Hereford, TX.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>668</td>
<td>Exogenous fibrolytic enzymes accelerate in vitro degradation of ammonia-treated rice straw. J.-S. Eun*1, K. A. Beauchemin1, S.-H. Hong2, and M. W. Bauer3, 1Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, 2Sahmyook College, Seoul, Korea, 3Syngenta Biotechnology Inc., Research Triangle Park, NC.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>10:10 AM</td>
<td>669</td>
<td>Assessment of two indigestible markers for improving the accuracy of measurement of feed intake by cattle fed ryegrass. A. V. Chaves*, R. Delagarde, and A. Boudon, UMRPL - INRA, St-Gilles, France.</td>
</tr>
<tr>
<td>10:40 AM</td>
<td>671</td>
<td>Effect of variety on chemical composition and ruminal nutrient degradability of forage soybean silage. A. Mustafa* and P. Seguin, McGill University, Ste-Anne-De-Bellevue, QC, Canada.</td>
</tr>
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### Growth and Development

**Growth Factors and Growth**

**Chair: Jim Sartin, Auburn University**

**Room 200**

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<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>673</td>
<td>Small intestinal composition and hydrolytic activity in neonatal calves fed nucleotides. C. Oliver*1, C. De Jesus Arias2, W. Keller1, M. Bauer1, and C. Park1, 1North Dakota State University, Fargo, 2Instituto Superior de Agricultura, Santiago de los Caballeros, Dominicab Republic.</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>674</td>
<td>Fibroblast growth factor receptor 1 regulates protein metabolism in atrophic muscle. J. K. Eash*, A. L. Grant, K. M. Hannon, and D. E. Gerrard, Purdue University, West Lafayette, IN.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>675</td>
<td>Effects of an intensified compared to a moderate feeding program during the pre-weaning period on body growth and pubertal age in Holstein heifers. L. Davis*, M. VandeHaar, J. Liesman, L. Chapin, and M. Weber Nielsen, Michigan State University, East Lansing.</td>
</tr>
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</table>
9:15 AM  676  Developmental changes in expression of toll-like receptors in fetal porcine intestine. T. E. Burkey*, K. A. Skjolaas-Wilson, K. R. Lawrence, B. J. Johnson, and J. E. Minton, Kansas State University, Manhattan.

9:30 AM  677  Quantification of muscle regulatory factors and myostatin in callipyge sheep. J. N. Fleming*, C. A. Bidwell2, S. P. Jackson1, R. D. Allen1, and J. R. Blanton, Jr1. 1Texas Tech University, Lubbock, 2Purdue University, West Lafayette, IN.

9:45 AM  678  Regulation of muscle protein anabolism in growing steers by fatty acids in muscle membrane phospholipids is dose-dependent. M. C. Thivierge*, P. Y. Chouinard1, Y. Couture1, P. Julien1, P. Dubreuil1, T. A. Davis4, and A. Myre1. 1Université Laval, Quebec, QC, Canada, 2Université de Montréal, St-Hyacinthe, QC, Canada, 3Laval University Medical Ctr (CHUL), Quebec, QC, Canada, 4USDA/ARS Children’s Nutr. Res. Cir., Dept. Pediatr. Baylor Coll. Med, Houston, TX, USA.


9:45 AM  686  Regulation of muscle protein anabolism in growing steers by fatty acids in muscle membrane phospholipids is dose-dependent. M. C. Thivierge*, P. Y. Chouinard1, Y. Couture1, P. Julien1, P. Dubreuil1, T. A. Davis4, and A. Myre1. 1Université Laval, Quebec, QC, Canada, 2Université de Montréal, St-Hyacinthe, QC, Canada, 3Laval University Medical Ctr (CHUL), Quebec, QC, Canada, 4USDA/ARS Children’s Nutr. Res. Cir., Dept. Pediatr. Baylor Coll. Med, Houston, TX, USA.

9:45 AM  687  Influence of feeding level on apparent ileal and fecal digestibilities of phosphorus and calcium in piglets fed diets containing wheat millrun. T. Nortey*, K. R. Roneker, M. C. Thivierge*, P. Y. Chouinard1, Y. Couture1, P. Julien1, P. Dubreuil1, T. A. Davis4, and A. Myre1. 1Université Laval, Quebec, QC, Canada, 2Université de Montréal, St-Hyacinthe, QC, Canada, 3Laval University Medical Ctr (CHUL), Quebec, QC, Canada, 4USDA/ARS Children’s Nutr. Res. Cir., Dept. Pediatr. Baylor Coll. Med, Houston, TX, USA.

10:00 AM  679  Effects of serum from angus cattle divergently selected for serum IGF-I concentration on myoblast differentiation. M. Updike*, M. Davis, and W. Wick, The Ohio State University, Columbus.

10:15 AM  680  Effect of melengestrol acetate (MGA) on bovine satellite cell b-adrenergic receptor (bAR) messenger RNA (mRNA) abundance. E. K. Sissom* and B. J. Johnson, Kansas State University, Manhattan.

10:30 AM  681  Myostatin prodomain transgene significantly improves dietary fat utilization for animal muscle growth. J. Yang*, B. Zhao1, and R. Wall1, 1University of Hawaii, Honolulu, 2Animal and Natural Resources Institute, USDA-ARS, Beltsville, MD.

10:45 AM  682  The effect of rumen fluid supplementation on neonatal dairy calf performance and the incidence of diarrhea. C. Todd*, D. McKnight2, T. Godfrey3, A. Keokkoek4, P. Sharpe1, L. Gooijer1, R. Rana2, J. Pitty Del Ci2, and K. Leslie1. 1University of Guelph, Guelph, ON, Canada, 2University of Guelph, Kemptville, ON, Canada.

11:00 AM  683  Effects of colostrum (C) and dexamethasone (DEXA) treatment on insulin (I)-dependent glucose (G) metabolism in neonatal calves. B. Scheuer1, L. Tappy2, J. W. Blum1, and H. M. Hammon*3, 1Pediatr. Baylor Coll. Med, Houston, TX, USA, 2University of Lausanne, Lausanne, Switzerland, 3Research Institute for Biology of Farm Animals (FBN), Dummerstorf, Germany.


Nonruminant Nutrition

Enzyme Supplementation

Chairs: Gretchen M. Hill, Michigan State University and Ronny L. Moser, United Feeds

Room 202

Time  Abstract #  Title
8:30 AM  685  Fate of supplemental Escherichia coli phytase in the digestive tract of young pigs. A. R. Pagano*, K. R. Roneker, and X. G. Lei, Cornell University, Ithaca, NY.

8:45 AM  686  Site of digestibility of protein and phosphorus by growing pigs fed diets without or with microbial phytase. L. L. Geraets*, M. G. Boersma, and H. H. Stein, South Dakota State University, Brookings.

9:00 AM  687  Influence of feeding level on apparent ileal and fecal digestibilities of phosphorus and calcium in piglets fed microbial or plant phytase. T. Steiner* and R. Mosenthin, Research Institute for Biology of Farm Animals (FBN), Dummerstorf, Germany.

9:15 AM  688  The evaluation of phosphorus feeding strategies in pigs from 12 kg to market. R. W. Fent*, G. L. Allee1, D. M. Weibe1, J. D. Spencer1, and T. S. Torrance2, 1University of Missouri, Columbia, 2United Feeds, Inc., Sheridan, IN.

9:30 AM  689  Efficacy and equivalency of an E. coli-derived phytase for replacing inorganic phosphorus in broilers and pigs. J. A. Jendza*, R. N. Dilger1, J. S. Sands2, and O. Adeola1, 1Purdue University, West Lafayette, IN, 2Danisco Animal Nutrition, Marlborough, Wiltshire, UK.

9:45 AM  690  Effect of xylanase and(or) phytase supplementation on amino acid digestibility of grower pigs fed wheat-based diets containing wheat millrun. T. Nortey*, N. Trottier1, J. Patience1, P. Simmins1, and R. Zijlstra2, 1Prairie Swine Centre, Saskatoon, SK, Canada, 2University of Saskatchewan, Saskatoon, SK, Canada, 3Michigan State University, East Lansing, 4Danisco Animal Nutrition, Marlborough, UK, 5University of Alberta, Edmonton, AB, Canada.
Ruminant Nutrition

Dairy - Behavior, Modeling, and Production

Chair: John Bernard, University of Georgia
Room 205

Time Abstract # Title


8:45 AM 698 Effect of feeding frequency on the behavior of lactating dairy cows. T. J. DeVries* and M. A. G. von Keyserlingk, The University of British Columbia, Canada.

9:00 AM 699 The Cornell Net Carbohydrate and Protein System: An evolving model. T. Tylutki* and D. Fox, Cornell University, Ithaca, NY.


10:00 AM 703 The effect of enzyme supplementation on energy and crude protein digestibility of wheat distiller’s dried grains with solubles in grower-finisher pigs. G. P. Widyaratne*, R. T. Zijlstra, T. J. DeVries, M. A. G. von Keyserlingk, and D. M. Weary, Prairie Swine Centre Inc., Saskatoon, SK, Canada.


Retrieved from the document.
Ruminant Nutrition

Beef and Small Ruminant - Nitrogen Metabolism

Chair: Jim Wohlt, Rutgers University

Room 207

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<td>8:30 AM</td>
<td>709</td>
<td>Metabolizable protein effects on ammonia emissions and nitrogen excretion of steers.</td>
<td>D. Panetta*, W. Powers, and J. Russell, Iowa State University of Science and Technology, Ames.</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>710</td>
<td>Effects of energy source on methionine utilization by growing steers.</td>
<td>G. F. Schroeder*, E. C. Titgemeyer, M. S. Awawdeh, J. S. Smith, and D. P. Gnad, Kansas State University, Manhattan.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>711</td>
<td>Ruminal fermentation of 15N-labeled alfalfa hay N fractions in vitro.</td>
<td>A. Melgar* and A. N. Hristov, University of Idaho, Moscow.</td>
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<td>9:45 AM</td>
<td>714</td>
<td>Effects of supplemental RDP versus increasing amounts of supplemental RUP on N retention and digestion of a low-quality forage diet by growing lambs.</td>
<td>R. L. Atkinson*, C. D. Toone, and P. A. Ludden, University of Wyoming.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>715</td>
<td>Nitrogen balance in goats fed a novel byproduct protein source.</td>
<td>S. Freeman*, M. Poore*, P. Ferket*, G. Huntington*, and T. Middleton*, 1North Carolina State University, Raleigh, 2AgProvisions, LLC, Kenansville, NC.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>716</td>
<td>Monitoring the fate of microwave treated whole cottonseed proteins in the rumen.</td>
<td>A. A. Sadeghi*1 and P. Shawrang2, 1Islamic Azad University, Tehran, Iran, 2Tehran University, Karaj, Iran.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>717</td>
<td>Monitoring the fate of steam flaked corn proteins in the rumen.</td>
<td>A. A. Sadeghi*1 and P. Shawrang2, 1Islamic Azad University, Tehran, Iran, 2Tehran University, Karaj, Iran.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>718</td>
<td>Urea treatment of corn straw and its use in fattening of Holstein bull calves.</td>
<td>S. A. Shiri*, Agricultural and Natural Resources Research Center of Khorasan, Mashhad, Iran.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>719</td>
<td>Degradability of dry matter and crude protein of sugar beet tops and crown silage treated with urea and molasses in Iranian Balouchi sheep.</td>
<td>M. Raisianzadeh*, G. Moghaddam*, M. Daneshmesgaran1, H. Fazaeli1, and M. Nowrozi1, 1Agriculture and Natural Resources Research Center of Khorasan, Mashhad, Khorasan, Iran, 2University of Tabriz, Tabriz, Azarbayegan, Iran, 3Ferdowsi University of Mashhad, Mashahd, Khorasan, Iran, 4Animal Science Research Institute of Iran, Karaj, Tehran, Iran.</td>
</tr>
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Author Index

Numbers following names refer to abstract numbers: a number alone indicates an oral presentation, an M prior to a number indicates a Monday poster, a T indicates a Tuesday poster, and a W indicates a Wednesday poster.

The author index is created directly and automatically from the abstracts. If an author's name is typed differently on multiple abstracts, the entries in the author index will reflect these discrepancies. Efforts have been made to make this index consistent: however, error from author entry contributes to inaccuracies.

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<td>(3pm - 4pm) ADSA Production Division Resolutions Committee</td>
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<td>(5pm - 6pm) ADSA Dairy Foods Division Council Meeting</td>
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<td>Ballroom B</td>
<td>Set up Opening Session</td>
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<td>Ballroom C</td>
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<tr>
<td>Ballroom Foyer</td>
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<td>Set up Opening Reception</td>
<td>(8pm) Opening Reception</td>
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<tr>
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<tr>
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<td>210</td>
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<tr>
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<td>Room</td>
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<td>9:30 am - 12:30 pm</td>
<td>2 pm - 5:00 pm</td>
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<td>Growth and Development: Growth Promoters and Growth Measures</td>
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<td>(2pm - 4pm) ARPAS Exams</td>
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<td>Office F</td>
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<td>ASAS 2008 Centennial Committee</td>
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**Program at a Glance**

**Monday, July 25**
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<td>(11 am - 12:30 pm) Breeding and Genetics: International Evaluation of Dairy Bulls – In Honor of Dr. Rex Powell</td>
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<td>(5 pm - 6 pm) USDA Agricultural Research Service Update Session</td>
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<td>(3:30 pm - 5:30 pm) ASAS JAS Forum (Division/Associate Editors and Authors)</td>
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<td></td>
<td>Teaching/Undergraduate and Graduate Education: Scholarship of Teaching as Related to Promotion and Tenure, Symposium</td>
<td>Extension Education: Cow Comfort on Commercial Dairy Operations</td>
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<tr>
<td>260</td>
<td></td>
<td>(9:30 am - 10:30 am) SAD Student Careers Symposium: Leaders in Training</td>
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<tr>
<td>261</td>
<td></td>
<td>(8:30 am - 9:30 am) SAD Business Meeting - Election of Officers</td>
<td>(3 pm - 4:30 pm) SAD Committee Meeting - Old and new Officers &amp; Advisors</td>
</tr>
<tr>
<td>262</td>
<td></td>
<td>Setup for awards luncheon</td>
<td>(12:30 pm - 2:30 pm) SAD Awards Luncheon (2:30 pm - 3:30 pm) SAD Awards Photos</td>
</tr>
<tr>
<td>263</td>
<td></td>
<td>Setup for awards luncheon</td>
<td>(12:30 pm - 2:30 pm) SAD Awards Luncheon (2:30 pm - 3:30 pm) SAD Awards Photos</td>
</tr>
<tr>
<td>301</td>
<td></td>
<td>(12:30 pm - 2 pm) CSAS Annual Meeting &amp; Luncheon</td>
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<tr>
<td>302</td>
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<td>(12:30 pm - 2 pm) CSAS Annual Meeting &amp; Luncheon</td>
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<tr>
<td>Ballroom A</td>
<td></td>
<td>Beef Species: Vertical Coordination in the Beef Industry: Implications for Animal, Information, and Enterprise Management</td>
<td>Forages &amp; Pastures: Emerging Techniques for Predicting Forage Quality</td>
</tr>
<tr>
<td>Ballroom B</td>
<td></td>
<td>Ruminant Nutrition: Dairy and Beef - Minerals</td>
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<tr>
<td>Exhibit Hall A</td>
<td></td>
<td>Poster Presentations</td>
<td>Exhibits &amp; Posters</td>
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<td>Show Management Rooms</td>
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<td>209</td>
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<td>Presentation Pre-Loading Room</td>
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<tr>
<td>210</td>
<td></td>
<td>(2 pm - 4 pm) ARPAS Exams</td>
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<td>Coat Check Room (2nd Floor, North Rooms)</td>
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<td>Office F</td>
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<td>ASAS 2008 Centennial Committee</td>
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<tr>
<td>Room</td>
<td>7:30 am - 9:30 am</td>
<td>9:30 am - 10:30 am</td>
<td>10:30 am - 12:30 pm</td>
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<tr>
<td>200</td>
<td>Posters Only In</td>
<td>ADSA Foundation Scholar Award Lecture - Dairy Production</td>
<td>Food Safety: The Future of Food Safety: An Issue of National Importance</td>
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<tr>
<td>202</td>
<td>Production, Management and the Environment: Dairy and Livestock Management</td>
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<tr>
<td>203</td>
<td>Breeding and Genetics: Beef Cattle Breeding and Genetics</td>
<td>Breeding and Genetics: Dairy Cattle Breeding for Non-Production Traits II</td>
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<tr>
<td>205</td>
<td>CAST Meeting</td>
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<tr>
<td>206</td>
<td>Nonruminant Nutrition: Feed Ingredients and Processing</td>
<td>Ruminant Nutrition: Beef - Feedlot</td>
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<td>207</td>
<td>Ruminant Nutrition: Dairy – Feed Additives</td>
<td>Ruminant Nutrition: Dairy - Fats</td>
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<tr>
<td>212</td>
<td>Swine Species: Swine Nutrition and Management</td>
<td>Animal Health II</td>
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<td>233</td>
<td>Hospitality Room</td>
<td>Hospitality Room</td>
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<tr>
<td>234</td>
<td>(10am - 10:30am) ASAS Business Meeting (12:30pm - 2pm) RFAC Business Meeting</td>
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<tr>
<td>236</td>
<td>(9:30am - 10am) Joint ADSA &amp; ASAS Business Meeting</td>
<td>Danisco International Dairy Science Award Lecture</td>
<td>International Animal Agriculture</td>
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<tr>
<td>240</td>
<td>Extension Education: Training Programs, Program Evaluation, and Economics</td>
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<td>241</td>
<td>(10am - 10:30am) ADSA Business Meeting (10:45am - 12:30pm) Sheep Species Dairy Foods: Cheese II-Cream, Process, Italian and Other Cheeses</td>
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<td>242</td>
<td>Production, Management and the Environment: Heat Stress</td>
<td>Lactation Biology</td>
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<td>243</td>
<td>Beef Species</td>
<td>Goat Species: Educational Resources and Field Experiences to Enhance and Promote Goat Production and Management</td>
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<tr>
<td>244</td>
<td>Extension Education: Environment and National Animal Identification System</td>
<td>(2pm - 4:45pm) Companion Animals: Nutritional and Health Considerations for Companion Animals II (4:45pm) Reception</td>
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<tr>
<td>262</td>
<td>(12:30pm - 2pm) Women &amp; Minority Issues in Animal Agriculture Luncheon</td>
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<tr>
<td>Ballroom B</td>
<td>ADSA Production Division Symposium: Forage Analysis: Concept to Application</td>
<td>Production Division Evening Session/Reception</td>
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<tr>
<td>Ballroom C</td>
<td></td>
<td>International Reception with Invited Speaker Hank Fitzhugh</td>
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<tr>
<td>Exhibit Hall A</td>
<td>Poster Presentations, Exhibits &amp; Posters</td>
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Program at a Glance
Wednesday, July 27
# Program at a Glance

**Thursday, July 28**

<table>
<thead>
<tr>
<th>Room</th>
<th>8:30 am - 11:30 am</th>
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<tbody>
<tr>
<td>200</td>
<td>Growth and Development: Growth Factors and Growth</td>
</tr>
<tr>
<td>202</td>
<td>Nonruminant Nutrition: Enzyme Supplementation</td>
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<tr>
<td>203</td>
<td>Breeding and Genetics: Dairy Cattle Breeding for Production and Non-Production Traits</td>
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<td>205</td>
<td>Ruminant Nutrition: Dairy - Behavior, Modeling, and Production</td>
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<tr>
<td>206</td>
<td>Animal Behavior and Well-being: Attitudes Toward Animal Welfare and Human Animal-Interactions</td>
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<tr>
<td>207</td>
<td>Ruminant Nutrition: Beef and Small Ruminant - Nitrogen Metabolism</td>
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<tr>
<td>211</td>
<td>Forages and Pastures: Composition and Quality</td>
</tr>
<tr>
<td>233</td>
<td>Hospitality Room</td>
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<tr>
<td>244</td>
<td>FASS Antibiotic Resistance</td>
</tr>
<tr>
<td>Ballroom A</td>
<td>Animal Health: Acidosis in Dairy Cattle</td>
</tr>
<tr>
<td>Ballroom B</td>
<td>Extension Education: Current Topics in Dairy Management: Transition Cows</td>
</tr>
<tr>
<td><strong>Show Management Rooms</strong></td>
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</table>
See what’s missing from your breeding program.

Eazi-Breed CIDR Is Now Approved For Lactating Dairy Cows.

No matter what breeding program you’re using, it may not achieve its full potential without the help of Eazi-Breed™ CIDR® Cattle Inserts. The fact is, reproductive problems may cause dairies an annual loss in excess of $120 per cow. Just think of the impact of those numbers on your own operation. But with Eazi-Breed CIDR, you can ensure more pregnancies. More milk sold. And a bottom line that will be more to your liking. So put more life in your breeding program, with Eazi-Breed CIDR. You’ll see just how much you’ve been missing.

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Pfizer Animal Health

Make Breeding Less Of A Guess™

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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.