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We’re pleased you’ve joined us in Minneapolis to see old friends and make new ones and to exchange information with other scientists, as we provide the very best in professional networking and educational opportunities for dairy and animal science. This joint meeting is also a special year, as ADSA celebrates its Centennial.

We have an outstanding program this year that has something for everyone, including pre-meeting symposia, the Triennial Reproduction Symposium, “Dairy Foods: Advances in Cultured Foods,” and “Disease Risk Management Tools for Beef and Dairy Producer: Train the Trainer.” The Opening Session will highlight the 100 years of ADSA as well as the dairy industry.

Several activities are planned for the Centennial Celebration:

- Opening Session will focus on the history of ADSA and the dairy science industry and will feature some ADSA Pioneers as well as some young leaders of ADSA
- 18 ADSA Pioneers will open 18 oral scientific sessions with presentations
- Universities, companies, and dairy clubs will display posters sharing their organization’s history of dairy
- A coffee table book recounting the history of ADSA and the dairy industry will be available for purchase
- A history of ADSA and the dairy industry will be presented on a DVD during the Opening Session, and will also be available to meeting attendees for purchase.

In an attempt to continue to make the meeting “attendee friendly,” the structure of the meeting will follow the 2005 schedule: poster presentations from 7:30 to 9:30 am on Monday, Tuesday, and Wednesday mornings. Scientific sessions will be from 9:30 am to 12:30 pm on Monday and Tuesday, 10:30 am to 12:30 pm on Wednesday, 2:00 to 5:00 pm each afternoon, and 8:30 am to 12:30 pm on Thursday. The lunch break will be from 12:30 to 2:00 pm 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 10, and the ADSA ceremony will be held on Tuesday, July 11, to allow you to attend one or both. An old-fashioned ice cream social with birthday cake, open to all attendees, will be held Tuesday night after the ADSA award ceremony. Be sure to join us.

We invite all meeting attendees and their families to attend the Closing/International Reception on Wednesday, July 12.

The agenda for this year’s meeting is a testament to the program organizers who have invested enormous amounts of time and effort to bring distinguished scientists in animal agriculture and animal food products from around the world to one place. In addition to several invited speakers, this program includes 30 symposia and almost 1,500 presentations. Many thanks to the ADSA-ASAS program committees and staff of ADSA, ASAS, and FASS for their hard work. Our program committee, Rick Grant (Chair), Jim Oltjen, and Maurice Eastridge, along with FASS staff members, Jennifer Gavel, Cara Tharp, Keely Roy, Louise Audrieth, Ted Veatch, and Kevin Wolter (to name just a few), did a fantastic job. Special thanks go out to the Executive Directors of ASAS and ADSA Meghan Wulster-Radcliff, Paula Schultz, Peter Studney, and Brenda Carlson prior to her retirement, for keeping everything headed in the right direction.

Thank you for participating in the ADSA-ASAS joint meeting and for making it a success.
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IMPORTANT MESSAGE

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

Thank you for your cooperation.

Survey of Meeting Attendees

The 2006 program committee has provided meeting attendees the opportunity to help improve future joint meetings. A meeting survey will be available on line during the meeting. Please take advantage of the Cyber Café in the exhibit hall to log on and complete the survey. We appreciate your feedback!

Strategic Planning Member Survey

ASAS is in the process of creating a new strategic plan; as part of acquiring data for the strategic plan we are asking as many people as possible to complete the ASAS Membership Survey. The survey is open to both ASAS members and nonmembers. The survey can be completed at dedicated computers identified by signs near the registration desk, in the pre-load room, and in the Cyber Café. Each person that completes the survey will receive a free gift. Please take a few minutes to contribute to the drafting of the new ASAS strategic plan.
General Meeting Information

Location

The Minneapolis Convention Center is located in the heart of downtown Minneapolis, connected to all major hotels, shopping, and restaurants by an enclosed skywalk. Minneapolis offers participants a compact downtown with first-class hotels, major retail stores and a variety of dining and nightlife options all within easy walking distance of the Minneapolis Convention Center. Meeting rooms will be equipped for electronic presentations and pre-loaded sessions. The Cyber Café will 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 opening session and reception 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 or online at http://adsa.asas.org/2006.

Program Format for 2006

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

Registration Hours

Registration will be located on the Mezzanine Level of the Minneapolis Convention Center. Registration hours for the 2006 Joint Annual Meeting will be as follows:

Saturday, July 8 (pre-registered only) ......................... 12:00 pm - 5:00 pm
Sunday, July 9 ......................................................... 7:00 am - 7:00 pm
Monday, July 10 ....................................................... 6:30 am - 4:00 pm
Tuesday, July 11 ....................................................... 7:00 am - 3:30 pm
Wednesday, July 12 ............................................... 7:00 am - 3:00 pm
Thursday, July 13 .................................................... 8:00 am - 10:00 am
Headquarter Hotels

**Hyatt Regency Minneapolis - ASAS HQ**
1300 Nicollet Mall
Minneapolis, MN 55403
Phone: (612) 370-1234; Fax: (612) 370-1463

**Hilton Minneapolis - ADSA HQ**
1001 Marquette Avenue
Minneapolis, MN 55403
Phone: (612) 376-1000; Fax: (612) 397-4871

**Doubletree Guest Suites Minneapolis - Student HQ**
1101 LaSalle Avenue
Minneapolis, MN 55403
Phone: (612) 332-6800; Fax (612) 332-8246

Official Meeting Hotels

**Millennium Hotel Minneapolis**
1313 Nicollet Mall
Minneapolis, MN 55403
Phone: (612) 332-6000; Fax: (612) 359-2164

**Best Western Normandy Inn**
405 S. 8th Street
Minneapolis, MN 55404
Phone: (612) 370-1400

**Embassy Suites Hotel**
425 S. 7th Street
Minneapolis, MN 55415
Phone: (612) 333-3111

Important Phone Numbers

- Registration Desk: (612) 335-6663
- Hilton Minneapolis: (612) 376-1000
- Hyatt Regency Minneapolis: (612) 370-1234
- Millennium Minneapolis: (612) 332-6000
- Doubletree Guest Suites Minneapolis: (612) 332-6800
- Minneapolis Convention Center: (612) 335-6800
- Minneapolis Convention and Visitors Association: (612) 767-8000
- Weather, Time, and Temperature: (763) 512-1111

Meeting Information

Media Check-in

Please check in at the Registration Desk on the Mezzanine Level of the Minneapolis Convention Center.

Speaker Ready Room

The Speaker Ready Room is located in Room M101 B on the Mezzanine Level of the Minneapolis Convention Center. This room will be available for speakers from 7:00 am to 5:00 pm on each day of the meeting.

Business Center

For your convenience, FedEx Kinko’s is located on the main level of the Minneapolis Convention Center directly behind the information booth. The store is open Monday through Friday from 7:00 am until 6:00 pm.
**Hospitality Lounge**

The hospitality lounge will be located in room M101 A. This lounge will offer attendees an area to relax, network and catch up with old friends. The hospitality lounge is a great place to plan to meet when you are looking for one central location for a group to leave from.

**Notice to all Oral Presenters and Invited Speakers**

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

**Poster Presentations**

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

Each poster presentation will be available for public viewing for the entire day, with the presenting authors present during the “open posters” time (7:30 am to 9:30 am). All posters should be mounted on the board one-half hour prior to the beginning of the day’s session (posters open at 7:30 am so posters should be mounted on the board by 7:00 am). The exhibit hall will open daily at 6:15 am from Monday, July 10 through Wednesday, July 12. Posters must be removed by 5:30 pm each day. Any posters remaining after 5:30 pm will be removed by the convention center staff and discarded.

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

**Locating the Correct Poster Board**

The poster board number corresponds to the abstract number as noted in the program. Each poster board will have a number that corresponds to the abstract number in the program. Monday posters will have an “M”, Tuesday posters a “T”, and Wednesday posters a “W” preceding the board number.
ADSA Centennial Posters
Convention Center, Exhibit Hall A

As part of ADSA’s Centennial Celebration, Departments of Dairy Science, Animal Science, and Food Science; government institutions in the US and Canada; Dairy Clubs; and ADSA Sustaining Members will have posters on display during the meeting. These posters will showcase the history, accomplishments, and contributions from their institution or organization from the past 100 years.

The Centennial Posters will be on display from Monday, July 10, through Wednesday, July 12. A reception will be held on Monday, July 10, from 4:00 to 5:00 pm near the Centennial Posters in the Exhibit Hall.

ARPAS Continuing Education Units

The ADSA-ASAS 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 times and location of the ARPAS exams.

AAUSB Registry of Approved Continuing Education (RACE)

The American Association of Veterinary State Board has approved the ADSA-ASAS Joint Annual Meetings for continuing education credits for veterinarians and veterinary technicians. Thirty-seven total contact hours of continuing education credits are available with the potential for a veterinarian or a technician to earn a maximum total of 17 credits. Symposia eligibility and associated credits for the symposia are listed with the individual symposia descriptions.

Placement Center

The Placement Center is located in Exhibit Hall A. The job announcements and resumes 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

Keep in touch with work, family and friends during the ADSA-ASAS Joint Annual Meeting at the Cyber Café. Located in the exhibit hall on the lower level of the Minneapolis Convention Center, the Cyber Café is available to all meeting attendees.

Wireless internet access is available in the main lobby of the Minneapolis Convention Center. The cost for access is $5.95 for one hour and $15.95 for 24 hours.
**TRANSPORTATION**

**SuperShuttle**
SuperShuttle of Minneapolis/St. Paul, Inc. provides an opportunity to save money and time when you arrive in Minneapolis. SuperShuttle service provides convenient, reliable, and economical transportation between the airport and all major hotels with departures from the airport every 30 minutes and departing from major hotels every 30 minutes. The cost is $15.00 one-way or $26.00 for a round trip. No reservation is needed. A staffed desk is located on the right side of the Ground Transportation Center, one level below baggage claim in the Minneapolis St. Paul Airport.

If you are in need of accessible service, please make a reservation by calling 1-800-BLUEVAN.

**Taxi Cabs**
Several taxi companies serve the Minneapolis/St. Paul International Airport and all points throughout the Twin Cities. The one-way fare from the airport to downtown Minneapolis is approximately $25.00 and should take 15 - 20 minutes. Taxicabs can be hailed from the lobby of your hotel.

**Light Rail Transit**
The Hiawatha Light Rail Transit System offers transportation to 17 different stops between the Mall of America, the Minneapolis/St. Paul Airport, and downtown Minneapolis. The trains run approximately every ten minutes, and the fare is $1.75 during rush hour and $1.25 at all other times. Visit the Metro Transit’s website at http://www.metrotransit.org/rail.
Special Events

Opening Session
Sunday, July 9
7:00 p.m. to 8:30 p.m.
Convention Center, Auditorium

ADSA Centennial - Reflecting Back to Envision the Future
The 2006 Opening Session is not only the start of the Joint Meeting but is also the kick-off for ADSA’s Centennial celebration. The Opening Session will feature ADSA members reflecting on the first 100 years of ADSA and the current opportunities for ADSA as it moves forward. Speakers will address the rich heritage of ADSA with a look at the advancements in production and processing of milk.

7:00 - Welcome to the Centennial - Dr. David Barbano, ADSA President
   Reflecting Back to Envision the Future - Dr. Ken McGuffey
   The World of Dairy Science
   Reflecting Back - Dr. John Campbell and Dr. Robert Marshall
   Favorite ADSA Memories - Dr. Robert Sellars and Dr. Ken McGuffey
   Envisioning the Future - Ms. Rebekah Blades, Dr. Robert Collier, and Dr. Bruce German

8:15 - Announcements and Closing Remarks - Dr. David Buchanan, ASAS President

Opening Reception
Sunday, July 9
8:00 pm - 10:00 pm
Convention Center, Ballroom A

End the evening by joining us in the ballroom foyer after the Opening Session to socialize with colleagues and friends.

ADSA Town Hall Meeting
Monday, July 10
5:00 pm - 6:00 pm
Convention Center, Room 101 H-I

The ADSA Board of Directors invites attendees to a Town Hall Meeting on Monday, July 10, from 5:00 pm to 6:00 pm in the Convention Center, Room 101 H-I. The Town Hall Meeting provides an opportunity for attendees/members to express concerns and praises for the Association. The ADSA Board also seeks members’ 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 10
7:00 pm - 8:30 pm
Hyatt Regency, Nicollet Ballroom

All meeting participants, families, and friends are welcome to attend the 2006 ASAS Awards Program. Please join us at this special event to congratulate the 2006 ASAS award winners at the Hyatt Regency on Monday, July 10.
Dance Party with the Johnny Holm Band  
Monday, July 10  
8:30 pm - 12:30 am  
Hilton Minneapolis, Salons DEFG  
Ticket Price: $5.00  
Rock the night away with old and new friends and the Johnny Holm Band. One of the most requested bands in the upper Midwest, the Johnny Holm Band dedicates each show to the fans, and they do most of the entertaining. There’s never a dull moment when this band hits the stage and rocks, picks, and thunders along non-stop from the first song to the last laugh. Cash bar, free soda bar, and free snacks will be available. This event is open to all meeting attendees, including students, advisors, and anyone else looking for a fun evening. 

5K Fun Run  
Tuesday, July 11  
6:15 am  
Loring Park, Meet at the Minneapolis Convention Center  
Join in the fun on Tuesday, July 11, at 6:15 am. Enjoy beautiful Loring Park in downtown Minneapolis while running this 5-kilometer course. T-shirts and refreshments will be provided and medals will be awarded.

Feedstuffs Seminar  
Tuesday, July 11  
8:00 am - 9:00 am  
Hilton Minneapolis  
Radio broadcaster and Feedstuffs columnist Trent Loos will talk about the threats facing animal agriculture today and provide insight on what can be done to bridge the growing gap between food producers and consumers.

ASAS Northeast Section and ADSA Northeast Branch Business Meeting and Awards Luncheon  
Tuesday, July 11  
12:30 pm - 2:00 pm  
Convention Center, 200J  
Pre-registration is required  
The ASAS Northeast Section and ADSA Northeast Branch will hold their annual Business Meeting and Awards Luncheon on Tuesday, July 11. Members are invited to attend and catch up with other members of the section. This is a good time to honor the NE award winners and the Graduate Student Competition Winners.

Spouses’ Event  
Tuesday, July 11  
2:00 pm - 3:30 pm  
Brit’s Pub  
Pre-registration is required and is limited to 40 attendees  
Join us at Brit’s pub on Tuesday, July 11, for an authentic English high tea. A selection of tea sandwiches, fresh fruit, imported English cheeses; fresh baked buttermilk and blueberry scones; Devonshire cream, marmalade; and a variety of teatime sweets will be served.
**ASAS JAS Forum**  
*Tuesday, July 11*  
*3:30 pm - 5:30 pm*  
*Convention Center, M100A*

Meeting attendees are invited to join the editor-in-chief of JAS and journal staff from HQ for an open forum on the journal. The association encourages you to bring forward questions, concerns, and praises to this informal event. We hope to see you there!

**ADSA Awards Program**  
*Tuesday, July 11*  
*7:00 pm - 8:00 pm*  
*Hilton Minneapolis, Salon EFG*

All meeting participants, families, and friends are welcome to attend the 2006 ADSA Awards Program. Please join us at this special event in congratulating all of our award winners on Tuesday, July 11, at the Hilton.

**2006 ADSA-ASAS Ice Cream Social**  
*Tuesday, July 11*  
*8:15 pm - 9:30 pm*  
*Hilton Minneapolis, Salon D*

The ADSA-ASAS Ice Cream Social will be held on Tuesday, July 11, from 8:15 pm to 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 11*  
*8:15 pm - 9:30 pm*  
*Hilton Minneapolis, Salons DEFG*

This year, the ADSA Foundation Auction and Raffle will honor the American Dairy Science Association™ in its Centennial year by encouraging donors to give auction items that relate to the history of the organization and to the dairy industry. More than 50 items have already been donated, including a handmade quilt commemorating ADSA’s 100th anniversary by quilt artist Elaine Baumgardt, an Indy 500 Race Weekend; dairying books dating back to the early 20th century including a 1917 Henry & Morrison book on Feeds and Feeding; a hand-carved cow, DeLaval milk separator collectibles, an assortment of fine prints and paintings, milk and cream bottles, a Hoard’s Creamery butter container, and much more. To donate an item or view the latest list of items, visit the auction web site at http://www.adsa.org/foundation%20auction%202006/Auction_Items.htm.

**Michigan State University Reception**  
*Tuesday, July 11, 2006*  
*8:00 pm - 10:00 pm*  
*Hilton Minneapolis, Duluth Room*

Michigan State University invites you to their “100 Years of Animal Science” reception on Tuesday, July 11, 2006, from 8:00 pm until 10:00 pm at the Hilton. All meeting participants, families, and friends are welcome to attend. Don’t miss this opportunity to catch up with old friends and make some new acquaintances. The evening promises to be one to remember.

**Closing/International Reception**  
*Wednesday, July 12*  
*4:30 pm - 6:00 pm*  
*Convention Center/Ballroom B*

All meeting participants, families, and friends are welcome to attend the Closing/International Reception on Wednesday July 12 from 4:30 pm to 6:00 pm. Again this year, attendees will have the opportunity to indicate their home affiliate on a world map; check the exhibit hall for the poster board before this reception.
ADSA-ASAS Award Donors

**ADSA**

Alltech, Inc.
ABS Global, Inc.
ADSA Foundation
American Dairy Science Association
American Feed Industry Association
Cargill Animal Nutrition, Inc.
DMI, Inc.
Danisco USA, Inc.
DeLaval Inc.
Elanco Animal Health
Hoard’s Dairyman
International Dairy Foods Association
Land O’Lakes, Purina Feed LLC
Merial Limited
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
Center for Regulatory Services, Inc.
DSM Nutritional Products, Inc.
Elanco Animal Health
L. E. Casida Fund
Land O’Lakes, Purina Mills LLC
Merial Limited
Monsanto Company
Morrison Award Fund
Omega Protein Corporation
Pfizer Animal Health
The Iams Company

Thank you for your support!
Minneapolis Overview

Minneapolis is a world-class city, with fabulous shopping, dining, and entertainment. Getting around is a snap using light rail transit, with stops in downtown, the airport, and Mall of America. No matter what the weather, easily travel between many hotels and attractions using the skyway system.

Diverse ethnic options line Nicollet Avenue’s “Eat Street”, and the Warehouse District is the center of downtown’s nightlife, bursting with restaurants and nightclubs.

The music and theater scene is top-notch, with everything from Broadway shows to local and national bands. Tony Award-winners Theatre de la Jeune Lune, The Children’s Theatre Company, and the Guthrie Theater all call Minneapolis home, as well as three historic theaters that make up the Hennepin Theatre District, and orchestra and opera groups perform throughout the year.

Art, science, and history are on display at over 57 museums in the city and well-known places such as Walker Art Center and Weisman Art Museum that have made their mark nationally.

Shop along Nicollet Mall at the flagship Marshall Field’s store or visit the largest mall in the country, Mall of America. Plus, there’s no sales tax on apparel, so get ready to save.

Visit the historic Riverfront District, where Minneapolis got its start in the flour milling industry. Experience the City of Lakes at its best and walk or bike on over 50 miles of trails along the Grand Round Scenic Byway or enjoy paths winding through the city along the Mississippi River.

Currency Exchange

Minneapolis/St. Paul International Airport offers a currency exchange service (612-726-5187) from 6:00 am - 8:00 pm Monday through Saturday and from 8:00 am - 8:00 pm on Sunday. The currency exchange is located in the airport Business Center on the upper level of the main terminal between doors 5 and 6 across from the Northwest Airline ticket counter.

Currency Exchange is also available in downtown Minneapolis at Wells Fargo
6th Street & Marquette Avenue
612-667-1234
Monday through Friday 7:30 am - 5:00 pm

Minneapolis Tour Options

With the abundance of things to do in Minneapolis, there will be no formal tours offered during the 2006 ADSA-ASAS Joint Annual Meeting. Listed below are just a few of the exciting options for you to consider while you are in Minneapolis.

Segway Tours (800) 749-5584, www.humanonastick.com

Travel back in time on a Magical History Tour™! Ride a Segway as you enjoy the history of the Minneapolis Riverfront area from 10,000 BC to present without breaking a sweat. Let the Segway do the work as you cover several miles accompanied by a professional guide. Allow your guide to assist you in experiencing various eras of the river while stopping frequently at historical sites, including the Stone Arch Bridge, Mill Ruins Park, Nicollet Island, and many more wonderful Minneapolis sights. Every Magical History Tour™ starts with training on how to operate a Segway safely and then a 5-7 mile beautiful historic route. The whole experience will last around 3 hours and include a stop for refreshments at the Mill City Museum. Ages 13-80 are welcome with a weight restriction of 280 lbs. All riders are required to wear helmets.
RiverCity Trolley Tours (612) 378-7833, www.rivercitytrolley.org

Climb aboard! Vintage-looking trolleys beckon you back to a time when streetcars roamed thousands of miles of track linking America’s city streets. With the clank of the bell, you’re off on a 60-minute excursion through Minneapolis while entertaining conductors tell colorful stories of times and places gone by and highlighting the hot spots of today. And because you can get off and on at any point along the route, it’s a fun mode of transportation while you enjoy a day on the town. The trolley leaves from the Minneapolis Convention Center every 30 minutes. The last tour leaves the Convention Center at 3:00 pm.

Riverfront Cruises (612) 378-7966, www.minneapolisqueen.com

The Minneapolis Queen, a brand new paddle wheeler, offers cruises on the Mississippi River through historic downtown Minneapolis. We are conveniently located at Boom Island Park in the heart of the historic Minneapolis Riverfront District. Our brand new paddle wheeler is a perfect way to experience the history of beautiful downtown Minneapolis.

Minnesota Zoo (800) 366-7811, www.mnzoo.com

With over 2,000 animals to visit, a working farm, an IMAX theater for spectacular flicks, a monorail to zip around the zoo, and numerous educational programs, the Minnesota Zoo is sure to keep the whole family entertained.

Mill City Museum (612) 341-7555, www.millcitymuseum.org

An attraction for all ages, Mill City Museum chronicles the flour milling industry that dominated world flour production for roughly a half-century and fueled the growth of Minneapolis, recognized across the nation and around the world as “Mill City.” Built within the ruins of a National Historic Landmark—the Washburn A Mill—the museum provides a multi-sensory, interactive journey. The story of flour milling—and its impact on Minneapolis, the nation and the world—comes to life through the eight-story Flour Tower and other hands-on exhibits.

American Swedish Institute (612) 871-4907, www.americanswedishinst.org

The American Swedish Institute, founded in 1929 by Swan J. Turnblad, is a historic house/museum offering a variety of programs designed to celebrate Swedish culture. The Turnblad mansion, which houses the Institute, is on the National Register of Historic Places. It is the only castle in the Twin Cities.

Minnesota Children’s Museum (651) 225-6000, www.mcm.org

The mission of the Minnesota Children’s Museum is to spark children’s learning through play. It’s a place where infants through children ten years old and adults can touch, climb, splash, crawl, push, pull, and press it all in seven galleries packed with extraordinary hands-on adventures. A must see for young families visiting Minneapolis!

Walker Art Center (612) 375-7600, www.walkerart.org

The Walker Art Center is a place where everything comes together—where paint meets pixels and anime meets matinee. With a suite of new galleries, a refurbished cinema, two restaurants by Wolfgang Puck, a new shop and library, a state-of-the-art theater, and much more, it’s the place where art meets life. Opened in April 2005, the new Walker Art Center includes increased indoor and outdoor facilities, allowing us to share more of our resources—from objects in the permanent collection to books in our library to an inside view of the artist’s own creative process—with our growing audience. Increasingly, this ability to link ideas from different disciplines and art forms is seen as a model for cultural institutions of the future. A key aspect of the design is a “town square,” a sequence of spaces that, like the Minneapolis Sculpture Garden, draws people for informal conversation, interactive learning, and community programs.
The Mall of America (952) 883-8800, www.mallofamerica.com

One of the most-visited tourist destinations in the world, the Mall of America offers something for everyone with 520 stores, 50 restaurants, and attractions galore! The Mall of America is only 15 minutes from downtown Minneapolis and is accessible via the Hiawatha Light Rail System.

The Minneapolis Institute of Art (612) 870-3131, www.artsmia.org

The Minneapolis Institute of Art houses more than 100,000 objects from diverse cultural traditions spanning 5,000 years of world history. The Institute is a comprehensive and encyclopedic fine arts museum serving the Twin Cities and the Upper Midwest and is recognized internationally as one of the great museums in America. The museum has free general admission every day.


This Golf Digest four-star and top-50 value golf course deserves recognition for more than just its quality of play and low green fees. This municipal Minneapolis golf course received the Links Magazine Audubon International “1996 Best of Golf” award in the category of golf and the environment. Green fees are in the $22-$30 range. The course is about 20 miles from downtown Minneapolis.
Exhibit Schedule

Exhibit Hours:

Sunday, July 9, Exhibitor Setup ........................................... 8:00 am - 5:00 pm
Monday, July 10, Exhibits Open ........................................... 7:30 am - 5:00 pm
Tuesday, July 11, Exhibits Open .......................................... 7:30 am - 5:00 pm
Wednesday, July 12, Exhibits Open ...................................... 7:30 am - 5:00 pm
Wednesday, July 12, Exhibitor Teardown ................................. 5:30 pm - 8:00 pm

Exhibit Hall Floor Plan
# Guide to Exhibitors/Booth Numbers

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Booth(s): 604

National Institute for Animal Agriculture
1910 Lyda Ave.
Bowling Green, KY 42104
Phone: 270-782-9798; Fax: 270-782-0188
www.animalagriculture.org
Booth(s): 508
The National Institute for Animal Agriculture (NIAA) is a forum for building consensus and advancing solutions for animal agriculture and to provide continuing education and communications linkages to animal agriculture professionals. Our mission truly reflects NIAA—where it has been, where it is, and where it is going. NIAA is the only forum where producers/owners (cattle, equine, poultry, small ruminants, and swine), scientists (corporate, academia, and government), veterinarians (private practice, industrial, and government), regulators (state and federal), and business executives (corporate and association) meet in a common effort to deal with shared issues and opportunities. Visit our web site www.animalagriculture.org.
Nouriche Nutrition, Ltd.
21 Normandy Drive
Lake St. Louis, MO 63367
www.nouriche.com
Booth(s): 702

Nouriche Nutrition, always on the leading edge of new technology, is the foremost leading innovator and supplier of high-performance, most-cost-effective Solutions dispersible premixes, supplements, and electrolytes for calves, horses and pigs, Nutrior soluble wheat gluten protein, Emcelle—the most bioavailable vitamin E for calves, Baby Doll dairy beef feeds and introducing the Jubilee computerized, self-cleaning freedom feeding equipment.

Novus International, Inc.
530 Maryville Centre Drive
St. Louis, MO 63141
Phone: 314-576-8441; Fax: 314-576-4635
www.novusint.com
Booth(s): 611, 613

Novus International, Inc. is a global leader in the animal feed and health industries, with an ever-expanding portfolio of nutrition and health solutions. The Novus product line includes amino acids, minerals, organic acids, feed quality, and specialty, with brand names such as ALIMET®, MFPTM, MINTREX®, ACTIVATE®, and SANTOQUIN®.

Omega Protein, Inc.
2101 CityWest Blvd.
Bldg. 3, Suite 500
Houston, TX 77042
Phone: 713-940-6169; Fax: 713-940-6166
www.omegaproteininc.com
Booth(s): 200

Omega Protein is the world’s largest manufacturer of heart-healthy fish oils containing omega-3 fatty acids, as well as protein rich specialty fish meals and fish solubles used as value-added ingredients in aquaculture, pet, equine, poultry, swine and other livestock feeds. Our products are available in bulk, bag, or drums.

Partners Advantage Representing: Agrilliance, Land O’ Lakes Purina Feed & Croplan Genetics
PO Box 64089 - MS 348
St. Paul, MN 55164
Phone: 651-451-5304; Fax: 651-451-4561
www.landolakesinc.com or www.partnersadvantage.net
Booth(s): 302

Welcome to the Land Of Opportunity! Land O’ Lakes Purina Feed has many opportunities with positions in both sales and mid-management. We also have trainee and college internship opportunities available. Land O’ Lakes Purina Feed is the leading feed company in North America. We are seeking candidates with strong nutrition, management or sales backgrounds for positions across the United States. There are currently many great opportunities available. Land O’ Lakes, Inc. is an Equal Opportunity and Affirmative Action Employer. Land O’ Lakes, Inc. enforces a policy of maintaining a drug free workforce, including pre-employment substance abuse testing.

PetAg Inc.
255 Keyes Ave
Hampshire, IL 60140
Phone: 847-683-2288; Fax: 847-683-2343
www.petag.com
Booth(s): 301

Vast array of pet products, including market-leading milk replacers Esbilac® and KMR®, Rawhide Brand®, USA Beefhide chews Made in the U.S.A., Chunky Chew™, award winning Pink Parrot® avian toys and treats, Doggy Giggles™ dog toys and many other PetAg® nutritional products including EnerGel™, Mirra-Coat® skin & coat supplements for canine, feline and equine. Foal-Lac® equine milk replacer, Formula V® veterinary products and Zoologic Milk Matrix system for exotic animals.
Poultry Protein & Fat Council
1530 Cooledge Rd.
Tucker, GA 30084
Phone: 770-493-9401; Fax: 770-493-9257
www.poultryegg.org
Booth(s): 309
The Poultry Protein & Fat Council is a consortium of 13 member companies that produce high-quality poultry meal, feather meal, and poultry fat. Request our free video and/or CD at www.poultryegg.org.

Prentice Hall
1 Lake St.
Upper Saddle River, NJ 07458
Phone: 201-236-5882; Fax: 201-236-5888
www.prenhall.com
Booth(s): 213
Prentice Hall is proud to be the leading provider of high quality educational materials for your agriculture courses. We invite you stop over to our booth or visit our websites at www.prenhall.com or www.prenhall.com/agribooks to see the selection of titles we have available and what we’ve got planned.

Prince Agri-Products, Inc.
PO Box 1009
Quincy, IL 62306
Phone: 217-222-8854; Fax: 217-222-5098
www.princeagri.com
prince@princeagri.com
Booth(s): 405, 504
Prince Agri Products, Inc. takes pride in Advancing Nutrition for Healthy Animals™ by knowing how and why its products work. Prince is your source of quality trace minerals, trace mineral premixes, and branded ingredients. The Prince product line includes: CHROMAX® brand chromium tripicolinate, the leading chromium supplement; Lesaffre yeast products; Desert King natural yucca and quillaja products; Animale, the anionic salt that cows will eat; Omni-Gen-AF® supplement for all stages of cattle; and Rumatel®, the in-feed dewormer for cattle and goats.
Probiotech International, Inc.
6225 Choquette St.
St. Hyacinthe, QC J25 8L2
Phone: 450-771-7252; Fax: 450-771-4509
www.probiotech.com
Booth(s): 219

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

Quality Management, Inc.
426 Hayward Ave. North
Oakdale, MN 55128
Phone: 651-501-2337; Fax: 651-501-5797
www.qmisystems.com
Booth(s): 412

Saf Agri/Lesaffre Feed Additives
433 East Michigan St.
Milwaukee, WI 53202
Phone: 414-615-4046; Fax: 414-615-4003
www.saf-agri.com
Booth(s): 312

Saf Agri/Lesaffre Feed Additives, a member of the Lesaffre Group of companies, markets Lesaffre’s agricultural products throughout North and South America. These products include Procreatin-7® active dry yeast, BIOSAF® heat resistant active yeast for pelleted feeds, LFA Selenium Yeast, SAFIZYM® enzymes (xylanase, beta-glucanase, and cellulase), and Safmannan®, a yeast-derived source of mannan oligosaccharides. The Lesaffre Group is the world’s largest yeast manufacturer and recently opened a new production facility, Red Star Yeast Company LLC, in Cedar Rapids, Iowa.

Soybest
PO Box 157
West Point, NE 68788
Phone: 402-372-2429; Fax: 402-372-3305
www.soybest.com
Booth(s): 201, 300

Trouw Nutrition USA
115 Executive Dr.
Highland, IL 62249
Phone: 618-654-2070; Fax: 618-654-6700
www.trouw-nutritionisa.com
Booth(s): 218

Trouw Nutrition USA offers Greenline™ Technologies that provide nutrition solutions, specialty products and premixes for the livestock, poultry and petfood industry, ie. OPTiMIN® chelated minerals, PROTIMAX® Specialized Egg Globulins, Progenos™ 28 - supplement to increase litter size, CowDrink™ - fresh cow supplement, Milkivit® milk replacers, Novasil™ - calcium sodium aluminosilicate, and TNI-betain. Innovation - That’s how. That’s Trouw.

USDA - Animal Welfare Information Center
10301 Baltimore Ave., Room 410
Beltsville, MD 20705
Phone: 301-504-5170; Fax: 301-504-5170
www.nal.usda.gov
Booth(s): 211

The Animal Welfare Information Center, a unit of the United States Department of Agriculture, provides information for the improved care and use of animals used in research, testing, teaching, and exhibition. The staff also assists people and institutions in complying with information requirements of the Federal Animal Welfare Act. Services provided include free publications, workshops, and custom literature searches performed on a cost recovery basis.
Unity Scientific, Inc.
411 E. Main St.
Purcellville, VA 20132
Phone: 540-338-8991; Fax: 540-338-8992
www.unityscientific.com
Booth(s): 603
Unity Scientific manufactures and sells a complete line of cost-effective, network ready NIR (near-infrared) and NIT analyzers for a wide variety of laboratory at-line and process applications. Unity offers a wide range of applications for the following industries: food, feed, pet food, dairy, tobacco, pharmaceutical, and general industrial markets. Unity also offers a complete line of sample preparation equipment that includes auto distillation, solvent extraction, and block digestion.

Varied Industries Corporation
905 S. Carolina Ave.
Mason City, IA 50401
Phone: 641-423-1460; Fax: 641-423-0832
www.vi-cor.com
Booth(s): 601
In 1974, a patent was issued to a small company in Mason City, Iowa, for a fermentation product for animal feeds. This process became the foundation technology on which Varied Industries Corporation (Vi-COR) was founded. Vi-COR has expanded to a company with a global focus, manufacturing of world-class fermentation products and providing custom manufacturing services.

Virtus Nutrition
320 Springside Dr. #300
Fairlawn, OH 44333
Phone: 330-665-1999; Fax: 330-665-2195
Booth(s): 216
Virtus Nutrition is a leading marketer of Ener G II® a rumen inert fat product and the only source of Strata G® with omega-3 fatty acids. As a technology leader, Virtus Nutrition provides performance, consistency, and a rapid response to customer needs, with research proven products vital for the dairy industry’s nutritional requirements.

West Central
406 First St.
Ralston, IA 51459
Phone: 712-667-3200; Fax: 712-667-3479
www.west-central.com
Booth(s): 818
West Central® manufactures innovated feeds for the dairy industry. SoyPLUS® has become the Gold Standard of dairy feed ingredients. It’s highly digestible, delivers high quality RUP, and combines outstanding palatability and consistency. SoyChlor® is a palatable chloride supplement for close-up dairy cows.

Western Yeast Company
305 W. Ash St.
Chillicothe, IL 61523
Phone: 817-560-0351; Fax: 817-560-0351
www.westernyeast.com
Booth(s): 414
Western Yeast Company was founded in 1932 and uses the Newhaven process for making yeast culture. Western Yeast Culture is an active, all-natural feed supplement designed specifically to improve animal nutrition. It consists of live yeast cells, plus the media on which they were grown, carefully dried to maintain the fermentation activity of the cells.

Zinpro
10400 Vicking Dr.
Suite 240
Eden Prairie, MN 55344
Phone: 800-445-6145; Fax: 952-944-2749
www.zinpro.com
Booth(s): 401, 500, 403, 502
Zinpro Performance Minerals™, the premier source of trace minerals in the industry, deliver consistent, performance-driven results. Performance minerals must meet essential, measurable criteria based on return, response, repeatability, research, and reassurance. Zinpro Performance Minerals are uniquely designed and manufactured to be the highest bioavailable trace mineral products on the market. To learn more, contact your local Zinpro representative.
Products you know.

Nutrition you can trust.

PRINCE AGRI PRODUCTS, INC.
Advancing Nutrition for Healthy Animals™

P.O. Box 1009 • Quincy, IL 62306 • prince@princeagri.com • www.princeagri.com
# 2006 ADSA - ASAS

**Corporate Sustaining Members**

*(As of June 1, 2006)*

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<tr>
<th><strong>ADSA</strong></th>
<th><strong>ASAS</strong></th>
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<tr>
<td>Akey</td>
<td>Ajinomoto Heartland, LLC</td>
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<td>Alltech Biotechnology Center</td>
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<td>Adisseo</td>
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<td>BioZyme Incorporated</td>
<td>Babcock Genetics, Inc.</td>
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<td>Cargill Animal Nutrition</td>
<td>Diamond V Mills, Inc.</td>
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<td>Church &amp; Dwight Company</td>
<td>Elanco Animal Health</td>
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<td>Fats &amp; Proteins Research Foundation, Inc.</td>
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<td>Danisco USA Inc.</td>
<td>Global Pig Farms, Inc.</td>
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<td>International Ingredient Corporation</td>
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<td>Kent Feeds, Inc.</td>
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<td>Kent Feeds, Inc.</td>
<td>MIN-AD, Inc.</td>
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<td>Land O’Lakes, Inc.</td>
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<td>West Central</td>
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<td>Westfalia Surge Inc.</td>
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<td>Zook Nutrition &amp; Management, Inc.</td>
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**Thank you for your support!**
Schedule of Events

Friday, July 7

06:00 pm - 08:00 pm  ADSA Executive Committee  Hilton Minneapolis, Board Room 3
07:00 pm - 09:30 pm  ASAS New Board Orientation  Hyatt Regency, Lake Nokomis
07:00 pm - 09:00 pm  ASAS Membership Committee Meeting  Hyatt Regency, Lake Minnetonka

Saturday, July 8

07:00 am - 05:00 pm  PAACO Board Meeting  Hyatt Regency, Lake Nokomis
07:30 am - 05:00 pm  ADSA Board of Directors Meeting  Hilton Minneapolis, Duluth Room
08:00 am - 05:00 pm  ASAS Board of Directors Meeting  Hyatt Regency, Lake Superior A
12:00 pm - 05:00 pm  Registration Open  Convention Center, Mezzanine Level
12:00 pm - 05:00 pm  SAD Tour: Transition Mgmt Facility - Emerald, WI  Meet in the Doubletree Lobby
06:00 pm  SAD Informal Event - Mall of America  Meet in the Doubletree Lobby
07:30 pm - 09:00 pm  ARPAS Executive Committee Meeting  Hyatt Regency, Lake Nokomis

Sunday, July 9

07:00 am - 07:00 pm  Registration Open  Convention Center, Mezzanine Level
07:30 am - 10:00 am  ADSA New Board Orientation  Hilton Minneapolis, Board Room 1
08:00 am - 12:00 pm  ADSA Board of Directors Meeting  Hyatt Regency, Lake Superior A
08:00 am - 05:00 pm  Student Dairy Clubs Set Up Exhibits  Convention Center, Exhibit Hall A
08:00 am - 05:00 pm  ARPAS Governing Board Meeting  Hyatt Regency, Lake Nokomis
08:00 am - 05:00 pm  Hospitality Lounge  Convention Center, M101A
11:00 am - 12:00 pm  SAD Officers and Advisor Meeting  Convention Center, 200J
12:00 pm - 01:00 pm  ADSA-SAD Midday Mixer & Pizza Party  Convention Center, Seasons
12:00 pm - 01:00 pm  ADSA JDS Editors and Journal Management Committee Luncheon  Hilton Minneapolis, Board Room 2
01:00 pm - 03:00 pm  ASAS Foundation Board of Trustees Meeting  Hyatt Regency, Lake Minnetonka
01:00 pm - 05:00 pm  ADSA Journal Management Committee Meeting  Hilton Minneapolis, Board Room 2
01:00 pm - 05:00 pm  ADSA-SAD Quiz Bowl Seating/Preliminary Rounds  Convention Center, 200HI
02:00 pm - 03:00 pm  ADSA Production Division Council Meeting  Convention Center, M100 BC
02:00 pm - 03:30 pm  ADSA Foundation Board of Trustees Meeting  Hilton Minneapolis, Board Room 1
03:00 pm - 04:00 pm  ADSA Production Division Nominating Committee  Convention Center, M100 DE
03:00 pm - 04:00 pm  ADSA Production Division Resolutions Committee  Convention Center, M100 BC
03:00 pm - 05:00 pm  2006 ADSA-ASAS & 2007 ADSA-ASAS-PSA-AMPA Program Chairs & Vice Chairs Meeting  Convention Center, M100 GH
05:00 pm - 06:00 pm  ADSA Dairy Foods Division Council Meeting  Convention Center, M100 DE
05:00 pm - 06:00 pm  ADSA-SAD Quiz Bowl Final Round  Convention Center, 200 I
05:30 pm  SAD Picnic at Lake Harriet  Pavilion near Band Shell
07:00 pm - 08:30 pm  2006 ADSA-ASAS Opening Session  Convention Center, Auditorium
08:30 pm - 10:00 pm  2006 ADSA-ASAS Opening Reception  Convention Center, Ballroom A

Monday, July 10

06:30 am - 08:00 am  ADSA Production Division Extension Breakfast  Hilton Minneapolis, Salon B
06:30 am - 08:00 am  ADSA Journal Editorial Board Breakfast/Meeting  Hyatt Minneapolis, Duluth Room
06:30 am - 04:00 pm  Registration Open  Convention Center, Mezzanine Level
07:00 am - 08:15 am  ADSA-SAD Exhibit Set up  Convention Center, Exhibit Hall A
07:30 am - 09:30 am  Poster Presentations  Convention Center, Exhibit Hall A
07:30 am - 05:00 pm  Commercial Exhibits & ADSA-SAD Exhibits Open  Convention Center, Exhibit Hall A
07:30 am - 05:00 pm  Job Resource Center  Convention Center, Exhibit Hall A
08:00 am - 05:00 pm  Hospitality Lounge
08:30 am - 09:15 am  ADSA-SAD Business Meeting
09:30 am - 10:30 am  ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports
09:30 am - 10:30 am  ADSA-SAD Interviews for Outstanding Student and Advisor Awards
09:30 am - 10:30 am  ADSA-SAD Activities Symposium
09:30 am - 05:00 pm  Scientific Sessions
10:30 am - 12:30 pm  ARPAS Exam
11:00 am - 04:15 pm  ADSA-SAD Undergraduate Paper Presentations
12:00 pm - 02:00 pm  ASAS Past Presidents’ Luncheon
12:30 pm - 02:00 pm  ADSA Past Presidents’ Luncheon
12:30 pm - 02:00 pm  ACAN Annual Meeting
12:30 pm - 02:00 pm  Women & Minority Issues in Animal Agriculture Luncheon & Lecture
12:30 pm - 02:30 pm  ASAS Publications Committee Luncheon
02:00 pm - 04:00 pm  ARPAS Exam
02:00 pm - 03:30 pm  DISCOVER Steering Committee Meeting
04:00 pm - 05:00 pm  Centennial Poster Reception
05:00 pm - 07:00 pm  Informal Calf Gathering
05:00 pm - 06:00 pm  ADSA Town Hall Meeting
05:30 pm - 07:00 pm  ASAS Award Winners Reception and Photo Session
07:00 pm - 08:30 pm  ASAS Awards Program
07:00 pm  Retirement Reception for Ken Cummings & Bill Chalupa
08:30 pm - 11:00 pm  Iowa State Social
08:30 pm - 12:30 am  Dance Party with Johnny Holm Band

Tuesday, July 11

06:15 am  Fun Run at Loring Park
06:30 am - 08:00 am  ADSA Dairy Foods Division Extension Breakfast
06:30 am - 08:00 am  PSU Breakfast
06:30 am - 08:00 am  University of Illinois Breakfast
06:30 am - 08:00 am  Virginia Tech Breakfast
07:00 am - 08:00 am  Kentucky Breakfast
07:00 am - 08:00 am  ADSA Foundation Estate Planning Breakfast
07:00 am - 03:30 pm  Registration Open
07:30 am - 09:30 am  Poster Presentations
07:30 am - 05:00 pm  Commercial Exhibits & ADSA-SAD Exhibits Open
07:30 am - 05:00 pm  Job Resource Center
08:00 am - 05:00 pm  Hospitality Lounge
08:30 am - 09:30 am  ADSA-SAD Business Meeting - Election of Officers
09:30 am - 05:00 pm  Scientific Sessions
09:30 am - 10:15 am  ADSA-SAD Student Career Symposium: Making the Most of a Job Fair
10:30 am - 11:30 am  ADSA-SAD Job Fair
11:30 am - 12:30 pm  ADSA Production Division Business Meeting
11:30 am - 12:30 pm  ADSA Dairy Foods Division Business Meeting
11:45 am - 02:00 pm  ADSA-SAD Awards Luncheon
12:30 pm - 02:00 pm  NE ASAS/ADSA Business Meeting & Awards Luncheon
12:30 pm - 02:00 pm  ADSA DF Division Milk Proteins & Enzyme Committee
12:30 pm - 02:00 pm  ARPAS Business Meeting
12:30 pm - 02:00 pm  ADSA Dairy Foods Division Program Planning Lunch
12:30 pm - 02:00 pm  ASAS Division/Associate Editors Luncheon
02:00 pm - 04:00 pm  ARPAS Exam

Convention Center, M101 A
Convention Center, 200 H
Convention Center, 200 I
Convention Center, 200 J
Convention Center, 200 H
Convention Center
Convention Center, 201 A
Convention Center, 200 H
Hyatt Regency, Lake Calhoun
Hilton Minneapolis, Rochester Room
Convention Center, 201 A
Convention Center, 200 A
Hyatt Regency, Cedar Lake
Convention Center, 201 A
Convention Center, 201 B
Exhibit Hall A
Hilton Minneapolis, Salon B
Convention Center, 101 HI
Hyatt Regency, Nicollet D1, D2, D3
Hyatt Regency, Nicollet Ballroom
Hilton Minneapolis, Duluth Room
Hyatt Regency, Greenway A-C
Hilton Minneapolis, Salons DEFG
<table>
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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>02:00 pm - 03:30 pm</td>
<td>2006 Spouses’ Event</td>
<td>Brit’s Pub</td>
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<tr>
<td>02:00 pm - 05:30 pm</td>
<td>Southern Branch ADSA Symposium &amp; Business Meeting</td>
<td>Convention Center, 101 BC</td>
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<td>02:00 pm - 03:00 pm</td>
<td>ADSA-SAD Award &amp; Club Photos</td>
<td>Convention Center, 200 I</td>
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<td>02:30 pm - 03:30 pm</td>
<td>ADSA-SAD Committee Meeting - Old and New Officers &amp; Advisors</td>
<td>Convention Center, 200 H</td>
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<td>03:30 pm - 05:30 pm</td>
<td>ASAS JAS Forum (Division/Associate Editors and Authors)</td>
<td>Convention Center, M100 A</td>
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<td>05:00 pm - 06:00 pm</td>
<td>Block &amp; Bridle Club Advisors Meeting</td>
<td>Hilton Minneapolis, Duluth Room</td>
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<td>05:00 pm - 06:30 pm</td>
<td>ADSA Award Donor Dinner</td>
<td>Hilton Minneapolis, Salons EFG</td>
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<tr>
<td>07:00 pm - 08:00 pm</td>
<td>ADSA Awards Program</td>
<td>Hilton Minneapolis, Duluth Room</td>
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<td>08:00 pm</td>
<td>MSU Department of Animal Science 100th Anniversary</td>
<td>Hilton Minneapolis, Salon D</td>
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<td>08:15 pm - 09:30 pm</td>
<td>2006 ADSA-ASAS Ice Cream Social</td>
<td>Hilton Minneapolis, Salons EFG</td>
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<td>08:15 pm - 09:30 pm</td>
<td>ADSA Foundation Auction &amp; Raffle</td>
<td>Hilton Minneapolis, Salons EFG</td>
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**Wednesday, July 12**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>06:30 am - 08:00 am</td>
<td>Purdue University Breakfast</td>
<td>Hyatt Regency, Mirage Room</td>
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<tr>
<td>07:00 am - 03:00 pm</td>
<td>Registration Open</td>
<td>Convention Center, Mezzanine Level</td>
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<tr>
<td>07:30 am - 09:30 am</td>
<td>Poster Presentations</td>
<td>Convention Center, Exhibit Hall A</td>
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<tr>
<td>07:30 am - 05:00 pm</td>
<td>Job Resource Center</td>
<td>Convention Center, Exhibit Hall A</td>
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<tr>
<td>07:30 am - 05:00 pm</td>
<td>Commercial Exhibits Open</td>
<td>Convention Center, Exhibit Hall A</td>
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<td>08:00 am - 05:00 pm</td>
<td>Hospitality Lounge</td>
<td>Convention Center, M101 A</td>
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<td>09:30 am - 10:00 am</td>
<td>Joint ADSA-ASAS Business Meeting</td>
<td>Convention Center, 101 BC</td>
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<td>10:00 am - 10:30 am</td>
<td>ADSA Business Meeting</td>
<td>Convention Center, 101A</td>
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<td>10:00 am - 10:30 am</td>
<td>ASAS Business Meeting</td>
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<td>10:30 am - 05:00 pm</td>
<td>Scientific Sessions</td>
<td>Convention Center</td>
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<td>12:30 pm - 02:00 pm</td>
<td>ADSA Board of Directors Meeting</td>
<td>Hilton Minneapolis, Rochester Room</td>
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<td>12:30 pm - 02:00 pm</td>
<td>Feed Analysis Consortium</td>
<td>Convention Center, M100 DE</td>
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<td>12:30 pm - 02:00 pm</td>
<td>ASAS Board of Directors Meeting</td>
<td>Hyatt Regency, Lake Superior A</td>
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<td>02:00 pm - 04:00 pm</td>
<td>ARPAS Exam</td>
<td>Convention Center, 201 A</td>
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<td>04:30 pm - 06:00 pm</td>
<td>2006 Closing/International Reception</td>
<td>Convention Center, Ballroom B</td>
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<td>05:00 pm - 08:00 pm</td>
<td>Commercial Exhibits Dismantle</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>05:30 pm</td>
<td>University of Minnesota Farewell Reception</td>
<td>Hilton Minneapolis, Symphony III</td>
</tr>
</tbody>
</table>

**Thursday, July 13**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30 am - 09:30 am</td>
<td>ADSA-ASAS Joint Executive Committee Breakfast</td>
<td>Hyatt Regency, Lake Minnetonka</td>
</tr>
<tr>
<td>08:00 am - 10:00 am</td>
<td>Registration Open</td>
<td>Convention Center, Mezzanine Level</td>
</tr>
<tr>
<td>08:00 am - 12:00 pm</td>
<td>Scientific Sessions</td>
<td>Convention Center</td>
</tr>
</tbody>
</table>
Saturday, July 8

**SAD Tour: The Transition Management Facility in Emerald, WI**

12:00 - 5:00 pm

Charter bus departs from DoubleTree Guest Suites

Ticket Price: $11

The Transition Management Facility (TMF) is a unique education and research facility for training veterinary students, for providing continuing education of veterinarians and education programs for dairy professionals, and for conducting advanced clinical and applied research. A joint venture between the University of Minnesota College of Veterinary Medicine and the owners of Baldwin and Emerald Dairies in western Wisconsin, TMF houses approximately 400 cows through their dry period (the time from the end of lactation until the next calving) and through the two weeks after calving. The tour will also include a stop at a nearby cow operation. The facility is about one hour from Minneapolis. Please arrive in the hotel lobby 15 minutes prior to departure to board bus, and be sure to eat before you come!!

**SAD Undergraduate Evening Informal Mixer: Mall of America**

6:00 - 10:00 pm

The Mall of America (Bloomington, MN)

Transportation on your own. Meet in the lobby of the DoubleTree by 5:45 if you need a ride or if you have room for others. Pick up driving/Light Rail directions from the hotel concierge.

The Mall of America (MOA) has it all, including the honor of being the largest mall in the USA! MOA has more than 520 stores, 20 sit-down restaurants, 30 fast food restaurants, 36 specialty food stores, and 14 movie screens. Key attractions include The Park at MOA™, Underwater Adventures® Aquarium, LEGO® Imagination Center, Dinosaur Walk Museum, A.C.E.S. Flight Simulation, NASCAR Silicon Motor Speedway, Bloomingdale’s, Macy’s, Nordstrom, and Sears. Total store front footage is 4.3 miles! In fact, if a shopper spent 10 minutes browsing at every store, it would take them more than 86 hours to complete their visit to Mall of America! MOA is also accessible by the new Light Rail transportation system.

Sunday, July 9

**SAD Midday Mixer and Pizza Party**

12:00 Noon

Convention Center, Seasons Room

Ticket Price: no charge, but advance registration is required

Plan to join us for the first official event of the Student Affiliate Division 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 Rooms 200 HIJ

The Dairy Quiz Bowl invites teams from all universities to participate in this year’s event. Seating test will be held immediately following the Midday Mixer and Pizza Party. Once teams are placed, competition will begin and continue throughout the afternoon. The top teams will move onto the final round, which will be held on Sunday evening at 5:00 pm. To enter your club’s team, go the meetings section of the ADSA-SAD web site at www.adsa.org/sad.asp/.
SAD Informal Mixer SAD Picnic in the Park
5:30 pm
Lake Harriet (approximately a 5-minute drive from DoubleTree)
Transportation on your own. Meet in the lobby of the DoubleTree if you need a ride or if you have room for others.
Pick up driving directions from the hotel concierge.
Ticket Price: $4.00
From early June to Labor Day canoeists, bikers, hikers, picnickers, and other residents from throughout the region come to Lake Harriet to hear nightly free concerts at Lake Harriet Bandshell. There is something for everyone—music ranges from Folk, Blues, Jazz, Big Band to Light Rock, Funk, children’s music, and much more. Local bands, the Minneapolis Pops Orchestra, and many popular artists, perform the music. The distance around Lake Harriet is 2.99 miles for bikers and skaters and 2.75 miles for walkers and runners. The picnic begins immediately following the Dairy Quiz final round and includes dinner and sodas.

Monday, July 10

Dance Party with the Johnny Holm Band
8:30 pm - 12:30 am
Hilton Minneapolis (ADSA Headquarter Hotel) Salons DEFG
Ticket Price: $5.00
Rock the night away with old and new friends and the Johnny Holm Band. One of the most requested bands in the upper Midwest, the Johnny Holm Band dedicates each show to the fans, and they do the most of the entertaining. There’s never a dull moment when this band hits the stage and rocks, picks, and thunders along non-stop from the first song to the last laugh. Cash bar, free soda bar, and free snacks will be available. This event is open to all meeting attendees, including students, advisors, and anyone else looking for a fun evening. Primary sponsor: the University of Minnesota Gopher Dairy Club. Other sponsors: ADSA and ASAS.

Tuesday, July 11

SAD Career Symposium: Student Job Fair
9:30 - 11:30 am
Convention Center 200H, Exhibit Hall A
This two-part program will begin with a focused seminar that will prepare students for the Job Fair. Students will get useful tips on approaching individuals in their booths, starting a conversation, the right questions to ask, how to close the conversation, ways to follow up the meeting, and more. After this seminar, students will put their new skills to work at the Student Job Fair in the Exhibit Hall. More than 70 companies related to the dairy and animal science industry will be in the Exhibit Hall, so students will have ample opportunity to visit with company reps and inquire about careers and internships that may be available to undergraduate students. Students are encouraged to dress professionally (business casual or better) and bring several copies of their resumes.

SAD Awards Luncheon
11:45 - 2:00 pm
Convention Center Seasons Room
Ticket Price: Professional: $29, Student: $20
Plan to attend this year’s SAD Awards Luncheon. In honor of ADSA’s Centennial, several ADSA Pioneers will be invited to visit with the students about the changes in the association and the industry during their lifetime. And, back by popular demand: be entertained as the student officers go head to head with ADSA Board Members in a mini-dairy quiz bowl. See who really knows more about the history of ADSA and the dairy industry! There are sure to be a few surprises and plenty of laughs along the way. The afternoon will 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 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 pm - 05:00 pm</td>
<td>SAD Tour - Transition Management Facility in Emerald, WI</td>
<td>Meet in Doubletree Lobby</td>
</tr>
<tr>
<td>06:00 pm</td>
<td>SAD Informal Event - Mall of America</td>
<td>Meet in Doubletree Lobby</td>
</tr>
</tbody>
</table>

## Sunday, July 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 am - 05:00 pm</td>
<td>Student Dairy Clubs Set Up Exhibits</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>11:00 am - 12:00 pm</td>
<td>SAD Officers and Advisor Meeting</td>
<td>Convention Center, 200 J</td>
</tr>
<tr>
<td>12:00 pm - 01:00 pm</td>
<td>SAD Midday Mixer &amp; Pizza Party</td>
<td>Convention Center, Seasons</td>
</tr>
<tr>
<td>01:00 pm - 05:00 pm</td>
<td>Dairy Quiz Bowl Seating/Preliminary Rounds</td>
<td>Convention Center, 200 H, 200 I</td>
</tr>
<tr>
<td>05:00 pm - 05:30 pm</td>
<td>Dairy Quiz Bowl Final Round</td>
<td>Convention Center, 200 I</td>
</tr>
<tr>
<td>05:30 pm</td>
<td>SAD Picnic at Lake Harriet</td>
<td>Pavilion near Band Shell</td>
</tr>
<tr>
<td>07:00 pm</td>
<td>ADSA Opening Session &amp; Reception</td>
<td>Convention Center, Ballroom A</td>
</tr>
</tbody>
</table>

## Monday, July 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 am - 08:15 am</td>
<td>Student Dairy Clubs Set Up Exhibits</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>08:30 am - 09:15 am</td>
<td>SAD Business Meeting</td>
<td>Convention Center, 200 H</td>
</tr>
<tr>
<td>09:30 am - 10:30 am</td>
<td>SAD Judging of Yearbooks, Scrapbooks, Annual Reports</td>
<td>Convention Center, 200 I</td>
</tr>
<tr>
<td>09:30 am - 10:30 am</td>
<td>Interviews for Outstanding Student and Advisor Awards</td>
<td>Convention Center, 200 J</td>
</tr>
<tr>
<td>09:30 am - 10:30 am</td>
<td>SAD Activities Symposium</td>
<td>Convention Center, 200 H</td>
</tr>
<tr>
<td>11:00 am - 04:15 pm</td>
<td>SAD Undergraduate Paper Presentations</td>
<td>Convention Center, 200 H</td>
</tr>
<tr>
<td>08:30 pm - 12:30 am</td>
<td>Dance: Johnny Holm Band</td>
<td>Hilton Minneapolis, Salons DEFG</td>
</tr>
</tbody>
</table>

## Tuesday, July 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 am - 09:30 am</td>
<td>SAD Business Meeting - Election of Officers</td>
<td>Convention Center, 200 H</td>
</tr>
<tr>
<td>09:30 am - 10:15 am</td>
<td>SAD Career Symposium: Making the Most of a Job Fair</td>
<td>Convention Center, 200 H</td>
</tr>
<tr>
<td>10:30 am - 11:30 am</td>
<td>SAD Job Fair</td>
<td>Exhibit Hall, Convention Center</td>
</tr>
<tr>
<td>11:45 pm - 02:00 pm</td>
<td>SAD Awards Luncheon</td>
<td>Convention Center, Seasons</td>
</tr>
<tr>
<td>02:00 pm - 03:00 pm</td>
<td>SAD Award &amp; Club Photos</td>
<td>Convention Center, 200 I</td>
</tr>
<tr>
<td>02:30 pm - 03:30 pm</td>
<td>SAD Committee Meeting - Old and New Officers &amp; Advisors</td>
<td>Convention Center, 200 H</td>
</tr>
<tr>
<td>03:00 pm - 05:00 pm</td>
<td>Open to Attend Scientific Sessions</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>02:00 pm - 05:00 pm</td>
<td>Teardown SAD Exhibits</td>
<td>Convention Center, Exhibit Hall A</td>
</tr>
<tr>
<td>07:00 pm - 10:00 pm</td>
<td>ADSA Awards Ceremony, Ice Cream Social and Fun Auction/Raffle</td>
<td>Hilton Minneapolis, Salons DEFG</td>
</tr>
</tbody>
</table>

## Wednesday, July 12

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30 am - 05:00 pm</td>
<td>Scientific Posters, Sessions and Exhibits</td>
<td>Convention Center</td>
</tr>
</tbody>
</table>

## Thursday, July 13

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30 am - 12:00 pm</td>
<td>Scientific Posters and Sessions</td>
<td>Convention Center</td>
</tr>
</tbody>
</table>
Downtown Minneapolis

_Downtown Minneapolis & Convention Center_

FROM THE WEST (I-94): Take the 4th Street exit from I-94 and proceed to 2nd Ave. So. (Do NOT turn right onto 2nd Avenue North.) Turn right on 2nd Ave. So. and go eight blocks to Convention Center.

FROM THE SOUTH (I-35W): Follow downtown exit signs to the 11th Street exit and follow 11th Street to 2nd Ave. So. Turn left on 2nd Ave. and go one block to Convention Center.

FROM THE EAST (I-94): Take the 11th Street exit from I-94. Follow 11th St. to 2nd Ave. So. Turn left on 2nd Ave. So. and go one block to the Convention Center.

FROM THE NORTH (I-35W): Take the 1-94 exit. Follow I-94 to the 11th St. exit (NOT 11th Avenue exit). Follow 11th Street to 2nd Ave. So. Turn left on 2nd Ave. and go one block to the Convention Center.

FROM THE AIRPORT MAIN TERMINAL: Take Hwy. 55 exit from the airport. Follow Hwy. 55 west to Minneapolis. This will become Hwy. 62 west. Follow Hwy. 62 to I-35W north. Take I-35W north to Minneapolis downtown exits. Then take the 11th Street exit. Follow 11th St. So. to 2nd Ave. So. Turn left on 2nd Ave. So. and go one block to the Convention Center.
Thank you to the 2006 ADSA - ASAS Joint Meeting Sponsors!
(as of 5-30-2006)

PLATINUM

Ajinomoto Co., Inc. and Ajinomoto Heartland LLC

GOLD

Alpharma
Diamond V Mills
European Association for Animal Production (EAAP)
Monsanto Company
USDA-NRI

SILVER

Arm & Hammer Animal Nutrition
Cargill Animal Nutrition
Schreiber Foods, Inc.
The Iams Company
West Central

BRONZE

Fort Dodge Animal Health
Lucta USA, Inc.
Milk Products, Inc.
National Pork Board
Nestle Purina PetCare Company
Novus International, Inc.
Prince Agri-Products, Inc.
Ralco Nutrition, Inc.
U.S. Dairy Forage Research Center (USDA-ARS)

DONORS

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Animal Ag Alliance
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Brewster Cheese
Intervet
Land O’Lakes Purina Feed LLC
Newsham Genetics
Pancosma USA, Inc.
Pig Improvement Company
Select Sires, Inc.
USDA, Agricultural Research Service, U.S. Sheep Experiment Station
Zinpro
Sunday, July 9

SYMPOSIA AND ORAL SESSIONS

Triennial Reproduction Symposium
Chair: George Seidel, Colorado State University
Sponsors: Select Sires, USDA-NRI
Lecture Hall 2

Symposium I -- The Follicle and Oocyte

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td>1</td>
<td>The dominant ovarian follicle. M. C. Lucy*, University of Missouri, Columbia.</td>
<td></td>
</tr>
<tr>
<td>8:45 AM</td>
<td>2</td>
<td>Oocyte cytoplasmic maturation: A key mediator of both oocyte and embryo developmental competence.</td>
<td>A. Watson*1,2, 1The University of Western Ontario, London, Ontario, Canada, 2Children’s Health Research Institute, London, Ontario, Canada.</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>3</td>
<td>Regulation of oocyte meiotic maturation. F. J. Richard*, Université Laval, Québec, QC, Canada.</td>
<td></td>
</tr>
<tr>
<td>10:15 AM</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>10:45 AM</td>
<td></td>
<td>Casida Award for Graduate Education.</td>
<td></td>
</tr>
<tr>
<td>11:25 AM</td>
<td>5</td>
<td>A researcher’s perceptions of USDA funding in reproduction. J. J. Reeves*, Washington State University, Pullman.</td>
<td></td>
</tr>
<tr>
<td>11:45 AM</td>
<td></td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td></td>
<td>Lunch Break</td>
<td></td>
</tr>
</tbody>
</table>

Molecular Techniques and Statistics

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:10 PM</td>
<td>7</td>
<td>RNA interference: a new approach to in vivo study of gene function. R. V. Anthony* and J. D. Cantlon, Colorado State University, Fort Collins.</td>
<td></td>
</tr>
<tr>
<td>1:35 PM</td>
<td>8</td>
<td>Interpretation of microarray data: Trudging out of the abyss towards elucidation of biological significance.</td>
<td>G. W. Smith*, G. J. M. Rosa1, P. M. Coussens1, R. Halgren1, A. C. O. Evans2, M. Mihm3, P. Lonergan2, and J. J. Ireland1, 1Michigan State University, East Lansing, 2University College Dublin, Dublin, Ireland, 3University of Glasgow, Glasgow, UK.</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>9</td>
<td>Statistical power calculations. R. Lenth*, University of Iowa, Iowa City.</td>
<td></td>
</tr>
<tr>
<td>2:50 PM</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
</tbody>
</table>

Symposium II -- Reproductive Immunology

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 PM</td>
<td>12</td>
<td>Why is the fetal allograft not rejected? C. J. Davies*, Washington State University, Pullman.</td>
<td></td>
</tr>
<tr>
<td>4:45 PM</td>
<td>13</td>
<td>Seminal plasma signalling in the female reproductive tract. S. A. Robertson*, The University of Adelaide, Adelaide SA, Australia.</td>
<td></td>
</tr>
<tr>
<td>5:30 PM</td>
<td></td>
<td>Adjourn</td>
<td></td>
</tr>
</tbody>
</table>
## Dairy Foods Symposium
### Advances in Cultured Foods
#### Chair: Clair Hicks, University of Kentucky
#### Sponsors: Brewster Cheese

### 200 D-E

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 AM</td>
<td>14</td>
<td>Historical overview of lactic cultures.</td>
<td>R. Sellars*, R. L. Sellars and Associates, Waukesha, WI.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>15</td>
<td>Non-starter lactic acid bacteria.</td>
<td>T. M. Cogan* and T. P. Beresford, Moorepark Food Research Centre Teagasc, Fermoy, Ireland</td>
</tr>
<tr>
<td>12:00 PM</td>
<td></td>
<td>Lunch Break</td>
<td></td>
</tr>
<tr>
<td>1:00 PM</td>
<td>16</td>
<td>Insights from genomic studies on dairy lactic acid bacteria.</td>
<td>J. L. Steele*, University of Wisconsin, Madison.</td>
</tr>
<tr>
<td>1:40 PM</td>
<td>17</td>
<td>Engineering culture attributes.</td>
<td>J. Broadbent*, Utah State University, Logan.</td>
</tr>
<tr>
<td>2:20 PM</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>2:30 PM</td>
<td>18</td>
<td>Use of bacteriophage peptides as vectors or blockers to receptors on lactic cell membranes.</td>
<td>C. Hicks*, University of Kentucky, Lexington.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>19</td>
<td>Media development for selective enumeration of lactic acid bacteria.</td>
<td>N. P. Shah*, Victoria University, Melbourne, Victoria, Australia.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>20</td>
<td>Probiotics and health: Their potential role in modulation of immune function.</td>
<td>Z. Ustunol*, Michigan State University, East Lansing.</td>
</tr>
<tr>
<td>4:10 PM</td>
<td></td>
<td>Panel Discussion</td>
<td></td>
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<tr>
<td>4:30 PM</td>
<td></td>
<td>Product tasting. (Cheddar type cheeses from around the world).</td>
<td></td>
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<tr>
<td>5:00 PM</td>
<td></td>
<td>Adjourn</td>
<td></td>
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## Biosecurity Risk Assessment Workshop
### 200 B-C

### Disease Risk Management Tools for Beef and Dairy Producer: Train the Trainer

The Center for Food Security and Public Health (CFSPN) at Iowa State University has prepared an extensive set of resources on disease risk management for beef and dairy producers. These materials have been developed by veterinarians but are designed to be used by livestock extension specialists to educate beef and dairy producers in group or one-on-one settings. This project was funded by the USDA Risk Management Agency and includes a train the trainer component to distribute the materials. Participants are being selected from each of the 50 states to attend this one day training session on Sunday, July 9. If you are interested in becoming a part of this session, please contact: Dr. Danelle Bickett-Weddle at dbweddle@iastate.edu or 515-294-1492 for registration information. Pre-registration is required as space and materials are limited.
Monday, July 10
POSTER PRESENTATIONS

Animal Health I
Exhibit Hall A

Abstract #

M1  Parturient steroids and labor duration associate with dystocia and stillbirth. J. L. Burton*, P. S. D. Weber1, A. A. Bush1, L. Neuder1, W. Raphael1, R. J. Erskine1, J. Carrier1, and S. Godden1, 1Michigan State University, East Lansing, 2University of Minnesota, St. Paul.

M2  The association between hoof lesions and milk production in Ontario dairy cows. G. Cramer*, K. Lissemore1, D. Kelton1, C. Guard2, and K. Leslie1, 1University of Guelph, Guelph, ON, Canada, 2Cornell University, Ithaca, NY.

M3  The association between hoof lesions and culling risk in Ontario dairy cows. G. Cramer*, K. Lissemore1, D. Kelton1, C. Guard2, and K. Leslie1, 1University of Guelph, Guelph, ON, Canada, 2Cornell University, Ithaca, NY.

M4  Effect of intrauterine infusion of ceftiofur on uterine health and conception rate in dairy cows. K. N. Galvao*, L. F. Vilela, and J. E. P. Santos, University of California, Tulare.

M5  Evaluation of high concentrations of non-esterified fatty acids in plasma around parturition as a risk factor for occurrence of subclinical ketosis. S. O. Juchem*, J. E. P. Santos, R. L. A. Cerri, E. J. DePeters, and M. Villaseñor, University of California, Davis.


M7  Use of producer-recorded health data in determining incidence risks and relationships between health events and culling. J. B. Cole1, A. H. Sanders2, and J. S. Clay2, 1Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, 2Dairy Records Management Systems, Raleigh, NC.


M10  Age-specific prevalence of Mycoplasma spp. in the nares of calves in the San Joaquin Valley, California. D. A. C. Bacon*, J. Reynolds1, R. R. Sakai2, and C. Collar3, 1University of California - Veterinary Teaching and Research Center, Tulare, 2University of California Cooperative Extension, Hanford.


M12  Bacteremia not detected during experimental coliform mastitis infection. J. Goff*, H. Springer1, D. Bannerman1, and M. Paape3, 1NADC, USDA-ARS, Ames, IA, 2Iowa State University, Ames, 3BARC, USDA-ARS, Beltsville, MD.


M14  The impact of colostrum supplement processing on serum IgG levels in Holstein neonates. K. J. Whitman*, J. R. Wenz1, F. B. Garry1, A. N. Merritt2, A. N. Putnam2, and J. H. Crabb2, 1Colorado State University, Fort Collins, 2Immucell Corp, Portland, ME.

Beef Species
Exhibit Hall A

Abstract #

M15  Impact of feedlot morbidity on performance, carcass characteristics and profitability of New Mexico ranch to rail steers. J. W. Waggoner*, C. P. Mathis1, C. A. Loest1, J. E. Sawyer1, and F. T. McCollum, III1, 1New Mexico State University, Las Cruces, 2Texas A&M University, College Station, 3Texas A&M University, Amarillo.


Breeding and Genetics I
Exhibit Hall A

Abstract #


M23 Influence of the reproductive system on gestation length and birth weight of Nellore Cattle in the sub-tropical area of Bolivia. J. A. C. Pereira¹, J. H. Landivar¹, A. H. Brown, Jr.*, Z. B. Johnson², and D. W. Kellogg², ¹Gabriel Rene Moreno University, Bolivia, ²University of Arkansas, Fayetteville.

M24 Synchronization effects on parameters for days open. M. T. Kuhn, J. L. Hutchison, and R. H. Miller*, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

M25 Comparison of Brown Swiss, Holstein and Brown Swiss x Holstein crosses for production, somatic cell score and days open. M. I. Phelps¹, C. D. Dechow¹, A. L. Mosholder¹, J. B. Cooper¹, and G. W. Rogers¹, ¹The Pennsylvania State University, University Park, ²The University of Tennessee, Knoxville.

M26 Heritability estimates of milk yield and electronically recorded daily body weight. J. K. Toshniwal*, C. D. Dechow¹, A. L. Mosholder¹, J. B. Cooper¹, and G. W. Rogers¹, ¹The Pennsylvania State University, University Park, ²Virginia Polytechnic and State University, Blacksburg.

M27 Genetic differences between Holstein maturity rates in the Netherlands and United States. H. D. Norman¹, J. R. Wright*¹, R. L. Powell¹, P. M. VanRaden¹, and G. de Jong¹, ¹Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, ²NRS, Arnhem, Netherlands.

M28 Estimation of genetic parameters for maturity of lactation in Japanese Holsteins. Y. Masuda* and M. Suzuki, Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan.

M30 Methodology for prediction of bull fertility from field data. M. T. Kuhn* and J. L. Hutchison, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

M31 Estimation of genetic trends for milk production traits in Iranian Holsteins. H. Farhangfar*, H. Naeemipour, and M. R. Asghari, Birjand University, Birjand, Iran.

M32 Estimation of phenotypic and genetic trends for milk and fat yield traits in Khorasan province Holsteins of Iran by using a univariate model. H. Naeemipour*, H. Farhangfar¹, H. Moravej², and M. Rokoei¹, ¹Birjand University, Birjand, Iran, ²Tehran University, Tehran, Iran, ³Zabol University, Zabol, Iran.

M33 Genetic variation of lactation gross energy efficiency and its association with a number of traits in Holstein dairy cattle. P. Zamani*, S. R. Miraei-Ashtiani², A.-A. Naserian¹, and A. Nik-Khah¹, ¹BiaAli University, Hamedan, Iran, ²University of Tehran, Tehran, Iran, ³Ferdowsi University, Mashhad, Iran.

M34 Comparison of lactation and test day models for genetic evaluation of 305-day milk trait in Iranian Holstein heifers. H. Farhangfar* and H. Rezaee, Birjand University, Birjand, Iran.

M35 Phenotypic study of lactation curve in Iranian Holsteins. H. Farhangfar* and H. Naeemipour, Birjand University, Birjand, Iran.

M36 Estimation of genetic trends for milk production traits in Iranian Holsteins. H. Farhangfar*, H. Naeemipour, and M. R. Asghari, Birjand University, Birjand, Iran.
Forages and Pastures
Forage Quality
Exhibit Hall A

Abstract #

M39 Direct or sequential determination of ADF in legume forages. M. J. Marichal*, M. Carriquiry, and A. I. Trujillo, Facultad de Agronomía, Montevideo Uruguay.


M41 Ruminal dry matter, crude protein, neutral detergent fiber and acid detergent fiber degradation parameter kinetics of Agropyron tauri, Agropyron trichophorum, and Bromus tomentellus. P. Shawrang¹, A. Nikkhah², and A. A. Sadeghi³, ¹Teheran University, Karaj, Iran, ²Science and Research Campus, Islamic Azad University, Tehran, Iran.

M42 Voluntary feed intake, rumen fermentation characteristics and nitrogen retention in Iranian Balouchi sheep fed halophyte forages. A. Riasi⁴, M. Danesh Mogharran⁵, H. Nassiri Moghaddam⁶, and A. Heravi Moussavi⁷, ¹University of Birjand, Birjand, Khorasan, Iran, ²Ferdowsi University of Mashhad, Mashhad, Khorasan, Iran.

M43 Effective neutral detergent fiber supply to dairy grazing cows by alfalfa pasture. R. Gregoret*¹, M. Gallardo¹, P. Ludueña², and M. Cagnolo², ¹INTA Rafaela Experimental Station, Rafaela, Santa Fe, Argentina, ²Villa Maria National University, Villa Maria, Cordoba, Argentina.

M44 Forage conservation effects on conjugated linoleic acid and trans-C18:1 production by rumen microbes when incubated with soybean oil and fish oil in continuous culture. R. Buckles, A. AbuGhazaleh*, and G. Apgar, Southern Illinois University, Carbondale.

M45 The effect of fatty acid source and forage source on trans-C18:1 and conjugated linoleic acid production by ruminal microbes in batch culture. R. Buckles, A. AbuGhazaleh*, and G. Apgar, Southern Illinois University, Carbondale.

M46 Using the Synchrotron (SRFTIRM) to Reveal Molecular Structural-Chemical Differences between Two Types of Forages Seeds –Winterfat (Krascheninnikovia lanata). P. Yu*, R. Wang, and Y. Bai, University of Saskatchewan, Saskatoon, Canada.

M47 Assessment of forage production and nutritional value of subtropical grasses in north-western Argentina. M. V. Cornacchione¹ and J. I. Arroquy*¹,², ¹Instituto Nacional de Tecnología Agropecuaria, Santiago del Estero, Argentina, ²Consejo Nacional de Investigaciones Científicas y Técnicas, Santiago del Estero, Argentina, ³Universidad Nacional de Santiago del Estero, Santiago del Estero, Argentina.

M48 In vitro ruminal degradation of anthocyanin-containing alfalfa transformed with the maize Lc regulatory gene. Y. Wang*, T. A. McAllister¹, and M. Y. Gruber², ¹Agriculture and Agri-Food Canada Research Centre, Lethbridge, Alberta, Canada, ²Agriculture and Agri-Food Canada Research Centre, Saskatoon, Saskatchewan, Canada.

M49 Antitherbivory compounds on the leaf surface of intact and resprouted tarbush. R. Estell*¹, E. Fredrickson¹, and M. Remmenga², ¹USDA-ARS Jornada Experimental Range, Las Cruces, NM, ²New Mexico State University, Las Cruces.


M51 Effect of nitrogen-fertilizer application on chemical compositions and in vitro rumen digestibility of corn stovers. Q. Meng*¹,² and G. Yan¹,², ¹State Key Laboratory of Animal Nutrition, Beijing, China, ²Beef Cattle Research Center and College of Animal Science & Technology, China Agricultural University, Beijing, China.

M52 In vitro evaluation of various energy supplements for tropical and temperate forages. R. D. L. Pacheco*, D. D. Millen¹, N. DiLorenzo², and A. DiCostanzo³, ¹FMVZ/UNESP, Botucatu, Sao Paulo, Brazil, ²University of Minnesota, St. Paul.


M54 Effect of Lactobacillus buchneri applied to alfalfa hay treated at high moisture. G. E. Higginbotham*, S. Mueller¹, and R. Kuber², ¹University of California Cooperative Extension, Fresno, ²Connor Marketing, Clovis, CA.

M55 Effect of fibrolytic enzymes or ammonia treatment on the nutritive value of 6-wk and 8-wk regrowths of guineagrass hay. D. B. Dean*¹,², A. T. Adesogan¹, E. Valencia¹, and N. Krueger¹, ¹University of Florida, Gainesville, ²Universidad del Zulia, Maracaibo, ZU, Venezuela, ³Universidad de Puerto Rico, Mayaguez, PR.
Goat Species

Feeding Management of Goats
Exhibit Hall A

Abstract #

M56 Characterization of pubertal development in nanny-fed and synthetic milk-fed crossbred meat goat does. K. Collard*, M. S. Torres1, E Gonzales1, C. W. O’Gorman1, R. L. Stanko1,2, and M. R. Garcia1, 1Texas A&M University, Kingsville, 2Texas A&M University Agriculture Research Station, Beeville.

M57 Water balance in goats under feed restriction. K. T. Resende*1,4, I. A. M. A. Teixeira1, J. M. Pereira Filho2, and P. J. Murray1, 1Universidade Estadual Paulista/FCAV, Jaboticabal, SP, Brazil, 2Universidade Federal de Campina Grande, Patos, PB, Brazil, 3School of Animal Studies, University of Queensland, Gatton, Qld, Austrália, 4FAPESP, São Paulo, SP, Brazil.

M58 Energy and protein requirements for maintenance and growth of Boer crossbred kids’. M. H. M. R. Fernandes*, K. T. Resende1, L. O. Tedeschi2, J. S. Fernandes Jr.1, H. M. Silva1, G. E. Carstens2, and I. A. M. A. Teixeira1, 1Universidade Estadual Paulista/FCAV, Jaboticabal, Sao Paulo, Brazil, 2Texas A&M University, College Station.

M59 Effects of feeding method, diet nutritive value and physical form, and genotype on feed intake, feeding behavior, and growth performance by meat goats. T. Gipson*, A. Goetsch, G. Detweiler, and T. Sahlu, American Institute for Goat Research, Langston University, Langston, OK.

M60 Methane emission by goats consuming diets with different levels of condensed tannin-containing lespedeza and sorghum-sudangrass. G. Animut*, R. Puchala1, A. Goetsch1, T. Sahlu1, G. Detweiler1, A. Patra1, V. Varel1, and J. Wells1, 1American Institute for Goat Research, Langston University, Langston, OK, 2US Meat Animal Research Center, Clay Center, NE.

M61 Efficiency of energy use for pregnancy by crossbred Boer x Spanish does with different litter size. I. Tovar-Luna1, A. L. Goetsch1, R. Puchala1, S. Torres1, G. Detweiler1, A. Patra1, V. Varel2, and J. Wells2, 1American Institute for Goat Research, Langston University, Langston, OK, 2Texas A&M University, College Station, 3USDA/ARS Meat Animal Research Center, Clay Center, NE, 4University of Arkansas, Fayetteville.

M62 Relationship between energy expenditure and heart rate in pregnant Boer x Spanish does with different litter size. R. Puchala*, I. Tovar-Luna, A. L. Goetsch, and T. Sahlu, E (Kika) de la Garza American Institute for Goat Research, Langston, OK.

M63 Tethering meat goats grazing for high nutritive value and moderate to high mass. A. Patra*, R. Puchala1, G. Detweiler1, L. Dawson2, G. Animut1, T. Sahlu1, and A. Goetsch1, 1American Institute for Goat Research, Langston University, Langston, OK, 2Oklahoma State University, Stillwater.

M64 Tethering meat goats grazing forage of high nutritive value and low to moderate mass. A. Patra*, R. Puchala1, G. Detweiler1, L. Dawson2, G. Animut1, T. Sahlu1, and A. Goetsch1, 1American Institute for Goat Research, Langston University, Langston, OK, 2Oklahoma State University, Stillwater.


Growth and Development

Exhibit Hall A

Abstract #

M67 Differences in adipogenesis between bovine intramuscular and subcutaneous preadipocytes are not related to expression of PPARγ or secretion of PGI2. G. Ortiz-Colón*, A. C. Grant, M. E. Doumit, and D. D. Buskirk, Michigan State University, East Lansing.


M70 Use of RNA interference (RNAi) to silence IGFBP-3 and IGFBP-5 expression in porcine embryonic myogenic cell cultures. X. Gang, M. R. Hathaway, M. E. White, E. I. Kamanga-Sollo, M. S. Pampusch, and W. R. Dayton*, University of Minnesota, St. Paul.

M71 Effects of clenbuterol and serum on the activation of mitogen-activated protein kinase in cultured bovine satellite cells. J. M. Scheffler* and S. J. Jones, University of Nebraska, Lincoln.
M88  Image analysis of marbling in pork rib eye and prediction of crude fat contents. K. Kuchida*, 1, M. Oishi1, Y. Kuwabara2, M. Hanada1, 1University of Hawaii, Honolulu, 2Chungnam National University, Daejeon, Korea.

M74  Effects of colostrum (C) feeding and dexamethasone (Dexa) treatment on sodium-dependent glucose co-transporter-1 (SGLT1) in the small intestine of neonatal calves. H. M. Hammon* and U. Schoenhusen, Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany.


M77  Opioid agonist modulation of long term food intake in sheep. F. Y. Obese1, B. K. Whitlock1, F. C. Buonomo2, and J. L. Sartín*1, 1Auburn University, Auburn, AL, 2Monsanto Co, St Louis, MO.

M78  Effects of feeding ad-lib fresh milk or milk replacer during nursing and added protein at pre-puberty period to Holstein heifers on growth rates and production during first lactation. U. Moallem*1, D. Werner1, H. Lehner1, M. Katz1, L. Livshitz1, I. Bruckental1, and A. Shamay1, 1Institute of Animal Science, ARO, Israel, 2Extension Service, Ministry of Agriculture, Israel.

M79  Performance of calves fed whole milk and milk replacer in different sequences. M. C. Scott*, R. E. James, and M. L. McGilliard, Virginia Polytechnic Institute and State University, Blacksburg.

M80  Development of specific breeds equations to estimate chemical empty body composition using the 9-10-11th rib cut composition. A. Berndt1, G. M. da Cruz1, G. F. Alleoni1, M. M. Alencar1, and D. P. D. Lanna*2, 1APTA/SP, Andradina, São Paulo, Brazil, 2ESALQ/USP, Piracicaba, São Paulo, Brazil, 3EMBRAPA/CPPSe, São Carlos, São Paulo, Brazil, 4IZ/SP, Nova Odessa, São Paulo, Brazil.


Meat Science and Muscle Biology

Abstract #

M83  Fatty acid profile in selected rodent and fish species from Colombia. L. L. Betancourt*1 and G. J. Díaz2, 1Universidad de La Salle, Facultad de Zootecnia, Bogotá, Distrito Capital, Colombia, 2Universidad Nacional de Colombia, Facultad de Medicina Veterinaria y Zootecnia, Bogotá, Distrito Capital, Colombia.

M84  Fatty acid composition in bovine and buffalo beef. L. Betancourt*, C. Bustamante1, and G. Díaz2, 1La Salle University, Bogotá Distrito Capital, Colombia, 2National of Colombia University, Bogotá, Distrito capital, Colombia.


M87  Effect of sucking regimen in intramuscular collagen properties of Comisana lambs. G. Maiorano*, A. Ciarlariello1, C. Cavone1, R. J. McCormick2, and A. Manchisi*, 1University of Molise, Campobasso, Italy, 2University of Wyoming, Laramie.

M88  Image analysis of marbling in pork rib eye and prediction of crude fat contents. K. Kuchida*, M. Oishi1, Y. Kuwabara2, M. Hanada1, and S. Hidaka1, 1Obihiro University of A&VM, Obihiro, Hokkaido, Japan, 2Fuji Nojo Service, Fujinomiya, Shizuoka, Japan.


M90  Effect of type of pasture and time of supplementation on meat quality traits of grazing beef heifers. G. J. Depetrís*, E. Pavan1, F. J. Santini1, E. L. Villarreal1, G. Grigioni1, A. Irueta1, and F. Carduza2, 1EEA INTA Balcarce- Fac Cs. Agrarias. UNMdP, Balcarce, Buenos Aires, Argentina, 2Inst. de Tecnologia de Alimentos. INTA Castelar, Morón, Buenos Aires, Argentina.
M91 Field pea inclusion in high grain diets for beef heifers improves beef tenderness without altering performance. K. R. Maddock Carlin*, 1,60 C. L. Collins 1,3, S. X. Fu2, R. Hinson2, B. J. Leury3, and T. Parr, University of Nottingham, Nottingham, Nottinghamshire, UK.


M93 Changes in caspase activities post mortem and their relationships to shear force in porcine longissimus muscle. C. M. Kemp*, R. G. Bardsley, and J. S. Yoo1, I. H. Kim1, S. S. Lee2, and W. T. Cho2, 1


M95 Effect of different breeds on fatty acid composition and cla concentration of beef cattle. A. A. Souza, L. Suguisawa*, H. N. Oliveira, and A. C. Silveira, São Paulo State University, São Paulo, Brazil.


M98 Effect of substitution of concentrate by sweet potato (Ipomoea batatas L.) meal in carcass traits of finishing pigs. O. E. Moron*, S. Pietrosemoli, A. Paez, C. Chirinos, and A. Marrugo, Facultad de Agronomía. La Universidad del Zulia, Maracaibo, Zulia, Venezuela.

Nonruminant Nutrition
Dietary Influences in Nursery Pigs
Exhibit Hall A

Abstract #

M99 Validation of the NCCC-42 vitamin-trace mineral premix in starter pigs. T. D. Crenshaw*, 1 M. J. Azain2, G. H. Hill3, P. S. Miller4, and NCCC-42 Swine Nutrition Committee4, 1University of Wisconsin, Madison, 2University of Georgia, Athens, 3Michigan State University, East Lansing, 4University of Nebraska, Lincoln.

M100 True phosphorus digestibility and the gastrointestinal endogenous P outputs associated with brown rice in weanling pigs. H. Yang1, Y. L. Yin*1,2, T. J. Li1, R. L. Huang1, and M. Z. Fan1, 1The Chinese Academy of Sciences, Changsha, Hunan Province, China, 2University of Guelph, Ontario, Canada.

M101 True phosphorus digestibility and the endogenous phosphorus outputs in diets for weaned pigs determined by the substitution method. Z. R. Wang1, L. Liu1, X. J. Yang2, T. C. Rideout2, C. Yang2, Y. L. Yin2, T. Archbold2, and M. Z. Fan*2, 1Xinjiang Agricultural University, Urumqi, Xinjiang, China, 2Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, Hunan, China, 1University of Guelph, Ontario, Canada.


M103 Evaluation of plasma protein replacement strategies in complex and semi-complex phase 1 and 2 diets, followed by either high or low soybean meal subsequent nursery diets. G. Willis*, P. Wilcock1, and B. Richert2, 1Primary Nutrition, Dundee, IL, 2Purdue University, West Lafayette, IN.


M105 The evaluation of several protein sources on amino acids digestibility in early-weaned pigs. B. J. Min*, J. H. Cho1, Y. J. Chen1, H. J. Kim1, J. S. Yoo1, I. H. Kim1, S. S. Lee2, and W. T. Cho2, 1Dankook University, Cheonan, Chungnam, Korea, 2Genebiotech Co. Ltd., Gungju, Chungnam, Korea.

M106 The effects of fermented soy protein in simple or complex diet on growth performance and amino acids digestibility in weaned pigs. B. J. Min*, J. H. Cho1, Y. J. Chen1, H. J. Kim1, J. S. Yoo1, I. H. Kim1, S. S. Lee2, and W. T. Cho2, 1Dankook University, Cheonan, Chungnam, Korea, 2Genebiotech Co. Ltd., Gungju, Chungnam, Korea.


M108 Lysine requirement of gilts following a protein restriction from 4 to 8 weeks of age. C. L. Collins1,3, S. X. Fu2, R. Hinson3, B. J. Leury3, B. G. Tatham1, G. L. Allee, and F. R. Dunshea4, 1Department of Primary Industries, Werribee, Victoria, Australia, 2University of Missouri, Columbia, 3University of Melbourne, Parkville, Victoria, Australia.
Dietary lysine needs of a lean, late maturing strain of pigs. T. R. Lutz, R. C. Clayton, and T. S. Stahly*, Iowa State University, Ames.

Effect of dietary electrolyte balance (dEB) and source in high synthetic amino acid nursery diets. A. M. Gaines1, B. W. Ratliff1, B. Hinson*,1, G. L. Allee, and J. L. Ury2,1University of Missouri, Columbia, 2Ajinomoto Heartland LLC, Chicago, IL.

Efficacy of methionine hydroxy analog free acid relative to DL-methionine in growing pigs. F. O. Opapeju*,1, C. M. Nyachoti1, M. Rademacher2, and G. H. Crow1,1University of Manitoba, Winnipeg, MB, Canada, 2Degussa AG, 63457 Hanau-Wolfgang, Germany.


Growth performance of pigs fed diets supplemented with an ammoniated formic acid (FA) solution. A. F. Harper*,1, M. J. Estienne1, and H. Miettinen1,1Virginia Polytechnic Institute and State University, Blacksburg, 2Kemira Oyj, Helsinki, Finland.


Impact of various dietary cereals on clinical response to E. coli. J. Buckingham1, F. Ji*,2, P. J. Laski2, and J. E. Pettigrew2,1QAF Meat Industries Pty Ltd., 2University of Illinois, Urbana.

Efficacy of a mannan oligosaccharide and antimicrobial on the gastrointestinal microbiota of young pigs. J. C. Miguel*, P. J. Laski, and J. E. Pettigrew, University of Illinois at Urbana-Champaign, Urbana.

Evaluation of three mannanoligosaccharide products in swine nursery diets. H. Yang1, T. Shipp*,2, J. Less1, T. Radke1, and M. Cecava1,1ADM Animal Nutrition, Quincy, IL, 2ADM Animal Health and Nutrition, Quincy, IL, 3ADM Specialty Feed Ingredients, Decatur, IL.

Growth performance of nursery pigs fed different cereal grains on a commercial farm. V. G. Perez-Mendoza*,1, M. U. Steidinger2, G. R. Hollis1, and J. E. Pettigrew*,1University of Illinois, Urbana-Champaign, 2Swine Nutrition Services Inc, Anchor, IL.


Development of a model to determine preferences for feed ingredients in young pigs. E. van Heugten*,1, K. Ange-van Heugten1, W. Zhang1, and E. Roura2,1North Carolina State University, Raleigh, 2Lucta SA, Barcelona, Spain.

Effects of diet type and an artificial high intensity sweetener (SUCRAM®) on weaned piglet performances. P. Schlegel*1 and R. Hall2,1Pancosma S.A., Le Grand-Saconnex, Geneva, Switzerland, 2Cooperative Research Farms, Richmond, VA.

Adding a milky flavor in drinking water and an enhanced milky flavor in feed improves piglet growth compared to the use of no flavor or a sweetener. E. Roura1, J. Coma2, and D. Torrallardona1,1Lucta SA, Barcelona, Spain, 2Vall Companys, Lleida, Spain, 3IRTA, Centre Mas Bové, Reus, Spain.

The use of an enhanced milky flavor but not of standard flavors in feed improves growth of pigs at weaning compared to a non-flavored control feed. E. Roura*,1, L. Levrou2, D. Solá-Oriol2, and D. Torrallardona1,1Lucta SA, Barcelona, Spain, 2DSM, Nutritional Products BV, Belgium, 3IRTA, Centre Mas Bové, Reus, Spain.

Effects of dietary delta-aminolevulinic acid and chitooligosaccharide on growth performance, nutrient digestibility and hematological characteristics in weanling pigs. Y. J. Chen*,1, B. J. Min1, J. H. Cho1, H. J. Kim1, J. S. Yoo1, J. D. Kim1, D. K. Kang1, H. R. Kim1, and I. H. Kim1,1Dankook University, Cheonan, Chungnam, Korea, 2Pukyong, Busan, Korea, 3CJ Feed Co., Incheon, Korea.

Dietary supplementation with the Chinese herb improves growth performance and tissue integrity in weanling piglets. F. G. Yin1, X. F. Kong1, Y. L. Yin*,1, H. J. Liu1, Y. P. Liao1, and G. Y. Wu1,2,1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, 2Texas A&M University, College Station.

**Physiology and Endocrinology**

**Estrous Synchronization**

**Exhibit Hall A**

Abstract #


M128 Post-AI interventions in lactating dairy cattle. II. Conception rates and pregnancy survival in response to GnRH, hCG, and exogenous progesterone (CIDR). J. S. Stevenson*, D. E. Tenhouse, M. A. Portaluppi, D. R. Eborn1, S. Kacuba1, and J. M. DeJarnette*, Kansas State University, Manhattan, 1Select Sires, Plain City, OH.

Effects of feeding palm oil fatty acids on milk production and composition and follicle size in early lactating cows. A. Heravi Moussavi* and M. Danesh Mesgaran, Center of Ferdowsi University of Mashhad, Mashhad, Iran.

Effect of timing of the second GnRH injection of a timed AI protocol on fertility of lactating holstein cows after first postpartum and Resynch AI services. R. A. Sterry*1, P. W. Jardan2, B. Ryzebol3, and P. M. Fricke4, 1University of Wisconsin, Madison, 2West Central, Ralston, IA, 3Ryzebol Dairy, Bailey, MI.

Characterization of follicular dynamics, timing of estrus, and response to GnRH and PG in replacement beef heifers after presynchronization with a 14-day CIDR. D. J. Schafer*, D. C. Busch, M. F. Smith, and D. J. Patterson, University of Missouri, Columbia.

Factors affecting synchronization and conception rate (CR) after the Ovsynch protocol in lactating dairy cows. K. N. Galvao* and J. E. P. Santos, University of California Davis, Tulare.

Conception rates after altered timing of AI associated with the CO-Synch + CIDR protocol. C. A. Dobbins*, D. E. Tenhouse1, D. R. Eborn1, K. R. Harmonzy2, S. K. Johnson1, and J. S. Stevenson1, 1Kansas State University, Manhattan, 2Agricultural Research Center, Hays, KS, 3Northwest Area Extension Office, Colby, KS.


Serum progesterone concentrations in ovariectomized cows bearing new or previously used CIDR devices with or without autoclaving. J. F. Zuluaga* and G. L. Williams, Texas A&M University Agricultural Research Station, Beeville.

Induction of a new follicular wave in holstein heifers with persistent follicles, synchronized with norgestomet. E. Garcia*1,2, T. Sanchez2, J. Peralta1, J. Cordero1, O. Montañez1, P. Molina1, and R. Avila1, 1Especialidad de Ganaderia Colegio de Postgraduados, Texcoco, Mexico, 2CUCSUR Universidad de Guadalajara, Autlan, Jalisco, Mexico, 3CUSUR Universidad de Guadalajara, Cd. Guzman, Jalisco, Mexico.

The use of a progesterone releasing device (CIDR), with GnRH and prostaglandin F2α (PGF), for a fixed-time artificial insemination in beef heifers. J. M. Howard1, D. G. Falk2, K. G. Carnahan1, J. C. Dalton2, R. C. Chebe1, T. C. Blair1, and A. Ahmadzadeh*, 1University of Idaho, Moscow, 2University of Idaho, Caldwell.


Conception rates at ET in lactating dairy recipient cows after estrous or ovulation synchronization. D. T. G. Jardina1, R. M. Santos1, D. G. B. Demetrio1, C. A. Rodrigues2, and J. L. M. Vasconcelos, 1FMVZ-UNESP, Botucatu, SP, Brazil, 2Clinica Veterinaria Sanvet, Sao Carlos, SP, Brazil.

Effects of selenium (Se) sources on dairy cows. F. T. Silvestre*, D. T. Silvestre1, J. E. P. Santos2, C. Risco1, C. R. Staples1, and W. W. Thatcher1, 1University of Florida, Gainesville, 2University of California, Davis.

The first ovulation of dominant follicle within three weeks postpartum closely relates to metabolic status and peak milk yield in high-producing dairy cows. A. Miyamoto*, M. Kataoka, Y. Masuda, C. Kawashima, E. Kaneko, N. Matsunaga, M. Matsui, M. Ishii, K. Kida, Y.-I. Miyake, and M. Suzuki, Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan.

Effectiveness of GnRH treatment before, or before and after ovarian stimulation with FSH on superovulation response and embryo quality. D. J. Ambrose*, R. Rajamahendran1, G. Giritharan1, J. Kurtz2, and P. Madan2, 1Alberta Agriculture Food and Rural Development, Edmonton, Alberta, Canada, 2University of British Columbia, Vancouver, BC, Canada.

Effect of source of supplemental Se on uterine health and embryo quality in high-producing dairy cows. R. L. A. Cerri*, H. M. Rutigliano1, F. S. Lima1, D. S. Brito1, J. Hillegass1, W. W. Thatcher2, and J. E. P. Santos1, 1University of California Davis, Tulare, 2University of Florida, Gainesville.

Production, Management and the Environment I
Exhibit Hall A

Abstract #

Postruminal survivability of Fusarium graminearum in infected barley kernels. Y. Wang*1, D. L. McLaren2, G. D. Inglis1, S. L. Scott1, T. K. Turkington1, and T. A. McAllister1, 1Agriculture and Agri-Food Canada Research Centre, Lethbridge, Alberta, Canada, 2Agriculture and Agri-Food Canada Research Centre, Brandon, Manitoba, Canada, 3Agriculture and Agri-Food Canada Research Centre, Lacombe, Alberta, Canada.

Response of bovine lateral saphenous vein to increasing concentrations of lysergic acid and ergovaline. J. L. Klotz*1, B. C. Arrington2, L. P. Bush2, and J. R. Strickland1, 1USDA-ARS, FAPRU, Lexington, KY, 2University of Kentucky, Lexington.
Evaluation of the vasoconstrictive capacity of tall fescue alkaloids using fescue naïve bovine lateral saphenous veins. J. L. Klotz*1, B. H. Kirch1, G. E. Aiken1, L. P. Bush1, B. C. Arrington2, and J. R. Strickland1, 1USDA-ARS, FAPRU, Lexington, KY, 2University of Kentucky, Lexington.

Effect of pulse grains on feedlot performance of newly weaned steers. V. L. Anderson*1 and J. P. Schoonmaker2, 1North Dakota State University, Carrington, 2Land O’ Lakes Inc., Madison, WI.

Effect of using a sheath protector at time of insemination on the pregnancy rate of beef cattle synchronized with CIDRs. W. A. Greene and M. L. Borger*, The Ohio State University, Wooster.

Intake and performance of beef steers with ad-libitum access to a balanced ration or the same ingredients of the balanced diet but delivered in separated bunks. J. Arroquy*1,2, J. Saravia1, A. Fumagalli1,3, F. Moretto1, A. Lopez2, and C. Lopez2, 1Instituto Nacional de Tecnología Agropecuaria, EEA-Santiago del Estero, Santiago del Estero, Argentina, 2Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina, 3Universidad Nacional de Santiago del Estero, Santiago del Estero, Argentina.


Relationship of two measures of disposition and gain performance of steers. R. L. Weaber and F. E. Creason*, University of Missouri, Columbia.

Effect of a mineral mix containing Tasco® meal on performance and reproduction in mature beef cows. J. E. Stegner*1, B. Laudermilch1, W. D. Whittier1, R. Kasimanickam1, D. Colling2, and J. B. Hall1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Acadian AgriTech, Dartmouth, NS, Canada.

Relationships between endocrine status, temperament, growth and carcass traits in replacement beef heifers supplemented with dietary fat. A. R. Dos Santos*1,2, S. T. Willard1, R. C. Vann2, and B. Macoon2, 1Mississippi State University, Starkville, 2Brown Loam Experiment Station, Raymond, MS.

Crop-livestock production system for fattening lambs under desert farming. N. Eweedah*, Faculty of Agricultre, Kafr El-Sheikh, Egypt.

Predicting fineness of instrument-classed wool lines using an Optical-based Fibre Diameter Analyser (OFDA2000). C. J. Lupton and F. A. Pfeiffer*, Texas Agricultural Experiment Station, San Angelo, TX.

Twin rate influences milk yield in Sarda dairy sheep in organic and conventional farms. G. Canu1, C. Dimaro2, A. Natale1, C. Patta1, and G. Pulina*, 1Istituto Zooprofilattico Sperimentale per la Sardegna, Sassari, Italy, 2Università di Sassari, Sassari, Italy, 3Associazione Regionale Allevatori della Sardegna, Cagliari, Italy.

The effect of two management systems of dairy ewes on milk production. S. A. Maestá, E. R. Siqueira, M. M. Stradiotto, C. C. Patta1, and G. Pulina*2, 1Associazione Regionale Allevatori della Sardegna, Sassari, Italy, 2Università di Sassari, Sassari, Italy.

Effect of a mineral mix containing Tasco® meal on performance and reproduction in mature beef cows. J. E. Stegner*1, B. Laudermilch1, W. D. Whittier1, R. Kasimanickam1, D. Colling2, and J. B. Hall1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Acadian AgriTech, Dartmouth, NS, Canada.

Effect of suckling management on skeletal development and productive performance of Comisana lambs. A. Ciarlariello1, G. Maiorano*, C. Cavone1, R. J. McCormick2, and A. Manchisi1, 1University of Molise, Campobasso, Italy, 2University of Wyoming, Laramie.


Effects of age, location, and nutrition on body weight, fiber production, and fiber quality characteristics of penned alpaca males. C. J. Lupton*1, R. P. Elvestad2, F. A. Pfeiffer*, and K. MacKinnon2, 1Texas Agricultural Experiment Station, San Angelo, TX, 2Natural Fibre Centre & Testing Laboratory, Olds, Alberta, Canada.

Gestation length in Alaskan reindeer. M. P. Shipka* and J. E. Rowell, University of Alaska Fairbanks, Fairbanks, AK.

The diversity of bacterial community in the gut differs between different hatches of broiler chicks. G. W. Tannock1, S. Musa1, K. Munro1, and V. Ravindran2*, 1University of Otago, Dunedin, New Zealand, 2Monogastric Research Centre, Massey University, Palmerston North, New Zealand.

Ruminant Nutrition
Fat Feeding, Metabolism, & Composition
Exhibit Hall A

Influence of short-term feed restriction on milk production traits of Sarda dairy ewes. G. Pulina*, A. Mazzette, G. Battacone, and A. Nudda, Dipartimento di Scienze Zootecniche, University of Sassari, Sassari, Italy.

Fat stability and preservation of fatty acids with AGRADO® antioxidant in feed ingredients used in ruminant rations. J. Andrews* and M. Vazquez-Anon, Novus International, St. Louis, MO.


Fatty acid composition in milk from Flemish conventional and organic dairy farm management systems. V. Fievez* and B. Vlaeminck, Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Melle, Belgium.


The long term effect of supplementing grazing dairy cows diet with fish oil and sunflower oil on milk conjugated linoleic acid. L. Bouattour, R. Casals*, E. Albanell, X. Such, and G. Caja, Universitat Autònoma de Barcelona, Bellaterra, Spain.

Performance of dairy cows fed Ca-salts of saturated and unsaturated fatty acids. T. R. Dhiman*, A. Hopkins1, R. Thompson1, L. R. Godfrey1, and N. D. Luchini1, 1Utah State University, Logan, 2NutriScience Technologies Company, Fairlawn, OH.


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

Effect of flaxseed and flaxseed oil supplemented milk on milk fatty acid composition in dairy cows fed high- or low- forage diets. C. Benchaar*, 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, 3Université Laval, Quebec, QC, Canada.


The abomasal infusion of wheat starch or cottonseed oil with casein on milk yield and compositions in Sannen dairy goats. M. Bashani*, A. A. Nasrani2, and R. Valizadeh3, 1Birjand University, Birjand, Southern Khorasan, Iran, 2Mashhad University, Mashhad, Khorasan, Iran.

Effects of adding whole safflower seeds to dairy Lacaune sheep diets on CLA in milk, fatty acids profile and dairy performances. M. A. Bouattour, R. Casals*, E. Albanell, X. Such, and G. Caja, Universitat Autònoma de Barcelona, Bellaterra, Spain.

Milk fatty acid composition and dairy performances in Lacaune sheep fed whole linseed and linseed oil with reference to CLA. M. A. Bouattour, R. Casals*, E. Albanell, X. Such, and G. Caja, Universitat Autònoma de Barcelona, Bellaterra, Spain.

The long term effect of supplementing grazing dairy cows diet with fish oil and sunflower oil on milk conjugated linoleic acid. L. Holmes* and A. AbuGhazaleh, Southern Illinois University, Carbondale.

Effectiveness of linoleic and linolenic acid for enhancing conjugated linoleic acid in milk from dairy cows. B. Dengpan1, J. Wang*, T. R. Dhiman1, and L. Shijun1, 1Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, P.R. China, 2Animal, Dairy and Veterinary Sciences Department, Utah State University, Logan, UT.

The effect of pH and polyunsaturated C18 fatty acid source on the production of vaccenic acid and conjugated linoleic acids in ruminal cultures incubated with docosahexaenoic acid. A. AbuGhazaleh* and B. Jacobson, Southern Illinois University, Carbondale.

The relationship between the concentration in milk of c18:1 t10 and the concentration of total milk fat. P. J. Moate*, R. C. Boston1, I. J. Lean2, and W. Chalupa1, 1University of Pennsylvania, Kennett Square, 2University of Sydney, Sydney, NSW, Australia.

The effect of trans-10, cis-12 CLA on milk fat synthesis and cheese yield in sheep fed at two levels of energy intake. A. L. Lock*, R. M. Early2, D. E. Bauman1, and L. A. Sinclair1, 1Cornell University, Ithaca, NY, 2Harper Adams University College, Newport, UK.

Lactation response of cows to intravenous infusion of conjugated linolenic acids. R. Gervais* and P. Y. Chouinard, Université Laval, Québec, Québec, Canada.


Effect of feeding whole soybeans on thermal balance and fatty acid profiles on early lactation cows during heat stress. J. D. Sampson, D. E. Spiers, and J. N. Spain*, University of Missouri, Columbia.

A comparison of the fatty acid profiles of red deer and sheep adipose tissues. G. A. Romero-Perez*, R. W. Mayes¹, and J. R. Scaife², ¹The Macaulay Institute, Aberdeen, UK, ²Writtle College, Essex, UK.

Differences in expression and activity of B, B-carotene-15, 15'-oxygenase between yellow and white bovine fat carcasses. A. Morales, A. González, A. Varela-Echavarria, A. Shimada, and O. Mora, Facultad de Estudios Superiores Cuautitlán, UNAM, Querétaro, Querétaro, México, ²Instituto de Neurobiología, UNAM, Querétaro, Querétaro, México.


Effects of dietary antioxidant plant extracts on udder health and milk quality. T. Doriana*, G. Sara, M. Marina, and B. Valerio, University of Milan, Milan, Italy.

Ruminant Nutrition
Metabolism & Immunology
Exhibit Hall A

Abstract #

Is OmniGen-AF capable of augmenting markers of immune health when blended into a nutritional block? N. Forsberg*, Y. Wang, and S. Puntenney, Oregon State University, Corvallis.

Effect of feeding blends of feedstuffs naturally contaminated with Fusarium mycotoxins on performance, metabolism and immunological parameters of dairy calves. S. Korostelova* and T. Smith, University of Guelph, Guelph, Ontario, Canada.

Effect of feeding whole soybeans on hepatic gene expression in lactating dairy cows. J. D. Sampson*, R. P. Rhoads¹, R. J. Tempelman², S. S. Sipkovsky³, P. M. Coussens², M. C. Lucy¹, J. N. Spain¹, and D. E. Spiers¹, ¹University of Missouri, Columbia, ²Michigan State University, East Lansing.

Effects of feeding Ascophyllum nodosum to large and small dairy cows during summer months in central Arkansas. D. W. Kellogg*, J. A. Pennington, Z. B. Johnson¹, K. S. Anscheck¹, D. P. Colling¹, and A. B. Johnson², ¹University of Arkansas, Fayetteville, ²University of Arkansas, Little Rock, ³Acadian AgriTech, Dartmouth, Nova Scotia, Canada, ⁴Bio-Ingenuity, LLC, Chanhassen, MN.

Effects of feeding adsorbents on lactating dairy cows hematology and milk yield during summer. F. Abeni, L. Migliorati, F. Calza, and G. Pirlo*, CRA Istituto Sperimentale per la Zootecnia, Cremona, Italy.

Effects of dietary antioxidant plant extracts on udder health and milk quality. T. Doriana*, G. Sara, M. Marina, and B. Valerio, University of Milan, Milan, Italy.


M209 Feeding a high energy diet on a restricted basis during the dry period does not negatively affect postpartum milk yield or dry matter intake. L. A. Winkelman* and C. K. Reynolds, The Ohio State University, Columbus.

M210 Systemic metabolic and endocrine changes and net portal flux in dairy cows fed a fat-based diet (FBD) compared to a starch-based diet (SBD). H. M. Hammon*, C. C. Metges1, F. Becker1, O. Bellmann1, F. Schneider1, P. Junghans1, P. Dubreuil2, M. C. Thivierge3, and H. Lapière4, 1Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany, 2University of Montreal, St-Hyacinthe, QC, Canada, 3Département des sciences animales, Université Laval, Québec, QC, Canada, 4Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada.


M212 Plasma aflatoxin concentrations over time in bolus fed lactating dairy cows. M. Moschini1, F. Mosoero1, D. E. Diaz2, A. Gallo1, A. Pietri1, and G. Piva*, 1Catholic University of Piacenza, Piacenza, Italy, 2Utah State University, Logan, UT.

M213 Milk production as a function of nutrient supply follows a Michaelis-Menten relationship. J. J. O. Pimentel*1,3, R. P. Lana1,2, B. Zamperline1, M. F. Paulino1,2, S. C. Valadares Filho1,2, R. M. A. Teixeira1,2, and D. C. Abreu1,2, 1Universidade Federal de Viçosa, Viçosa, MG, Brazil, 2CNPq, Brasília, DF, Brazil, 3FAPEMIG, Belo Horizonte, MG, Brazil.

M214 Physiological responses to heat stress in steers following ruminal administration of ground endophyte-infected tall fescue seed. L. E. Wax*, G. Rottinghaus, and D. E. Spiers, University of Missouri, Columbia.

M215 Assessment of blended sorbitol and mannitol as a prepartum glucogenic supplement for periparturient dairy cows. J. W. McFadden*, S. S. Block1, and J. K. Drackley1, 1University of Illinois, Urbana, 2ADM Alliance Nutrition, Inc., Decatur, IN.

Ruminant Nutrition
Nitrogen Metabolism/Amino Acids - Dairy

Exhibit Hall A

Abstract #

M216 Effects of the isopropylester of the hydroxylated analogue of methionine (HMBi) on production performance of dairy cows in early lactation. S. Jurjanz*, J. C. Robert1, and F. Laurent, 1INRA-ENSAIA, Laboratoire de Sciences Animales, Vandoeuvre, France, 2Adisseo France SAS, Commentry, France.


M218 The effect of various rumen protected methionine sources on milk yield, milk composition and nitrogen efficiency of cows in mid-lactation. J. A. Strzelski1, J. Kowalczyk2, and W. Heinbeck*, 1National Research Institute of Animal Production, Balice, Poland, 2The Kielanowski Institute of Animal Physiology and Nutrition, Jablonna, Poland, 3Degussa AG, Hanau, Germany.

M219 Milk composition as technique to evaluate the relative bio-availability of rumen protected methionine sources. Z. Bester, L. J. Erasmus*, and R. J. Coertze, University of Pretoria, Pretoria, South Africa.


M221 Milk production and carry-over effects of methionine supplements in lactating dairy cows. H. F. Bucholtz*, R. A. Patton2, J. S. Liesman1, P. N. Naas1, and M. J. Stevenson1, 1Michigan State University, East Lansing, 2Nittany Dairy Nutrition, Inc., Mifflinburg, PA, 3Michigan State University Upper Peninsula Experiment Station, Chatham, 4Degussa Corporation, Kennesaw, GA.

M222 Plasma lysine irreversible loss rate to determine the effect of treatment of soybean meal on lysine availability in dairy cattle. S. I. Borucki Castro*, H. Lapière2, L. E. Phillip1, P. Jardon3, and R. Berthiaume*, 1McGill University, Ste Anne de Bellevue QC, Canada, 2Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Lennoxville QC, Canada, 3West Central, Ralston IA.

M223 Effect of post-ruminal supplementation of amino acids on production performance of lactating dairy cows. T. Whyte*, A. Hayirli1, H. Lapière2, and L. Doepel1, 1University of Alberta, Edmonton, AB, Canada, 2Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada.

M224 Metabolizable essential amino acids in mature ewes fed limited amounts of beet pulp. B. W. Hess*, P. W. Nathanielsz2, and S. P. Ford3, 1University of Wyoming, Laramie, 2University of Texas Health Sciences Center, San Antonio.
Metabolizable essential amino acids in mature ewes fed limited amounts of beet pulp and supplementary ruminally undegradable protein. B. W. Hess*, P. W. Nathanielsz², and S. P. Ford¹, ¹University of Wyoming, Laramie, ²University of Texas Health Sciences Center, San Antonio, TX.


Milk odd and branched chain fatty acids in relation to rumen protein digestion. T. Van Nespen¹, W. van Straalen², and V. Fievez*, ¹Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Melle, Belgium, ²Schothorst Feed Research, Lelystad, The Netherlands.


Effect of RDP source on ruminal digestion in lactating dairy cows. S. M. Reynal*, G. A. Broderick, and J. Leibovich, US Dairy Forage Research Center, Madison, WI.

Effects of replacement of animal protein with soy protein in lactating Holstein cows. A. García¹, P. W. Jardon², and R. A. Patton³, ¹Instituto Tecnologico y de Estudios Superiores de Monterrey, Queretaro, Mexico, ²West Central,Ralston, IA, ³Nittany Dairy Nutrition, Inc., Mifflinburg, PA.

Effect of dietary protein levels on milk production and nitrogen efficiency in dairy cattle. M. Baik*, J. R. Aschenbach², M. J. VandeHaar³, and J. S. Liesman¹, ¹Chonnam National University, Gwangju, South Korea, ²Institute of Veterinary Physiology Leipzig University, Leipzig, Germany, ³Michigan State University, East Lansing.

Optimal nutrient intake and digestion for ruminal microbial protein and milk yields in lactating dairy cows. S. M. Reynal* and G. A. Broderick, US Dairy Forage Research Center, Madison, WI.

Effect of dietary energy and protein level on dry matter intake, body weight changes and milk yield of Holstein cows in transition period. R. Lopez*, D. Gomez-Perez¹, J. G. Garcia-Muniz¹, G. D. Mendoza², and A. Lara³, ¹Universidad Autonoma Chapingo, Chapingo, Estado de Mexico, Mexico, ²Colegio de Postgraduados, Montecillo, Texcoco, Edo. de Mexico, Mexico, ³Cooperativa Agropecuaria y Forestal Chapingo S. C. de R. L., Chapingo, Edo. de México, Mexico.

**Ruminant Nutrition**

**Non-fibrous Carbohydrate & By-Product Feedstuffs**

**Exhibit Hall A**

Altering structural to non-structural carbohydrate ratio in the diet of transition dairy cows grazing pasture did not affect subsequent health or production. J. R. Roche*, Deccel, Hamilton, New Zealand.

The feeding value of corn distillers solubles for lactating dairy cows. A. K. Sasikala-Appukuttan*¹, D. J. Schingoethe¹, and A. R. Hippen¹, ¹University of Idaho, Caldwell.

Effect of feeding wet pressed beet pulp on milk yield of dairy cows. J. C. Dalton*, N. Rimbeyl, B. Shafii², W. J. Price², M. A. McGuire², D. Costesso¹, and J. Stewart¹, ¹University of Idaho, Caldwell, ²University of Idaho, Moscow, ³Amalgamated Sugar, LLC, Ogden, UT, ⁴Stewart Farms, Inc., Nampa, ID.


Effect of extent of barley grain processing on productivity of lactating dairy cows varying in milk yield and days in milk. G. McGregor¹, M. Dehghan-banadaky¹, R. Corbett², and M. Oba*, ¹University of Alberta, Edmonton, Alberta, Canada, ²Alberta Agriculture Food and Rural Development, Edmonton, Alberta, Canada.

Effect of dietary wheat on dairy cow performance is not influenced by the addition of rumen buffers. L. Doepel* and A. Cox, University of Alberta, Edmonton, Alberta, Canada.


Performance and blood metabolites of growing hairy sheep fed sorghum diets with urea and dried citrus pulp. H. Morales-Treviño, J. González-Rodríguez, E. Gutiérrez-Ornelas*, H. Bernal-Barragán, and J. Colín-Negrete, Facultad de Agronomía, Universidad Autónoma de Nuevo León, Carretera Ziauza-Marín Km 17.5, Marín, Nuevo León, México.
Effect of partial replacement of forage NDF with byproduct NDF in close-up diets of dairy cattle on periparturient metabolism and performance. H. M. Dann1, R. J. Grant1, C. S. Ballard1, M. P. Carter1, K. W. Cotanch1, H. M. Wolford1, J. W. Darrah1, S. A. Flis1, C. T. Hill1, and T. Takano2. 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.

Effect of soybean hull supplementation frequency on the performance of steers grazing fall cool-season pastures with clover. R. L. Mills1, J. C. Waller1, and C. J. Richards2. 1The University of Tennessee, Knoxville, 2Oklahoma State University, Stillwater.

Application of advanced Synchrotron-based analytical technique (SR-FTIR) to feed science and ruminant nutrition. P. Yu*, University of Saskatchewan, Saskatoon, Canada.

Effect of T-2 toxin on growth of ruminal bacteria in batch culture. D. Srichana1,2, G. E. Rottinghaus1, P. Srichana1,3, J. H. Porter1, M. S. Kerley1, and J. N. Spain1. 1University of Missouri, Columbia, 2Thammasat University, Phathumthani, Thailand, 3Charoen Pokphand Group Co., Ltd., Bangkok, Thailand.

Lactobacillus acidophilus isolated from cattle with potential to improve starch utilization. L. D. Early*, J. A. Nangle, and S. E. Gilliland, Oklahoma State University, Stillwater.

Evaluation of rumen microbial fluctuations in response to sub acute rumen acidosis using 16S rDNA profiles. H. Purvis II1, S. Fernando1, K. Rutz1, F. Najar2, B. Roe2, and U. DeSilva1. 1Oklahoma State University, Stillwater, 2University of Oklahoma, Norman.

The negative effects of one cycle of eight hours at suboptimal pH on rumen fermentation are not reduced by splitting it into various cycles. M. Cerrato, S. Calsamiglia*, and A. Ferret, Universitat Autonoma de Barcelona, Bellaterra, Spain.

Effect of the magnitude of the decrease of rumen pH and its fluctuations on rumen microbial fermentation. M. Cerrato, S. Calsamiglia*, and A. Ferret, Universitat Autonoma de Barcelona, Bellaterra, Spain.

Conservation of fermentation energy and control of the VFA profile in the rumen. E. M. Ungerfeld* and R. A. Kohn, University of Maryland, College Park.

Buffer pH and clarified ruminal liquid effects on stability of an exogenous fibrolytic enzyme. E. Meraz-Romero1, S. S. González*, G. Mendoza-Martinez2, O. Loera-Corral1, M. Meneses-Mayo1, M. Cobos-Peralta1, and J. Avellaneda-Cevallos4. 1Colegio de Postgraduados, Montecillo, Edo. de México, Mexico, 2UAM-Xochimilco, México D.F., México, 3UAM-Iztapalapa, México D.F., México, 4Universidad Técnica Estatal de Quevedo, Quevedo, Ecuador.

In vitro fermentative characteristics of tropical grasses supplemented with tree/shrub forage. E. González*1,2, O. Cáceres1, E. Albanell2, G. Caja1, and J. Arece1. 1Estación Experimental de Pastos y Forrajes, Matanzas, Cuba, 2Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.

Microbial yield and fiber digestion from sucrose, starch, pectin and bermudagrass fiber fermentation. L. Holtshausen*, and M. B. Hall2. 1Stellenbosch University, Stellenbosch, South Africa, 2USDA-ARS, Madison, WI.


The effects of feeding grains naturally-contaminated with Fusarium mycotoxins to gestating and lactating sows on metabolism and reproduction and the efficacy of a polymeric glucomannan adsorbent in preventing those effects. G. Diaz-Llano* and T. K. Smith, University of Guelph, Ontario, Canada.


Use of a ground raw soybean diet to enhance reproductive efficiency in gilts. D. Sykes*, S. Couvillion, P. Gerard, M. Crenshaw, and P. Ryan, Mississippi State University, Mississippi State.

Ruminant Nutrition

Exhibit Hall A

Swine Species

Exhibit Hall A

M261  Effect of the consistency of collection frequency on semen quality of boars. W. L. Flowers* and M. C. Seal, North Carolina State University, Raleigh.

M262  Effect of group size and floor space during the growing period on the growth performance of pigs after the heaviest pigs have been removed. J. M. DeDecker*1, M. Ellis1, B. F Wolter2, and B. A. Peterson1, 1University of Illinois, Urbana, 2The Maschhoffs, Inc, Carlyle, IL.

SYMPOSIA AND ORAL SESSIONS

Animal Health I

Chair: John R., Wenz, Colorado State University

M100 G-H

Time Abstract #
9:30 AM ADSA Pioneer 21 Mineral research and metabolic diseases. H. R. Conrad, Ohio State University, Wooster.

9:45 AM 21 Application of a novel biochip for rapid detection of mastitis-causing pathogens in bulk tank milk in Taiwan.
K. H. Lee*, Y. M. Shy1, Y. T. Lin1, L. Y. Liu2, S. J. Lee2, C. L. Chang1, M. C. Wu1, and C. H. Chi1, I Hsinchu Branch, COA-LRI, Hsinchu, Taiwan, R.O.C., 2Biochip Biotechnology Inc., Chu-Nan, Taiwan, R.O.C., 3University of Taiwan, Taipei, Taiwan, R.O.C.

10:00 AM 22 Relationship of intramammary infection prevalence with somatic cell score in commercial herds. R. L. Bamber*, G. E. Shook1, G. J. Bennett1, Y. H. Schukken1, and P. L. Ruegg1, University of Wisconsin, Madison, 2Cornell University, Ithaca, NY.


10:30 AM 24 Effect of winter housing on cow dirt score, somatic cell score and mastitis incidence in dairy cows. K. O’Driscoll1,2, L. Boyle1, P. French1, B. Meaney1, and A. Hanlon2, 1Dairy Production Research Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, 2School of Agriculture, Food Science and Veterinary Medicine, NUI Dublin, Belfield, Dublin 4, Ireland.


11:00 AM 26 Antimicrobial susceptibility patterns and trends in resistance development in bacteria isolated from milk, 2000-2004. P. J. Rajala-Schultz*1 and B. C. Love2, 1The Ohio State University, Columbus, 2Penn State University, University Park.

11:15 AM 27 Neutrophil extracellular trap formation: An important neutrophil killing mechanism that is not inhibited by milk. J. Lippolis*, T. Reinhardt, J. Goff, and R. Horst, National Animal Disease Center /ARS/USDA, Ames, IA.

11:30 AM 28 Hepatic ApoB100 and ApoE mRNA in periparturient dairy cows. U. Bernabucci1, B. Ronchi1, L. Basiricò1, D. Pirazzi1, F. Rueca1, N. Lacetera1, E. Leprì2, and A. Nardone1, 1DiPA, Università della Tuscia, Viterbo, Italy, 2Veterinary Medicine, Università di Perugia, Perugia, Italy.

11:45 AM 29 Effect of isoflupredone acetate with or without long acting insulin on postpartum energy metabolism in lactating dairy cows. H. Seifi1, S. LeBlanc2, K. Leslie*1, and T. Duffield1, 1School of Veterinary Medicine, Ferdowsi University of Mashhad, Iran, 2Ontario Veterinary College, University of Guelph, Canada.

12:00 PM 30 Use of rectal temperature monitoring to identify post-partum metritis in dairy cattle. J. R. Wenz*, S. M. Scott, S. E. Dobberstein, and W. Wailes, Colorado State University, Fort Collins.

Breeding and Genetics

Statistical Breeding

Chair: Michael MacNeil, USDA-ARS

L100 J

Time  Abstract #  Title and Details
9:30 AM  32  A computer program for detecting additive, dominance, imprinting, sex-influenced and the overall QTL effects. Y. Duan, J. Garbe, N. London, and Y. Da*, University of Minnesota, St. Paul.
9:45 AM  33  A mixed model approach to map QTL controlling complex binary disease traits and interacting with environments. Y. Li and H. N. Kadarmideen*, Statistical Animal Genetics Group, Swiss Federal Institute of Technology, ETH Zentrum, Zürich, Switzerland.
10:00 AM  34  A comparison of sire and animal model genetic parameter estimates from herds with high and low within-herd heritabilities. C. D. Dechow* and H. D. Norman*, Pennsylvania State University, University Park, Virginia Polytechnic Institute and State University, Blacksburg, Animal Improvement Programs Laboratory, USDA, Beltsville, MD.
10:15 AM  35  Modeling extended lactations in Holsteins. C. M. B. Dematawewa*, R. E. Pearson, and P. M. VanRaden, Virginia Polytechnic Institute and State University, Blacksburg, Animal Improvement Programs Laboratory, Agricultural Research Services, USDA, Beltsville, MD.
10:30 AM  36  Improving stability and reliability of test day model evaluation in the Italian Holstein. F. Canavesi*, S. Biffani, and F. Biscarini, Associazione Nazionale Allevatori Frisona Italiana, Cremona, Italy.
10:45 AM  Break
11:00 AM  37  Use of phenotypic information to ascertain paternity. R. L. Sapp*, R. Rekaya, W. Zhang, and J. K. Bertrand, University of Georgia, Athens.
11:30 AM  39  The combination of genetic test information and phenotypic records for the prediction of breeding values. M. L. Spangler*, R. Rekaya, and J. K. Bertrand, University of Georgia, Athens.
11:45 AM  40  Genetic evaluations for mixed breed populations. P. M. VanRaden*, M. E. Tooker, J. B. Cole, G. R. Wiggans, and J. H. Megonigal, Jr., Animal Improvement Programs Laboratory, USDA, Beltsville, MD.
12:15 PM  42  Use of Principal Components and Factor Analysis to factorize genetic correlation matrices of multivariate phenotypes. N. P. P. Macciotta*, N. Bacciu, C. Dimauro, and A. Cappio-Borlino, Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italy.

SYMPOSIUM

Food Safety

Ruminants as Reservoirs for Shiga Toxin-Producing Escherichia coli

Chair: Bhushan Jayarao, Pennsylvania State University

Symposium meets AAVSB’S RACE requirement for 3 hr CE.

200 B-C

Time  Abstract #  Title and Details
9:35 AM  43  Shiga toxin-producing Escherichia coli: The big picture. C. L. Gyles*, University of Guelph, Guelph, Ontario, Canada.
11:05 AM  45  Pre-harvest control of Escherichia coli O157. J. T. LeJeune* and A. N. Wetzel, The Ohio State University, Wooster.
11:50 AM  Discussion
Forages and Pastures  
Quality and Antiquality  
Chair: Sam Coleman, USDA ARS, Brooksville, FL  
101 D-E

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<td>9:30 AM</td>
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<td>11:00 AM</td>
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<td>12:00 PM</td>
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<td>12:15 PM</td>
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The biochemistry of tannins: Role in ruminant production. J. Foster*, USDA, ARS, Appalachian Farming Systems Research Center, Beaver, WV.

Polyphenols and mechanical maceration shift protein fractions in legume hays from rapidly to slowly degraded forms. J. H. Grabber*, USDA-Agricultural Research Service, US Dairy Forage Research Center, Madison, WI.

Lipolysis of red clover with differing polyphenol oxidase activities in batch culture. M. R. F. Lee*, L. J. Parfitt, and F. R. Minchin, 1Institute of Grassland and Environmental Research, Aberystwyth, Ceredigion, UK, 2Institute of Rural Studies, University of Wales, Aberystwyth, Ceredigion, UK.


Differences in morphological and cell wall traits of alfalfa plants selected for divergent stem in vitro fiber digestibility. H. G. Jung* and J. S. F. Lamb, USDA-ARS, St. Paul, MN.

SYMPOSIUM  
Goat Species  
Potential of Goats as Biological Agents to Produce Meat, Control Vegetation and Restore Land  
Chair: Maximino Huerta Bravo, University of Chappingo, Mexico  
M100 D-E

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<td>9:30 AM</td>
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<td>11:00 AM</td>
<td>59</td>
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<td>11:30 AM</td>
<td>Discussion</td>
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Meat goat industry, an emerging animal-agriculture enterprise in the U.S. S. Solaiman*, Tuskegee University, Tuskegee, AL.

Nutritional quality assessment of browse for goats. W. Pittroff*, University of California, Davis.

Vegetation control using goats. S. Hart*, Langston University, Langston, OK.

Utilization of goats for rejuvenation, reclamtion and land cleaning. A. Peischel*, Tennessee State University, Nashville.

Discussion. M. Bravo, University of Chappingo, Mexico.
Graduate Student Paper Competition
Northeastern ASAS/ADSA Graduate Competition
Chair: Steven Zinn, University of Connecticut
101 F-G

Time  Abstract #  Title and Authors

9:30 AM  60  Milk production of dairy cows fed diets constant or varied in phosphorus content during lactation. J. Elizondo*, D. Beegle1, J. Fergusson2, and Z. Wu1, 1Pennsylvania State University, University Park, 2University of Pennsylvania, Kennett Square.


62  Withdrawn by author.

10:00 AM  63  Accelerated calf growth: When does it make sense? D. Berthiaume* and J. Smith, University of Vermont, Burlington.

Graduate Student Paper Competition
National ADSA Foods Division
Chair: David McCoy, Chr. Hansen
200 D-E

Time  Abstract #  Title and Authors

9:30 AM  64  Fatty acid composition and thermal properties of lipid from milk and butter from lactating Holstein cows fed a supplemental lipid either high or low in palmitic acid. M. K. Beam*, L. W. Lassonde1, B. C. Velti1, S. J. Taylor1, R. Jimenez-Flores2, and E. J. DePeters1, 1University of California, Davis, 2California Polytechnic State University, San Luis Obispo.

9:45 AM  65  Influence of fatty acid chain length and unsaturation on mid-infrared milk analysis. K. Kaylegian* and D. Barbano, Cornell University, Ithaca.

10:00 AM  66  Binding of flavor compounds to native and denatured whey protein using headspace solid-phase microextraction. J. Kühn*1,2, T. Considine1, and H. Singh1, 1Riddet Centre, Palmerston North, New Zealand, 2Institute of Food, Nutrition, and Human Health, Palmerston North, New Zealand, 3Fonterra Research Centre, Palmerston North, New Zealand.

10:15 AM  67  Improving the texture of nonfat processed cheese for use in baking applications. C. A. Brickley*, S. Govindasamy-Lucey1, J. J. Jaeggi1, M. E. Johnson1, P. L. H. McSweeney1, and J. A. Lucey2, 1University College Cork, Cork, Ireland, 2University of Wisconsin, Madison, 3Wisconsin Center for Dairy Research, Madison, WI.


10:45 AM  69  Break

11:00 AM  70  Improving texture and flavor of reduced fat Cheddar cheese using an exopolysaccharide-producing culture and ultrafiltration. P. Agrawal* and A. N. Hassan, South Dakota State University, Brookings.


11:30 AM  72  Growth and enterotoxin production by Staphylococcus aureus in milk. N. M. Kauffman* and R. F. Roberts, The Pennsylvania State University, University Park.

11:45 AM  72  Development of a novel immunoassay system for immunobiotics that modulate intestinal immunity through Toll-like receptor 2. M. Tohno*, T. Shimosato, Y. Kawai, T. Saito, and H. Kitazawa, Graduate School of Agricultural Science, Tohoku University, Sendai, Japan.
Graduate Student Paper Competition  
National ADSA Dairy Production Division  
Chair: Zhiguo Wu, Pennsylvania State University  

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<th>Time</th>
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<tr>
<td>10:00 AM</td>
<td>75</td>
<td>Suppressor of cytokine signaling-2 mRNA increases after calving in dairy cows and is associated with elevated estradiol-17B concentrations before calving.</td>
<td>L. A. Winkelman*, M. C. Lucy, and C. K. Reynolds, The Ohio State University, Columbus.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>76</td>
<td>Effects of dietary allocation of barley grains differing in expected starch digestion on rumen fermentation and productivity of lactating dairy cows.</td>
<td>C. Silveira*, M. Oba, W. Z. Yang, and K. A. Beauchemin, University of Alberta, Edmonton, AB, Canada, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.</td>
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<td>10:30 AM</td>
<td>77</td>
<td>Characterization of cytokine gene expression in periparturient dairy cows naturally infected with Mycobacterium avium subsp. paratuberculosis.</td>
<td>E. L. Williams* and J. R. Stabel, USDA-ARS-National Animal Disease Center, Ames, IA.</td>
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<td>10:45 AM</td>
<td>78</td>
<td>Response in diurnal variation of circulating blood metabolites to nocturnal vs. diurnal provision of fresh feed in lactating cows.</td>
<td>A. Nikkhah*, J. C. Plaizier, C. Furedi, and A. D. Kennedy, University of Manitoba, Winnipeg, MB, Canada.</td>
</tr>
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<td>11:00 AM</td>
<td>79</td>
<td>Assessment of the effects of cinnamon leaf oil on rumen microbial fermentation using two continuous culture systems.</td>
<td>G. R. Fraser*, A. V. Chaves, T. A. McAllister, K. A. Beauchemin, and C. Benehaar, Nova Scotia Agricultural College, Truro, NS, Canada, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.</td>
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<td>11:15 AM</td>
<td>80</td>
<td>Feed peas can successfully replace soybean meal and corn grain in dairy cow diets.</td>
<td>M. Vander Pol* and A. N. Hristov, University of Idaho, Moscow.</td>
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Meat Science and Muscle Biology  
Chair: Floyd McKeith, University of Illinois  

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<td>9:30 AM</td>
<td>83</td>
<td>Dose titration of ractopamine evaluating the effects on carcass cutout yields in feedlot steers.</td>
<td>A. Schroeder*, D. Hancock, D. Mowrey, S. Laudert, G. Vogel, D. Polser, and F. McKeith, Elanco Animal Health, Greenfield, IN, University of Illinois, Urbana.</td>
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<td>10:00 AM</td>
<td>84</td>
<td>Selection for improvement in pig growth rate does not alter fresh pork quality.</td>
<td>C. E. Wagner*, E. Huff-Lonergan, M. F. Rothschild, A. A. Sosnicki, S. B. Jungst, K. J. Prusa, and S. M. Lonergan, Iowa State University, Ames, PIC North America, Franklin, KY.</td>
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</table>
Associations between animal, transportation, and slaughterhouse practices and meat pH in beef. N. Mach*1, M. Devant1, A. Bach1,2, and A. Velarde1, 1Unitat Remugants, IRTA, Barcelona, Spain, 2ICREA, Barcelona, Spain, 3Centre de Tecnologia de la Carn, IRTA, Spain.

The role of integrin and desmin in water-holding capacity in pork. W. Zhang*, E. Huff-Lonergan, and S. Lonergan, Iowa State University, Ames.

Impacts of beef cattle diets containing corn or sorghum distillers grains on beef color, fatty acid profiles, and sensory attributes. R. K. Gill*1, D. L. VanOverbeke2, and A. DiCostanzo1, 1University of Minnesota, St. Paul, 2Oklahoma State University, Stillwater.

Solution enhancement and post-enhancement storage effects on the quality, sensory and retail display characteristics of beef triceps brachii muscles. C. W. Rowe*3, R. T. Baublits1, A. H. Brown, Jr.1, F. W. Pohlman1, E. J. Yancey2, Z. B. Johnson1, and P. Dias-Morse1, 1University of Arkansas, Fayetteville, 2Tyson Foods, Inc., Rogers, AR.

Dietary high-tannin sorghum reduces oxidation in rat muscles. R. Larraín* and J. Reed, University of Wisconsin, Madison.

Intramuscular administration of zinc metallothionein to preslaughter-stressed pigs improves anti-oxidative function and pork quality. L. L. Li1, Z. P. Hou1, Y. H. Liu2, D. X. Hou1, B. Zhang2, G. Y. Wu1, C. B. Yang1, X. J. Yang1, Z. R. Tang1, Y. L. Yin*1, and M. Z. Fan1, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, 2Hunan Agricultural University, Changsha, Hunan, P.R. China, 3Kagoshima University, Kagoshima, Japan, 4Texas A&M University, College Station, 5University of Guelph, Guelph, Ontario, Canada.

Nonruminant Nutrition
Nursery Nutrition - Swine

Chair: Chris Knight, Novus International, Inc. and Mike Rincker, Distributors Processing, Inc.

L100 H-I

Time Abstract #

9:45 AM 94 Additivity of effects of copper and zinc in diets for weaned piglets on a commercial farm. V. G. Perez-Mendoza*1, M. U. Steidinger1, G. R. Hollis1, T. M. Fakler3, and J. E. Pettigrew1, 1University of Illinois, Urbana-Champaign, 2Swine Nutrition Services Inc, Anchor, IL, 3Zinpro Corporation, Eden Prairie, MN.

10:00 AM 95 Importance of vitamin B12 enterohepatic cycle in growing pigs. D. P. Prévèraud*1,2, C. L. Girard1, F. Guay2, N. L. Li1, Z. P. Hou1, Y. H. Liu2, D. X. Hou1, B. Zhang2, G. Y. Wu1, C. B. Yang1, X. J. Yang1, Z. R. Tang1, Y. L. Yin*1, and M. Z. Fan1, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, 2Hunan Agricultural University, Changsha, Hunan, P.R. China, 3Kagoshima University, Kagoshima, Japan, 4Texas A&M University, College Station, 5University of Guelph, Guelph, Ontario, Canada.

10:15 AM 96 Bioavailability of dietary cyanoctobalamin (vitamin B12) in growing pigs. J. J. Matte*1, D. P. Prévèraud1,2, F. Guay2, N. L. Li1, Z. P. Hou1, Y. H. Liu2, D. X. Hou1, B. Zhang2, G. Y. Wu1, C. B. Yang1, X. J. Yang1, Z. R. Tang1, Y. L. Yin*1, and M. Z. Fan1, 1Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, 2Hunan Agricultural University, Changsha, Hunan, P.R. China, 3Kagoshima University, Kagoshima, Japan, 4Texas A&M University, College Station, 5University of Guelph, Guelph, Ontario, Canada.


11:00 AM 99 Break


11:30 AM 101 Effects of soybean meal concentration on growth performance of nursery pigs fed simple and complex diets. P. M. Clark*, J. D. Hancock, K. C. Behnke, and A. C. Fahrenholz, Kansas State University, Manhattan.

Monday, JULY 10, 2006 ORAL SESSIONS


12:15 PM 103  Prediction of the proximate content of homogenized whole Pacific Herring (Clupea pallasi) using near-infrared reflectance spectroscopy (NIRs). C. Morishige1, J. R. Carpenter*1, and B. Rasco2, 1University of Hawaii at Manoa, Honolulu, 2Washington State University, Pullman.

12:30 PM 104  Catabolism of essential amino acids in enterocytes of growing pigs. L. .X. Chen*1,2, Y. L. Yin1, W. S. Jobgen2, D. A. Knabe1, and G. Wu1,2, 1The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, 2Texas A&M University, College Station.

**SYMPOSIUM**

**Physiology and Endocrinology**

**Metabolic Regulation of Food Intake**

Chair: Tom Adams, University of California

Symposium meets AAVSB’s RACE requirement for 3 hr CE.

L100 A

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<td>9:30 AM</td>
<td>105</td>
<td>Hepatic energy status as a stimulus for hunger and satiety. M. Friedman*, Monell Chemical Senses Center, Philadelphia, PA.</td>
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<td>10:15 AM</td>
<td>106</td>
<td>The role of ghrelin in the regulation of energy balance in the sheep. I. Clarke*, Monash University, Melbourne, Australia.</td>
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<td>11:00 AM</td>
<td>107</td>
<td>Metabolic regulation of food intake in ruminants. M. S. Allen* and B. J. Bradford, Michigan State University, East Lansing.</td>
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<tr>
<td>11:45 AM</td>
<td>108</td>
<td>Effect of body composition on feed intake and macronutrient selection in growing pigs. M. J. Azain*, University of Georgia, Athens.</td>
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**Ruminant Nutrition**

**Growing/Finishing Nutrition - Beef**

Chair: Steven Loerch, The Ohio State University

L100 F-G

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<td>111</td>
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<td>112</td>
<td>Withdrawn by author.</td>
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<td>10:00 AM</td>
<td>113</td>
<td>Evaluation of cotton gin trash as a low-cost feedstuff for growing cattle. J. B. Kennedy* and D. L. Rankins, Jr., Auburn University, Auburn, AL.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>115</td>
<td>Assessment of energy enhanced roughage (EER) based diets for growing/finishing cattle. J. R. Carpenter*1 and B. Sporleder2, 1University of Hawaii at Manoa, Honolulu, 2Byproducts Enhancement Technologies Corporation (BETC), Fort Collins, CO.</td>
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Evaluation of feeding ractopamine (Optaflexx®) with various levels of dietary crude protein on carcass characteristics in feedlot steers. S. Sachtleben, E. Thomas, W. Platter, and A. Schroeder*, Kent Feeds, Inc., Muscatine, IA, Elanco Animal Health, Greenfield, IN.


**Ruminant Nutrition**

**Rumen Fermentation Modifiers**

Chair: Todd Callaway, USDA-ARS, Southern Plains Agriculture Research Center

101 B-C

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<td>9:45 AM</td>
<td>122</td>
<td>A modified glucomannan as a method for mitigating fescue toxicosis. II. Cattle behavior. J. D. Shockey*, S. A. Gunter, P. A. Beck, and C. A. Masino, University of Arkansas, Hope.</td>
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<td>10:00 AM</td>
<td>123</td>
<td>Effects of <em>Saccharomyces cerevisiae</em> (Sc47) on the rumen digestion, fermentation and protozoa population of bulls fed either alfalfa hay or corn silage diet. A. Nikkah* and E. Ghasemi, Tehran University, Karaj, Tehran, Iran.</td>
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<td>10:30 AM</td>
<td>125</td>
<td>Effect of CRINA RUMINANTS AF, a mixture of essential oil compounds, on finishing beef steer performance. N. Meyer*, G. Erickson, T. Klopfenstein, P. Williams, and R. Losa, University of Nebraska, Lincoln, Intervet, Millsboro, DE.</td>
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<td>11:00 AM</td>
<td>127</td>
<td>Effects of monensin on dairy cows fed diets differing in fiber source and starch concentration. A. M. Gehman*, P. J. Kononoff, B. N. Janicek, and F. Burg, University of Nebraska, Lincoln, University of Buenos Aires, Argentina.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>128</td>
<td>Effects of molasses and monensin in alfalfa hay or corn silage diets on rumen fermentation, total digestibility and milk production in holstein cows. E. R. Oelker*, C. Reveneau, and J. L. Firkins, The Ohio State University, Columbus.</td>
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</table>
Gastrointestinal metabolism and plasma concentrations of the methane-inhibitor, nitroethane, in fed steers. R. Anderson*, N. Ramlachan¹, H. Gutiérrez-Bañuelos², G. Carstens², W. Majak¹, R. McDiarmid¹, T. Callaway¹, R. Harvey¹, S. Horrocks¹, T. Edrington¹, and D. Nisbet¹, USDA/ARS, Food & Feed Safety Research Unit, College Station, TX, Texas A&M University, College Station, Agriculture & Agri-Food Canada, Kamloops Range Research Unit, Kamloops, BC, Canada.

Effects of feeding a polyclonal antibody preparation against Streptococcus bovis on rumen fermentation of heifers switched from a high forage to a high concentrate diet. M. Blanch*, S. Calsamiglia¹, N. DiLorenzo², and A. DiCostanzo², Universitat Autonoma de Barcelona, Bellaterra, Spain, University of Minnesota, St. Paul.

Graduate Student Paper Competition
ADSA Southern Branch
Chair: Bill Graves, University of Georgia
101 F-G

Time Abstract #
11:00 AM 133 Waste milk supply and pasteurizer performance on three North Carolina dairy farms. M. C. Scott*, R. E. James¹, M. L. McGilliard¹, and B. A. Hopkins², Virginia Polytechnic Institute and State University, Blacksburg, North Carolina State University, Raleigh.


11:30 AM 135 Effect of feed additives on aflatoxin in milk of dairy cows fed aflatoxin-contaminated diets. J. Stroud*, E. English¹, S. Davidson¹, B. Hopkins¹, G. Latimer², W. Hagler¹, C. Brownie¹, and L. Whitlow¹, North Carolina State University, Raleigh, Texas A&M University, College Station.


ADSA-SAD – Undergraduate Competition
Dairy Production
Chair: Cathleen C. Williams, Louisiana State University
200 H

Time Abstract #
11:00 AM 137 The use of copper sulfate to improve hoof health in dairy cattle. M. Konzelman*, Louisiana State University, Baton Rouge.


11:30 AM 139 Dairy production in south China: Challenges and opportunities. L. Schultz*, and B. Moss¹, Iowa State University, Ames, Agricultural Trade Office, U.S. Consulate General, Guangzhou, China, Auburn University, Auburn, AL.

11:45 AM 140 Methane digestion- same manure- more energy and nutrients- less odor. A. Offenheiser*, University of Kentucky, Lexington.

12:00 PM 141 Why crossbreed dairy cattle? J. Yoder*, Virginia Polytechnic Institute and State University, Blacksburg.

Women and Minority Issues in Animal Agriculture Luncheon  
Chair: Katharine Knowlton, Virginia Polytechnic Institute and State University  
200 A

Time | Abstract # | Title and Authors
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Animal Health  
Johne’s Disease  
Chair: Ken Olson, National Institute for Animal Agriculture

Symposium meets AAVSB’S RACE requirement for 3 hr CE.

M100 G-H

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<tr>
<td>2:00 PM</td>
<td>144</td>
<td>Johne’s Disease integrated program – An overview. V. Kapur*, University of Minnesota, Minneapolis.</td>
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<td>2:30 PM</td>
<td>145</td>
<td>JEI – Producer focused Johne’s information. K. E. Olson*, National Institute for Animal Agriculture, Bowling Green, KY.</td>
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<tr>
<td>2:45 PM</td>
<td>146</td>
<td>Johne’s demonstration project in Texas. M. A. Villarino1, H. M. Scott1, and E. R. Jordan*,1 Texas Cooperative Extension, Texas A &amp; M University, Dallas, 2Texas A &amp; M University, College Station.</td>
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<td>3:00 PM</td>
<td>147</td>
<td>Georgia Johne’s Disease demonstration herd. M. Pence*, University of Georgia, Athens.</td>
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<td>3:15 PM</td>
<td>148</td>
<td>Results from Minnesota Johne’s Disease demonstration herd control program. C. Ferrouillet* and S. Wells, University of Minnesota, Saint Paul.</td>
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<td>Break</td>
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<td>4:15 PM</td>
<td>151</td>
<td>The impact of Mycobacterium avium subsp paratuberculosis fecal shedding and clinical Johne’s disease on lactation performance. E. A. Raizman*1,2, J. Fetrow2, S. M. Godden2, and S. J. Wells2,1 Purdue University, West Lafayette, IN, 2University of Minnesota, St Paul.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>152</td>
<td>Identification and implications of MAP supershedders. E. Hovingh*1, R. H. Whitlock2, R. W. Sweeney2, T. Fyock2, D. R. Wolfgang2, J. Smith2, Y. H. Schukken2, and J. S. Van Kessel2,1 Pennsylvania State University, University Park, 2University of Pennsylvania, Kennett Square, 3University of Vermont, Burlington, 4Cornell University, Ithaca, NY, 5United States Department of Agriculture, Beltsville, MD.</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>153</td>
<td>Use of a Fecal PCR assay on environmental samples: Implications for detection of dairy cattle herds infected with Johne’s disease. N Cernicchiaro*1, S. J. Wells1, C. Muñoz-Zanzi1, J. Gaulke2, and C. Wees2,1 University of Minnesota, St. Paul, 2Minnesota Veterinary Diagnostic Laboratory, St. Paul, MN.</td>
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Breeding and Genetics
Dairy Breeding
Chair: Daryl Nash, Ferrum College
L100 J

Time Abstract #  
2:00 PM  ADSA Pioneer Dairy cattle breeding in the last half century. A. E. Freeman, *Iowa State University, Ames.*
2:45 PM  157 Domestic versus imported artificial-insemination semen for Holstein graziers in the United States. H. D. Norman, J. R. Wright, and R. L. Powell*, *Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.*
3:00 PM  158 Assessment of the economically optimal voluntary waiting period for first breeding in dairy cattle. A. Bell*, A. de Vries, and P. J. Hansen, *University of Florida, Gainesville.*
3:15 PM  159 Optimal breeding and replacement decisions for dairy cows when heifer supply is constrained. A. de Vries*, *University of Florida, Gainesville.*
3:30 PM  Break
3:45 PM  160 Protections available for intellectual property in the dairy artificial insemination industry. E. Ogden and K. Weigel*, *University of Wisconsin, Madison.*
4:00 PM  161 Genetic analysis of milk urea nitrogen and lactose and their relationships with production traits in Canadian Holstein cattle. F. Miglior*1,2, A. Sewalem1,2, J. Jamrozik1, D. M. Lefebvre4, and R. K. Moore4, 1*Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada, 2Canadian Dairy Network, Guelph, ON, Canada, 3Centre for the Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, 4Programme d’Analyse des Troupeaux Laitiers du Québec, Ste-Anne-de-Bellevue, QC, Canada.*
4:30 PM  163 Effects of accounting for heat stress on genetic evaluation of US Holsteins for milk by a test day model. J. Bohmanova1, I. Misztal*, S. Tsuruta1, H. D. Norman2, and T. J. Lawlor3, 1*University of Georgia, Athens, 2Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, 3Holstein Association, Brattleboro, VT.*
4:45 PM  164 Estimation of genetic parameters of test day milk yields for Holsteins in Khorasan province of Iran. J. Eslami1, H. Farhangfar*, and H. Naeemipour1, 1*Zabol University, Zabol, Iran, 2Birjand University, Birjand, Iran.*
5:00 PM  165 Studies on drops of PTA from first to second crop for final score in Holsteins. V. Koduru*, I. Misztal1, S. Tsuruta1, and T. J. Lawlor2, 1*The University of Georgia, Athens, 2Holstein Association USA Inc., Brattleboro, VT.*

Dairy Foods
Cheese I
Chair: Joe Schlesser, FDA
200 D-E

Time Abstract #  
2:00 PM  ADSA Pioneer The cheese industry over time. W. J. Harper, *Ohio State University, Columbus.*
2:15 PM  166 Textural and rheological properties of cream cheese: effect of cream mix homogenization pressure and incubation temperature. M. Brighenti*, S. Govindasamy-Lucey2, J. J. Jaeggi2, K. Lim2, M. E. Johnson3, and J. A. Lucey1, 1*University of Wisconsin, Madison, 2Wisconsin Center for Dairy Research, Madison, WI.*
2:30 PM  167 The effect of high pressure processing on the salt distribution in Turkish white cheese. N. Koca*, R. Raghupathy1, V. M. Balasubramaniam1, and W. J. Harper4, 1*The Ohio State University, Columbus, 2Ege University, Izmir, Turkey.*
2:45 PM 168 Isolation and purification of angiotensin-I-converting enzyme inhibitory peptides from Cheddar cheeses with the addition of probiotic Lactobacillus casei or L. paracasei. L. Ong1, N. Shah*, and A. Henriksson2, 1Victoria University, Werribee, Victoria, Australia, 2DSM Food Specialties, NSW, Australia.


3:15 PM Break

3:30 PM 170 Qualitative analysis of Sicilian traditional cheeses microstructure by scanning electron microscope (SEM). L. Tuminello*, M. Caccamo1, and G. Licitra1,2, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A. Catania University, Catania, Italy.

3:45 PM 171 Impact of milk lactose reduction on the chemical, textural and shredded cheese quality of mozzarella. C. Chen*, A. Bostley, J. Jaeggi, K. Lim, and M. Johnson, Wisconsin Center for Dairy Research, Madison, WI.

4:00 PM 172 Influence of salt up take and aging temperature on chemical composition and on early gas defects in raw milk pasta filata Ragusano cheese. G. Licitra*, M. Caccamo1, G. Marino1, G. Tumino1, and G. Farina1, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A. Catania University, Catania, Italy.


4:30 PM 174 Effect of total calcium content, intact casein content, and pH on the functional properties of process cheese. R. Kapoor* and L. E. Metzger, MN-SD Dairy Foods Research Center, University of Minnesota, St. Paul, MN.

**SYMPOSIUM**

**Dairy Foods**

**Political, Economic, and Scientific Considerations of Milk Component Utilization**

**Chair: Brandon Nelson, Schreiber Foods Inc.**

**Sponsor: Schreiber Foods**

**200 B-C**

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<tr>
<th>Time</th>
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<tr>
<td>2:00 PM</td>
<td>175</td>
<td>Withdrawn by author.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>176</td>
<td>The last 100 years of milk component separation. D. Barbano*, Northeast Dairy Foods Research Center, Cornell University, Ithaca, NY.</td>
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<tr>
<td>3:20 PM</td>
<td></td>
<td>What to do with lactose. C. Hansen, Utah State University, Logan.</td>
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<tr>
<td>4:00 PM</td>
<td></td>
<td>Are U.S. regulatory agencies and markets ready for true milk component utilization? M. Stephenson, Cornell University, Ithaca, NY.</td>
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<tr>
<td>4:30 PM</td>
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<td>Panel discussion</td>
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<td>5:00 PM</td>
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<td>Adjourn</td>
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Monday, JULY 10, 2006 ORAL SESSIONS
Graduate Student Paper Competition
National ADSA Production Division (con’t.)
Chair: Zhiguo Wu, Pennsylvania State University
101 H-I

Time Abstract #

2:00 PM 178 Development of a mechanistic model to understand the dynamics of liquid flow out of the reticulo-rumen in dairy cattle. S. Seo*, C. Lanzas¹, L. Tedeschi², and D. Fox¹, ¹Cornell University, Ithaca, NY, ²Texas A&M University, College Station.


2:30 PM 180 Effect of ruminally degraded protein source on microbial protein flow in Holstein cows. A. B. Peterson*, R. L. Baldwin, V. H. Bequette¹, and R. A. Kohn¹, University of Maryland, College Park, ²USDA-ARS, Beltsville, MD.


3:00 PM 182 Use of infrared thermography to non-invasively identify lesions in dairy cows. B. A. Munsell*, D. K. Beede¹, J. J. Domecq¹, W. B. Epperson¹, A. Ragavendran¹, N. T. Wright¹, and A. J. Zanella¹, Michigan State University, East Lansing, ²Ohio State University, Columbus.

3:15 PM 183 Effect of feeding soybean and linseed oils as whey protein gel composites, calcium salts or free oil on rumen fermentation, digestibility and duodenal flow of fatty acids. S. O. Juchem*, J. M. Heguy, E. J. P. Santos, M. Rosenberg, and S. J. Taylor, University of California, Davis.

Growth and Development
Chair: Mike Azain, University of Georgia and Tony Capuco, USDA
M100 D-E

Time Abstract #


185 Withdrawn by author.

2:30 PM 186 The adipogenic enzymatic activity of bovine intramuscular, perirenal, and subcutaneous cultured preadipocytes differs, and increases in all depots following exposure to dexamethasone. G. Ortiz-Colón*, A. C. Grant, M. E. Doumit, and D. D. Buskirk, Michigan State University, East Lansing, ²Ohio State University, Columbus.


3:00 PM 188 Leptin increases IGF-I-induced expression of SOCS3 mRNA in prepubertal heifer mammary parenchyma. B. E. Etchebarne*¹, L. F. P. Silva², J. S. Liesman², and M. J. VandeHaar³, Stanford University, Palo Alto, CA, ¹University of Sao Paulo, Pirassununga, SP, Brazil, ²Michigan State University, East Lansing.

3:15 PM 189 Cellular and biochemical features of skeletal muscle and subcutaneous adipose tissue in pigs differing in IGF-II genotype. D. Gardan*, I. Louveau¹, K. Van den Maagdenberg², N. Buys¹, S. De Smet², and F. Gondret¹, ¹INRA/Agrocampus Rennes, Systèmes d’Élevage. Nutrition Animale et Humaine, Saint Gilles, France, ²Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Melle, Belgium, ¹Division of Gene Technology, Department of Biosystems, K.U. Leuven, Heverlee, Belgium.
Evaluation of a mathematical model to estimate total feed required for pen-fed Santa Gertrudis steers and heifers based on performance and diet composition. B Bourg*1, L. O. Tedeschi1, G. E. Carstens1, E. Brown1, and D. G. Fox2, 1Texas A & M University, College Station, 2Cornell University, Ithaca, NY.

Using ultrasound to determine body composition of breeding heifers. M. J. Baker*1, L. O. Tedeschi2, D. G. Fox1, W. R. Henning3, and D. J. Ketchen1, 1Cornell University, Ithaca, NY, 2Texas A&M University, College Station, 3Pennsylvania State University, College Park.

Lactation Biology
Chair: Thomas McFadden, University of Vermont

101 J

Time Abstract # Title Authors
2:00 PM ADSA Pioneer What happened to lactation knowledge in the last 48 years? A. Tucker, Michigan State University, East Lansing.
2:15 PM 192 Effects of CLA on bioenergetic and milk production parameters in grazing dairy cows offered ad libitum or restricted pasture. J. K. Kay*1,2, T. R. Mackle1, D. E. Bauman3, N. A. Thomson1, and L. H. Baumgard2, 1Dexcel, Hamilton, New Zealand, 2University of Arizona, Tucson, 3Cornell University, Ithaca, NY.
3:00 PM 195 Circulating metabolites from postpartum cows supplemented with POSILAC® and given various lengths of days dry. T. Klusmeyer*, A. Fitzgerald, J. Ballam, and J. Vicini, Monsanto Co., St. Louis, MO.
3:15 PM 196 Identification of putative bovine mammary stem cells by their retention of labeled DNA strands. A. V. Capuco*, Bovine Functional Genomics Lab, USDA-ARS, Beltsville, MD.
3:45 PM 198 The tight junction (TJ) protein zonula occludens-1 (ZO-1) is down-regulated during apoptosis of rat mammary glands. C. V. C. Phyn1,2, J. M. Dobson1, C. D. McMahon3, S. R. Davis1, K. Stelwagen1, and K. Singh1, 1AgResearch Ltd., Hamilton, New Zealand, 2Dexcel Ltd., Hamilton, New Zealand, 3ViaLactia Biosciences (NZ) Ltd., Auckland, New Zealand.
4:00 PM 199 Streptococcus uberis increases apoptosis of bovine mammary epithelial cells (MEC) and decreases integrin and focal adhesion kinase (FAK) mRNA expression. K. Singh*, J. Dobson1, C. Phyn1, S. Davis2, V. Farr1, and A. Molenaar1, 1Agreserch Ltd., Ruakura Research Centre, Hamilton, New Zealand, 2ViaLactia Biosciences (NZ) Ltd., Auckland, New Zealand.

Physiology and Endocrinology
Estrous Synchronization
Chair: Pete Hansen, University of Florida

101 D-E

Time Abstract # Title Authors
2:00 PM ADSA Pioneer Reflections on past history of estrus synchronization research. W. Thatcher, University of Florida, Gainesville.
2:15 PM 200 Assessment of vaginal electrical resistance (VER) as an indicator of follicular maturity and suitability for timed AI in cows subjected to a synchronization of ovulation protocol. J. F. Zuluaga*, J. P. Saldarriaga, D. A. Cooper, J. A. Cartmill, and G. L. Williams, Texas A&M Agricultural Research Station, Beeville.
2:30 PM 201 Influence of preovulatory concentrations of estradiol on interval to ovulation and uterine pH. G. A. Perry* and B. L. Perry, South Dakota State University, Brookings.
2:45 PM 202 Optimizing ovulation to 1st GnRH improved outcomes to each hormonal injection of Ovsynch in lactating dairy cows. N. M. Bello*, J. P. Steibel, and J. R. Pursley, Michigan State University, East Lansing.
3:00 PM 203 Delaying injection of prostaglandin F₂₀ (PGF) in an Ovsynch protocol. J. S. Stevenson*, M. A. Portaluppi, and D. E. Tenhouse, Kansas State University, Manhattan.

3:30 PM  205  Effect of synchronization protocols on follicular development of dairy heifers. J. L. Stevenson*, R. C. Chebel1, J. C. Dalton1, J. E. P. Santos2, R. Sartori1, and A. Ahmadzadeh1, 1University of Idaho, Caldwell, 2University of California-Davis, Tulare, 3EMBRAPA, Brasilia, DF, Brazil, 4University of Idaho, Moscow.


4:00 PM  207  Effects of source of supplemental Se and method of presynchronization on reproduction and lactation of dairy cows. H. M. Rutigliano*, F. S. Lima1, R. L. A. Cerri1, L. F. Greco1, J. M. Vilela1, V. Magalhaes1, J. Hillegass1, W. W. Thatcher2, and J. E. P. Santos1, 1University of California Davis, Tulare, 2University of Florida, Gainesville.

4:15 PM  208  Effects of presynchronization with GnRH on conception rates and ovarian events in Bos indicus-influenced females synchronized with CO-Synch + CIDR. J. F. Zuluaga*, J. P. Saldarriaga, D. A. Cooper, J. A. Cartmill1, R. L. Stanko1,2, and G. L. Williams1, 1Texas A&M University Agricultural Research Station, Beeville, 2Texas A&M University, Kingsville.

4:30 PM  209  Effects of ovulation rate and fetal number on fertility in twin-producing cattle. S. Echternkamp*, R. Cushman, and M. Allan, USDA, ARS, US Meat Animal Research Center, Clay Center, NE.

4:45 PM  210  Factors affecting ovulatory follicle size and ovulation success to GnRH-induced ovulation in postpartum beef cows. J. A. Atkins*, T. W. Geary2, K. J. Wells3, M. C. Lucy1, and M. F. Smith1, 1University of Missouri, Columbia, 2USDA ARS Fort Keogh, Miles City, MT, 3Washington State University, Pullman.

5:00 PM  211  Progesterone concentrations after the first GnRH injection in a GnRH-based estrus synchronization protocol and AI pregnancy rates in primiparous cows exposed to bulls. J. G. Berardinelli* and S. A. Tauck, Montana State University, Bozeman.

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SYMPOSIUM
Ruminant Nutrition

Connecting Rumen Microbiology to Ruminant Nutrition: Are We There Yet?
Chair: Kenneth E. Griswold, Penn State Cooperative Extension and Bill Sanchez, Diamond V Mills, Inc.
Sponsor: West Central

Symposium meets AAVSB’S RACE requirement for 3 hr CE.

L100 A

Time  Abstract #  Title
2:00 PM  212  Ruminal nitrogen metabolism: The current microbiological outlook. M. Morrison* and Z. Yu, The Ohio State University, Columbus.
2:45 PM  213  Ruminal nitrogen metabolism: The current nutritional outlook. J. L. Firkins*, The Ohio State University, Columbus.
3:30 PM  Break
3:45 PM  214  Ruminal acidosis in beef cattle: The current microbiological outlook. T. G. Nagaraja* and E. C. Titgemeyer, Kansas State University, Manhattan.
4:30 PM  215  Ruminal acidosis in beef cattle: The current nutritional outlook. E. C. Titgemeyer* and T. G. Nagaraja, Kansas State University, Manhattan.

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<td>2:00 PM</td>
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<td>Influence of endosperm vitreousness and kernel moisture at harvest on site and extent of digestion of high moisture corn by steers. J. Szasz*, C. Hunt¹, P. Szasz¹, R. Weber², F. Owens², and W. Kezar², ¹University of Idaho, Moscow, ²Pioneer Hi-Bred International, Johnston, IA.</td>
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<tr>
<td>2:15 PM</td>
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<td>Influence of endosperm vitreousness, moisture at harvest, and microbial inoculant on chemical composition, available starch and ruminal dry matter disappearance of ensiled high moisture corn. J. Szasz*, C. Hunt¹, P. Szasz¹, R. Weber², F. Owens², and W. Kezar², ¹University of Idaho, Moscow, ²Pioneer Hi-Bred International, Johnston, IA.</td>
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<td>2:30 PM</td>
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<td>Effects of feeding steam-rolled corn in lieu of dry-rolled corn on the odor of finishing beef steer manure. S. L. Archibeque*, D. N. Miller², D. B. Parker¹, H. C. Freely¹, and C. L. Ferrell¹, ¹USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, ²USDA, ARS, Soil and Water Conservation Research Unit, Lincoln, NE, ³West Texas A&amp;M University, Canyon.</td>
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<td>2:45 PM</td>
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<td>Evaluation of dried distillers grains plus solubles compared to soybean hulls as a feedstuff for heifers during the last trimester of gestation. C. L. Engel*, H. H. Patterson, and G. A. Perry, South Dakota State University, Brookings.</td>
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<td>3:00 PM</td>
<td>220</td>
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<td>Starch and digestible fiber supplementation to orchardgrass hay based programmed gain heifer diets. R. L. Mills*, J. C. Waller¹, J. Dowlen¹, and C. J. Richards², ¹The University of Tennessee, Knoxville, ²Oklahoma State University, Stillwater.</td>
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<td>3:15 PM</td>
<td>221</td>
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<td>3:30 PM</td>
<td>222</td>
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<td>Effects of corn germ on digestibility of hay and corn. G. Kleinhaus* and R. Pritchard, South Dakota State University, Brookings.</td>
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<td>3:45 PM</td>
<td>223</td>
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<td>Corn germ from ethanol production as an energy supplement for lactating dairy cows. M. M. Abdelqader*, A. R. Hippen¹, D. J. Schingoethe¹, K. K. Kalscheur¹, K. Karges², and M. L. Gibson², ¹South Dakota State University, Brookings, ²Dakota Gold Research Association, Sioux Falls, SD.</td>
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<td>4:00 PM</td>
<td>224</td>
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<td>Effect of fatty acid treatment of different particle size of rolled corn and barley on dry matter digestion in rumen studied in-situ. G. Bustamante*¹,² and I. B. Mandell², ¹Universidad Autonoma de Ciudad Juarez, Ciudad Juarez, Chihuahua, Mexico, ²University of Guelph, Guelph, Ontario, Canada.</td>
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<td>4:15 PM</td>
<td>225</td>
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<td>Evaluating in vitro cell wall polysaccharide digestibility of high-fiber byproduct feeds and forages. J. Wakker*, H. G. Jung¹,², and J. G. Linn¹, ¹University of Minnesota, St. Paul, ²USDA-Agricultural Research Service, St. Paul, MN.</td>
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<td>4:30 PM</td>
<td>226</td>
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ADSA-SAD – Undergraduate Competition

Dairy Foods

Chair: Cathleen C. Williams, Louisiana State University

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<tr>
<td>2:00 PM</td>
<td>227</td>
<td>Effect of pasteurization on the survival of <em>Mycobacterium avium paratuberculosis</em>. A. Bush*, University of Kentucky, Lexington.</td>
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<td>2:15 PM</td>
<td>228</td>
<td>Dairy foods and reduced risk of colon cancer. A. Greenbaum*, Louisiana State University, Baton Rouge.</td>
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<tr>
<td>2:45 PM</td>
<td>230</td>
<td>The rippling effects of processor expansion: A Texas sized example. S. Brauning*, Virginia Polytechnic Institute and State University, Blacksburg.</td>
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SYMPOSIUM

Sheep Species

Application of Genomics to Sheep Production

Chair: Noelle Cockett, Utah State University

Sponsor: USDA, Agricultural Research Service, U.S. Sheep Experiment Station

101 F-G

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<tr>
<td>2:00 PM</td>
<td>231</td>
<td>Resources available for sheep genomics research. N. E. Cockett*, T. S. Hadfield, C. H. Wu, and K. Nomura, Utah State University, Logan.</td>
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<tr>
<td>2:20 PM</td>
<td>232</td>
<td>Molecular tools for sheep breeding: DNA-based markers for monogenic traits and QTL. J. E. Beever* and A. D. Markey, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>233</td>
<td>How genomics will continue to improve productivity for the New Zealand sheep sector. T. Wilson*, AgResearch, University of Otago, Dunedin, New Zealand.</td>
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<tr>
<td>4:20 PM</td>
<td>235</td>
<td>Genomic regions associated with sheep muscle and carcass traits. C. Bidwell*¹ and N. Cockett², ¹Purdue University, West Lafayette, IN, ²Utah State University, Logan.</td>
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SYMPOSIUM

Swine Species

Impact of ART in Swine Production: Current and Future

Chair: Mark Wilson, Minitube of America

Sponsors: National Pork Board, PIC, Ralco Nutrition Inc.

Symposium meets AAVSB’S RACE requirement for 3 hr CE.

L100 H-I

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<tr>
<td>2:00 PM</td>
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<td>Introduction. M. Wilson, Minitube of America, Verona, WI.</td>
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<td>2:10 PM</td>
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<td>Bureaucracy around cloning and stem cells. R. Green, National Program Leader, USDA-ARS.</td>
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<td>2:25 PM</td>
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<td>Semen sexing in swine. L. A. Johnson, ARS.</td>
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<td>ART of genetic globalization. J. Dobrinsky, Minitube of America, Verona, WI.</td>
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<td>2:55 PM</td>
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<td>An international perspective of cloning and advanced reproductive technologies. R. Campbell, Pork CRC, Willaston, SA, Australia.</td>
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</table>
The value producers see in ART and cloning. T. M. Coffey, Smithfield.

Biotechnology and production do they go together? G. Foxcroft, University of Alberta, Edmonton, Alberta.


**ADSA-SAD – Undergraduate Competition**

**Original Research**

**Chair: Cathleen C. Williams, Louisiana State University**

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<td>3:00 PM</td>
<td>236</td>
<td>Probiotic ice cream manufactured with a weight loss ingredient. M. Brown* and K. J. Aryana, Louisiana State University, Baton Rouge.</td>
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<td>3:45 PM</td>
<td>239</td>
<td>A critique of RFV: Comparing RFV to degradation parameters and proposal of an alternative model. T. J. Hackmann* and J. N. Spain, University of Missouri, Columbia.</td>
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<td>4:00 PM</td>
<td>240</td>
<td>Effects of dietary addition of unsaturated fat, vitamin E, and sorbitol on performance of dairy cows and fatty acid concentrations in milk. A. Todd*, M. L. Eastridge, C. V. D. M. Ribeiro, J. Engel, and B. Mathew, The Ohio State University, Columbus.</td>
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<td>4:15 PM</td>
<td>241</td>
<td>The effect of lactoferrin on the appearance of immunoglobulins in the peripheral blood of Holstein calves. W. Knauer* and J. M. Smith, University of Vermont, Burlington.</td>
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**SYMPOSIUM**

**Companion Animals**

**Advances in Companion Animals - BioMarkers**

**Chair: Greg Aldrich, Pet Food & Ingredient Technologies, Inc.**

**Sponsors: Nestle Purina PetCare, The Iams Company**

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<td>3:35 PM</td>
<td>244</td>
<td>Mapping QTL for osteoarthritis in dogs. R. G. Mateescu*1, N. I. Burton-Wurster1, G. Lust1, K. Tsai2, J. Phavaphutanan1, and R. J. Todhunter1, 1Cornell University, Ithaca, NY, 2Texas A&amp;M University, College Station, 1Kasetsart University, Nakhon-Pathom, Thailand.</td>
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<td>Nutritional effects on gene expression in canine tissues. K. Swanson, University of Illinois, Urbana.</td>
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<td>Break</td>
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<td>Obesity related biomarkers in companion animals. R. Yamka and K. Friesen, Hill’s Pet Nutrition, Topeka, KS.</td>
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<td>4:40 PM</td>
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<td>The future of companion animal research at land grant universities. D. L. Harmon, University of Kentucky, Lexington.</td>
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<td>Reception.</td>
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Abstract #

T1 Release of CD14 by bovine neutrophils results in down-regulation of IL-8. M. Paape*, E. Sohn1, E. Connor1, R. Fetterer1, R. Peters2, and D. Bannerman1, 1USDA-ARS, Beltsville, MD, 2University of Maryland, College Park.

T2 Assessing changes in gene expression in mammary tissue following experimental induction of Staphylococcus aureus mastitis using a cDNA microarray. J. Kelsey*, K. Bayles2, L. Fox3, and M. McGuire1, 1University of Idaho, Moscow, 2University of Nebraska Medical Center, Omaha, 3Washington State University, Pullman.

T3 High growth rate fails to enhance adaptive immune responses of neonatal calves and is associated with decreased T cell viability. M. Foote*, B. Nonnecke1, W. Waters2, D. Beitz2, M. Fowler1, T. Johnson1, and B. Miller1, 1Iowa State University, Ames, 2USDA-ARS National Animal Disease Center, Ames, IA, 3Land O’ Lakes Inc. Research Farm, Webster City, IA.

T4 Determination of endoparasites population in water buffalos (Bubalus bubalis) in Magdalena Medio, Colombia. G. A. Prada-Sanmiguel*, Universidad de La Salle, Facultad de Medicina Veterinaria, Bogotá, Distrito Capital, Colombia.

T5 Lymphocyte, neutrophil, and mineral responses to S. aureus and E. coli mastitis. H. R. Springer*, J. P. Goff2, D. D. Bannerman3, and M. J. Paape3, 1Iowa State University, Ames, 2USDA-ARS National Animal Disease Center, Ames, IA, 3Bovine Functional Genomics Laboratory, Beltsville, MD.

T6 Development of a ruminant fescue toxicosis model. S. S. Block*, P. H. Doane, and M. J. Cecava, ADM Animal Nutrition Research, Decatur, IN.

T7 The relationship of copper and zinc with hematological parameters in beef cattle. M. Soch*, P. Srejberova2, and J. Broucek3, 1University of South Bohemia, Faculty of Agriculture, Ceske Budejovice, Czech Republic, 2Czech Beef Breeders Association, Praha, Czech Republic, 3SCPV, Nitra, Slovakia.

T8 Production of bacteriocins by bacterial isolates from dairy cattle. M. A. V. P. Brito*1 and G. A. Somkuti2, 1EMBRAPA Dairy Cattle Research Center, Juiz de Fora, Brazil, 2Eastern Regional Research Center, USDA-ARS, Wyndmoor, PA.


Breeding & Genetics II

Exhibit Hall A

Abstract #

T11 The effect of inbreeding on litter size in Chicago miniature pigs. Y.-C. Jung1, S.-H. Oh*2, M. T. See3, T. E. del Rosario1, and Y.-B. Kim1, 1Jung P&C Institute, Seongnam, Gyeonggi, South Korea, 2North Carolina State University, Raleigh, 3Rosalind Franklin University of Medicine and Science/Chicago Medical School, North Chicago, IL.


T13 Carcass characteristics of different breeds on beef cattle. A. A. Souza*, L. Suguisawa, H. N. Oliveira, and A. C. Silveira, São Paulo State University, Brazil.

T14 Estimation of genetic parameters for growth traits and image analysis traits of carcass cross section in Japanese Black steers. T. Osawa*, K. Kuchida1, S. Hidaka1, and H. Tsukuda2, 1Obihiro University of A & VM, Obihiro-shi, Hokkaido, Japan, 2Livestock Improvement Association of Japan, Makubetsu-cho, Hokkaido, Japan.

T15 Genetic parameters estimation of birth weight for cashmere goat in southern Khorasan province of Iran. H. Naemipour*, H. Farhangfar, and M. R. Asghari, Birjand University, Birjand, Iran.

T16 Genetic analysis of weight records at different ages in Baluchi sheep breed of Iran. M. Mollaee1, H. Farhangfar*2, and H. Naemipour2, 1Zabol University, Zabol, Iran, 2Birjand University, Birjand, Iran.
T17  Estimation of genetic parameters for weight at different ages in Lori-Bakhtiari sheep breed of Iran. B. Zinvand1 and H. Farhangfar*, 1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran.

T18  Genetic analysis of average daily gains in Lori - Bakhtiari sheep breed of Iran using orthogonal legendre polynomials. H. Farhangfar*, H. Naeemipour1, M. Zinvand2, and M. Hosseini3, 1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran.

T19  Genetic analysis of weight records in Zel sheep breed of Iran. A. Vafadar*, H. Farhangfar2, and H. Naeemipour3, 1Zabol University, Zabol, Iran, 2Birjand University, Birjand, Iran.

T20  Correlation of DGAT1 genetic variants with fat content in the Cal Poly Herd. A. Laubscher*, S. Henderson1, J. Drackley1, J. Loor1, and H. Lewin1, 1University of Illinois, Urbana.


T22  The allele and genotype frequencies of bovine pituitary-specific transcription factor and leptin genes in Iranian cattle and buffalo populations using PCR-RFLP. A. Javanmard*, N. Asadzadeh, M. H. Banabazi, and J. Tavakolian, 1West and North-West Agriculture Biotechnology Research Institute(ABRII-T), TABRIZ, East Azarbayjan, Iran, 2Department of Animal Production and Management, Animal Science Research Institute of Iran (ASRI), Tehran, Karaj, Iran, 3Department of Biotechnology, Animal Science Research Institute of Iran (ASRI), Tehran, Karaj, Iran.

T23  Polymorphism of bovine lymphocyte antigen DRB3.2 alleles in Iranian Holstein cattle. M. Pashmi*, A. Salehi1, A. Ghorashi3, M. R. Mollasaalehi, and A. Javanamrd4, 1Department of Animal Science, University of Tehran, Aboruhan, Tehran, Iran, 2National Research Center for Genetic Engineering and Biotechnology, Tehran, Iran, 3National Animal Breeding Center, Karaj, Iran, 4North West and West Agriculture Biotechnology Research Center(ABRIO), Tabriz, Iran.

T24  Estimation of genome wide haplotype effects in half-sib designs. D. Kolbcheidari*, L. R. Schaeffer4, and J. A. B. Robinson2, 1University of Tehran, Tehran, Iran, 2University of Guelph, Guelph, Ontario, Canada.

T25  Genetic diversity in piracanjuba populations Brycon orbignyanus with the RAPD (random amplified polymorphic dna) markers. N. M. Lopera Barrero*, R. P. Ribeiro1, R. N. Sirol2, J. A. Povh1, P. Gomes1, L. Vargas1, and D. P. Streit Jr.1, 1Universidade Estadual De Maringá, Maringá, Paraná, Brazil, 2Duke Energy International, Geração Parapanema, Salto Grande, São Paulo, Brazil.

T26  Handling inbreeding and overlapping generations within QTL-mapping. G. Freyer1 and N. Vukasinovic*, 1Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany, 2Monsanto Animal AG, St. Louis, MO.


T29  Corn oil or Corn grain supplementation to forage-finished steers. IV . Effects on gene expression of lipogenic enzymes in the s.c. adipose tissue. E. Pavan*, S. Joseph1, K. Robbins1, S. Duckett1, and R. Rekaya1, 1University of Georgia, Athens, 2INTA, Balcarce, Bs. As., Arg., 3Clemson University, Clemson, SC.

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**Companion Animals**

**Nutrition & Health**

**Exhibit Hall A**

**Abstract #**

T30  Identification of canine markers related to obesity. R. Yamka* and K. Friesen, Hill's Pet Nutrition, Inc., Topeka, KS.

T31  Identification of feline markers related to obesity. R. Yamka* and K. Friesen, Hill's Pet Nutrition, Inc., Topeka, KS.

T32  Impact of age on gene expression profiles of canine brain tissue. K. Swanson*, C. Apanavicuus, B. Vester, and N. Kirby, University of Illinois, Urbana.

T33  Age impacts skeletal muscle gene expression profiles of young adult and geriatric dogs fed either an animal- or plant-protein based diet. L. Karr-Lilienthal*, C. Apanavicuus, B. Vester, and K. Swanson, University of Illinois, Urbana.

T34  Diet impacts colonic gene expression profiles of young adult and geriatric dogs fed either an animal- or plant-protein based diet. B. Vester*, C. Apanavicuus, L. Karr-Lilienthal, and K. Swanson, University of Illinois, Urbana.


T36  Comparison of yeast culture and brewers dried yeast as palatability enhancers in dry cat food. J. W. Jones*, B. Leiner1, and H. M. Sullivan1, 1Western Yeast Company, Chillicothe, IL, 2New Mexico State University, Las Cruces.
Dairy Foods

Chemistry and Microbiology

Exhibit Hall A

T37 Characterization of strains of Lactobacillus reuteri as potential probiotics for dogs. S. McCoy* and S. E. Gilliland, Oklahoma State University, Stillwater.


T42 The impact of B-glucan on the stability of model dairy protein dispersions. J. E. Bock, K. A. Schmidt*, and G. E. Milliken, Kansas State University, Manhattan.

T43 The stability of a functional dairy based beverage. K. A. Schmidt*, Kansas State University, Manhattan.


T48 Impact of trisodium citrate on rheology and microstructure of yogurt. T. Ozcan Yilsay*, W. J. Lee, and J. A. Lucey, Uludag University, Bursa, Turkey, University of Wisconsin, Madison.

T49 Identification of off-flavor compounds in Whey protein concentrate using head space solid phase microextraction-gas chromatography-ofactometry -mass spectrometry. I. Javidipour and M. Qian*, Oregon State University, Corvallis.

T50 Off-flavor development of whey protein concentrate during storage investigated by headspace solid-phase microextraction-gas chromatography. I. Javidipour and M. Qian*, Oregon State University, Corvallis.

T51 Differentiation of cheese sauces made with different starches and evaluation of the effect of starch type on flavor loss using FTIR spectroscopy. M. C. M. Soledad*, C. J. Kuo, L. E. Rodriguez-Saona, and W. J. Harper, The Ohio State University, Columbus.

T52 Validation of ED-XRF as a reliable method for determining the mineral composition of skim milk powders. S. Uson*, C. Immoos, and R. Jimenez-Flores, California Polytechnic State University, San Luis Obispo.


T54 Evaluation of chemical properties and consumer perception of fluid milk from conventional and pasture-based production systems. A. E. Croissant*, L. Dean, S. Washburn, and M. A. Drake, North Carolina State University, Raleigh, USDA-ARS, Raleigh, NC.
Heat stability of skim milk powder. M. Faka*1, M. J. Lewis1, A. S. Grandison1, and H. Deeth2, 1University of Reading, Reading, United Kingdom, 2University of Queensland, Brisbane, Qld, Australia.

Quantification of fructooligosaccharides in infant formula. S. Gokavi*, M. S. Alam, and M. Guo, University of Vermont, Burlington.


Conjugated linoleic acid from butter fat is absorbed and incorporated into tissue lipids to a greater extent than when consumed as a dietary free fatty acid supplement. A. L. Lock*1, D. E. Bauman1, and A. M. Salter2, 1Cornell University, Ithaca, NY, 2University of Nottingham, LEICS., UK.

Production of the bacteriocin thermophilin 110 in whey-based media. G. A. Somkuti*, S. E. Gilbreth, and D. H. Steinberg, Eastern Regional Research Center, USDA-ARS, Wyndmoor, PA.

Characterization of the indigenous microflora present in commercial Queso Fresco from Mexico. J. A. Renye Jr.*1, G. A. Somkuti1, B. Vallesjo-Cordoba1, D. L. Van Hekken1, and A. F. Gonzalez-Cordova1, 1USDA-ARS-NAA-ERRC, Wyndmoor, PA, 2CIAD, A.C., Hermosillo, Sonora, Mexico.

Production of potassium acetate from cheese whey using immobilized cell fermentation. M. Alam*, J. Li, and M. Guo, University of Vermont, Burlington.

Effect of Lactobacillus spp. and whey protein isolates on Intracellular glutathione and antioxidative activities. J. R. Byun and Y. H. Yoon*, Chung-Ang University, Ansung-Si, Kyunggi-Do, S. Korea.

Characterization of a two-component regulatory system implicated in the bile tolerance of Lactobacillus acidophilus NCFM. E. A. Pfeifer*1, M. A. Azcarate-Peril12, and T. R. Klaenhammer12, 1North Carolina State University, Raleigh, 2Southeast Dairy Foods Research Center, Raleigh, NC.

Characterization of a Gal’ Streptococcus thermophilus MR-1C recombinant strain. G. Robitaille*1, S. Moineau2, D. St-Gelais1, C. Vadeboncoeur1, and M. Britten1, 1Food Research and Development Centre, Agriculture and Agri-Food Canada, Saint Hyacinthe, Quebec, Canada, 2Laval University, Quebec City, Quebec, Canada.

Impacts of Gal’ phenotype on the capsule production by Streptococcus thermophilus MR-1C recombinant strain. G. Robitaille*1, S. Moineau2, D. St-Gelais1, C. Vadeboncoeur1, and M. Britten1, 1Food Research and Development Centre, Agriculture and Agri-Food Canada, Saint Hyacinthe, Quebec, Canada, 2Laval University, Quebec City, Quebec, Canada.

Pediocin production by Pediococcus acidilactici in co-culture with yogurt starter bacteria. G. A. Somkuti* and D. H. Steinberg, Eastern Regional Research Center, USDA-ARS, Wyndmoor, PA.

Selective enumeration of different strains of Lactobacillus acidophilus in goat’s milk yogurt beverage. S. Li*, S. Gokavi, and M. Guo, University of Vermont, Burlington.

Evaluation of adherence of Bifidobacterium and Lactobacillus strains to cell membranes by blot analysis and optical tweezers. C. Iñiguez*21, J. Sharpe1, E. Acedo-Félix2, and R. Jiménez-Flores3, 1California Polytechnic State University, San Luis Obispo, 2Centro de investigacion en Alimentacion y Desarrollo, Hermosillo, Sonora, Mexico.


A novel yogurt manufactured with probiotic bacteria at various levels. S. Ganesh* and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge.

Effect of Lactobacillus acidophilus inoculation level on yogurt properties during storage. D. W. Olson* and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge.

**Extension Education**

**Exhibit Hall A**

Abstract #

Utilizing the Penn State dairy herd to evaluate precision feeding and the effects on ammonia emissions. V. Ishler*, N. Brown, and G. Varga, The Pennsylvania State University, University Park.

Financial performance of dairies in Florida and Georgia in 2004. L. Ely*1, R. Giesy1, A. deVries2, B. Broaddus1, C. Vann2, and A. Bell2, 1University of Georgia, Athens, 2University of Florida, Gainesville.


T77 Record keeping on Idaho dairies. M. Chahine* and J. B. Glaze, Jr., University of Idaho, Twin Falls.


T79 Spanish language educational opportunities for Idaho dairy employees-milker school. M. Chahine*, University of Idaho, Twin Falls.


T82 Dairy VIP: A user-friendly computer program to compare the economic consequences of management changes on dairy farms. A. de Vries*, University of Florida, Gainesville.

T83 Advising model for the dairy farm development in Mexico. V. Mariscal-Aguayo*1, H. Estrella-Quintero1, A. Martinez-Cuevas2, and S. Castro-Aguilar1, 1Universidad Autonoma Chapingo, Chapingo, Mexico, 2Asesor Independiente, Zapotlanejo, Jalisco, Mexico.

T84 Development model for farms. H. Estrella-Quintero*1,2 and V. Mariscal-Aguayo1, 1Universidad Autónoma Chapingo, Chapingo, México, 2Agropec Star, Guadalajara, Jalisco, Mexico.


T86 Survey response of beef exhibitors to radio frequency identification device. J. W. Lehmkuhler*1 and T. Quam2, 1University of Wisconsin, Madison, 2Wisconsin Cattlemen’s Association, Sun Prairie, WI.

Food Safety
Foodborne Pathogens in Beef and Dairy Cattle
Exhibit Hall A

Abstract #

T87 Effect of plant extract supplementation on digestive tract microbiota and carcass contamination in young Holstein bulls receiving a high-concentrate diet. M. Devant*1, C. Adelantado2, A. Anglada1, A. Bach1,3, and M. A. Calvo2, 1IRTA-Unitat de Remugants, Barcelona, Spain, 2UAB-Departament de Sanitati d’Anatomia Animals, Barcelona, Spain, 3ICREA, Institució Catalana de Recerca i Estudis Avançats, Barcelona, Spain.


T90 A long-term, sub-clinical, outbreak of Salmonella enterica subsp. enterica Cerro in a Pennsylvania dairy herd. J. S. Van Kessel*1, J. S. Karns1, D. R. Wolfgang2, E. Hovingh1, and Y. H. Schukken1, 1USDA-ARS, Beltsville, MD, 2Pennsylvania State University, University Park, 3Cornell University, Ithaca, NY.

T91 Prevalence of Shiga toxin-producing Escherichia coli in beef cattle grazing irrigated pastures or rangeland forages during winter and spring. L. M. Bollinger*, H. S. Hussein1, M. R. Hall1, and E. R. Atwill2, 1University of Nevada, Reno, 2University of California-Davis, Tulare.

T92 Prevalence of Shiga toxin-producing Escherichia coli in dairy cattle during winter and spring. H. S. Hussein*1, L. M. Bollinger1, M. R. Hall1, and E. R. Atwill2, 1University of Nevada, Reno, 2University of California-Davis, Tulare.
Abstract #


T94  Effect of storage time on ruminal starch degradability in corn silage. J. R. Newbold1, E. A. Lewis1, J. LaRue1, H. J. Brand1, H. Vedder1, and J. Bakker1, 1ProviCare Research and Technology Centre, Brussels, Belgium, 2BLGG, Oosterbeek, The Netherlands.


T96  Polymerase chain reaction for identification and quantification of *Lactobacillus buchneri* in silage. R. J. Schmidt*, S. Kim, M. G. Emara, and L. Kung, Jr., University of Delaware, Newark.


T98  High temperatures have detrimental effects on the stability of silage inoculants that have been rehydrated in water. C. N. Mulrooney*, W. Hu, and L. Kung, Jr., University of Delaware, Newark.

T99  Effect of corn silage maturity and mechanical processing on nutrient digestibility by lactating dairy cows of different lactation stages. G. Ferreira1 and D. R. Mertens*, 1University of Wisconsin, Madison, 2USDA-ARS, US Dairy Forage Research Center, Madison, WI.

T100  Conjugated linoleic acid and omega-3 fatty acids in milk of grazing dairy cows fed fish oil and linseed oil. W. Brown*, A. AbuGhazaleh†, and S. Ibrahim‡, 1Southern Illinois University, Carbondale, 2North Carolina A&T State University, Greensboro.


T102  An evaluation of various nitrogenous additives or a microbial inoculant on the fermentation and aerobic stability of corn silage. R. J. Schmidt*, P. G. Summer1, and L. Kung, Jr., 1University of Delaware, Newark, 2Ajinomoto USA, Inc., Eddyville, IA.

T103  Corn silage genotype effects on intake, digestion, and milk production by dairy cows. J. P. Goeser*, R. D. Shaver, and J. G. Coors, University of Wisconsin, Madison.


T106  Use of effective microorganisms (EM) as additive for grass silage. E. González*, R. Casals1, and E. Albanell1, 1Estación Experimental Pastos y Forrajes III, Central España, Matanzas, Cuba, 2Grup de Recerca en Remugants; Facultat Veterinaria, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.

T107  Fermentation characteristics of hairy indigo (Indigofera hirsuta) and guinea grass (Panicum maximum) ensiled alone or in combination. O. Araujo-Febres* and R. Razz, Facultad de Agronomía. La Universidad del Zulia, Maracaibo, Venezuela.

Graduate Student Paper Competition
ADSA Production Division Poster Contest
Chair: Mike Akers, Virginia Tech
Exhibit Hall A

Abstract #
T109 Predictors of stillbirth for cows moved to calving pens when calving is imminent. J. Carrier*, S. Godden, J. Fetrow, S. Stewart, and P. Rapnicki, University of Minnesota, St. Paul.

T110 Effect of grains differing in expected ruminal fermentability on productivity of lactating dairy cows. C. Silveira*, M. Oba1, J. Helm2, and K. A. Beauchemin1, 1University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture Food and Rural Development, Lacombe, AB, Canada.

T111 Plasma tumor necrosis factor-α concentrations during the transition period of cows fed at either ad libitum or restricted diet intakes during the dry period. L. A. Winkelman*, T. H. Elsasser2, and C. K. Reynolds1, 1The Ohio State University, Columbus, 2USDA, ARS, Belltsville, MD.

T112 The effect of feeding increasing levels of dried distillers grains plus solubles to dairy cows in early lactation. B. N. Janicek* and P. J. Kononoff, University of Nebraska, Lincoln.


T114 Chemical characterization, carbohydrate and protein subfractions, total digestible nutrients and estimated energy values of canola byproducts in ruminants. R. G. N. Heendeniya* and P. Yu, University of Saskatchewan, Saskatoon, SK, Canada.


T116 In situ rumen degradation kinetics of canola byproduct from recent processing technology: Comparison with soybean and canola meals. R. G. N. Heendeniya* and P. Yu, University of Saskatchewan, Saskatoon, SK, Canada.

T117 Ovulation rates and improved uterine health in cows fed Megalac®-R compared to Megalac®. B. E. Jones, D. Fish1, A. Martin2, and R. L. Ax1, 1University of Arizona, Tucson, 2Dairy Veterinary Services, Chandler, AZ.

T118 Expression and regulation of glucose transporter gene expression in a bovine mammary epithelial cell line, Mac-T. K. A. Finucane*, A. F. Keating, and F. Q. Zhao, University of Vermont, Burlington.

T119 Development and evaluation of a mechanistic model to predict liquid passage from the reticulo-rumen of dairy cattle. S. Seo*, L. Tedeschi2, and D. Fox, Cornell University, Ithaca, NY. 3Texas A&M University, College Station.


T121 Preliminary validation of an on-farm culture system. A. Lago*, S. Godden, R. Bey, K. Leslie, R. Dingwell, P. Ruegg, and L. Timms, University of Minnesota, St. Paul. 2University of Guelph, Guelph, ON, Canada. 3University of Wisconsin, Madison. 4Iowa State University, Ames.


Nonruminant Nutrition
Dietary Influences in Finishing Pigs
Exhibit Hall A

Abstract #
T123 Validation of the NCCC-42 vitamin-trace mineral premix in grower pigs. T. D. Crenshaw*, M. D. Lindemann, H. H. Stein, and NCCC-42 Swine Nutrition Committee1, 1University of Wisconsin, Madison, 2University of Kentucky, Lexington, 3South Dakota State University, Brookings.

Effect of neonatal environment on adult reproductive function of boars. J. K. Griffin*, M. C. Seal, and W. L. Flowers,
Swine Research Division, National Livestock Research Institute, RD4, Cheonan, Chungnam, Korea, 2Dankook University, Cheonan, Chungnam, Korea.


Energetic efficiency of fat deposition from highly fermentable NSP in fattening pigs. V. Halas and L. Babinszky*, University of Kapossvár, Hungary.

Effect of feeding rye silage on growth performance, blood and carcass characteristics in finishing pigs. J. H. Cho*, Y. K. Han, B. J. Min, Y. J. Chen, H. J. Kim*, J. S. Yoo, J. W. Kim, and I. H. Kim, 1Dankook University, Cheonan, Chungnam, Korea, 2Sungkyunkwan University, Faculty of Life Science & Technology, Suwon, Gyeonggi, Korea.

Effect of sex and feeding level on productive performance and carcass quality of Iberian × Duroc pigs. M. P. Serrano¹, D. G. Valencia¹, J. C. Sánchez¹, R. Lázaro¹, A. Fuentetaja¹, and G. G. Mateos*, 1Universidad Politécnica de Madrid, Spain, 2Copese, Segovia, Spain.

Physiology and Endocrinology
Reproductive Physiology
Exhibit Hall A

Production and cryopreservation of embryos from Sarabi cattle. M. H. Fazeli*¹, ¹Azad University, Shahrak Kord Campus, Shahre Kord, Iran, 2Animal Breeding Center, Karaj, Iran.

Fertility of bull semen imported or domestically produced in Iran. M. H. Fazeli*¹, ¹Azad University, Shahrak Kord Campus, school of Veterinary Medicine, Shahrekord, Iran, 2AI Center, Nahadehaye Dami Jahad, Karaj, Iran, 3Damshid Softwares, Tehran, Iran.


Observed and predicted numbers of single, twin, and triplet births in a cattle population selected for increased twinning. G. L. Bennett*, M. F. Allan, R. A. Cushman, and S. E. Echternkamp, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE.

Effects of estradiol and testosterone on the peripheral and anterior pituitary IGF system in barrows. J. A. Clapper* and E. M. Stansbury, South Dakota State University, Brookings.

Accuracy of pregnancy diagnosis in Holstein cows using transrectal ultrasonograph based on a serum pregnancy associated glycoprotein (PAG) ELISA. E. Silva*, R. A. Sterry, D. Kolb, N. Mathialagan, M. F. McGrath, J. M. Ballam, and P. M. Fricke, ¹University of Wisconsin, Madison, 2Lodi Veterinary Clinic, Lodi, WI, 3Monsanto Agricultural Company, St Louis, MO.

Aniogenesis of the endometrium and fetal membranes during early pregnancy in sheep: Morphological evaluation. L. P. Reynolds*, A. T. Grauzl-Bilska¹, L. Della Salda², G. Ptak², and P. Loi², ¹North Dakota State University, Fargo, ²Università di Teramo, Teramo, Abruzzo, Italia.

Effect of neonatal environment on adult reproductive function of boars. J. K. Griffin*, M. C. Seal, and W. L. Flowers, North Carolina State University, Raleigh.

Gonadal response to HCG and GnRH analog in male sheep exposed to excess prenatal testosterone. S. E. Recabarren*, P. P. Rojas-García¹, M. P. Recabarren¹, V. Alfaro¹, R. Smith¹, and T. Sir-Petermann¹, 1University of Concepcion, Chillan, Chile, 2University of Chile, Santiago, 3University of Chile, Santiago.

Impact of exogenous ghrelin administration on circulating concentrations of luteinizing hormone in steers. J. A. Daniel*, G. A. Perry, and A. E. Wertz-Lutz, South Dakota State University, Brookings.

Assessment of a practical method for identifying anovular dairy cows synchronized for first postpartum timed artificial insemination. E. Silva*, R. A. Sterry, and P. M. Fricke, University of Wisconsin, Madison.
T143 Relationship between metabolic hormones and ovulation of dominant follicle at the first follicular wave postpartum in dairy cows. C. Kawashima*, E. Kaneko1, C. Amaya Montoya1, M. Matsui1, T. Shimizu1, N. Matsunaga1, K. Kida1, Y.-I. Miyake2, D. Schams2, and A. Miyamoto1, 1Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan, 2TU-Munich Weihenstephan, Freising-Weihenstephan, Germany.

T144 Reproductive performance of lactating dairy cows of different leptin genotype. R. C. Chebel*1 and J. E. P. Santos2, 1University of Idaho, Caldwell, 2University of California Davis, Tulare.


T146 Effect of estradiol cypionate before induction of ovulation on subsequent luteal lifespan in anoestrous Nelore cows. O. G. SáFilho and J. L. M. Vasconcelos*, FMVZ-UNESP, Botucatu, SP, Brazil.

T147 Effect of progesterone or 17B-estradiol on luteal lifespan in anoestrous Nelore cows. O. G. SáFilho*, C. C. Dias, and J. L. M. Vasconcelos, FMVZ-UNESP, Botucatu, SP, Brazil.

T148 Factors affecting conception of AI or ET in lactating cows. D. G. B. Demetrio*, R. M. Santos2, C. G. B. Demetrio2, C. A. Rodrigues1, and J. L. M. Vasconcelos1, 1FMVZ-UNESP, Botucatu, SP, Brazil, 2ESALQ-USP, Piracicaba, SP, Brazil, 3SAMVET, São Carlos, SP, Brazil.

T149 Induction of ovulation in sheep using a novel recombinant gonadotropin with dual (LH and FSH) activity. E. P. Lemke1, B. M. Adams1, I. Boime1, and T. E. Adams1, 1University of California, Davis, 2Washington University, St. Louis, MO.


T151 Postpartum follicular development in Brahman cows under two grazing densities. R. Soto1, C. S. Galina1, I. Rubio*2, E. Castillo2, I. Hernández2, and F. Alarcon1, 1Universidad Nacional Autónoma de México, Ciudad Universitaria, 2Universidad Nacional Autónoma de México, Martínez, de la Torre, Veracruz.

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Production, Management and the Environment II
Exhibit Hall A

Abstract #

T152 Eating behavior and the decline in feed intake of Holstein cows during the transition period. P. D. French*, M. A. DeGroot, and J. L. Chamberlain, Oregon State University, Corvallis.

T153 The simulated economic return of using Ovsynch in dairy herds. P. D. French*, Oregon State University, Corvallis.

T154 Effect of yeast (saccharomyces cervisiae) on prepartum and postpartum dry matter intake and performance of Holstein dairy cows. F. Kafilzadeh* and Y. Ghorbani, Razi University, Kermanshah, Kermanshah, Iran.

T155 Effect of extending the voluntary waiting period on lactation performance of Holstein cows. J. A. Rodrigues*1, R. C. Chebel1, and J. E. P. Santos2, 1University of Idaho, Caldwell, 2University of California, Tulare.

T156 Estimating the potential contribution of groups of cows within herds to the total herd milk volume. R. Goodling, K. Griswold*, and T. Beck, Penn State Cooperative Extension, University Park.


T158 Effect of synchronization protocols on reproductive performance of Holstein heifers. J. L. Stevenson*1, R. C. Chebel1, J. C. Dalton1, and J. E. P. Santos2, 1University of Idaho, Caldwell, 2University of California, Tulare.


T160 Ability of consistency index to predict SCC standard violations in the next 7 or 30 days. J. M. Lukas*, M. L. Kinsel2, and J. K. Reneau1, 1University of Minnesota, St Paul, 2Agricultural Information Management Inc., Ellensburg, WA.

T161 The relationship between bodyweight change and disease incidence in early lactation. E. M. Marion*, C. D. Dechow1, J. A. D. R. M. Appuhamy2, and B. G. Cassell2, 1The Pennsylvania State University, University Park, 2Virginia Polytechnic University, Blacksburg.

T162 Effects of environmental factors during rearing on milk yield after first calving. J. Broucek1, S. Mihina1, C. W. Arave2, P. Kiasae1, M. Uhrincat1, P. Flak1, and A. Hanus1, Research Institute of Animal Production, Nitra, Slovakia, Utah State University, Logan.
Temperature influences upon vascular dynamics as measured by doppler ultrasonography. B. H. Kirch*1, G. E. Aiken1, and D. E. Spiers2, 1USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY, 2University of Missouri, Columbia.


Physiological responses of Holstein cows (white or black hair coat) under different solar loads: An environmental chamber study. C. N. Lee*1, P. Hillman2, R. Collier3, and K. Gebremedhin1, 1University of Hawaii-Manoa, Honolulu, 2Cornell University, Ithaca, NY, 3University of Arizona, Tucson.

Frequency and potential production losses from low and inverted fat-protein ratios (FPR) for Pennsylvania dairy herds. R. Goodling*, K. Griswold, and T. Beck, Penn State Cooperative Extension, University Park.

Effect of dry period length on health and production of Holstein cows during the subsequent lactation. R. D. Watters*1, J. N. Guenther1, A. E. Kulick1, P. W. Clark2, and R. R. Grummer3, 1University of Wisconsin, Madison, 2University of Wisconsin, River Falls.

Conception rate and pregnancy loss rate in lactating Holstein cows of a single herd following timed insemination or insemination at detected estrus. D. J. Ambrose*1,2, T. Govindarajan2, and L. A. Goonewardene1,2, 1Alberta Agriculture Food and Rural Development, Edmonton, Alberta, Canada, 2University of Alberta, Edmonton, Alberta, Canada.


The effects of month of insemination and temperature-humidity index on non-return rate in Pennsylvania Holsteins. C. D. Dechow1, M. L. O’Connor*1, A. L. Mosholder1, G. J. Killian1, and S. Schnell2, 1The Pennsylvania State University, University Park, 2Genex Cooperative, Inc., Shawano, WI.


**Ruminant Nutrition**

**Acidosis**

Exhibit Hall A

Rumen and metabolic acidosis in dairy goats are independent. S. Giger-Reverdin*1, M. DesNoyers1, C. Duvaux-Ponter1, and D. Sauvant1,2, 1Institut National de la Recherche Agronomique, Paris, France, 2Institut National de la Recherche Agronomique Paris-Grignon, Paris, France.

Effects of chronic metabolic acidosis on acid-base balance and plasma free amino acids in lambs. N. E. Odongo1, J. E. Las*1, S. Wadud1, O. AlZahal1, M. Lindinger1, A. Shoveller1, J. C. Matthews2, and B. W. McBride1, 1University of Guelph, Guelph, Ontario, Canada, 2University of Kentucky, Lexington.

The severity of ruminal acidosis in primiparous Holstein cows near parturition. G. B. Penner*1,2, K. A. Beauchemin2, and T. Mutsangwa1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.


Effect of physically effective fiber on chewing and ruminal pH of dairy cows fed diets containing barley or corn grains. W. Z. Yang* and K. A. Beauchemin, Research Center, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

Sampling ruminal pH: How many days and how frequent within day? C. Leonardi*1, K. M. Krause2, and D. K. Combs3, 1Louisiana State University, Baton Rouge, 2West Virginia University, Morgantown, 3University of Wisconsin, Madison.
Ruminant Nutrition
Growing/Finishing Nutrition - Beef
Exhibit Hall A

Abstract #

T179  Intake, digestibility, and performance of crossbred steers fed diets containing high levels of urea. F. H. M. Chizzotti*1,2, O. G. Pereira3, L. O. Tedeschi2, S. C. Valdares Filho1, M. L. Chizzotti1,2, L. M. Moura4, I. C. S. Belo1, and D. H. Pereira1, 1Universidade Federal de Viçosa, Viçosa, MG, Brazil, 2Texas A & M University, College Station.


T181  Optimal level of corn distillers dried grains in a no roughage diet for pre-conditioned calves. J. E. Williams*, F. Farias, J. M. Wilson, and M. S. Kerley, University of Missouri, Columbia.

T182  Effect of bacterial inoculants or ammonia on aerobic stability of high moisture ear corn and finishing performance of steers. E. Diaz*, A. Amyot2, C. Thivierge1, R. Berthiaume3, and D. R. Ouellet1, 1Laval University, Quebec, QC, Canada, 2IRDA, Deschambault, QC, Canada.


T187  Effect of corn processing and soybean meal treatment on performance of finishing beef steers fed corn silage based diet. D. R. Ouellet*, M. D’Amours2, R. Berthiaume1, L. Faucicant, and D. Pellerin2, 1Dairy and Swine R&D Centre, AAFC, Lennoxxville, Quebec, Canada, 2Laval University, Quebec, Canada.

T188  Influence of supplements on performance of grazing steers during the dry season in Brazil. C. E. S. Baroni*, R. P. Lann1, A. B. Mâncio1, D. M. Lamberti1-2, and B. P. C. Mendonça1-2, 1Universidade Federal de Viçosa, Viçosa, MG, Brazil, 2CNPq, Brasília, DF, Brazil.

T189  Effects of different growing systems on performance of feedlot cattle. J. T. Vasconcelos*, J. E. Sawyer1, L. O. Tedeschi1, L. W. Greened, and F. T. McCollum1, 1Texas A&M University, College Station, 2Texas A&M University, Amarillo.

T190  Influence of Ractopamine-HCl and ground white corn or steam-flaked white corn based-diets on growth performance of finishing Brahman cross bulls. R. Barajas4, J. M. Romo1, B. J. Cervantes1, R. J. Virgilio3, and J. J. Lomeli1, 1FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico, 2Tecnología de Máxima Producción, S.A. de C.V., Culiacan, Sinaloa, Mexico.

T191  Effect of Ractopamine-HCl and ground white corn or steam-flaked white corn based-diets on carcass characteristics of finishing Brahman cross bulls. R. Barajas4, J. M. Romo1, B. J. Cervantes1, R. J. Virgilio3, and J. J. Lomeli1, 1FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico, 2Tecnología de Máxima Producción, S.A. de C.V., Culiacan, Sinaloa, Mexico.


T193  Effects of ractopamine and implant regimens containing trenbolone acetate and estradiol on growth and carcass characteristics of feedlot steers. T. C. Bryanta, J. J. Wagnera, S. B. Lauderta, and M. L. Galyeana, 1Five Rivers Cattle Feeding, Loveland, CO, 2Colorado State University, Fort Collins, 3Elanco Animal Health, Greenfield, IN, 4Texas Tech University, Lubbock.

T194  Influence of live weight at first implanting on growth performance and carcass characteristics of calf-fed Holstein steers. R. A. Zinn1, N. Torrentera*, and F. Calderoner, 1University of California, Davis, 2UABC, Mexicali, BC, MX.


Ruminant Nutrition

Minerals & Vitamins

Exhibit Hall A

Abstract #

T202
Net requirements of macrominerals for growth of steers, and heifers of Nellore x Red Angus crossbreds. M. L. Chizzotti*1,2, S. C. Valadares Filho1, L. O. Tedeschi2, G. E. Carstens2, F. H. M. Chizzotti2, M. A. Fonseca1, L. F. C. Silva1, and M. I. Marcondes1, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Texas A & M University, College Station.

T203
Dietary factors affecting phosphorus digestion in lactating cows. T. H. Yang*1, K. F. Knowlton1, C. Shang2, E. Schwab2, D. Berry1, L. Zelazny2, N. Whitehouse1, K. Pence1, and C. Schwab1, Virginia Polytechnic Institute and State University, Blacksburg, 2University of Wisconsin, Madison, 3University of New Hampshire, Durham.

T204
Exogenous phytase plus cellulase and nutrient excretion and digestibility in lactating cows. M. S. Taylor*1, S. R. Hill1, K. F. Knowlton1, K. Wilson2, and C. Cobb2, Virginia Polytechnic Institute and State University, Blacksburg, Animal Feed Technologies, Greeley, CO.

T205

T206
Selenium deficiency in dual purpose cows and its correction with an intraruminal device in a tropical environment. E. Martinez Cuevas*, M. Huerta Bravo1, R. Lopez Arellano2, J. G. Garcia Muñiz2, and R. Ramirez Valverde1, Universidad Autonoma Chapingo, Chapingo, Mexico, 2Universidad Nacional Autonoma de Mexico, Cuautitlan, Mexico, Mexico.

T207
Effects of nutrient restriction during early or late gestation and dietary Se supply on cell proliferation and vascularity in maternal jejunal tissue of sheep. J. J. Reed*1, P. P. Borowicz2, R. Reddy1, S. L. Julius1, J. B. Taylor2, T. L. Neville1, L. P. Reynolds1, D. A. Redmer1, K. A. Vonnahme1, and J. S. Caton1, North Dakota State University, Fargo, USDA-ARS, US Sheep Experiment Station, Dubois, ID.

T208
Effects of nutrient restriction during early or late gestation and dietary Se supply on Se concentrations in maternal and fetal tissues in sheep. T. L. Nevelle1, J. J. Reed2, R. Reddy1, M. A. Ward1, P. P. Borowicz2, J. B. Taylor2, K. A. Vonnahme1, M. Kappahan1, D. A. Redmer1, L. P. Reynolds1, and J. S. Caton1, North Dakota State University, Fargo, USDA-ARS, US Sheep Experiment Station, Dubois, ID.

T209
Effects of nutrient restriction during early or late gestation and dietary Se supply on maternal and fetal intestinal growth in sheep. R. Reddy*, J. J. Reed1, T. L. Neville1, J. B. Taylor2, L. P. Reynolds1, D. A. Redmer1, K. A. Vonnahme1, and J. S. Caton1, North Dakota State University, Fargo, USDA-ARS, US Sheep Experiment Station, Dubois, ID.

T210
Quality assessment of drinking water offered to dairy cows in central Iran. A. A. Najafi1, G. R. Ghorbani1, M. Alikhani1, and A. Nikkhah2, Isfahan University of Technology, Isfahan, Iran, 2University of Manitoba, Winnipeg, MB, Canada.

T211
Silage to reduce dietary cation-anion difference. E. Charbonneau*, P. Y. Chouinard1, G. F. Tremblay2, G. Allard1, A. Brégard1, and D. Pellerin1, FSAAC, Université Laval, Québec, QC, Canada, Agriculture and Agri-Food Canada, Ste-Foy, QC, Canada.

T212
Hay to reduce dietary cation-anion difference (DCAD). E. Charbonneau*, P. Y. Chouinard1, G. F. Tremblay2, G. Allard1, A. Brégard1, and D. Pellerin1, FSAAC, Université Laval, Québec, Canada, Agriculture and Agri-Food Canada, Ste-Foy, Québec, Canada.

T213
Effect of high-sulfate water on trace mineral status of beef steers. C. L. Wright* and H. H. Patterson, South Dakota State University, Brookings.
T214  Interaction of concentrate: Forage ratio and type of concentrate fed on growth performance and health of growing steers. P. Walker*, 1


T217  Interaction of concentrate: Forage ratio and type of concentrate fed on growth performance and health of growing steers. P. Walker*, 1, D. Adams*, 1, and R. Hall*, 2 Illinois State University, Normal, 1 Cooperative Research Farms, Richmond, VA.

T218  Effects of organic zinc, manganese and copper on mineral content of rumen bacteria and microbial fermentation in continuous culture. P. W. Cardozo*, 1, S. Calsamiglia*, 1, and S. Andrieu*, 2 Universitat Autonoma de Barcelona, Bellaterra, Spain, 2 Alltech, Lexington, KY.


T221  Effects of rumen protected choline and dry propylene glycol supplements on plasma folates and vitamin B12 in periparturient dairy cows. R. L. Kincaid*, 1, and M. T. Socha*, 2 Agroscope Liebefeld-Posieux, Swiss National Institute of Agricultural Research, Lennoxville, Switzerland.


T223  Apparent ruminal synthesis and intestinal absorption of free and total biotin in dairy cows. D. E. Santschi* and C. L. Girard, Agriculture and Agri-Food Canada, Lennoxville, QC, Canada.


T225  Effect of supplemental biotin to dairy cows on in sacco forage NDF disappearance. C. W. Cruywagen* and G. Bunge, Stellenbosch University, Stellenbosch, South Africa.

T226  Effect of feeding whole raw soybean and niacin to lactating cows in early lactation. M. Sari, A. A. Naserian*, 1, R. Valizadeh, and S. Salari, Ferdowsi University of Mashhad, Mashhad, Khorasan, Iran.

T227  The effects of nicotinic acid supplementation during late-gestation on lipolysis and feed intake during the transition period. J. L. Chamberlain* and P. D. French, The Pennsylvania State University, University Park.


Ruminant Nutrition
Rumen Fermentation Modifiers

Exhibit Hall A

Abstract #

T229  Effects of high and low inclusion rate yeast culture products on in vitro batch culture ruminal fermentations. H. M. Sullivan* and R. A. Halalsh, New Mexico State University, Las Cruces.

T230  Evaluation of the protective effect of probiotics given to dairy cows during a lactic acidosis challenge. J. Chiquette*, Dairy and Swine Research & Development Centre, Lennoxville, Quebec, Canada.


T233 Effects of monensin and dietary soybean oil on milk fatty acid profile in lactating cows. O. AlZahal*1, N. E. Odongo1, M. Or-Rashid1, T. Mutsvangwa2, T. F. Duffield3, R. Bagg4, P. Dick5, G. Vessie1, and B. W. McBride1, 1University of Guelph, Guelph, Ontario, 2University of Saskatchewan, Saskatoon, Saskatchewan, 3Elanco Animal Health, Division Eli Lilly Canada Inc., Guelph, Ontario, Canada.

T234 Evaluation of level of plant botanicals in diets fed to lactating dairy cows. K. J. Daniels*, P. H. Doane, and M. J. Cecava, University of Guelph, Guelph, Ontario, Canada.

T235 Effects of rumensin and bovine somatotropin (bST) on productive and physiological parameters of New Zealand Holstein cows grazing alfalfa pasture. M. Tarazon*, S. Araiza, E. Rueda, and A. Nuñez, Universidad de Sonora, Santa Ana, Sonora, Mexico.

T236 Effects of monensin supplementation during prepartum and transition phase on rumen fermentation and microbial efficiency. D. Srichana*1,2, M. S. Kerley1, and J. N. Spain1, 1University of Missouri, Columbia, 2Thammasat University, Phathumthani, Thailand.

T237 Anise and capsicum as alternative to monensin in beef heifers fed a high-concentrate diet. I. Fandiño*, S. Calsamiglia1, A. Ferret1, and C. Kame1, 1Universitat Autonoma de Barcelona, Bellaterra, Spain, 2Pancosma, SA, Bellegarde-sur-Valserine Cedex, France.

T238 Optimal dose and combination of anise and capsicum as modifiers of ruminal fermentation in beef heifers. I. Fandiño*, S. Calsamiglia1, A. Ferret1, and C. Kame1, 1Universitat Autonoma de Barcelona, Bellaterra, Spain, 2Pancosma, SA, Bellegarde-sur-Valserine Cedex, France.

T239 Effects of alfalfa extract and a mixture of cinnamaldehyde and eugenol on rumen fermentation in beef heifers fed a high-concentrate diet. P. W. Cardozo1, S. Calsamiglia*, A. Ferret*, and C. Kame*, 1Universidad Autonoma de Barcelona, Bellaterra, Spain, 2Pancosma SA, Bellegarde-sur-Valserine Cedex, France.

T240 Anise, capsicum, and a mixture of cinnamaldehyde and eugenol modified rumen fermentation in beef heifers fed a high-concentrate diet. P. W. Cardozo1, S. Calsamiglia*, A. Ferret*, and C. Kame*, 1Universidad Autonoma de Barcelona, Bellaterra, Spain, 2Pancosma, PA, Bellegarde-sur-Valserine Cedex, France.


T242 Effects of enzymes and herbal extracts on in vitro fermentation kinetics of ruminant feeds. D. Colombatto*1, A. D. Garciarena2, G. Lagos2, C. Lago2, and F. Nahara1, 1University of Buenos Aires, Argentina, 2EEA Balcarce INTA, Argentina, 3Porfene SRL, Argentina.

T243 Effects of specific herbal extracts on in vitro fermentation kinetics of oats, alfalfa hay or a total mixed ration. D. Colombatto*, A. D. Garciarenaa, A. J. Flores, J. M. Hernandez Viera2, L. Mazurarok, and C. Ionescu1, 1University of Buenos Aires, Argentina, 2EEA Balcarce INTA, Argentina, 3Argent Export SA Argentina, 4Pancosma Bioactives, France.

T244 Effects of five botanicals on rumen microbial fermentation profile. M. Blanch*, S. Calsamiglia*, P. Chicoteau2, and B. Nielsen*, 1Universidad Autonoma de Barcelona, Bellaterra, Spain, 2NOR-FEED, Denmark.

T245 Evaluation of level of plant botanicals in diets fed to lactating dairy cows. K. J. Daniels*, P. H. Doane, and M. J. Cecava, ADM Animal Nutrition Research, Decatur, IN.


T247 Effect of carvacrol on ruminal fermentation in vitro. V. Noirota* and C. Bayourthe1, 1Génuol, Albi, France, 2ENSAT, Castanet-Tolosan, France.

T248 Effect of plant extract supplementation on rumen fermentation and metabolism in young Holstein bulls receiving a high-concentrate diet. A. Anglada1, M. Devant*, and A. Bach1,2, 1IRTA, Barcelona, Spain, 2ICREA, Barcelona, Spain.

T249 Evaluation of tannins on ammonia release of soybean meal protein under in vitro ruminal conditions. H. Carneiro*, T. A. Corrêa2, and J. C. F. Lima*, 1Empresa Brasileira de Pesquisa Agropecuária, Juiz de Fora, MG, Brazil, 2Universidade Federal de Juiz de Fora, Juiz de Fora, MG, Brazil.

T250 Effects of nitroethane on methane production and fermentation balance in fed steers. H. Gutiérrez-Bañuelos*, L. J. Slay1, G. E. Carstens1, N. Ramlachan2, S. Horrocks3, T. R. Callaway2, T. S. Edrington2, R. C. Anderson4, and D. J. Nisbet3, 1Texas A&M University, College Station, 2USDA/ARS, Food & Feed Safety Research Unit, College Station, TX.


100 Tuesday, JULY 11, 2006 POSTERS SESSIONS
Swine Species
Exhibit Hall A

Abstract #

T254  Protein source affects feed palatability in piglets. D. Solà-Oriol¹, E. Roura*², and D. Torrallardona¹, ¹IRTA-Centre de Mas Bové, Reus, Spain, ²Lucta SA, Barcelona, Spain.

T255  Estimation of the ideal ratio of threonine:lysine in diets for growing pigs weighing 30-60 kg. I. Moreira*¹, D. Paiano¹, P. L. O. Carvalho¹, A. R. Poveda Parra¹, A. R. B. Quadros², and L. S. Perdigão¹, ¹Universidade Estadual de Maringá, Maringá, Paraná, Brazil, ²Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil.


T257  Nucleotide supplementation enhances piglet performance. S. Tibble*¹, P. Köppel², and T. van Kempen³, ¹SCA Iberica, Spain, ²Chemofoma Ltd., Switzerland, ³Provimi RTC, Belgium.

T258  Palatability of diets with different oil and fat sources in piglets. D. Solà-Oriol¹, E. Roura*², and D. Torrallardona¹, ¹IRTA-Centre de Mas Bové, Reus, Spain, ²Lucta SA, Barcelona, Spain.

T259  Effect of inclusion of sweet potato (Ipomoea batatas L) meal on weight gain and dressing percentage of finishing pigs. S. Pietrosemoli*, O. Moron, A. Paez, C. Chirinos, and A. Marrugo, La Universidad del Zulia, Maracaibo, Zulia, Venezuela.

T260  Effects of in-feed anti-salmonella egg yolk antibodies on growth performance and health status in weaned pigs challenged with Salmonella Typhimurium. S. Rattanatabtimtong*, A. Mathew, A. Saxton, S. Chattin, E. Jarboe, and R. Clift, University of Tennessee, Knoxville.


SYMPOSIA AND ORAL SESSIONS

ADSA Foundation Scholar Lecture - Dairy Foods
Chair: Kent A. Weigel, University of Wisconsin
Sponsor: ADSA Foundation

200 D-E

Time    Abstract #
9:30 AM  Applications of exopolysaccharides-producing lactic cultures in dairy products. A. Hassan, South Dakota State University, Brookings.

Danisco International Dairy Science Award Lecture
Chair: Lloyd Metzger, University of Minnesota
Sponsor: Danisco USA Inc.

200 D-E

Time    Abstract #
10:30 AM Using enzymes to enhance the technological functionality of milk proteins. K.B. Qvist, Danisco A/S, Copenhagen, Denmark.
### ALPHARMA Beef Cattle Nutrition Symposium

**Chair:** Steven Paisley, University of Wyoming  
**Sponsors:** ASAS Foundation and Alpharma  
*Symposium meets AA VSB’S RACE requirement for 3 hr CE.*

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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Summary</th>
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<tr>
<td>11:00 AM</td>
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<td>Regulation of growth and efficiency of meat animals by tissue mediated immune response. M. Spurlock, <em>Iowa State University, Ames.</em></td>
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<td>11:40 AM</td>
<td></td>
<td>Summarization and research needs. K. Odde, <em>North Dakota State University, Fargo.</em></td>
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<td>12:20 PM</td>
<td></td>
<td>Discussion.</td>
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### SYMPOSIUM

#### Bioethics

**Teaching Animal Ethics Within Today’s Animal Science Curriculum**  
**Chair:** Candace Croney, Oregon State University

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<th>Time</th>
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<tr>
<td>9:30 AM</td>
<td></td>
<td>Introductions. C. Croney, <em>Oregon State University, Corvallis.</em></td>
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</table>
| 9:40 AM    | 245        | Teaching bioethics in the animal sciences: Challenges and strategies. C. C. Croney*, D. J. R. Cherney,  
\[1\] *Oregon State University, Corvallis, 2Cornell University, Ithaca, NY.* |
| 10:00 AM   | 246        | Incorporating ethics into the undergraduate curriculum. D. J. R. Cherney*, C. C. Croney,  
\[1\] *Cornell University, Ithaca, NY, 2Oregon State University, Corvallis.* |
| 10:20 AM   | 247        | A successful model for teaching ethics to animal science students. J. Tannenbaum*, *University of California, Davis.* |
| 10:40 AM   | 248        | Animal welfare, bio-ethics and animal sciences. E. A. Pajor*, *Purdue University, West Lafayette, IN.* |
| 11:00 AM   |            | Discussion. |

### Breeding and Genetics

#### Dairy Breeds

**Chair:** Bennett Cassell, VPI&SU

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<tr>
<td>9:30 AM</td>
<td>ADSA Pioneer</td>
<td>Dairy cattle genetics and breeding: The last 40 years. B. McDaniel, <em>North Carolina State University, Raleigh.</em></td>
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*Tuesday, JULY 11, 2006 ORAL SESSIONS*


10:45 AM 253 Economic efficiency and genetic improvement of alternative breeding schemes for Taiwan dairy cattle population. C. L. Chang*1 and I. L. Mao2, 1Hsin-chu Branch, COA-LRI, Hsin-chu, Taiwan, ROC, 2Michigan State University, East Lansing.

11:00 AM

11:15 AM 254 Genetic parameters of monthly test day milk yields in Iranian buffaloes. H. Farhangfar*1 and J. Rahmaninia2, 1Birjand University, Birjand, Iran, 2Zabol University, Zabol, Iran.

11:30 AM 255 Revised estimates of lifetime net merit for dairy breeds and breed crosses. P. M. VanRadens and M. E. Tooker*, Animal Improvement Programs Laboratory, USDA, Beltsville, MD.

11:45 AM 256 A survey of Australian dairy farmers to establish farmer attitudes to crossbreeding. M. F. Pyman* and K. L. Macmillan, University of Melbourne, Werribee, Victoria, Australia.


12:30 PM 259 Genetic evaluation of milking speed for Brown Swiss dairy cattle. G. R. Wiggans*1, L. L. M. Thornton1, and R. R. Neitzel2, Animal Improvement Programs Laboratory, Agricultural Research Service, Beltsville, MD, 2Brown Swiss Association, Beloit, WI.

**SYMPOSIUM**

**Companion Animals**

**Companion Animal Research: Contributions and Conflicts**

Chair: Russ Kelley, The Iams Company

Sponsor: The Iams Company

200 B-C

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<tr>
<td>9:30 AM</td>
<td>260</td>
<td>Marrying science to society — hurdles for the use of companion animals in research. G. Golab*, American Veterinary Medical Association, Schaumburg, IL.</td>
</tr>
<tr>
<td>10:10 AM</td>
<td>261</td>
<td>Conserving endangered wild felids – the invaluable domestic cat connection. W. F. Swanson*, Cincinnati Zoo’s Center for Conservation and Research of Endangered Wildlife, Cincinnati, OH.</td>
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<td>10:40 AM</td>
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<td>Break</td>
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<td>11:55 AM</td>
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<td>Panel Discussion.</td>
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SYMPOSIUM
Extension Education
Profitability of Dairy Farming in a Global Economy
Chair: Jodie Pennington, University of Arkansas and Joe Harrison, Washington State University
Sponsor: Monsanto Company

Time Abstract # Description
10:00 AM 265 Determinants of regional profitability on dairy farms. J. Miller*1,2, USDA Economic Research Service, Washington, DC, Retired, Harrisonburg, VA.
10:30 AM Factors affecting income and costs. B. Matick, Moore Stephens Frazer and Torbet, LLP, Visalia, CA.
11:00 AM 266 Northeast Dairy Profitability. D. Rogers*, First Pioneer Farm Credit, Enfield, CT.
11:30 AM 267 Profitability of pasture-based versus confinement dairy farming. G. Benson* and S. Washburn, North Carolina State University, Raleigh.
12:00 PM Panel Discussion.

Food Safety
Ruminant and Nonruminant Foodborne Pathogens
Chair: Hussein S. Hussein, University of Nevada-Reno

Time Abstract # Description
9:45 AM 269 Effect of vaccinating against type III secreted proteins of E. coli O157:H7 on its pre- and post-harvest occurrence on cattle hides. R. E. Peterson*, D. R. Smith, R. A. Moxley, T. J. Klopfenstein, and G. E. Erickson, University of Nebraska, Lincoln.
10:00 AM 270 Influence of exogenous triiodothyronine (T3) on fecal shedding of E. coli O157 in cattle. T. S. Edrington*1, T. R. Callaway1, D. M. Halford2, R. C. Anderson1, and D. J. Nisbet1, USDA-ARS-FFSRU, College Station, TX, New Mexico State University, Las Cruces.
10:15 AM 271 Isoamyl acetate application as a method to reduce pathogens and methane production in cattle prior to harvest. T. R. Callaway*, A. M. B. Prazak, T. S. Edrington, R. C. Anderson, and D. J. Nisbet, USDA/ARS, Food and Feed Safety Research Unit, College Station, TX.
10:30 AM 272 Microbial characteristics of ground beef produced from beef trimmings treated with potassium lactate, sodium metasilicate, peroxyacetic acid or acidified sodium chlorite. S. A. Quilo*, F. W. Pohlman, A. H. Brown, P. G. Crandall, P. N. Dias-Morse, R. T. Baublits, and C. Bokina, University of Arkansas, Fayetteville.
10:45 AM 273 Effects of feeding wet corn distiller’s grains with solubles and monensin and tylosin on the prevalence and antibiotic susceptibilities of fecal commensal and foodborne bacteria in feedlot cattle. M. Jacob*, J. T. Fox, S. Narayanan, J. S. Drouillard, and T. G. Nagaraja, Kansas State University, Manhattan.
11:00 AM 274 Prevalence of Salmonella typhimurium in swine at slaughter. M. H. Rostagno*1, H. S. Hurd2, and J. D. McKeen3, USDA, ARS, Livestock Behavior Research Unit, West Lafayette, IN, Iowa State University, Ames.
11:15 AM 275 Resting pigs on transport trailers: A potential intervention to reduce Salmonella prevalence at slaughter. M. H. Rostagno*1, H. S. Hurd2, and J. D. McKeen3, USDA, ARS, Livestock Behavior Research Unit, West Lafayette, IN, Iowa State University, Ames.
11:30 AM 276 Project supported by the European Union to find alternatives to antibiotic growth promoters. G. Schatzmayr*1, R. Beltran2, and K. C. Mountzouris3, BIOMIN GmbH, Herzogenburg, Austria, BIOMIN USA Inc., San Antonio, TX, Agricultural University of Athens, Athens, Greece.
Forages and Pastures
Silages
Chair: Charles Staples, University of Florida
M100 B-C

Time       Abstract #       Title and Authors
9:30 AM     277             Mastication and rumination effects on digestion and passage. M. R. Murphy* and K. E. Cowles, University of Illinois, Urbana.
10:00 AM    278             Effect of forage particle length and sorting of dietary ingredients by lactating dairy cows on performance and health. L. Armentano*, University of Wisconsin, Madison.
10:30 AM    279             Effect of brown midrib mutation and stage of development at harvest on chemical composition and in situ disappearance of millet forage. F Hassanat*, A. F. Mustafa, and P. Seguin, McGill University, Ste. Anne De Bellevue, Quebec-Canada.
10:45 AM    280             Performance of dairy cows fed soybean silage. E. Vargas*, A. F. Mustafa, and P. Seguin, McGill University, Ste-Anne-De-Bellevue, Quebec, Canada.
11:00 AM    Break
11:15 AM    281             Effects of propionic acid-based additive (Solution Foin) on short-term ensiling characteristics of corn. T. Levital*, A. F. Mustafa, and P. Seguin, McGill University, Montreal, QC, Canada.
11:30 AM    282             Genetic determinism and QTL mapping of plant parameters involved in the efficient and sustainable utilisation of forage maize in animal nutrition. L. A. Lethbridge¹, J. K. Margerison*¹, C. S. Brennan¹, M. Chrenkova², and L. Hentenyi², ¹Massey University, Institute of Food, Nutrition and Human Health, Palmerston North, New Zealand, ²RIAP, Slovakia.
12:00 PM    284             Meta-analysis on the effect of main dietary forage on N excretion from dairy cows. V. R. Moreira¹ and C. Leonard³, ¹Louisiana State University AgCenter Southeast Research Station, Franklinton, ²Louisiana State University, Baton Rouge.
12:15 PM    285             Forage production and water use efficiency of 30 species used in the Australian dairy industry. J. S. Neal*, W. S. Fulkerson¹, and K. Greenwood², ¹The University of Sydney, Camden, New South Wales, Australia, ²Department of Primary Industries Victoria, Kyabram, Victoria, Australia.

SYMPOSIUM
Growth and Development
IGF and IGF Binding Proteins
Chair: James Sartin, Auburn University and Honglin Jiang, Virginia Tech
L100 A

Time       Abstract #       Title and Authors
9:30 AM     286             Insulin-like growth factor-I, a link between nutrient intake and growth. D. Clemons*, University of North Carolina, Chapel Hill.
11:10 AM    287             Effects of short day photoperiod on mammary growth of dry cows: Altered prolactin and IGF signaling. G. E. Dahl*, E. H. Wall², and T. B. McFadden², ¹University of Illinois, Urbana, ²University of Vermont, Burlington.
SYMPOSIUM
Nonruminant Nutrition

New Frontiers in Amino Acid Research in Nonruminant Nutrition
Chair: Sung Woo Kim, Texas Tech University and Ming Fan, University of Guelph
Sponsors: Ajinomoto Co., Inc., Ajinomoto Heartland LLC

Symposium meets AAVSB’s RACE requirement for 3 hr CE.

L100 H-I

Time    Abstract #    Title and Authors

9:30 AM  288    Branched chain amino acid metabolism and nutrition in monogastric animals. S. M. Hutson*,1, P. She2, T. M. Reid3, M. Janket3, S. K. Bronson4, A. Sweatt1, and C. J. Lynch2, 1Wake Forest University School of Medicine, Winston-Salem, NC, 2Penn State College of Medicine, Hershey.

9:35 AM  289    Nutrition of the arginine-family amino acids in nonruminant animals. G. Wu*1,3, S. W. Kim2,1, D. A. Knabe1, and Y. L. Yin3, 1Texas A&M University, College Station, 2Texas Tech University, Lubbock, 3The Chinese Academy of Sciences, Changsha, Hunan, P.R. China.

10:05 AM  290    Biological roles of tryptophan and its metabolism in pigs. N. Le Floc’h* and B Sève, UMR INRA-Agrocampus SENAH, Saint Gilles, France.

10:35 AM  291    Methionine: Nutrition and metabolism. J. T. Brosnan*, Memorial University of Newfoundland, St. John’s, NF, Canada.

10:50 AM  292    Effects of L-arginine supplementation on lactation performance of first parity sows. R. D. Mateo*,1, G. Wu*1,2, J. A. Carroll1, I. Shizato1, H. K. Moon1, and S. W. Kim1,2, 1Texas Tech University, Lubbock, 2Texas A&M University, College Station.

11:05 AM  293    Skeletal muscle protein synthesis in neonatal pigs is stimulated by α-ketoisocaproic acid, but not by norleucine. J. Escobar*, J. W. Frank, A. Suryawan, H. V. Nguyen, and T. A. Davis, Baylor College of Medicine, Houston, TX.

11:20 AM  294    A flooding dose of valine can be used to measure protein synthesis in growing pigs. A. J. Libao-Mercado*, 1University of Guelph, Guelph, Ontario, Canada, 2Degussa AG, Hanau, Germany, 3Cargill Animal Nutrition Phils., Bulacan, Philippines.


11:45 AM  296    Comparison of daily milk weight data with the multiple trait prediction model. M. Quist*, 1University of Guelph, Guelph, Ontario, Canada, 2CanWest Dairy Herd Improvement Corporation, Guelph, Ontario, Canada, 3Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre, Lennoxville, Quebec, Canada, 4Canadian Dairy Network, Guelph, Ontario, Canada.

12:00 PM  297    Simulation of variation in methane emissions from enteric fermentation in dairy cattle in the Netherlands. J. Dijkstra*, J. W. Frank, A. Suryawan, H. V. Nguyen, and T. A. Davis, Baylor College of Medicine, Houston, TX.

12:15 PM  298    Relationship between size of vegetated buffers and transport of fecal coliform bacteria from pasturelands treated with dairy cow manure. T. J. Sullivan*, 1University of Guelph, Guelph, Ontario, Canada, 2Oregon State University, Corvallis, OR, 3Oregon Streamside Service, Tillamook, OR, 4Kilchis Dairy Herd Service, Bay City, OR.


Daily manure production from a lactating cow facility. M. Hollmann*, K. F. Knowlton1, C. M. Parsons1, M. D. Hanigan1, and T. N. Rensch1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Integrity Nutrient Control Systems, Inc., Chambersburg, PA.
Ruminant Nutrition
Transition Cow Metabolism
Chair: Tom Overton, Cornell University
L100 D-E

Time    Abstract #        Title
9:30 AM ADSA Pioneer      A journey through volatile fatty acids, gluconeogenesis, and fatty liver. J. W. Young, Franklin, TN.
9:45 AM 312                Phlorizin administration does not attenuate hypophagia induced by intraruminal propionate infusion. B. J. Bradford* and M. S. Allen, Michigan State University, East Lansing.
10:00 AM 313               Response of plasma concentrations of gut peptides to abomasal infusion of casein, starch, or soybean oil in lactating dairy cows. A. E. Relling* and C. K. Reynolds, The Ohio State University, Wooster.
10:15 AM 314               Effect of fatty acid saturation on gut and pancreatic hormone concentrations. B. J. Bradford*, K. J. Harvatine, and M. S. Allen, Michigan State University, East Lansing.
10:30 AM 315               Prepartum nutrient intake alters gluconeogenic capacity in liver slices from peripartal dairy cows. N. B. Litherland*, H. M. Dann, and J. K. Drackley, University of Illinois, Urbana.
11:30 AM 319               Effect of prepartum anionic diets on cortisol, adiponectin, and tumour necrosis factor-α expression at varying levels of body mass index in prepartum dairy cows; implications for insulin resistance. S. B. Puntenney* and P. D. French, Oregon State University, Corvallis.
12:15 PM 322               The effect of calcium pantothenate on productive and reproductive performance in lactating dairy cows. J. Nocek1 and M. Vazquez-Anon*2; 1Spruce Haven Farm and Research Center, Auburn, NY, 2Novus International, St. Louis, MO.

Sheep Species
Chair: Michael Thonney, Cornell University
101 J

Time    Abstract #        Title
Swine Species

Chair: George Foxcroft, University of Alberta
M100 A

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<th>Time</th>
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<tr>
<td>11:00 AM</td>
<td>326</td>
<td>Factors related to piglet pre-weaning mortality in a bedded group farrowing system. Y. Z. Li*, L. J. Johnston, and A. M. Hilbrands, University of Minnesota, Morris.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>327</td>
<td>Impact of gestation housing system on weaned pig production costs. P. J. Lammers* and M. S. Honeyman, Iowa State University, Ames.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>328</td>
<td>Effects of physiological traits on weaning-to-estrous interval in first-litter gilts. Y. Wang*1, T. Wise2, G. Rohrer2, K. Hanford1, and D. Van Vleck2, 1University of Nebraska, Lincoln, 2U.S. Meat Animal Research Center, Clay Center, NE.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>329</td>
<td>Influence of a phytogenic feed additive on performance of weaner piglets. A. Kroismayr*1, T. Steiner1, and C. Zhang3, 1Biomin GmbH, Herzogenburg, Austria, 2Biomin Feed Additive Co. Ltd, Shanghai, China, 3University of Natural Resources and Applied Life Sciences, Vienna, Austria.</td>
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ADSA Foundation Scholar Lecture - Dairy Production

Chair: Kent A. Weigel, University of Wisconsin
Sponsor: ADSA Foundation
200 D-E

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<th>Time</th>
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<tr>
<td>2:00 PM</td>
<td>331</td>
<td>Resolving the role of carbohydrates on the production, health and environmental impact of dairy cattle. M. B. Hall, USDA/ARS, Madison, WI.</td>
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SYMPOSIUM

ADSA Southern Section Symposium
Practical and Applied Approaches to Managing Dairy Businesses in the Future

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

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<th>Time</th>
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<tr>
<td>2:00 PM</td>
<td>331</td>
<td>Introduction. D. M. Amaral-Phillips, University of Kentucky, Lexington.</td>
</tr>
<tr>
<td>2:05 PM</td>
<td>332</td>
<td>Labor management strategies in the next decade. D. C. Grusenmeyer*, New York Farm Viability Institute, Syracuse, NY.</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>333</td>
<td>Challenges for feeding dairy cows in the next decade. M. Hutjens*, University of Illinois, Urbana.</td>
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<tr>
<td>3:15 PM</td>
<td>334</td>
<td>Awards- S-ADSA Honor Award and Graduate Student Paper Competition Awards.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>335</td>
<td>Future challenges for reproductive management of dairy cattle. P. M. Fricke*, University of Wisconsin, Madison.</td>
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<tr>
<td>4:00 PM</td>
<td>336</td>
<td>Dairy facilities and cow comfort for the next decade. J. Smith*, J. Harner III, K. Dhuyvetter, and M. Brouk, Kansas State University, Manhattan.</td>
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<tr>
<td>5:00 PM</td>
<td>338</td>
<td>Panel Discussion.</td>
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<tr>
<td>5:30 PM</td>
<td>339</td>
<td>S-ADSA Business Meeting.</td>
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SYMPOSIUM
Animal Health

Immunophysiology of Host-environment Interactions: Implications for Disease Pathogenesis and Health Management of Production Livestock

Chair: John R. Wenz, Colorado State University
Sponsor: Intervet

Symposium meets AA VSB’S RACE requirement for 3 hr CE.

101 D-E

Time | Abstract # | Title and Authors
--- | --- | ---
2:00 PM | 335 | The effect of transport by road and sea on physiology, immunity, and behavior of beef cattle. B. Earley*, Teagasc, Grange, Beef Research Centre, Dunsany, Co. Meath, Ireland.
2:45 PM | 336 | Making sense about stress and immunity: Th1 and Th2 aspects of the immune system respond differently to stress. J. L. Salak-Johnson*, University of Illinois, Urbana.
3:30 PM | Break
3:40 PM | 337 | Nutritional modulation of innate immunity: Practical approaches. N. Forsberg*, S. Puntenney, Y. Wang, and J. Burton, Oregon State University, Corvallis, Michigan State University, East Lansing.
4:25 PM | 338 | Cumulative physiological events influence the inflammatory response of the bovine udder to E.coli infections during the transition period. C. Burvenich*, M. Kehrli, M. Paape, D. Bannerman, and J. Lippolis, Ghent University, Faculty of Veterinary Medicine, Milk secretion and mastitis research center, Merelbeke, Belgium, Periparturient Diseases of Cattle Research Unit, USDA, ARS, Ames, IA, Bovine Functional Genomics Laboratory, U.S. Department of Agriculture, Agricultural Research Service, Beltsville, MD.
5:10 PM | Panel Discussion.

Breeding and Genetics

Genetic Fitness

Chair: Filippo Miglior, Agriculture and Agri-Food Canada

L100 J

Time | Abstract # | Title and Authors
--- | --- | ---
2:00 PM | ADSA Pioneer | Historical perspectives on genetic fitness research. R. Powell, USDA, Beltsville, MD.
2:15 PM | 339 | Stillbirth (co)variance components for a sire-maternal grandsire threshold model. J. Cole*, G. Wiggans, P. VanRaden, and R. Miller, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.
2:45 PM | 341 | Genetic parameters for rear legs/rear view in Brown Swiss cattle. G. R. Wiggans, L. M. Thornton*, and R. R. Neitzel, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, Brown Swiss Association, Beloit, WI.
3:00 PM | 342 | Quantifying the impact of multiple independent heterozygous loci on survival. H. A. Adams* and R. D. Shanks, University of Illinois, Urbana.
3:15 PM | 343 | Mapping quantitative trait loci affecting calves immune function and birth weight in a Holstein x (Holstein x Jersey) backcross population. C. Maltecca*, H. Khatib, V. R. Schutzkus, and K. A. Weigel, University of Wisconsin, Madison.
3:30 PM | 344 | Genetic parameters of cortisol and creatinine in pigs as indicators for behavioral and nutritional disorders. H. N. Kadarmideen*, S. Gebert, and C. Wenk, Statistical Animal Genetics, Institute of Animal Science, Federal Institute of Technology (ETH), Zurich, Switzerland, Nutritional Biology, Institute of Animal Science, Federal Institute of Technology (ETH), Zurich, Switzerland.
Tuesday, JULY 11, 2006 ORAL SESSIONS


4:00 PM 346 Conception rates trend of Holsteins in South-East USA. C. Huang*1, S. Tsuruta1, I. Misztal1, T. J. Lawlor2, and J. S. Clay1, 1University of Georgia, Athens, 2Holstein Association USA Inc., Brattleboro, VT, 3Dairy Records Management System, Raleigh, NC.

4:15 PM 347 Relationship between reproduction traits and functional longevity in Canadian dairy breeds. A. Sewalem*1,2, G. Kistemaker2, F. Migliori1,2, and B. Van Doormaal2, 1Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre, Lennoxville, QC, Canada, 2Canadian Dairy Network, Guelph, ON, Canada.

4:30 PM 348 Factors that impact longevity of Holsteins in the United States. H. D. Norman* and J. R. Wright, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

4:45 PM 349 Health, immune function, and survival of calves from Holstein dams and Holstein or crossbred Jersey x Holstein sires. C. Maltecca*, K. Weigel, H. Khatib, V. Schutzkus, and P. Hoffman, University of Wisconsin, Madison.

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Dairy Foods
Chemistry and Microbiology

Chair: Charles A. Boeneke, Louisiana State University Agricultural Center

200 B-C

Time Abstract # Abstract
2:00 PM ADSA Pioneer Reflections on the safety of dairy foods. E. Zottola, University of Minnesota, St. Paul.
2:15 PM 350 Effect of EPA and DHA fortification on the oxidation stability of caprine milk infant formula analogue. C. O. Maduko*, Y. W. Park, and C. Akoh, 1University of Georgia, Athens, 2Fort Valley State University, Fort Valley, GA.
2:30 PM 351 Identification and putative proteolytic origin of some major water-soluble peptides produced during ripening of Ragusano cheese. C. Pediliggieri1, T. M. Carmemolla1, V. Gagneaire2, D. Molla2, V. Fallico1, S. Carpio1, G. Licitra1,3, and S. Lortal*2, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2UMR Science et Technologie du Lait et de L’Oeuf, Rennes Cedex, France, 3D.A.C.P.A. Catania University, Catania, Italy.
2:45 PM 352 Microbiological safety of Ragusano cheese through traditional farmhouse manufacturing: A preliminary study. G. Licitra*1,2, A. Fiori1, M. Manenti1, S. La Terra1, P. Campo1, and S. Carpio1, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A. Catania University, Catania, Italy.
3:00 PM 353 Effect of mountain and sea level pasture on Conjugated Linoleic Acid content in plasma and milk. S. La Terra*, S. Carpio1, S. Banni2, M. Manenti1, M. Caccamo1, and G. Licitra1,3, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2Cagliari University, Cagliari Italy, 3D.A.C.P.A Catania University, Catania, Italy.
3:15 PM Break
4:00 PM 356 Development of a new evaluation system for the selection of probiotic lactic acid bacteria (LAB) with specific adhesion to human blood type A-antigen of intestinal mucosa. H. Uchida*, H. Kinoshita1, K. Miura2, K. Shiiba2, A. Horii2, K. Kimura3, N. Taketomo3, M. Oda3, T. Yajima3, and T. Saito1, 1University of Wisconsin, Milwaukee, WI, 2Valleymilk EPIC, College Station, TX, 3UMR Science et Technologie du Lait et de L’Oeuf, Rennes Cedex, France.
4:15 PM 357 Identification of the microflora in the complete Ragusano cheese processing from milk produced at two different farm locations. G. Licitra1,3, S. Parayre3, H. Falenti1, S. Carpio1, V. Fallico1, C. Pediliggieri1, and S. Lortal*, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A. Catania University, Catania, Italy, 3UMR Science et Technologie du Lait et de L’Oeuf, Rennes Cedex, France.
4:30 PM 358 Rheological properties of rennet-induced milk gels made from milk protein concentrate solutions with different ratios of αs1- B-casein. J. A. O’Mahony*, P. L. H. McSweeney, and J. A. Lucey, 1University College, Cork, Ireland, 2University of Wisconsin, Madison.

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Wednesday, JULY 12, 2006 ORAL SESSIONS
SYMPOSIUM
Dairy Foods
Production Meets Processing: A Vital Link for High Quality Dairy Foods
Chair: Scott A. Rankin, University of Wisconsin-Madison

200 D-E

Time  Abstract #  Title  Authors
359 2:00 PM  Production meets processing: A vital link for high quality dairy foods. S. A. Rankin*, S. P. Washburn*, B. Luth*, G. Licitra*, S. Carpino*, and P. Kindstedt†, 1University of Wisconsin, Madison, 2North Carolina State University, Raleigh, 3Tillamook County Creamery Association, Tillamook, OR, 4CoRFiLaC, Regione Siciliana, Ragusa, Italy, 5University of Vermont, Burlington.

2:00 PM  Grazing and cheese flavor. S. A. Rankin, University of Wisconsin, Madison.

2:30 PM  Farm production considerations for value-added dairy products. S. P. Washburn, North Carolina State University, Raleigh.

3:00 PM  The brand is a promise. B. Luth, Tillamook County Creamery Association, OR.

3:30 PM  Case studies and applied research involving dairy production and processing in Italy. G. Licitra and S. Capino, CoRFiLaC, Ragusa, Italy.

4:00 PM  Linking milk quality with finished product quality: The growing urgency for integrated research. P. Kindstedt, University of Vermont, Burlington.

4:30 PM  Discussion.

Extension Education
Chair: Twig Marston, Kansas State University

M100 D-E

Time  Abstract #  Title  Authors
360 2:00 PM  The Pennsylvania RFID project – An overview. K. E. Olson*, G. T. Cudoc†, J. High†, J. S. Clay†, and J. Mattison†, 1National Dairy Herd Improvement Association, Verona, WI, 2Dairy One, Ithaca, NY, 3Lancaster Dairy Herd Improvement Association, Manheim, PA, 4Dairy Records Management Systems, Raleigh, NC.


2:30 PM  CowTime: Making milking more productive and easier. D. Klindworth*, R. Greenall†, and D. Carr†, 1Primary Industries Research Victoria (PIRVic), Ellinbank, Victoria, Australia, 2University of Melbourne, Parkville, Victoria.

2:45 PM  Development of a stochastic simulation model to assess the potential economic benefits associated with investments in precision dairy farming technologies. J. M. Bewley*, M. D. Boehlje†, A. W. Gray†, S. J. Kenyon†, S. D. Eicher†, and M. M. Schutz†, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN.

3:00 PM  Review of Wisconsin corn silage milk per ton models. R. Shaver* and J. Lauer, University of Wisconsin, Madison.

3:15 PM  SPAC – Information on demand. K. E. Olson*, K. Roy†, B. Carlson†, and A. F. Kertz†, 1KEO Consulting, Schaumburg, IL, 2Federation of Animal Science Societies, Savoy, IL, 3American Dairy Science Association, Savoy, IL, 4ANDHIL LLC, St Louis, MO.

3:30 PM  Choosing the best forage species for a dairy farm - The Whole-farm approach. M. Neal*, J. Neal†, and W. Fulkerson†, 1Risk and Sustainable Management Group, University of Queensland, Brisbane, Queensland, Australia, 2New South Wales Department of Primary Industries, Camden, New South Wales, Australia, 3Faculty of Veterinary Science, University of Sydney, Camden, New South Wales, Australia.


4:00 PM  Sustainable self-financed producer study groups in Oregon. W. Lane*, Lane Livestock Services, Roseburg, OR.

Nonruminant Nutrition
Amino Acid Nutrition - Nursery to Finisher
Chair: Russell Fent, Ralco Nutrition Inc. and Lee Southern, Louisiana State University

L100 H-I

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<th>Time</th>
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<tr>
<td>2:00 PM</td>
<td>370</td>
<td>True ileal digestible isoleucine requirement and ratio in 12 to 22 kg pigs.</td>
<td>S. X. Fu*, A. M. Gaines¹, R. W. Fent¹, G. L. Alle³, and J. L. Usry², University of Missouri, Columbia, Ajinomoto Heartland LLC, Chicago, IL.</td>
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<td>2:15 PM</td>
<td>371</td>
<td>Branched chain amino acid interactions and isoleucine imbalance in late-finishing pigs.</td>
<td>S. X. Fu*, R. W. Fent¹, G. L. Alle³, and J. L. Usry², University of Missouri, Columbia, Ajinomoto Heartland LLC, Chicago, IL.</td>
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<tr>
<td>2:30 PM</td>
<td>372</td>
<td>Branched chain amino acid interactions increases isoleucine requirement in late-finishing pigs.</td>
<td>S. X. Fu*, R. W. Fent¹, G. L. Alle³, and J. L. Usry², University of Missouri, Columbia, Ajinomoto Heartland LLC, Chicago, IL.</td>
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<tr>
<td>2:45 PM</td>
<td>373</td>
<td>Stimulation of muscle protein synthesis by leucine is dependent on plasma amino acid availability.</td>
<td>J. Escobar*, J. W. Frank, A. Suryawan, H. V. Nguyen, and T. A. Davis, Baylor College of Medicine, Houston, TX.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>374</td>
<td>Evaluation of the true ileal digestible (TID) valine requirement of 8 to 20 kg pigs.</td>
<td>A. M. Gaines¹, P. Srichana¹, B. W. Ratliff¹, G. L. Alle³, and J. L. Usry², University of Missouri, Columbia, Ajinomoto Heartland LLC, Chicago, IL.</td>
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<td>3:15 PM</td>
<td>375</td>
<td>Dietary supplementation of L-Arginine for finishing pigs.</td>
<td>N. R. Augspurger*, D. M. Webel¹, and G. Wu², JBS United, Inc., Sheridan, IN, Texas A &amp; M University, College Station, TX.</td>
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<td>3:30 PM</td>
<td>376</td>
<td>Nitrogen retention response of pigs to DL-methionine (DLM) and methionine hydroxy analog free acid (MHA-FA).</td>
<td>J. A. Jendza*, M. Rademacher², and O. Adeola¹, Purdue University, West Lafayette, IN, Degussa AG, Hanau-Wolfgang, Germany.</td>
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<tr>
<td>3:45 PM</td>
<td>377</td>
<td>The effect of soybean hulls inclusion on the apparent and true ileal digestibility of selected amino acids in growing pigs.</td>
<td>L. Dégen*, J. Tossenberger¹, V. Halas², and L. Babinszky³, Agribands Europe Hungary RT, Kecskemét, Hungary, University of Kaposvár, Kaposvár, Hungary.</td>
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<tr>
<td>4:00 PM</td>
<td>378</td>
<td>Amino acid digestibility and measurement of blocked lysine in five samples of distillers dried grains with solubles in growing pigs.</td>
<td>A. A. Pahm*, D. H. Hopf, C. Pedersen¹, D. Simon¹, and H. H. Stein¹, South Dakota State University, Brookings, Degussa Corp., Kennesaw, GA.</td>
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<tr>
<td>4:15 PM</td>
<td>379</td>
<td>Amino acid and energy digestibility in NutriDense corn and other cereal grains fed to growing pigs.</td>
<td>C. Pedersen*, M. G. Boersma, and H. H. Stein, South Dakota State University, Brookings.</td>
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<tr>
<td>4:30 PM</td>
<td>380</td>
<td>Effect of increasing dietary crude protein and crystalline amino acids on carcass composition and IGF-I mRNA expression in growing pigs.</td>
<td>R. Fischer*, P. Miller¹, A. Cupp², and D. Clopton¹, University of Nebraska, Lincoln, Sioux Nation Ag Center, Sioux Falls, SD.</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>382</td>
<td>Dietary sources of starch affect intestinal absorption and metabolism of glucose and amino acids in growing pigs.</td>
<td>J. Zhang¹, Y. L. Yin*, and G. Y. Wu¹², The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, Texas A&amp;M University, College Station.</td>
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Physiology and Endocrinology
Metabolic Physiology
Chair: Arnold Hippen, South Dakota State University

101 J

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<th>Authors</th>
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<tr>
<td>2:00 PM</td>
<td>ADSA Pioneer</td>
<td>Experiments in metabolic physiology are incomplete until equations are parameterized.</td>
<td>R. L. Baldwin, University of California, Davis.</td>
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<tr>
<td>2:30 PM</td>
<td>384</td>
<td>Effect of the addition of insulin-like growth factor-I to embryo culture medium on pregnancy rate following timed embryo transfer in lactating dairy cows.</td>
<td>J. Block* and P. J. Hansen, University of Florida, Gainesville.</td>
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Tuesday, JULY 11, 2006 ORAL SESSIONS

Effect of dry period duration on reproductive measures during the subsequent lactation in Holstein cows. R. D. Watters*, M. C. Wilthbank, P. M. Fricke, J. N. Guenther, A. E. Kulick, and R. R. Grummer, University of Wisconsin, Madison.


Evaluation of the mechanism of action of conjugated linoleic acid (CLA) isomers on reproduction - uterine release of PGF$_2\alpha$. E. Castaneda-Gutierrez*1, B. C. Benefield1, R. O. Gilbert1, M. J. de Veth1, W. R. Butler1, and D. E. Bauman1, 1Cornell University, Ithaca, NY, 2BASF-AG, Offenbach/Queich, Germany.

Liver expression of the clock gene TIMELESS is reduced by long day photoperiod in dairy steers. T. F. Gressley*, E. E. Connor2, and G. E. Dahl1, 1University of Illinois, Urbana, IL, 2Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, Maryland.

Effects of conjugated linoleic acid on prostaglandin production by bovine endometrial cells. A. Heravi Moussavi*, R. O. Gilbert2, W. R. Butler1, E. Castaneda-Gutierrez2, and H. B. Roman1, 1Ferdowsi University, Mashhad, Iran, 2Cornell University, Ithaca, NY.


Production, Management and the Environment II

Chair: Sandra K. Johnson, Kansas State University

M100 I-J


Development and integration of a national feed management education program and assessment tools into a comprehensive nutrient management plan. J. H. Harrison1, R. A. White*1, T. J. Applegate2, R. T. Burns3, G. H. Carpenter4, G. E. Erickson4, and A. L. Sutton4, 1Washington State University, Puyallup, 2Purdue University, West Lafayette, IN, 3Iowa State University, Ames, 4USDA, NRCS, Beltsville, MD, 5University of Nebraska, Lincoln.


Maximized lactational performance for improving postweaning reproductive performance on commercial farms. Y. Tanaka* and Y. Koketsu, Meiji University, Kawasaki, Kanagawa, Japan.


Effect of mixing pigs or maintaining pen integrity on the response to grow-finish space allocation. R. Goodband1, M. Brunn*1, L. Johnston1, K. Stalder4, and NCR-89 Committee on Swine Management, 1Kansas State University, Manhattan, 2University of Nebraska, Lincoln, 3University of Minnesota, St. Paul, 4Iowa State University, Ames.

Influence of thymol on coliform bacteria, VFA, and methane production from pull-plug swine manure pits. V. H. Varel* and J. E. Wells, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.
# Ruminant Nutrition

**Fat Feeding, Metabolism & Composition**

**Chair:** James K. Drackley, University of Illinois

L100 D-E

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<th>Time</th>
<th>Abstract #</th>
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<tr>
<td>2:00 PM</td>
<td>ADSA Pioneer</td>
<td>Feeding fat to dairy cows - how did we get here?</td>
<td>D. Palmquist, Ohio State University, Wooster.</td>
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<tr>
<td>2:15 PM</td>
<td>402</td>
<td>Artificial neural networks to model the rumen fermentation pattern in dairy cattle.</td>
<td>M. Craninx, B. Vlaeminck, and V. Fievez, Ghent University, Melle, Belgium.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>403</td>
<td><strong>1</strong>&lt;sup&gt;3&lt;/sup&gt;C Enrichment of conjugated linoleic acids and other fatty acids in cultures of ruminal microorganisms dosed with a stable isotope of linoleic acid.</td>
<td>C. Thompson, J. Mulz, M. Reynolds, E. Thies, and T. Jenkins, Clemson University, Clemson, SC.</td>
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<tr>
<td>2:45 PM</td>
<td>404</td>
<td>The effect of fish oil supplementation on ruminal C18 PUFA metabolism in beef steers offered either grass or red clover silage.</td>
<td>M. R. F. Lee, K. J. Shingfield, and N. D. Scollan, Institute of Grassland and Environmental Research, Aberystwyth, Ceredigion, UK; MTT Agrifood Research, Jokioinen, Finland.</td>
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<td>3:00 PM</td>
<td>405</td>
<td>Characterization of the acute lactation response to trans-10, cis-12 conjugated linoleic acid (CLA).</td>
<td>K. J. Harvatine, D. A. Dwyer, and D. E. Bauman, Cornell University, Ithaca, NY.</td>
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<tr>
<td>3:30 PM</td>
<td>407</td>
<td>Comprehensive two-dimensional gas chromatography (GC×GC) for the analysis of fatty acids (FA) in milk.</td>
<td>B. Vlaeminck, J. Harynuk, K. Korkiasaari, V. Fievez, and P.J. Marriott, Ghent University, Belgium; RMIT University, Australia; University of Turku, Finland.</td>
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<tr>
<td>3:45 PM</td>
<td>408</td>
<td>Whey protein gel composites of soybean and linseed oils used as a dietary method to modify the unsaturated fatty acid composition of milk lipids.</td>
<td>J. M. Heguy, S. O. Juchem, E. J. DePeters, M. Rosenberg, J. E. P. Santos, and S. J. Taylor, University of California, Davis.</td>
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<tr>
<td>4:00 PM</td>
<td>409</td>
<td>Feed intake, milk production and milk composition of dairy cows fed extruded linseed.</td>
<td>M. C. Fuentes, S. Calsamiglia, C. Sanchez, A. Gonzalez, J. E. Santos, J. R. Newbold, and J. Fontecha, Universidad Autonoma de Barcelona, Bellaterra, Spain; Tauste Ganadera, Zaragoza, Spain; Nutral, SA, Madrid, Spain; University of California, Davis; PROVIMI, Brussels, Belgium; CSIC, Madrid, Spain.</td>
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<tr>
<td>4:15 PM</td>
<td>410</td>
<td>Effects of dietary addition of unsaturated fat, vitamin E, and sorbitol on performance of dairy cows and fatty acid concentrations in milk.</td>
<td>A. Todd, M. L. Eastridge, C. V. D. M. Ribeiro, J. Engel, and B. Mathew, The Ohio State University, Columbus.</td>
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<tr>
<td>4:30 PM</td>
<td>411</td>
<td>Effects of flaxseed processing on the recovery of α-linolenic acid in milk.</td>
<td>G. Thangavelu, M. Oba, M. Dehghan-banadaky, D. J. Ambrose, and E. Okine, University of Alberta, Edmonton, AB, Canada; Alberta Agriculture Food and Rural Development, Edmonton, AB, Canada.</td>
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<td>5:00 PM</td>
<td>413</td>
<td>The effect of feed delivery time on dairy cattle production.</td>
<td>C. J. Furedi, A. D. Kennedy, and J. C. Plaizier, University of Manitoba, Winnipeg, MB, Canada.</td>
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<tr>
<td>5:15 PM</td>
<td>414</td>
<td>Impact of providing total mixed ration at evening vs. morning on feed intake, rumen pH, and productivity of lactating Holsteins.</td>
<td>A. Nikkhah, J. C. Plaizier, C. Furedi, and A. D. Kennedy, University of Manitoba, Winnipeg, MB, Canada.</td>
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SYMPOSIUM
Ruminant Nutrition
Identifying Opportunities for Maximizing Forage Utilization?
Chair: David W. Bohnert, Oregon State University
L100 A

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<tr>
<td>2:00 PM</td>
<td>415</td>
<td>Beef cattle diets and forage optimization strategies on western rangelands. T. DelCurto*, Oregon State University, Union.</td>
</tr>
<tr>
<td>2:35 PM</td>
<td>416</td>
<td>Nutritional management strategies for efficient utilization of forage resources. F. T. McCollum*, Texas A&amp;M University, College Station.</td>
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<tr>
<td>3:10 PM</td>
<td>417</td>
<td>Nutritional wisdom revisited: From instinct to experience with implications for use of forages by herbivores. F. D. Provenza*, Utah State University, Logan.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>418</td>
<td>Forage intake, digestion and milk production by dairy cows. R. Shaver*, University of Wisconsin, Madison.</td>
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SYMPOSIUM
Teaching/Undergraduate and Graduate Education
Student Engagement...The Classroom and Beyond
Chair: Linda C. Martin, Oklahoma State University
101 A

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<tr>
<td>2:00 PM</td>
<td>420</td>
<td>Symposium Introduction. L. C. Martin, Oklahoma State University, Stillwater.</td>
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<tr>
<td>2:10 PM</td>
<td>420</td>
<td>Using the National Survey of Student Engagement to understand students’ experiences in the Agricultural and Related Sciences. T. Nelson Laird*, Indiana University, Bloomington.</td>
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<tr>
<td>3:00 PM</td>
<td>421</td>
<td>Active and collaborative learning. J. Swanson* and J. McClaskey, Kansas State University, Manhattan.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>422</td>
<td>Strategies for engaging students in large classes. W. E. Beal*, Virginia Polytechnic Institute and State University, Blacksburg, VA.</td>
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<tr>
<td>4:00 PM</td>
<td>423</td>
<td>Student engagement at a distance using virtual teaching assistants in the classroom and beyond. M. Latour* and K. Orvis, Purdue University, West Lafayette, IN.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>424</td>
<td>Enriching the educational experience through co-curricular activities. T. Klopfenstein*, University of Nebraska, Lincoln.</td>
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<tr>
<td>5:00 PM</td>
<td>425</td>
<td>The role of academic advising in student engagement. L. C. Martin*, Oklahoma State University, Stillwater.</td>
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**Wednesday, July 12**

**POSTER PRESENTATIONS**

**Animal Behavior and Well-Being**  
**Exhibit Hall A**

**Abstract #**

**W1** Analysis of the association of change in average daily gain of finisher pigs remaining after pulling out heavier pigs with the change in allometric space allowance. L. Anil*, S. S. Anil, and J. Deen, University of Minnesota, St. Paul.

**W2** The effects of different frequencies of weekly human interaction on handling responses in market hogs. J. A. Brown*, E. L. Toth1, A. L. Stanton1, T. M. Widowski2, and P. Lawlis2, University of Guelph, Guelph, Ontario, Canada. 2Ontario Ministry of Agriculture and Food, Guelph, Ontario, Canada.

**W3** Impact of animal management and transportation factors on transport losses in market weight pigs at the packing plant. M. J. Ritter*, M. Ellis1, C. R. Bertelsen1, R. Bowman2, J. Brinkmann3, J. M. DeDecker1, O. Mendoza1, C. M. Murphy1, B. A. Peterson1, A. Rojo1, J. M. Schlifp1, and B. F. Welter1, University of Illinois, Urbana, The Maschhoffs, Inc., Carlyle, IL.


**W5** Analysis of the association of shoulder lesions during lactation with sow-level factors. S. S. Anil*, L. Anil, and J. Deen, University of Minnesota, St. Paul.

**W6** Decreasing feed tossing behavior in dairy cows by emplacing a cable in front of manger. F. Farivar* 1, F. Kafi lzadeh2, 1Instituto Zooprofilattico sperimentale per la Sardegna, Sassari, Italy.

**W7** Behavioral patterns change when primiparous cows are mixed with multiparous cows. C. Iglesias*, A. Bach2,3, M. Devant1, X. Manteca4, S. Calsamiglia4, and A. Ferret4, SEMEGA, Spain, 1CREA, Spain, 2IRTA-Uni  tate de Remugants, Spain, 3Universitat Autònoma de Barcelona, UAB, Spain.

**W8** The impact of machine milking on milk production traits and blood cortisol in primiparous dairy ewes. S. P. G. Rassu1, E. A. Cannas2, P. Nicolussi2, P. Bonelli2, and G. Pulina*, Dipartimento di Scienze Zootecniche - University of Sassari, Sassari, Italy, 1Instituto Zooprofilattico sperimentale per la Sardegna, Sassari, Italy.


**W10** Blood indicators of stress are not affected when primiparous cows are mixed with multiparous cows. C. Iglesias*, A. Bach2,3, M. Devant1, X. Manteca4, S. Calsamiglia4, and A. Ferret4, SEMEGA, Girona, Spain, ICREA, Barcelona, Spain, Unitat de Remugants-IRTA, Barcelona, Spain, Universitat Autònoma de Barcelona (UAB), Barcelona, Spain.

**W11** Automatic monitoring of lying, standing and walking behavior in dairy cattle. L. Munksgaard1, C. G. Reenen2, and R. Boyce*, Danish Institute of Agricultural Sciences, Research Centre Foulum, Denmark, Animal Sciences Group of Wageningen University and Research Centre, Lelystad, The Netherlands, 1IceRobotics, Roslin BioCentre, Scotland.

**W12** The effect of stocking rate, parity, and lameness on the short-term behavior of dairy cattle. C. T. Hill*, R. J. Grant1, H. M. Dann1, C. S. Ballard1, and R. C. Hovey2, William H. Miner Agricultural Research Institute, Chazy, NY, 1University of Vermont, Burlington.

**W13** Age at transport effects on behavioral responses in dairy calves to novel stimuli. S. D. Eicher*, T. A. Johnson1, and J. N. Marchant-Forde1, USDA-ARS, West Lafayette, IN, Purdue University, West Lafayette, IN.


**W15** Use of recycled paper (news/office) and straw as bedding and their effects on heifer cleanliness and behavior. J. E. Wohlt*, D. B. Imwalle, and L. S. Katz, Rutgers University, New Brunswick, NJ.

**W16** Hair whorls locations of dairy heifers affects their growth, but not behavior. J. Broucek*, S. Mihina1, M. Uhrincat1, C. W. Arave2, P. Kisac1, and A. Hanus1, Research Institute of Animal Production, Nitra, Slovakia, Utah State University, Logan.

**W17** Effect of transport for up to 24 hours followed by twenty-four hours recovery on liveweight, physiological and hematological responses of bulls. B. Earley*, D. J. Prendiville, and E. G. O’ Riordan, Teagasc, Grange, Beef Research Centre, Dunsany, Co. Meath, Ireland.
Animal Health III
Exhibit Hall A

Abstract #
W18 Maternal stress: Effect on the stress response and immune function of the progeny. M. Reyna*1, S. Martinez1, T. H. Welsh, Jr., J. A. Carroll1, and J. C. Laurenz1, 1Texas A&M University, Kingsville, 2Texas A&M University and Texas Agriculture Experiment Station, College Station, 1USDA-ARS Livestock Issues Research Unit, Lubbock, TX.
W19 Maternal stress modulates the acute stress response and immune function of the pig. N. C. Burdick*1, T. H. Welsh, Jr., J. A. Carroll1, and J. C. Laurenz1, 1Texas A&M University, Kingsville, 2Texas A&M University, College Station, 1USDA-ARS Livestock Issues Research Unit, Lubbock, TX.
W20 Non-nutrient additives alter the weaned pig’s stress response to a Mycoplasma hyponeumoniae vaccination. J. Carroll*1 and K. Haydon1, 1Livestock Issues Research Unit, Agricultural Research Service-USDA, Lubbock, TX, 2Prince Agri Products, Inc., Quincy, IL.
W21 Three strategies to counteract the negative impact of mycotoxins on piglets. U. Hofstetter*1, D. Schatzmayr1, G. Schatzmayr1, and E. M. Binder2, 1Biomin GmbH, Herzogenburg, Austria, 2Erber AG, Herzogenburg, Austria.
W22 Successful detoxification of ochratoxin A in weaning piglets. U. Hofstetter*1, D. Schatzmayr1, G. Schatzmayr1, and E. M. Binder2, 1Biomin GmbH, Herzogenburg, Austria, 2Erber AG, Herzogenburg, Austria.
W23 The effect of butyrate on cytokine production and proliferation by porcine monocytes. T. E. Weber*1, C. G. Chitko-McKown2, and B. J. Kerr1, 1USDA/ARS, National Swine Research and Information Center, Ames, IA, 2USDA/ARS, Meat Animal Research Center, Clay Center, NE.
W24 Expression of an active Colicin E1 in the yeast pichia pastoris. S. A. Cutler* and C. H. Stahl, Iowa State University, Ames.
W25 Polymorphisms within the lactoferrin gene promoter in various cattle breeds. M. Daly1, O. Casey1, F. Buckley2, P. Ross1, and L. Giblin*1, 1Moorepark Food Research Centre, Teagasc, Fermoy, Co. Cork, Ireland, 2Moorepark Dairy Production Research Centre, Teagasc, Fermoy, Co. Cork, Ireland.
W28 Increased pulmonary arterial pressure (PAP) and maternal undernutrition induces differential gene expression in right ventricle of steers. B. Berg*1, B. Hess1, S. P. Ford1, K. McInnerney2, W. Means1, T. Hansen1, and H. Han1, 1University of Wyoming, Laramie, 2Montana State University, Bozeman, 3Colorado State University, Fort Collins.

Dairy Foods
Cheese, Products, and Processing
Exhibit Hall A

Abstract #
W30 Probiotic properties of the Candida kefyr isolated from kefir. S. J. You1, J. K. Cho1, C. G. Ha1, C. H. Kim1, and K. C. Heo*1, 1Hankyong National University, Anseong, Gyonggi, Republic of Korea, 2Hanyang University, Ansan, Gyonggi, Republic of Korea.
W31 Volatile fraction of Sicilian Pecorino cheese: Comparison of raw and pasteurized milk cheese. T. Rapisarda1, S. Carpino*1, G. Azzaro1, and G. Licitra2, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2D.A.C.P.A. Catania University, Catania, Italy.
W32 Characteristics of reduced fat milks as influenced by the incorporation of folic acid. K. Achanta, C. A. Boeneke*, and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge.


W38 Compositional differences between industrial sources of salty whey and sweet whey. K. Blaschek*, W. Wendorff, and S. Rankin, University of Wisconsin, Madison.


W40 Utilization of lactoperoxidase system and/or microfiltration for manufacture of Cheddar cheese from raw milk. Y. Amornkul* and D. Henning, South Dakota State University, Brookings.

W41 Characterization of Queso Fresco cheeses manufactured in Mexico and the United States. D. L. Van Hekken*1, M. H. Tunick1, J. A. Renye1, B. Vallejo-Cordoba2, and A. F. Gonzalez-Cordova2,1, USDA. ARS, ERRC, Wyndmoor, PA, 1CIAD, A.C., Hermosillo, Sonora, Mexico.

W42 Manufacture of fresh soft cheese (Domiaty-type) from camel milk using ultrafiltration process. M. A. Mehaia*, Qassim University, Buriedah, Qassim, Saudi Arabia.

W43 Modifying the functionality of reduced-fat Mozzarella cheese by reduction of calcium level or by the addition of emulsifying salts during curd plasticization. J. A. O’Mahony, E. O. Mulholland, and T. P. Guinee*, Moorepark Food Research Centre, Teagasc, Fermoy, Co. Cork, Ireland.

W44 Impact of exopolysaccharide-containing base cheese on characteristics of reduced fat process cheese. S. Awad, A. N. Hassan*, and V. Mistry, MN-SD Dairy Foods Research Center, Dairy Science Department, Brookings, SD.

W45 Substituting aged cheese with exopolysaccharide-containing base cheese in making process cheese. S. Awad, A. N. Hassan*, and V. Mistry, MN-SD Dairy Foods Research Center, Dairy Science Department, Brookings, SD.

W46 Evaluation of isolated starter lactic acid bacteria in Ras cheese ripening and flavour development. S. Awad*, N. Ahmed, and M. El-Soda, Department of Dairy Science, Faculty of Agriculture, Alexandria University, Egypt.

W47 Utilization of lactoperoxidase system and/or microfiltration for manufacture of Cheddar cheese from raw milk: Proteolysis and sensory characteristics. Y. Amornkul* and D. Henning, South Dakota State University, Brookings.

W48 Effect of the addition of Lactobacillus reuteri over the shelf life of Oaxaca-type cheese. M. Montero-Lagunes*3, E. Paz-Gamboa1, E. Herman-Lara1, P. Valencia-Perez2, and H. Garcia-Galindo2, Instituto Tecnológico de Tuxtepec, Tuxtepec, Oax. Mexico, 1Instituto Tecnológico de Veracruz, Veracruz, Ver. Mexico, 2campo Experimental La Posta, Veracruz, Ver. Mexico.


W50 Characteristics of Swiss cheese manufactured with adjunct Lactobacillus strains using low cooking temperature. N. A. Kocaoglu-Vurma*, W. J. Harper1, M. A. Drake2, and P. D. Courtney1, 1The Ohio State University, Columbus, 2North Carolina State University, Raleigh.

W51 Hydrolysis of caseins in Cheddar cheese: Effects of temperature and coagulants. P. J. Joseph*4, D. J. McMahon4, J. R. Broadbent4, and C. J. Oberg5, 1Utah State University, Logan, 2Weber State University, Ogden, UT.

W52 Effect of sodium glutonate on the solubility of calcium lactate. C. Phadungath* and L. E. Metzger, MN-SD Dairy Foods Research Center, University of Minnesota, St. Paul, MN.

W53 Influence of adjunct cultures and accelerated ripening on texture properties of Cheddar cheese. T. C. Rasmussen*, D. J. McMahon1, J. R. Broadbent1, and C. J. Oberg2, 1Utah State University, Logan, 2Weber State University, Ogden, UT.

W54 Effects dietary supplementation of unsaturated fat, vitamin E, and sorbitol on fatty acid concentrations in milk and the properties of Cheddar cheese. F. Parada-Rabell*, M. L. Eastridge, C. J. Kuo, V. Alvarez, A. Todd, C. V. D. M. Ribeiro, and J. Engel, The Ohio State University, Columbus.

W55 On-farm extraction of proteins from raw whole milk. A. Chand*,1,2, J. E. Swan1, and C. J. Fee3, 1The University of Waikato, Hamilton, New Zealand, 2Dexcel Limited, Hamilton, New Zealand, 3University of Canterbury, Christchurch, New Zealand.

W56 Effect of processing on the composition and structure of buttermilk and of its milk fat globule membranes. P. Morin*, R. Jiménez-Flores2, and Y. Pouliot1, 1Stela Research Group, INAF, Université Laval, Québec, Canada, 2Dairy Products Technology Center, Cal Poly, San Luis Obispo.

W57 Yogurt manufactured with an immune enhancer. C. Olga and K. J. Aryana*, Louisiana State University Agricultural Center, Baton Rouge.


W59 Yogurt manufactured using a novel dietary fiber with several health benefits. B. Trammell, K. J. Aryana*, and C. Boeneke, Louisiana State University Agricultural Center, Baton Rouge.
**Forages and Pastures**

**Grazing**

**Exhibit Hall A**

**Abstract #**

**W64** Effects of grazing management on pasture characteristics affecting sediment and nutrient loads in surface waters. M. Haan*, J. Russell, D. Morrical, D. Strohbehn, W. Powers, J. Lawrence, and J. Kovar, Iowa State University, Ames, USDA-ARS, Ames, IA.

**W65** Milk yield from crossbred cows grazing hybrid sorghum during fall. M. L. P. Lima*, F. F. Simili, J. R. Nogueira, M. G. Pinheiro, L. El Faro, and V. L. Cardoso, Agencia Paulista de Tecnologia dos Agronegocios, Ribeirão Preto, SP, Brazil.


**W67** Nutritional characteristics of native grasses used in a pasture system. A. Loyd*, S. Smith, J. D. Sampson, and J. N. Spain, University of Missouri, Columbia, Windrush Farm, Columbia, MO.

**W68** Supplement level and stocking rate effects on stockers grazing rye-ryegrass pastures. M. Rouquette*, J. J. R. Fernandes Jr., and M. H. M. R. Fernandes, Empresa Estadual Paulista/FCAV, Jaboticabal, SP, Brazil, Texas A&M University, College Station, Universidade Federal de Goias, Goiania, GO, Brazil.

**W69** Feeding grazing dairy cows with soybean meal, sunflower meal or canola meal in winter. M. R. Gallardo*, S. E. Valtorta, H. C. Castro, M. C. Gaggiotti, and C. Arakaki, University of Kiel, Kiel, Germany, 1University of Missouri, Columbia, 2Texas A&M University Agriculture Research & Extension Center, Overton, 3Texas Cooperative Extension, Overton.


**W71** Synchronous and asynchronous concentrate supplements to lactating dairy cows on pasture. A. Konyali*, K.-H. Südekum, W. Junge, M. Lukas, and E. Kalim, University of Kiel, Kiel, Germany, Çanakkale Onsekiz Mart University, Çanakkale, Turkey, University of Bonn, Bonn, Germany.

**W72** Performance and urinary alkaloid excretion of stocker cattle grazing nontoxic or toxic tall fescue over-seeded with white clover. J. Andrae*, N. Hill, and J. Bouton, The University of Georgia, Athens, The Samuel Roberts Noble Foundation, Ardmore, OK.


**W74** Effect of high and low residual herbage mass of a tropical pasture grazed by goats. 1. Grazing behaviour. J. S. Fernandes Jr., K. T. Resende*, L. O. Tedeschi, R. A. Reis, M. H. M. R. Fernandes, and H. M. Silva, Universidade Estadual Paulista/FCAV, Jaboticabal, SP, Brazil, Texas A&M University, College Station, Universidade Federal de Goias, Goiania, GO, Brazil.

**W75** Effect of high and low residual herbage mass of a tropical pasture grazed by goats. 2. Sward structure. J. S. Fernandes Jr., K. T. Resende, M. H. M. R. Fernandes, L. O. Tedeschi, R. A. Reis, J. J. R. Fernandes, and F. G. Souza, Universidade Estadual Paulista/FCAV, Jaboticabal, SP, Brazil, Texas A&M University, College Station, Universidade Federal de Goias, Goiania, GO, Brazil.

**W76** Defoliation effects on root and rhizome development of kura clover. B. W. Kim* and K. A. Albrecht, Kangwon National University, Chunchon, Kangwon-Do, South-Korea, University of Wisconsin, Madison.
Goat Species
Product Quality and Reproductive Performance of Goats
Exhibit Hall A

Abstract #

W77 Comparison of quality characteristics of chevon and lamb. K. R. Eega*, J. H. Lee, G. Kannan, B. Kouakou, and W. R. Getz, Fort Valley State University, Fort Valley, GA.

W78 Effect of fat supplementation on the performance of meat goats fed eastern gamagrass. A. White*, J. Bartlett, and E. Rhoden, Tuskegee University, Tuskegee, AL.


W80 Reduction of skin and carcass E. coli contamination in goats by dietary brown seaweed extract supplementation and skin wash. G. Kannan*, K. R. Eega, J. H. Lee, B. Kouakou, and T. H. Terrill, Fort Valley State University, Fort Valley, GA.

W81 Effect of initial body condition of Boer x Spanish yearling wethers and level of nutrient intake on body composition. A. Ngwa1, L. Dawson2, R. Puchala1, G. Detweiler1, R. Merkel*1, I. Tovar-Luna1, T. Sahl1, C. Ferrell1, and A. Goetsch1, 1American Institute for Goat Research, Langston University, Langston, OK, 2Oklahoma State University, Stillwater, 3US Meat Animal Research Center, Clay Center, NE.

W82 Urea space and body condition score to predict body composition of meat goats. A. Ngwa1, L. Dawson2, R. Puchala1, G. Detweiler1, R. Merkel1, I. Tovar-Luna1, T. Sahl1, C. Ferrell1, and A. Goetsch1, 1American Institute for Goat Research, Langston University, Langston, OK, 2Oklahoma State University, Stillwater, 3US Meat Animal Research Center, Clay Center, NE.

W83 Efficacy of melengestrol acetate feeding to advance breeding in hair sheep and meat goats managed in an accelerated mating system. S. Wildeus* and J. R. Collins, Virginia State University, Petersburg.

W84 Effect of alternative forages on reproductive performance of meat goats. Y. A. Markley*, E. G. Rhoden, and J. R. Bartlett, Tuskegee University, Tuskegee, AL.


W86 Effects of extended storage on microbiological quality, somatic cell count and composition of Grade-A goat milk. S. Zeng*, S. Chen1,2, and B. Bah1, 1Langston University, Langston, OK, 2China Agricultural University, Beijing, China.

W87 Effects of CLA supplementation on goat milk composition and texture profile of semi-hard goat cheese. S. Chen1,2, S. Zeng1, M. Rovai1, T. Gipson1, D. Bauman3, A. Lock1, B. Bah1, and A. Goetsch1, 1E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, 2China Agricultural University, Beijing, China, 3Cornell University, Ithaca, NY.


Horse Species
Equine Sciences
Exhibit Hall A

Abstract #

W89 Equine muscle Glut-4 expression and glycogen content are altered by dietary energy source and physical conditioning. L. Stewart-Hunt, R. Geor*, and J. McCutcheon, University of Guelph, Guelph, Ontario, Canada.

W90 Temporal variables of the trot of the hunter pleasure Arabian performance horse. M. Nicodemus* and K. Slater, Mississippi State University, Mississippi State.

W91 Parameter estimates for genetic effects on conformation traits of korean jeju native horse. W. Y. Oh*, D. J. Choi1, M. S. Kang2, J. W. Lee1, C. E. Lee1, and D. H. Baik1, 1National Jeju Agricultural Experiment Station, Rural Development Administration, Jeju City, Jeju Island, Republic of Korea, 2Dept. of Animal Science and Biotechnology, Faculty of Bioscience and Industry, College of Applied Life Science, Jeju City, Jeju Island, Republic of Korea, 3Animal Genomics and Bioinformatics Division, National Livestock Research Institute, Sunwon city, Gyeonggi, Republic of Korea, 4Department of Animal Resources and Biotechnology, College of Agriculture, Chonbuk National University, Chonju city, Chonbuk Province, Republic of Korea.


**Lactation Biology**

*Exhibit Hall A*

**Abstract #**

Milk yield and udder capacity of cows with different milk concentration milked once or twice daily. D. Clark*, D. Dalley, and S. Davis, *Dexcel, Hamilton, New Zealand,* & *ViaLactia Biosciences, Auckland, New Zealand.*

Effects of milking interval on milk constituents from various fractions of ewe milk. A. Dzidic*, M. Kaps, and R. Bruckmaier, *University of Zagreb, Zagreb, Croatia,* & *University of Bern, Bern, Switzerland.*

Effects of omitting two milkings weekly on milk yield, milk composition and udder health in Manchega and Lacaune dairy ewes. V. Castillo, X. Such, G. Caja, E. Albanell, and R. Casals, *Universitat Autònoma de Barcelona, Bellaterra, Spain.*


The association among dry period length, lactation performance and some physiological measures of Holstein cows during the following lactations. M. S. Gulay*, M. J. Hayen, K. C. Bachman, and H. H. Head, *Akdeniz University, Burdur, Turkey,* & *University of Florida, Gainesville.*


Effects of weaning age and ambient temperature on sow endocrine status and mammary secretions around weaning. C. Farmer*, D. Flint, and C. Knight, *Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Lennoxville, QC, Canada,* & *Hannah Research Institute, Ayr, UK.*


Characterization and regulation of the bovine stearoyl-CoA desaturase (Scd) promoter and effects of conjugated linoleic acid (CLA) on mammary cell growth and apoptosis. A. F. Keating*, F. Q. Zhao, and J. J. Kennelly, *University of Alberta, Edmonton, Alberta, Canada,* & *University of Vermont, Burlington.*

Histologic aspects of gestational mammogenesis in heifers. S. Ellis* and N. Korn, *Clemson University, Clemson, SC.*

Lyso phosphatidic acid (LPA) stimulates mouse mammary epithelial cell growth. I. S. Yuh* and L. G. Sheffield, *Kangwon National University, Chunchon, Korea,* & *University of Wisconsin, Madison.*

Changes in mammary gland function during prolonged lactation coincide with changes in mitochondrial biogenic processes. J. George*, W. Olea, D. Torres, R. J. Collier, and D. L. Hadsell, *Baylor College of Medicine, Houston, TX,* & *University of Arizona, Tucson.*


Unraveling the requirement of insulin for milk protein synthesis: A microarray perspective. K. K. Menzies*1,3, C. Lefevre1,2, K. L. Macmillan1, and K. R. Nicholas1,1CRC for Innovative Dairy Products, University of Melbourne, Australia,2Victorian Bioinformatics Consortium, Monash University, Clayton, Australia,3School of Veterinary Science, University of Melbourne, Werribee, Australia.

Shortening the dry period from 60 to 40 days does not affect colostrum quality but decreases colostrum yield by Holstein cows. D. J. Grusenmeyer*, C. M. Ryan, D. M. Galton, and T. R. Overton, Cornell University, Ithaca, NY.

Effect of subclinical mastitis and breed on somatic cell counts and milk constituents and the accuracy of using pooled samples. E. L. Huether*, D. W. Holcombe, and E. R. Kretschmer, University of Nevada, Reno.

Regulation of haptoglobin (Hp) mRNA expression in the bovine mammary gland parenchyma during experimental mastitis. M. A. Thielen1, M. Mielenz1, S. Hiss1, W. Petzl2, H. Zerbe2, H. J. Schuberth3, H. M. Seyfert4, and H. Sauerwein*1,1University of Bonn, Bonn, Germany,2LMU, Munich, Germany,3TiHo, Hannover, Germany,4FBN, Dammerstorf, Germany.

Effect of sampling day and number of lambs raised on somatic cell counts (SCC) and cell populations in ewe milk. E. R. Kretschmer*, D. W. Holcombe1, D. Redelman2, and D. L. Garner1,1University of Nevada, Reno,2Sierra Cytometry/UNR Cytometry Center, Reno, NV.

Nonruminant Nutrition

Dietary Influences on Boars, Sows and Gilt Development

Exhibit Hall A

Wednesday, JULY 12, 2006 POSTER SESSIONS
**Nonruminant Nutrition**

**Enzyme Supplementation**  
**Exhibit Hall A**

**Abstract #**

W128  Investigating possible interactions between phytase and xylanase in wheat-based diets for growing pigs. T. A. Woyengo*, C. M. Nyachoti1, J. S. Sands2, and W. Guenter1, 1University of Manitoba, Winnipeg, Manitoba, Canada, 2Dansico Animal Nutrition, Marlborough, United Kingdom.


W130  Supplemental dietary phytase and strontium improves bone traits of weanling pigs fed a phosphorus-adequate diet. A. R. Pagano1, K. R. Roneker1, K. Yasuda*, T. D. Crenshaw2, and X. G. Lei1, 1Cornell University, Ithaca, NY, 2University of Wisconsin, Madison.

W131  The effect of adding high levels of phytase in the nursery/grower diets on growth performance, carcass characteristics, and bone strength in grower-finishing pigs. T. C. Tsai*, C. R. Dove1, M. J. Azain1, and M. Bedford1, 1University of Georgia, Athens, 2Syngenta Animal Nutrition Inc., RTP, NC.

W132  Effect of enzyme supplementation and inclusion level of wheat distillers dried grains with solubles on energy and nutrient digestibilities in growing pigs. F. O. Opapeju*, C. M. Nyachoti, and B. A. Slominski, University of Manitoba, Winnipeg, MB, Canada.

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**Nonruminant Nutrition**

**Nutrition - Broilers, Layers, Guinea Pigs, Rabbits and Rats**  
**Exhibit Hall A**

**Abstract #**

W133  No absorption of ochratoxin A and fumonisin B1 in rat small intestine detected with Ussing diffusion chamber. V. Pizzamiglio1, E. Grilli1, L. Fabri1, A. Piva*, and B. Weström2, 1 Dipartimento di morfofisiologia veterinaria e produzioni animali, Ozzano Emilia (BO), Italy, 2Department of cell and organism biology, Lund, Sweden.

W134  Dietary high-tannin sorghum increases growth rate in rats. R. Larrain* and J. Reed, University of Wisconsin, Madison.

W135  Utilization of deglycosylated soy protein in monogastrics. B. C. Tooker and T. S. Stahly*, Iowa State University, Ames.

W136  A study of sweet (Surumi, Patacamaya, Sayana, Chucapaca) and bitter (Real) Bolivian quinoa cultivars compared to corn, barley and oats on the lactation of improved guinea pigs. R. N. Patel1, N. P. Johnston*, E. Rico1, A. Bonifacio1, R. O. Kellems2, and D. L. Kooyman1, 1Brigham Young University, Provo, Utah, 2University of San Simon, Cochabamba, Bolivia, 3University of San Andres, La Paz, Bolivia.

W137  Level of soluble fiber and medication influence the presence of intestinal pathogen microbiota in young rabbits. M. S. Gómez-Conde1, A. Pérez de Rozas2, I. Badiola2, S. Chamorro1, G. G. Mateos*, J. C. De Blas1, J. Garcia1, and R. Carabaño1, 1Universidad Politécnica, Madrid, Spain, 2CRESA (UAB-IRTA), Bellaterra, Spain.


W142  Determination of endogenous amino acid flows at the terminal ileum of broiler chickens fed various protein sources using the homoarginine technique. V. Ravindran*, G. Ravindran1, and W. L. Bryden2, 1Massey University, Palmerston North, New Zealand, 2University of Queensland, Gatton, QLD, Australia.

Effects of dietary delta-aminolevulinic acid and chitooligosaccharide on egg production, egg quality and hematological characteristics in laying hens. Y. J. Chen*, B. J. Min1, J. H. Cho1, H. J. Kim1, J. S. Yoo1, J. D. Kim1, H. R. Kim2, D. K. Kang1, and I. H. Kim1,
1Dankook University, Cheonan, Chungnam, Korea, 2Pukyong, Busan, Korea, 3CJ Feed Co., Incheon, Korea.

Effect of phytase supplementation on the calcium and phosphorus retention in layers. L. Babinszky*, J. Tossenberger1, C. S. Szabó1, B. Méhész1, and I. Kühn1, 1University of Kaposvár, Hungary, 2AB Enzymes GmbH, Darmstadt, Germany.

### Physiology and Endocrinology

#### Endocrinology/Metabolic Physiology

#### Exhibit Hall A

**Abstract #**

**W144**

Glucose-dependent insulin response in dairy cows within segregating family structure is related to milk yield. H. M. Hammon*, O. Bellmann, J. Voigt, F. Schneider, and C. Kühn, Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany.

**W145**


**W146**


**W147**

The ontogeny of insulin-like growth factor-I (IGF-I) modulation of GH secretion from porcine anterior pituitary cells in culture. C. R. Barb* and G. J. Hausman, USDA, ARS, Russell Research Center, Athens, GA.

**W148**

Effects of glutamine supplementation on lymphocyte subpopulations and proliferation in the peripheral blood supply of the transition dairy cow. J. A. Woodward*2, R. J. Christopherson3, C. J. Field1, S. Goruk1, G. Murdoch1, M. A. G. von Keyserlingk1, J. A. Bell1, and J. R. Thompson2, 1University of Alberta, Edmonton, Canada, 2University of British Columbia, Vancouver, Canada.

**W149**

Propionate infusion alters G protein-coupled receptor GPR41 mRNA expression and the leptin system in goats. M. Mielenz, C. Sauerwein*, T. A. Hoagland1, M. E. Davis2, and S. A. Zinn1, 1University of Connecticut, Storrs, 2The Ohio State University, Columbus.

**W150**

Characterization of bovine granulocyte chemotactic protein-2 in mammary glands with Escherichia coli mastitis. J.-W. Lee*1 and X. Zhao2, 1National Pingtung University of Science and Technology, Neipu, Pingtung, Taiwan, 2McGill University, Ste-Anne-de-Bellevue, Quebec, Canada.

**W151**


**W152**

Effect of phytase supplementation on the calcium and phosphorus retention in layers. L. Babinszky*, J. Tossenberger1, C. S. Szabó1, B. Méhész1, and I. Kühn1, 1University of Kaposvár, Hungary, 2AB Enzymes GmbH, Darmstadt, Germany.
Evaluation of reproduction and blood metabolites in heifers fed dried distillers grains plus solubles or soybean hulls during late gestation. C. L. Engel*, H. H. Patterson, B. L. Perry, and G. A. Perry, South Dakota State University, Brookings.


Effects of Posilac on immune and endocrine responses of channel catfish challenged with Edwardsiella ictaluri. B. Peterson*, B. Small, and A. Bilodeau, USDA-ARS Catfish Genetics Research Unit, Stoneville, MS.

Effects of milking frequency in early lactation on prolactin and growth hormone release and on milk production throughout lactation. E. A. Albers, C. C. Williams*, C. F. Hutchison, D. T. Gantt, C. Leonardi, L. R. Gentry, and C. C. Stanley, LSU Agricultural Center, Baton Rouge, LA.

Evaluation of an early marker of failed pregnancy: Changes in expression of Mx2 mRNA in peripheral blood mononuclear cells in dairy heifers of different reproductive statuses. J. L. Stevenson*, R. C. Chebel1, J. C. Dalton1, T. L. Ott1, C. Gifford1, and K. Racicot1, 1University of Idaho, Caldwell, 2University of Idaho, Caldwell, 3University of Idaho, Moscow.

Influence of breed type and temperament on anatomic and endocrinologic parameters of the bovine hypothalamic-pituitary-adrenal (HPA) axis. K. O. Curley, Jr.*, J. Lyons1, M. S. Brown2, T. E. Lawrence3, J. A. Carroll3, R. C. Vann4, S. T. Willard5, T. H. Welsh, Jr.1, and R. D. Randel6, 1Texas Agricultural Experiment Station, College Station, 2Texas Agricultural Experiment Station, Lubbock, TX, 3Brown Loam Experiment Station, Raymond, MS, 4Texas Agricultural Experiment Station, Overton and College Station, TX.

Description and summarization of reticular core-body temperatures obtained from an automatic temperature recording system. J. M. Bewley*, D. C. Batson2, and M. M. Schutz1, 1Purdue University, West Lafayette, IN, 2MaGiiX Inc., Post Falls, ID.

Qualitative assessment of the irrigation water from separated and aerated flushed dairy manure. M. Hollmann*, K. F. Knowlton1, C. M. Parsons1, and T. N. Rensch2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Integrity Nutrient Control Systems, Inc., Chambersburg, PA.

Chemical parameters, particle and nutrient removal with separation, settling, and aeration in flushed dairy manure. M. Hollmann*, K. F. Knowlton1, C. M. Parsons1, and T. N. Rensch2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Integrity Nutrient Control Systems, Inc., Chambersburg, PA.


Distribution of phosphorus and nitrogen when dairy manure is separated into solids and liquids. Z. Wu* and D. Burns, Pennsylvania State University, University Park.


Evolution of 15N abundance in cattle manure in relation to cumulative ammonia losses. A. N. Hristov*, L. Campbell1, and J. H. Harrison2, 1University of Idaho, Moscow, 2Washington State University, Paytup.
Environmental perspective of nitrogen use efficiency in dairy farms. H. Arriaga1, M. Pinto1, P. Merino1, and S. Calsamiglia*, 1NEIKER A.B. Basque Institute for Agricultural Research and Development, Basque Country, Spain, 2Universitat Autonoma Barcelona. Faculty of Veterinary, Barcelona, Spain.


Association of number of services and reservice intervals with reproductive performances in female pigs on commercial farms. Y. Takai* and Y. Koketsu, Meiji University, Kawasaki, Kanagawa, Japan.

Variability and repeatability of gestation length across parity associated with reproductive performance in a cohort of gilts on commercial farms. Y. Sasaki* and Y. Koketsu, Meiji University, Kawasaki, Kanagawa, Japan.

Lifetime assessment of sows mated 4 to 6 days after weaning in commercial breeding herds. Y. Hoshino* and Y. Koketsu, Meiji University, Kawasaki, Kanagawa, Japan.

Can the chemical composition of the whole body of a goat be estimated from parts of its body? I. A. M. A. Teixeira*1, K. T. Resende2, J. M. Pereira Filho2, M. M. Salin3, R. A. Gomes4, R. C. Canesin5, and L. O. Tedeschi6, 1Universidade Estadual Paulista/FCAV, Jaboticabal, SP, Brazil, 2Universidade Federal de Campina Grande, Patos, PB, Brazil, 3Texas A&M University, College Station, 4FAPESP, São Paulo, SP, Brazil.

Calibration of a respiratory chamber for calorimetry studies. N. Rodriguez*, W. Campos1, and M. Lopez2, 1Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil, 2Consejo Superior de Investigaciones Científicas, Granada, España.

Lipe, an external natural marker for digestibility studies. E. Saliba, N. Rodriguez*, and D. Pilo-Veloso, Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil.

Effect of choice of microbial marker and variation in solid- to liquid-associated bacteria proportion in duodenal contents on the estimation of duodenal bacterial nitrogen flow. B. Vlaeminck*, R. J. Dewhurst2, and V. Fievez3, 1Ghent University, Belgium, 2Lincoln University, New Zealand.

Effect of centrifugal force on the recovery of markers in ruminal bacterial samples. A. N. Hristov* and S. Zaman, University of Idaho, Moscow.

Relationship between in situ dry matter disappearance and gas production technique. A. Taghizadeh* and M. Hatami, Tabriz University, Tabriz, East Azarbayjan, Iran.

Relationship between in vitro dry matter disappearance and gas production technique. A. Taghizadeh*, M. Hatami, and G. A. Moghaddam, Tabriz University, Tabriz, East Azarbayjan, Iran.

Relationship between in vitro gas production of ethanol extracted residue and NDF of corn silage and unfractionated corn silage. M. Hatami and A. Taghizadeh*, Tabriz University, Tabriz, East Azarbayjan, Iran.

Relationship between dry matter and crude protein disappearance using in situ technique. A. Taghizadeh* and M. Hatami, Tabriz University, Tabriz, East Azarbayjan, Iran.

Comparison of using a reflux apparatus or ANKOM Fiber Analyzer with sequential or direct analysis to evaluate the fiber content in various feeds. D. H. Kleinschmit*, D. J. Schingoethe, A. R. Hippin, and K. F. Kalscheur, South Dakota State University, Brookings.

Ruminant Nutrition
Calves & Heifers - Dairy
Exhibit Hall A

Abstract #

W209  Performance of Holstein dairy heifers full vs. limit fed whole-shelled corn and protein pellet diets with differing fi ber levels. H. Vera-Benavides1, O. Montañez-Valdez2, S. González-Muñoz3, J. Vargas-Burgos4, J. Tuarez-Cobena1, and R. Vivas-Moreira1, 1Unidad de Investigación Científica y Tecnológica, Facultad de Ciencias Pecuarias, Universidad Técnica Estatal de Quevedo, Quevedo, Ecuador, 2Centro Universitario del Sur, Universidad de Guadalajara, Guadalajara, México, 3Colegio de Postgraduados, Texcoco, México.

W200  Physical form of starter concentrate for young Holstein calves. G. R. Ghorbani1, M. Bagheri Varzaneh1, and A. Nikkhah*2, 1Isfahan University of Technology, Isfahan, Iran, 2University of Manitoba, Winnipeg, MB, Canada.

W201  The effect of milk replacer fat source on calf growth and health. T. E. Johnson, H. B. Perry, and B. L. Miller, Land O'Lakes, Inc., Webster City, IA.


W203  Short- and medium-term effects of an enhanced-growth feeding program in dairy calves. M. Terré*1 and A. Bach2, 1IRTA-Unidad de Remugants, Barcelona, Spain, 2ICREA, Barcelona, Spain.


W206  Performance of dairy heifer calves fed milk replacers with equal protein and fat levels but utilizing different fat sources. B. Braman*, S. Hayes1, H. Chester-Jones2, D. Ziegler2, J. Linn1, and B. Ziegler1, 1Milk Products, Chilton, WI, 2University of Minnesota, St. Paul, 3Hubbard Feeds, Mankato, MN.

W207  Pre- and post weaning performance of dairy heifer calves fed texturized or pelleted calf starters with or without intake enhancing flavors. B. Ziegler1, R. Larson1, H. Chester-Jones2, D. Ziegler2, J. Linn1, and S. Hayes4, 1Hubbard Feeds, Mankato, MN, 2University of Minnesota, St. Paul, 3University of Minnesota, Wascoa, 4University of Minnesota, Chilton, WI.

W208  Performance of Holstein dairy heifers fed concentrate diets containing dried distillers grains or urea. R. Larson*, B. Ziegler1, J. Linn1, D. Ziegler, and H. Chester-Jones1, 1Hubbard Feeds, Mankato, MN, 2University of Minnesota, St. Paul, 3University of Minnesota, Wascoa.

W209  Performance of Holstein dairy heifers full vs. limit fed whole-shelled corn and protein pellet diets with differing fiber levels. H. Chester-Jones*, D. Ziegler1, R. Larson1, B. Ziegler1, and J. Linn1, 1University of Minnesota, Wascoa, 2Hubbard Feeds, Mankato, MN, 3University of Minnesota, St. Paul.


W211  The effects of restricted feeding a high concentrate or high forage ration for similar weight gains on structural growth in Holstein heifers. G. I. Zanton* and A. J. Heinrichs, The Pennsylvania State University, University Park.

Ruminant Nutrition
Feedstuff Digestibility & Nutritive Value
Exhibit Hall A

Abstract #


W213  Estimation of the nutritive value of cereals and wheat by products with or without oregano and rosemary supplementation. A. Caputi Jambrenghi1, F. Giannico*, M. A. Colonna1, C. A. Marano1, L. Marvulli1, G. Cappiello1, and G. Vonghia1, 1University of Bari, Bari, Italy, 2Breeder Association of Taranto, Taranto, Italy.
W214 Nutritive evaluation of different types of frost damaged wheat for ruminants: I. Chemical characterization, II. energy values, III. protein and carbohydrate subfractions, IV. rumen degradation kinetics, and V. modeling nutrient supply. P. Yu*, V. Racz, L. White, J. J. McKinnon, and D. A. Christensen, University of Saskatchewan, Saskatoon, SK, Canada.

W215 In vitro digestibility of wet sorghum distillers grain. C. R. Richardson1, J. H. Mikus1, D. W. Boyles2, A. T. Moore*, I. E. Vander Dussen1, H. P. Hagaman1, and B. S. May1, 1Texas Tech University, Lubbock, 2LDN Nutrition, Lubbock, TX, 3Rajen Dairy, Clovis, NM.

W216 Monitoring the fate of gamma irradiated soybean meal proteins in the rumen. P. Shawrang1, A. Nikkhah*1, A. A. Sadeghi2, and G. Raisali2, 1Tehran University, Karaj, Iran, 2Islamic Azad University, Tehran, Iran, 3Nuclear Research Center for Agriculture and Medicine, Iranian Atomic Energy Organization, Karaj, Iran.

W217 Monitoring the fate of gamma irradiated canola meal proteins in the rumen. P. Shawrang1, A. Nikkhah*1, A. A. Sadeghi2, and A. Zareh1, and G. Raisali2, 1Tehran University, Karaj, Iran, 2Islamic Azad University, Tehran, Iran, 3Nuclear Research Center for Agriculture and Medicine, Iranian Atomic Energy Organization, Karaj, Iran.

W218 Effect of microwave irradiation on ruminal starch and protein degradation characteristics of barley grain. A. Nikkhah*1, A. A. Sadeghi2, and P. Shawrang1, 1Tehran University, Karaj, Iran, 2Islamic Azad University, Tehran, Iran.

W219 Effect of ethanol treatments of soybean meal on rumen escape of soybean meal protein. A. A. Sadeghi1, A. Nikkhah*1, and P. Shawrang2, 1Islamic Azad University, Tehran, Iran, 2Tehran University, Karaj, Iran.


W223 Effect of Grain Prep® surfactant on ruminal in situ degradability of flaked corn dry matter and starch. A. N. Hristov*, S. Zaman1, K. Huber1, and D. Greer2, 1University of Idaho, Moscow, 2AgríChem, Inc., Ham Lake, MN.


W225 Effect of replacing barley grain with cork oak acorn (Quercus Suber L.) on digestibility, nitrogen balance and growth of goat kids. G. B. Aziza*, A. Hedi2, K. Hajer2, and M. Rabia2, 1Razi University, Kermanshah, Kermanshah, Iran, 2Research Center of Agriculture and Natural Resources, Boushehr, Iran, 3Research Center of Animal Science, Karaj, Iran.

Ruminant Nutrition
Forage & Fiber
Exhibit Hall A

Abstract #

W228 Ingestive behavior of dairy goats and feedlot lambs fed sugar cane silage. C. Q. Mendes, I. Susin*, A. V. Pires, L. G. Nussio, R. C. Araujo, L. V. Gerage, and M. F. Ribeiro, Escola Superior de Agricultura Luiz de Queiroz (ESALQ)/University of São Paulo (USP), Piracicaba, São Paulo, Brazil.

W229 Effects of dietary fiber from forage of advanced maturity on performance of lactating goats. R. H. Branco1, M. T. Rodrigues*2, M. M. C. da Silva2, C. A. F. Rodrigues1, V. Viana2, F. D. O. Morbi1, R. da Silva Matos2, and M. de Souza Duarte2, 1Instituto de Zootecnia, Sertãozinho, São Paulo, Brasil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil.

W230 Influence of level of dietary forage fiber on intake and nutrient utilization of dairy goats. R. H. Branco*, M. T. Rodrigues1, C. A. F. Rodrigues1, M. M. C. da Silva2, F. L. de Araújo1, V. Viana2, and V. R. Paiva1, 1Instituto de Zootecnia, Sertãozinho, São Paulo, Brasil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil.
Evaluation of sorghum silage and grain with condensed tannin in the diet for ruminants. H. Carneiro*, 1, S. Peregrino*, 1, and N. J. M. Matos*, 1 Empresa Brasileira de Pesquisa Agropecuária, Juiz de Fora, MG, Brazil, 2Universidade Federal Rural do Rio de Janeiro, Soropédica, RJ, Brazil.

Development of an on-farm system to determine pfef value of as fed forages and TMR. K. W. Cotanch*, 1, R. J. Grant*, 1, C. S. Ballard*, 1, W. Darr*, 1 H. M. Dann*, 1, and T. Takano*, 1 William H. Miner Agricultural Research Institute, Chazy, NY, 2Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.

Effect of physically effective fiber on digestion and milk production of dairy cows fed diets containing barley or corn grains. W. Z. Yang* and K. A. Beuchemin, Research Center, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

Effects of feeding Roundup Ready® alfalfa on intake and milk production of dairy cows. D. K. Combs* and G. F. Hartnell, 1University of Wisconsin, Madison, 2Monsanto Company, St. Louis, MO.


Fermentation, dry matter recovery, and aerobic stability of corn silage inoculated with L. plantarum or L. buchneri V. Sewalt*, A. Lampety*, D. Sapienza*, and D. Westerhaus, 1Kemin Industries, Des Moines, IA, 2Sapienza Analytica, Slater, IA.


Monitoring the fate of red clover and Alfalfa proteins during wilting, drying, ensiling and ruminal fermentation. A. A. Sadeghi*, P. Shownar*, and A. Nikkhah*, 1Islamic Azad University, Tehran, Iran, 2Tehran University, Karaj, Iran.

Effect of regrowth interval in spring and autumn on intake and rumen fermentation in beef cattle offered zero-grazed grass. D. Owens*, 1, M. McGee, and F. P. O’Mara*, 1Teagasc, Grange Beef Research Centre, Dunsany, Co. Meath, 2School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland.

### Sheep Species

**Exhibit Hall A**

**Sheep Species**

**Exhibit Hall A**

**Small Ruminant Nutrition System; A computer model to develop feeding programs for sheep and goats.** A. Cannas*, 1, L. O. Tedeschi*, 1 University of Sassari, Sassari, Italy, 2Texas A & M University, College Station, 2Cornell University, Ithaca, NY.

**The effect of chicory, burr medic and safflower forages on milk fatty acid composition, especially conjugated linoleic acid cis9, trans11.** A. Cabiddu*, 1, M. Addis, 1, M. Decandia, 1, G. Piredda, 1, S. Spada, 1, M. Fiori, 1, M. Sitzia, 1, N. Fois, 1, G. Molle, 1, S. Landau, 1, W. Darrah, 1, H. M. Dann, 1, and T. Takano, 2William H. Miner Agricultural Research Institute, Chazy, NY, 2Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.


**Carcass yield and loin tissue composition of feedlot lambs fattened with diest containing fish residue silage.** A. G. da Silva Sobrinho*, 1, A. Uribe, J. F. Obregon, E. Vazquez, and J. C. Robles, 1Universidad Autonoma Agraria Antonio Nario, BuenaVista, Saltillo, Coahuila Mexico, 2Burdur, Turkey.


**The effect of feeding yeast (Saccharomyces cerevisiae) on growth and white blood cell count as an indicator of the immune system in suckling lambs.** F. Kafilizadeh* and M. Rahmani, Saveh Azad University, Saveh, Iran.

**Effects of ACTH and ascorbic acid application on phagocytic activity of neutrophil leukocytes in Akkaraman sheep.** F. S. Hatipoglu*, C. Altimasat, and N. Sulu, 1Akdeniz University, Burdur, Turkey, 2Ankara University, Ankara, Turkey.
Gonadal and epididymal sperm counts in growing Ossimi rams in Egypt. A. M. Osman*, Assiut University, Assiut, Egypt.


Identification of quantitative trait loci affecting parasite indicator traits in a double backcross population of sheep. T. Sonstegard*1, F. Iraqi2, J. Mugambi2, C. Van Tassell1, F. Garcia1, O. Hanotte2, S. Nagda2, J. Gibson1, and L. Baker2, 1USDA, ARS Bovine Functional Genomics Laboratory, Beltsville, MD, 2International Livestock Research Institute, Nairobi, Kenya, 1FAO/IAEA Animal Production Unit, Vienna, Austria, 2University of New England, Armidale, NSW, Australia.

An ovine whole-genome radiation hybrid map. C. H. Wu*, K. Nomura1, T. Hadfield1, J. E. Womack2, and N. E. Cockett1, 1Utah State University, Logan, 2Texas A&M University, College Station.

Teaching/Undergraduate and Graduate Education
Exhibit Hall A

Abstract #

Factors associated with students’ self-reported amount of learning in dairy science courses. R. R. Rastani* and M. A. Wattiaux, University of Wisconsin, Madison.

Leadership development through leadership action plans. D. R. Brink*, L. D. Moody, and M. M. Peterson, University of Nebraska, Lincoln.

Promoting student engagement in the animal sciences: Incorporation of an academic pedigree project into an undergraduate animal breeding and genetics course. C. J. Kojima*, University of Tennessee, Knoxville.

Teaching animal behavior research to animal science students. D. B. Imwalle*, S. E. Becker, and L. S. Katz, Rutgers University, New Brunswick, NJ.

Development of a course in embryo transfer and related technologies for undergraduate students in agriculture. C. R. Youngs*, Iowa State University, Ames.

Introduction of a laboratory component to a therapeutic horseback riding course. M. Nicodemus* and K. Slater, Mississippi State University, Mississippi State.

OTHER EVENTS

ADSA/ASAS Joint Business Meeting
101 B-C
9:30 AM

ADSA Business Meeting
101 A
10:00 AM

ASAS Business Meeting
101 D-E
10:00 AM
SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM

ADSA Production Division, Dairy Reproduction Terminology Workshop

Chair: Ellen R. Jordan, Texas A&M University
Sponsor: Arm & Hammer Animal Nutrition

Symposium meets AAVSB’s RACE requirement for 2 hr CE.

101 J

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>426</td>
<td></td>
<td>Reproductive terminology workshop. E. R. Jordan*, J. S. Stevenson², P. M. Fricke³, and M. W. Overton⁴, ¹Texas A &amp; M University, Dallas, ²Kansas State University, Manhattan, ³University of Wisconsin, Madison, ⁴University of Georgia, Athens.</td>
</tr>
</tbody>
</table>

10:30 AM
Introduction. E. Jordan, Texas A&M University, Dallas.

10:35 AM
General terminology. M. Overton, University of Georgia, Athens.

10:50 AM
Discussion.

11:10 AM
Synchronization program terminology. J. Stevenson, Kansas State University, Manhattan.

11:25 AM
Discussion.

11:45 AM
Reproductive outcome terminology. P. Fricke, University of Wisconsin, Madison.

12:00 PM
Discussion.

12:20 PM
Wrap-up.

SYMPOSIUM

ARPAS

Assessment and Management of Feedstuff Variation in Dairy Nutrition

Chair: Charles Schwab, University of New Hampshire
Sponsor: ARPAS

101 H-I

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
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<tbody>
<tr>
<td>427</td>
<td></td>
<td>How can dairy nutrition models deal with uncertainty? R. A. Kohn*, University of Maryland, College Park.</td>
</tr>
<tr>
<td>429</td>
<td></td>
<td>Impact of variation in diet nutrient inputs on model output predictions. J. G. Fadel, H. A. Johnson, and P. H. Robinson*, University of California, Davis.</td>
</tr>
<tr>
<td>430</td>
<td></td>
<td>Managing feedstuff variation in nutritional practice. N. R. St-Pierre* and W. P. Weiss², ¹The Ohio State University, Columbus, ²Ohio State University, Wooster.</td>
</tr>
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</table>
### SYMPOSIUM
**Bioethics**

*Ethical and Social Issues in Animal Biotechnology*

**Chair:** Candace Croney, Oregon State University

101 A

<table>
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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
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<tbody>
<tr>
<td>10:30 AM</td>
<td></td>
<td>Introductions. C. Croney, <em>Oregon State University, Corvallis.</em></td>
</tr>
<tr>
<td>11:25 AM</td>
<td>433</td>
<td>Genetically engineered animals and the ethics of food labeling. R. Streiffer* and A. Rubel, <em>University of Wisconsin, Madison.</em></td>
</tr>
<tr>
<td>11:45 AM</td>
<td></td>
<td>Discussion.</td>
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### Dairy Foods

**Products and Processing**

**Chair:** Douglas Olson, Louisiana State University Agricultural Center

200 D-E

<table>
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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>10:45 AM</td>
<td>435</td>
<td>Comparison of the fatty acid distributions among different vegetable oil blends toward infant milk formulation. C. O. Maduko*, C. Akoh†, and Y. W. Park‡, <em>University of Georgia, Athens; †Fort Valley State University, Fort Valley, GA.</em></td>
</tr>
<tr>
<td>11:00 AM</td>
<td>436</td>
<td>Milk quality improvement in Iran. R. Noorbakhsh* and A. Heravi Moussavi†, <em>Institute of Standards and Industrial Research, Mashhad, Iran; †Center of Excellence and Department of Animal Science, Ferdowsi University, Mashhad, Iran.</em></td>
</tr>
<tr>
<td>11:30 AM</td>
<td></td>
<td>Break</td>
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<tr>
<td>11:45 AM</td>
<td>438</td>
<td>Pressure-induced interactions of milk proteins: Are they different from heat-induced interactions? H. A. Patel*†‡, H. Singh†, and L. K. Creamer‡, <em>Institute of Food, Nutrition and Human Health, Massey University, Palmerston North, New Zealand; †Fonterra Research Centre, Palmerston North, New Zealand; ‡Riddet Centre, Massey University, Palmerston North, New Zealand.</em></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>439</td>
<td>Microbial and somatic cells removal from raw skim milk by cold microfiltration: Quality and shelf life effects. J. A. Fritsch* and C. I. Moraru, <em>Cornell University, Ithaca, NY.</em></td>
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### Forages and Pastures

#### Forage Finishing

**Chair: John Fike, Virginia Tech**

**M100 B-C**

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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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<tr>
<td>10:30 AM</td>
<td>441</td>
<td>Effects of forage species on fatty acid composition of beef longissimus muscle from forage-finished beef. S. K. Duckett*, E. Pavan, R. N. Sonon, J. Neel, J. P. Fontenot, and W. Clapham; 1Clemson University, Clemson, SC, 2University of Georgia, Athens, 3USDA-ARS, Beaver, WV, 4Virginia Tech, Blacksburg.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>442</td>
<td>Effects of forage species on rib composition, color, and palatability in forage-finished beef. S. K. Duckett*, R. N. Sonon, E. Pavan, J. Neel, J. P. Fontenot, G. Scaglia, and W. Clapham; 1Clemson University, Clemson, SC, 2University of Georgia, Athens, 3USDA-ARS, Beaver, WV, 4Virginia Tech, Blacksburg, VA.</td>
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<tr>
<td>11:00 AM</td>
<td>443</td>
<td>Corn oil or corn grain supplementation to forage-finished steers. I. Effects on animal performance and carcass quality. E. Pavan*1,2 and S. Duckett; 1University of Georgia, Athens, 2INTA, Balcarce, Bs. As., Argentina, 3Clemson University, Clemson, SC.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>444</td>
<td>Corn oil or corn grain supplementation to forage-finished steers. II. Effects on s.c. and i.m. fatty acid composition. E. Pavan*1,2 and S. Duckett; 1University of Georgia, Athens, 2INTA, Balcarce, Bs. As., Argentina, 3Clemson University, Clemson, SC.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>445</td>
<td>Corn oil or corn grain supplementation to forage-finished steers. III. Effects on longissimus pH, tenderness, and flavor. E. Pavan*1,2 and S. Duckett; 1University of Georgia, Athens, 2INTA, Balcarce, Bs. As., Argentina, 3Clemson University, Clemson, SC.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>446</td>
<td>Dried distillers grains substitute for forage and nitrogen on pasture. M. A. Greenquist*; K. J. Vander Pol, L. Baleseng, T. J. Klopfenstein, W. H. Schacht, and G. E. Erickson; University of Nebraska, Lincoln.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>447</td>
<td>Use of cuticular wax alkanes to estimate digestibility and intake of cows at pasture with a view to estimating efficiency. S. W. Coleman*, C. C. Chase, Jr., and D. G. Riley; USDA ARS Subtropical Agricultural Research Station, Brooksville, FL.</td>
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### SYMPOSIUM

#### Goat Species

**Improving Meat, Milk and Parasite Control in Goats**

**Chair: Sandra Solaiman, Tuskegee University**

**L100 J**

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<tr>
<th>Time</th>
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<tr>
<td>10:30 AM</td>
<td>449</td>
<td>Indicators of fitness in Boer, Kiko, and Spanish does managed on pasture in Tennessee (Year 2). R. Browning, Jr.*, B. Donnelly, T. Payton, M. L. Leite-Browning, P. Pandya, W. Hendrixson, and M. Byars; Tennessee State University - AgER, Nashville.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>450</td>
<td>Concentrate protein level for finishing intact or castrated Boer-cross meat goats. M. Poore*, A. Shaeffer, S. Freeman, H. Glennon, and J.-M. Luginbuhl; North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>451</td>
<td>Generation and annotation of expressed sequence tags (ESTs) for the goat. B. L. Sayre*1, G. Harris1, J Dzakuma2, S. Samake1, N. Whitley1, and Z. Wang; 1Virginia State University, Petersburg, 2Prairie View A&amp;M University, Prairie View, TX, 3Fort Valley State University, Fort Valley, GA, 4University of Maryland-Eastern Shore, Princess Anne, 5Langston University, Langston, OK.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>452</td>
<td>Effects of preparturient intramuscular injection of vitamin E and selenium on milk somatic cell counts in dairy goats. I. Lin*1,2, Y. Fan1, and H. Chang1,2; 1National Chung Hsing University, Taichung, Taiwan, ROC, 2National Taiwan University, Taipei, Taiwan, ROC, 3Uni-President Enterprises Corp., Tainan, Taiwan, ROC.</td>
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<tr>
<td>11:30 AM</td>
<td>453</td>
<td>Genetic parameters for milk yield in dairy goats across lactations in Germany. B. Zumbach<em>1, S. Tsuruta</em>1, I. Misztal1, and K. J. Peters1; 1University of Georgia, Athens, 2Humboldt University, Berlin, Germany.</td>
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### Horse Species
#### Equine Nutrition
**Chair: Sarah Ralston, Rutgers University**

<table>
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<th>Time</th>
<th>Abstract #</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>10:45 AM</td>
<td>455</td>
<td>Effect of parity and day on foal nursing behavior during the first month of lactation. T. N. Stamper*, B. D. Nielsen1, J. Liesman1, and N. L. Trottier1, Michigan State University, East Lansing, Grand-Rapids, MI.</td>
<td></td>
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<tr>
<td>11:00 AM</td>
<td>456</td>
<td>Effect of parity and day on nutrient intake by mares during the first month of lactation. T. N. Stamper2, B. D. Nielsen1, and N. L. Trottier, Michigan State University, East Lansing, Grand-Rapids, MI.</td>
<td></td>
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<tr>
<td>11:15 AM</td>
<td>457</td>
<td>Duration of nursing and resting bouts of foals ten and twenty days after birth. B. D. Nielsen2, J. S. Liesman1, I. Gyorkos1, L. Tecsy1, A. Harcsa2, and A. Tecsy1, Michigan State University, East Lansing, College of Nyiregyhaza, Nyiregyhaza, Hungary.</td>
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<td>11:30 AM</td>
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<tr>
<td>12:00 PM</td>
<td>459</td>
<td>Effects of dietary fish oil and flaxseed on plasma fatty acid composition and immune response in yearling horses. K. R. Vineyard*, L. K. Warren1, K. A. Skjolaas2, J. E. Minton2, and J. Kivipelto1, University of Florida, Gainesville, Kansas State University, Manhattan.</td>
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<tr>
<td>12:15 PM</td>
<td>460</td>
<td>Effects of fatty acid supplementation on plasma fatty acid concentrations and characteristics of the first postpartum estrous in mares. T. A. Poland*, J. M. Koubal, C. M. Hill1, C. Armendariz1, J. E. Minton1, and S. K. Webe2, Kansas State University, Manhattan, JBS United, Inc., Sheridan, IN.</td>
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### Nonruminant Nutrition
#### Sow Nutrition and Gilt Development
**Chair: Brian Kerr, USDA - ARS - SOMMRU and Mike Orth, Michigan State University**

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<th>Time</th>
<th>Abstract #</th>
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<tr>
<td>10:45 AM</td>
<td>462</td>
<td>Progenos in sows increases number of piglets born. P. Ramaekers*, B. Kemp1, and T. van der Lende1, Nutreco Netherlands BV, Boxmeer, The Netherlands, Department of Animal Sciences, Wageningen, The Netherlands.</td>
<td></td>
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<tr>
<td>11:00 AM</td>
<td>463</td>
<td>Dietary protein concentration alter amino acid extraction rate across the porcine mammary gland during lactation. J. Perez Laspiur and N. L. Trottier*, Michigan State University, East Lansing.</td>
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<tr>
<td>11:30 AM</td>
<td>465</td>
<td>An omega-3 enriched diet mitigates inflammatory mediators derived from ex vivo porcine cartilage explants. M. W. Orth*, J. D. Spencer2, C. I. O’Connor1, P. M. Wolfe1, and J. B. Wheeler1, Michigan State University, East Lansing, JBS United, Inc., Sheridan, IN.</td>
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<tr>
<td>11:45 AM</td>
<td>466</td>
<td>Varying dietary cation-anion difference in late gestation and in lactation on sow productivity. M. L. Roux*, P. W. Jardon1, S. L. Johnston1, T. D. Bidner1, and L. L. Southern1, LSU Agricultural Center, Baton Rouge, West Central, Ralston, IA.</td>
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Production, Management and the Environment III
Chair: L. Wayne Greene, Auburn University
M100 I-J

Time Abstract #
10:30 AM 467 Carry-over effect of extended photoperiod during pubescence on first lactation in beef heifers. J. A. Small*1 and A. D. Kennedy2,1. Agriculture & Agri-Food Canada, Brandon, MB, Canada, 2University of Manitoba, Winnipeg, MB, Canada.

10:45 AM 468 Influence of breed type and temperament on feedlot growth and carcass characteristics of beef steers. R. C. Vann*1, R. D. Randel2, T. H. Welsh, Jr.3, S. T. Willard4, J. A. Carroll5, M. S. Brown1, and T. E. Lawrence1, 1MAFES-Brown Loam Exp. Station, Raymond, MS, 2TAES, College Station and Overton, TX, 3West Texas A&M University, Canyon, 4Mississippi State University, Starkville, 5Livestock Issues Research Unit, Agricultural Research Service-USDA, Lubbock, TX.

11:00 AM 469 The effect of supplemented light on certain production parameters of young beef bulls fed intensively. P. J. Fourie*, D. J. Maasz, and D. O. Umesiobi, Central University of Technology, Free State, South Africa.

10:30 AM 475 Potential demand for dairy farm revenue insurance. C. A. Wolf*, J. C. Hadrich, and J. R. Black, Michigan State University, East Lansing.

10:45 AM 476 Effect of mastitis and postpartum metabolic diseases on milk yield persistency in Holstein and Jersey cows. J. A. D. R. N Appuhamy*1, B. G. Cassell1, and J. B. Cole2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

11:00 AM 477 Effect of preparturient intramuscular injection of vitamin E and selenium on milk somatic cell counts in Holstein cows. Y. K. Fan*1, I. T. Lin1,2, and H. I. Chang1,3, 1National Chung Hsing University, Taichung, Taiwan, ROC, 2National Taiwan University, Taipei, Taiwan, ROC, 3Uni-President Enterprises Corp., Tainan, Taiwan, ROC.


12:00 PM 481 Comparison of a 2-stage and linear controls for feedline soaking systems utilized in 2-row freestall barns. M. J. Brouk*, B. Cvetkovic, J. F. Smith, and J. P. Harner, Kansas State University, Manhattan.

Production, Management and the Environment IV
Chair: Dan Waldner, Cargill Animal Nutrition
101 B-C

Time Abstract #
10:30 AM 475 Potential demand for dairy farm revenue insurance. C. A. Wolf*, J. C. Hadrich, and J. R. Black, Michigan State University, East Lansing.

10:45 AM 476 Effect of mastitis and postpartum metabolic diseases on milk yield persistency in Holstein and Jersey cows. J. A. D. R. N Appuhamy*1, B. G. Cassell1, and J. B. Cole2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

11:00 AM 477 Effect of preparturient intramuscular injection of vitamin E and selenium on milk somatic cell counts in Holstein cows. Y. K. Fan*1, I. T. Lin1,2, and H. I. Chang1,3, 1National Chung Hsing University, Taichung, Taiwan, ROC, 2National Taiwan University, Taipei, Taiwan, ROC, 3Uni-President Enterprises Corp., Tainan, Taiwan, ROC.


10:30 AM 479 Using heat stress audits to evaluate the level of heat stress on commercial dairies. J. Smith*1, M. VanBaale1, R. Rodriguez1, C. Jamison1, M. Brouk1, and J. Harner III1, 1Kansas State University, Manhattan, 2University of Arizona, Tucson, 3Monsanto, St. Louis, MO.


12:00 PM 481 Comparison of a 2-stage and linear controls for feedline soaking systems utilized in 2-row freestall barns. M. J. Brouk*, B. Cvetkovic, J. F. Smith, and J. P. Harner, Kansas State University, Manhattan.
Impact of feedline soaker minimum operation temperature upon respiration rate and body temperature of lactating dairy cows. M. J. Brouk*, B. Cvetkovic, J. F. Smith, and J. P. Harner, Kansas State University, Manhattan.

Rearing system effects on growth, puberty and serum prolactin concentrations in dairy heifers derived from beef cattle recipients of in-vivo developed or in-vitro produced embryos. J. A. Small*, B. Sawatzky, A. D. Kennedy, H. Engelhardt, J. D. Ambrose, and K. M. Wittenberg, Agriculture and Agri-Food Canada, Research Centre, Brandon, MB, Canada, University of Manitoba, Winnipeg, MB, Canada, Brandon University, Brandon, MB, Canada, Alberta Agriculture, Food and Rural Development, Edmonton, AB, Canada.

Ruminant Nutrition

Nitrogen Metabolism - Dairy

Chair: Jeff Firkins, The Ohio State University

101 F-G

Time  Abstract #  Title and Authors
10:30 AM  482  ADSA Pioneer  Non-protein nitrogen in dairy cattle: A historical approach. J. T. Huber, University of Arizona, Orem, UT.
10:45 AM  484  Effects of duodenal infusion of graded amounts of threonine on lactational performances of dairy cows. H. Rulquin*1 and P. M. Pisulewski2, 1University and Research Unit on Milk Production, Saint Gilles, France, 2Agricultural University, Cracow, Poland.
11:00 AM  485  Effect of different forms of methionine on lactational performance of dairy cows. H. Rulquin*1, B. Graulet2, L. Delaby1, and J. C. Robert1, 1University and Research Unit on Milk Production, Saint Gilles, France, 2Centre of Studies and Research on Nutrition, Commentry, France.
11:15 AM  486  Effect of the isopropylester of the hydroxylated analogue of methionin (HMBi) on feed intake and performance of dairy cows in early lactation. A. Konyali1,2, K.-H. Südekum*1,3, W. Junge1, and E. Kalm1, 1University of Kiel, Kiel, Germany, 2Çanakkale Onsekiz Mart University, Çanakkale, Turkey, 3University of Bonn, Bonn, Germany.
11:30 AM  487  Reduced rumen degradable protein (RDP) and abomasal inulin reduce diet digestibility and urinary nitrogen in lactating dairy cows. T. F. Gressley* and L. E. Armentano, University of Wisconsin, Madison.
11:45 AM  488  Milk production response of dairy cows to silage mixtures fed with concentrates of varying ruminal degradation rate. A. Konyali1,2, K.-H. Südekum*1,3, W. Junge1, and E. Kalm1, 1University of Kiel, Kiel, Germany, 2Çanakkale Onsekiz Mart University, Çanakkale, Turkey, 3University of Bonn, Bonn, Germany.

Ruminant Nutrition

Ruminal Fermentation

Chair: Sergio Calsamiglia, Universitat Autonoma de Barcelona, Spain

101 D-E

Time  Abstract #  Title and Authors
10:30 AM  482  ADSA Pioneer  Rumen microbes: Where are we now and how did we get here? M. Allison, Iowa State University, Ames.
10:45 AM  491  A meta–analysis of the effects of fumarate on ruminal methanogenesis. E. M. Ungerfeld* and R. A. Kohn, University of Maryland, College Park.
11:00 AM  492  Implications of a carbon balance study: Organic acid and protein supplies change with fermentable carbohydrate:protein ratio. M. B. Hall* and P. J. Weimer, USDFRC, USDA-ARS, Madison, WI.
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<tr>
<th>Time</th>
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<th>Authors</th>
<th>Institutions</th>
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<tr>
<td>12:15 PM</td>
<td>497</td>
<td>Effects of feeding oxidized fat supplemented with antioxidant AGRADO on rumen nutrient digestibility and protein synthesis.</td>
<td>M. Vazquez-Anon*, J. Andrews*, T. Webster, and T. Jenkins</td>
<td>Novus International, St. Louis, MO, West Virginia University, Morgantown, Clemson University, Clemson, SC.</td>
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**Teaching/Undergraduate and Graduate Education**

**Chair:** Linda C. Martin, Oklahoma State University

**M100 G-H**

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<th>Authors</th>
<th>Institutions</th>
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<tr>
<td>10:30 AM</td>
<td>498</td>
<td>Comparing vocational agriculture and non-vocational agriculture student success on high stakes testing.</td>
<td>D. Ritenour* and D. Nash</td>
<td>Ferrum College, Ferrum, Virginia.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>499</td>
<td>Collegiate LifeKnowledge: A student-centered leadership development program.</td>
<td>C. M. Wood*</td>
<td>Virginia Polytechnic Institute and State University, Blacksburg.</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>501</td>
<td>Student perceptions and performance when animals and animal specimens are used in an introductory animal science class.</td>
<td>M. S. Nemechek and W. L. Flowers*</td>
<td>North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>502</td>
<td>Dynamics of how students earn their final course grade in an introductory course.</td>
<td>W. L. Flowers*</td>
<td>North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>503</td>
<td>Assessment standardization of hands-on skills in equine studies courses.</td>
<td>K. I. Meek* and R. E. Marean</td>
<td>Midway College, Midway, KY.</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>504</td>
<td>Costs, benefits, and publics: Training undergraduates to interpret a broad scope of implications from using genetic technologies in food animal production.</td>
<td>C. W. Ernst* and S. C. Ernst</td>
<td>Michigan State University, East Lansing, The Ohio State University, Columbus.</td>
</tr>
<tr>
<td>12:15 PM</td>
<td>505</td>
<td>Teaching societal issues facing animal agriculture: A writing intensive course for sophomores.</td>
<td>J. N. Spain* and G. W. Jesse</td>
<td>University of Missouri, Columbia.</td>
</tr>
</tbody>
</table>

**OTHER EVENTS**

**Feed Analysis Consortium, Inc. Meeting**

**M 100 D-E**

**12:30 pm**

The Feed Analysis Consortium, Inc., (FeedAC) cordially invites everyone interested in feed analysis, ration formulation and animal production to attend the Feed Analysis Consortium meeting. Having originated as the Ruminant Feed Analysis Consortium (RFAC), the newly incorporated FeedAC, Inc. retains the original goals of RFAC, but now includes the interests, needs and expertise that exists in feed analysis and measurements of nutrient bioavailability in poultry, swine and equine. A meeting agenda is being planned and will be released prior to the meeting.
### SYMPOSIUM

**ADSA Production Division**

**Meeting the Research and Educational Needs of the Dairy Industry During the Next 25 Years**

Chair: Maurice L. Eastridge, The Ohio State University

Sponsor: EAAP

Symposium meets AA VSB’S RACE requirement for 3 hr CE.

101 B-C

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td></td>
<td>Introduction. M. L. Eastridge, <em>The Ohio State University, Columbus.</em></td>
</tr>
<tr>
<td>2:05 PM</td>
<td>506</td>
<td>Changing how we feed dairy cattle. J. R. Newbold*, <em>Provimi Research and Technology Centre, Brussels, Belgium.</em></td>
</tr>
<tr>
<td>2:35 PM</td>
<td>507</td>
<td>Advancements and future challenges in understanding mammary gland function. A. V. Capuco*¹, E. E. Connor¹, M. J. Meyer², R. W. Li¹, C. P. Van Tassell¹, T. S. Sonstegard¹, M. E. Van Amburgh², and Y. R. Boisclair², ¹Bovine Functional Genomics Lab, USDA-ARS, Beltsville, MD, ²Cornell University, Ithaca, NY.</td>
</tr>
<tr>
<td>3:35 PM</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>509</td>
<td>Transferring knowledge to students and the dairy industry. R. E. James*, <em>Virginia Polytechnic Institute and State University, Blacksburg.</em></td>
</tr>
<tr>
<td>4:15 PM</td>
<td>510</td>
<td>Design and analysis of pen studies in the animal sciences. N. R. St-Pierre*, <em>The Ohio State University, Columbus.</em></td>
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<tr>
<td>4:45 PM</td>
<td></td>
<td>Discussion.</td>
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</table>

### Animal Behavior and Well-Being

**Chair: Drew Vermeire, Nouriche Nutrition Ltd.**

M100 G-H

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>3:00 PM</td>
<td>515</td>
<td>Use of pattern recognition to develop an automated animal health classification system. R. Silasi*¹², K. S. Schwartzkopf-Genswein¹, T. A. McAllister¹, B. Genswein¹, T. G. Crowe², R. Bolton², and B. Hill¹, ¹Agriculture &amp; Agri-Food Canada, Lethbridge, Alberta, Canada, ²University of Saskatchewan, Department of Agricultural and Bioresource Engineering, Saskatoon, Saskatchewan, Canada.</td>
</tr>
<tr>
<td>3:15 PM</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>516</td>
<td>The effect of small doses of naloxone on sexual behaviour of the anoestrous bitch. V. O. Fuentes-Hernandez*, P. I. Fuentes-Castro², and S. Nuño-Hernandez¹, ¹Universidad de Guadalajara, Tepatitlan, Jalisco Mexico, ²Hospital PEMEX SUR Alta Especialidad, Periferico Sur, Mexico DF, Mexico.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>517</td>
<td>Alternative piglet processing procedures given singly affect cortisol, behavior and growth. J. N. Marchant Forde¹, D. C. Lay Jr.¹, R. M. Marchant Forde¹, K. A. McMunn¹, E. A. Pajor², and H. W. Cheng¹, ¹USDA-ARS, LBRU, West Lafayette, IN, ²Purdue University, West Lafayette, IN.</td>
</tr>
</tbody>
</table>
Two alternative combinations of pig processing methods affect cortisol and behavior. D. C. Lay Jr.*, J. N. Marchant*, K. A. McMunn¹, R. M. Marchant-Forde¹, E. A. Pajor², and H. W. Cheng¹, Livestock Behavior Research Unit, Agricultural Research Service-USDA, West Lafayette, IN, Purdue University, West Lafayette, IN.

Validation of a color automated tracking system for activity and pen location of group housed weanling pigs. J. W. Dailey*, N. Krebs², J. A. Carroll¹, and J. J. McGlone², Livestock Issues Research Unit, Agricultural Research Service-USDA, Lubbock, TX, Texas Tech University, Lubbock.

The effects of prenatal stress on the ano-genital distance and growth hormone immuno-positive cells in the pituitary gland of the pig. E. L. Schenck*, D. C. Lay Jr.¹, H. G. Kattesh², J. E. Cunnick³, M. J. Daniels⁵, M. J. Toscano⁶, and K. A. McMunn¹, USDA-ARS Livestock Behavior Research Unit, West Lafayette, IN, University of Tennessee, Knoxville, Iowa State University, Ames, Purdue University, West Lafayette, IN, University of Florida, Gainesville, University of Bristol, Bristol, UK.

Animal Health II
Chair: Heather Dann, The Miner Institute
M100 I-J

Time Abstract # Content
2:00 PM 521 Effect of maternity pen management on risk of early calfhood diseases in dairy heifer calves during the preweaning period. P. Pithua*, S. J. Wells, and S. M. Godden, University of Minnesota, St. Paul.


2:30 PM 523 Effects of egg-derived antibody supplements on health and performance of veal calves. D. Wood*, J. Sowinski¹, and S. Hayes², Animex, Juneau, WI, Milk Products, Chilton, WI.

2:45 PM 524 A survey of bovine practitioners to determine factors associated with acute bloat syndrome in pre-weaned dairy heifers. D. E. Shoemaker*, P. J. Rajala-Schultz², and L. Midla¹, The Ohio State University, Wooster, The Ohio State University, Columbus, The Ohio State University, Marysville.

3:00 PM 525 Descriptive epidemiology of adult dairy cow mortalities. J. A. Severidt*, F. B. Garry, G. H. Gould, J. R. Wenz, and J. E. Lombard, Colorado State University, Fort Collins.


3:30 PM Break

3:45 PM 527 Mechanical properties of the hoof horn of dairy cows during lactation. B. Winkler¹ and J. K. Margerison², University of Plymouth, School of Biological Sciences, Plymouth, Devon, UK, Massey University, Institute of Food, Nutrition and Human Health, Palmerston North, NZ.

4:00 PM 528 Evaluation of Excede for control of BRD when administered at initial processing or at revaccination within pasture and feedlot receiving systems. V. Bremer*, G. Erickson¹, T. Klopfenstein¹, D. Smith¹, K. Vander Pol¹, M. Greenquist¹, D. Griffin¹, G. Sides², and L. Bryant², University of Nebraska, Lincoln, Pfizer Animal Health, New York, NY.


4:30 PM 530 Physiological, hematological and immunological responses of 9-month old bulls (250kg) to transport at spatial allowances of 0.85m² and 1.27m²/animal on a 12-h journey by road. B. Earley*, D. J. Prendiville, and E. G. O'Riordan, Teagasc, Grange, Beef Research Centre, Dunsany, Co. Meath, Ireland.

4:45 PM 531 Gene expression changes in neutrophils of young bulls during transportation stress. K. R. Buckham*¹, J. L. Burton¹, B. Earley¹, and M. A. Crowe¹, University College Dublin, Dublin, Ireland, Teagasc, Grange Beef Research Centre, Meath, Ireland, Michigan State University, East Lansing.

5:00 PM 532 Effects of lairage during transport on innate immune function of swine. J. L. Williams*¹, S. D. Eicher¹, J. A. Patterson¹, and J. N. Marchant-Forde¹, USDA-ARS, West Lafayette, IN, Purdue University, West Lafayette, IN.
Beef Species
Chair: Elaine Grings, USDA-ARS
101 A

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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>533</td>
<td>Relationship between residual feed intake and onset of puberty in Brangus heifers.</td>
<td>P. A. Lancaster*, G. E. Carstens¹, D. W. Forrest¹, R. D. Randel¹, T. H. Welsh, Jr., and T. D. A. Forbes¹, Texas A&amp;M University, College Station, Texas A&amp;M University, Overton, Texas A&amp;M University, Uvalde.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>535</td>
<td>Integrating the beef cattle foodchain – A case study of the first organic beef cattle enterprise in Veracruz, Mexico.</td>
<td>P. Fajersson* and P. Parada*, Texas A&amp;M University, College Station, Texas A&amp;M University, College Station, Overton, Texas A&amp;M University, Uvalde.</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>536</td>
<td>Influence on weaning weights and growth rate of nursing beef calves dewormed 90 days prior to weaning.</td>
<td>J. N. Carter*, M. J. Hersom², R. O. Myer³, M. M. Brennan³, M. K. Maddox³, J. T. Matthews³, and D. Driver³, University of Florida, NFREC, Marianna, University of Florida, Gainesville.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>537</td>
<td>Effect of number of feeding places per pen on performance, blood metabolites and haptoglobin during the first month of adaptation to the feedlot.</td>
<td>L. A. González*, A. Ferret¹, X. Manteca¹, J. L. Ruiz-de-la-Torre¹, S. Calsamiglia¹, M. Devant¹, and A. Bach²,³, Universitat Autònoma de Barcelona, Bellaterra, Spain, Unitat de Remugants-IRTA, Barcelona, Spain, ICREA, Spain.</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>538</td>
<td>Effect of number of feeding places per pen on performance, blood metabolites and haptoglobin of Holstein heifers on high-concentrate diets.</td>
<td>L. A. González*, A. Ferret¹, X. Manteca¹, J. L. Ruiz-de-la-Torre¹, S. Calsamiglia¹, M. Devant¹, and A. Bach²,³, Universitat Autònoma de Barcelona, Bellaterra, Spain, Unitat de Remugants-IRTA, Barcelona, Spain, ICREA, Spain.</td>
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<td>3:30 PM</td>
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<td>Break</td>
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<td>3:45 PM</td>
<td>539</td>
<td>Effects of ractopamine and days on feed on performance and carcass traits of calf-fed steers.</td>
<td>C. D. Reinhardt¹, G. L. Parsons*, B. J. Johnson¹, J. P. Hutcheson², and W. T. Nichols³, Kansas State University, Manhattan, Intervet, Inc., Millsboro, DE.</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>541</td>
<td>Effect of Optaflexx and days on feed on muscle gene expression in calf-fed steers.</td>
<td>G. L. Parsons*, S. J. Winterholler¹, C. D. Reinhardt¹, J. P. Hutcheson², D. A. Yates², W. T. Nichols², and B. J. Johnson¹, Kansas State University, Manhattan, Intervet, Inc., Millsboro, DE.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>542</td>
<td>Effect of optaflexx™ and days on feed on feedlot performance, carcass characteristics, and skeletal muscle gene expression in yearling steers.</td>
<td>S. J. Winterholler¹, G. L. Parsons¹, J. P. Hutcheson², D. A. Yates², W. T. Nichols², R. S. Swingle¹, and B. J. Johnson¹, Kansas State University, Manhattan, Intervet, Inc., Millsboro, DE, Cactus Research, LTD, Amarillo, TX.</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>543</td>
<td>Effects of ractopamine and days on feed on performance and carcass traits of yearling heifers.</td>
<td>C. D. Reinhardt¹, J. P. Hutcheson², W. T. Nichols², R. S. Swingle¹, and K. J. Karr³, Kansas State University, Manhattan, Intervet, Inc., Millsboro, DE, Cactus Research, LTD, Amarillo, TX.</td>
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<td>Evaluation of a single Revalor-200 compared to Revalor-IH and Finaplix-H in a reimplant program for finishing heifers.</td>
<td>C. D. Reinhardt¹, J. P. Hutcheson², and W. T. Nichols³, Kansas State University, Manhattan, Intervet, Inc., Millsboro, DE.</td>
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</table>
SYMPOSIUM
Breeding and Genetics
Phylogenetics and Genetic Diversity
Chair: Michael MacNeil, USDA-ARS
Sponsors: Newsham Genetics
L100 B-C

Time                      Abstract #                      Authors
2:00 PM                    Introductions. M. D. MacNeil, USDA-ARS, Miles City, MT.
2:05 PM 544                An overview of phylogenetics. M. Cronin*, University of Alaska, School of Natural Resources and Agricultural Sciences, Fairbanks.
4:05 PM 547                Current efforts in conservation of animal genetic diversity. H. Blackburn*¹ and D. Bixby², ¹ARS-National Animal Germplasm Program, Ft. Collins, CO, ²American Livestock Breeds Conservancy, Pittsboro, NC.
4:45 PM                    Discussion.

Dairy Foods
Cheese II
Chair: Diane Van Hekken, USDA
200 D-E

Time                      Abstract #                      Authors
2:00 PM  ADSA Pioneer      Analytical improvements in cheese technology. R. Bradley, University of Wisconsin, Madison.
2:15 PM  548                Effect of mountain and sea level pasture on monoterpene composition in milk, curd and Ragusano cheese at 4 and 7 months of aging. S. Carpino*¹, T. Rapisarda¹, and G. Licitra¹², ¹CoRFiLaC, Regione Siciliana, Ragusa, Italy, ²D.A.C.P.A. Catania University, Catania, Italy.
2:30 PM  549                Characterization of calcium lactate crystal growth on Cheddar cheese. P. Rajbhandari* and P. S. Kindstedt, University of Vermont, Burlington.
3:00 PM  551                Quantitative analysis of cheese microstructure by scanning electron microscope images. M. Caccamo*¹, G. Impoco², L. Tuminello¹, and G. Licitra¹², ¹CoRFiLaC, Regione Siciliana, Ragusa, Italy, ²D.E.E.I. Trieste University, Trieste, Italy, ³D.A.C.P.A., Catania University, Catania, Italy.
3:15 PM                    Break
3:30 PM  552                Predicting curd moisture content, whey fat concentration and curd yield from near infrared light backscatter. C. C. Fagan¹, M. Leedy², M. Castillo*², F. A. Payne², C. P. O’Donnell¹, and D. J. O’Callaghan¹, ¹University College Dublin School of Agriculture, Dublin, Ireland, ²University of Kentucky, Lexington, ³Moorepark Food Research Centre, Teagasc, Fermoy, Cork, Ireland.
3:45 PM  553                Development and application of an image analysis method to measure and characterize calcium lactate crystals on uncolored Cheddar cheese. P. Rajbhandari* and P. S. Kindstedt, University of Vermont, Burlington.
4:00 PM  554                Computer vision analysis to monitor syneresis of cheese curd in a cheese vat. C. D. Everard*¹, C. P. O’Donnell², C. C. Fagan², D. J. O’Callaghan¹, M. Castillo¹, and F. A. Payne¹, ¹Teagasc, Moorepark Food Research Centre, Fermoy, Co. Cork, Ireland, ²University College Dublin, Dublin, Ireland, ³University of Kentucky, Lexington.
SYMPOSIUM
Horse Species
What’s New in the New NRC for Horses
Chair: Laurie Lawrence, University of Kentucky
Symposium meets AAVSB’S RACE requirement for 3 hr CE.

M100 A

Time Abstract #
2:00 PM Introduction. L. Lawrence, University of Kentucky, Lexington.
2:10 PM Unique aspects of equine nutrition. R. Geor, Virginia Tech, Blacksburg.
3:00 PM Feeding behavior and feeding management. D. Freeman, Oklahoma State University, Stillwater.
3:25 PM Break
3:40 PM Forages and carbohydrates. A. Longland, Institute of Grassland and Environmental Research, United Kingdom.
4:05 PM Using models to predict nutrient requirements. M. Barry, Ag Models, LLC, Tully, NY.
4:30 PM Round Table Discussion.

SYMPOSIUM
International Animal Agriculture
Alternatives to Antibiotics if Feeding Ruminants for Optimal Production and Health
Chair: Christopher K. Reynolds, The Ohio State University
Sponsors: Pancosma USA Inc. and EAAP
Symposium meets AAVSB’S RACE requirement for 3 hr CE.

101 D-E

Time Abstract #
2:00 PM Introduction. C. K. Reynolds, Ohio State University, Wooster.
2:05 PM 555 Differing objectives and key targets for rumen fermentation. R. J. Wallace*, Rowett Research Institute, Bucksburn, Aberdeen, United Kingdom.
2:45 PM 556 The use of yeast-based probiotics to meet new challenges in ruminant production. C. Newbold* and A. Olvera-Ramirez, Institute of Rural Science, University of Wales, Aberystwyth, Wales, UK.
### SYMPOSIUM - Lactation Biology

**Local Control of Mammary Function**

*Chair: Geoffrey Dahl, University of Illinois*

*Sponsor: Monsanto Company*

#### 101 J

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<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>559</td>
<td>Regulation of gene expression in the bovine mammary gland by ovarian steroids. E. E. Connor*¹, M. J. Meyer², R. W. Li³, M. E. Van Amburgh⁴, Y. R. Boisclair⁵, and A. V. Capuco⁶, ¹Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD, ²Cornell University, Ithaca, NY.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>560</td>
<td>Dynamics of lactogenic hormone induced recruitment of transacting-factors to a milk protein gene promoter. E. Kabotianski⁷, M. Rijnkels⁸, M. Huetter⁹, and J. M. Rosen¹⁰, ¹Baylor College of Medicine, Houston, TX, ²ARS /USDA Children’s Nutrition Research Center, Houston, TX.</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>561</td>
<td>Udder changes and milk production in dairy ewes induced to lactate. B. Ramírez Andrade¹², A. A. K. Salama¹³, G. Caja*¹⁴, V. Castillo¹⁴, E. Albanell¹⁵, and X. Such¹⁶, ¹Grup de Recerca en Remugants, Universitat Autònoma de Barcelona, Bellaterra, Spain, ²Facultad de Agronomía, Universidad Autónoma, San Luis Potosí, México.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>562</td>
<td>Comparative genomics of the Tammar Wallaby and Fur Seal; model systems to study local regulation of mammary gland function. K. Nicholas⁴¹, M. Digby⁴², C. Lefevre⁴², J. Sharp⁴², S. Maier⁴², A. Brennan⁴², J. Arnould⁴³, and K. Cane⁴⁴, ²Cooperative Research Centre for Innovative Dairy Products, Melbourne, Australia, ³Department of Zoology, University of Melbourne, Melbourne, Australia, ⁴Victorian Bioinformatics Consortium, Monash University, Clayton, Australia, ⁵School of Biological and Chemical Sciences, Deakin University, Burwood, VIC, Australia.</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>563</td>
<td>Acute physical distension of rat mammary glands induces apoptosis and decreases B1-integrin and tight junction (TJ) protein signalling. C. V. C. Phyn*¹, M. Digby², M. Doebson³, S. R. Davis⁴, K. Stelwagen⁵, and K. Singh⁶, ¹AgResearch Ltd., Hamilton, New Zealand, ²Dexcel Ltd., Hamilton, New Zealand, ³ViaLactia Biosciences (NZ) Ltd., Auckland, New Zealand.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>564</td>
<td>Effects of frequent milking during early lactation on milk yield in dairy cows are locally regulated. E. H. Wall* and T. B. McFadden, Lactation and Mammary Gland Biology Group, University of Vermont, Burlington.</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>565</td>
<td>Expression and regulation of glucose transporters in the bovine mammary gland. F.-Q. Zhao* and A. F. Keating, University of Vermont, Burlington.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>566</td>
<td>Hormonal interactions between the mammary fat pad and mammary cells affect lactation. Y. Feuermann*¹, S. J. Mahbješ⁵, and A. Shamay¹, ¹Agriculture Research Organisation The Volcani Center, Bet Dagan Israel, ²Faculty of Agriculture, The Hebrew University of Jerusalem, Rehovot, Israel.</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>567</td>
<td>Growth hormone stimulates the expression of milk protein genes in bovine mammary epithelial cells overexpressing growth hormone receptor. Y. Zhou*, R. M. Akers, and H. Jiang, Virginia Tech, Blacksburg.</td>
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### Nonruminant Nutrition

**Enzyme Supplementation and By-Products in Swine Diets**

*Chair: Dennis Liptrap, Hubbard Feeds and Brian Richert, Purdue University*

#### L100 J

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<tr>
<td>2:00 PM</td>
<td>568</td>
<td>Chemical composition, phytate phosphorus release during steeping and feeding value of corn steep water for pigs. S. J. Niven*¹, O. A. Izquierdo², C. Zhu³, D. Columbus⁴, and C. F. M. de Lange⁵, ¹University of Guelph, Ontario, Canada, ²Corn Products International, Westchester, IL.</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>569</td>
<td>Addition of phytase and xylanase to wheat-based diets fed to growing pigs using growth performance and nutrient balance as response criteria. O. A. Olukosi*¹, J. S. Sands², and O. Adeola³, ¹Purdue University, West Lafayette, ²Danisco Animal Nutrition, Marlborough, UK.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>570</td>
<td>Effects of xylanase and wheat middlings in diets for finishing pigs. C. Feoli*, J. D. Hancock, C. R. Monge, C. L. Jones, and C. W. Starkey, Kansas State University, Manhattan.</td>
</tr>
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</table>

*Wednesday, JULY 12, 2006 ORAL SESSIONS*
Toxicity of Fusarium mycotoxins and detoxification by mycotoxin degrading enzymes. G. Schatzmayr*1, U. Hofstetter1, and C. Yeong-Hsiang2, 1BIOMIN GmbH, Herzogenburg, Austria, 2National I-Lan University, I-Lan, Taiwan.

Energy and phosphorus digestibility in high-protein distillers dried grain with solubles fed to growing pigs. M. R. Widmer*1, M. L. Gibson2, L. M. McGinnis1, C. Pedersen1, and H. H. Stein1, 1South Dakota State University, Brookings, 2Dakota Gold Marketing, Sioux Falls, SD.

Effects of replacing corn with triticale in diets for nursery and finishing pigs. C. R. Monge*, J. D. Hancock, T. L. Gugle, and C. Feoli, Kansas State University, Manhattan.

Impact of a varying number of random out-of-feed events on grow-finish pig performance. M. Brumm*1, S. Colgan1, and K. Bruns2, 1University of Nebraska, Concord, 2South Dakota State University, Brookings.


Flaxseed and carbohydrase enzyme supplementation affects gut microbial populations and activities in nursery pigs. E. Kiarie*, C. M. Nyachoti, B. A. Slominiski, and G. Blank, University of Manitoba, Winnipeg, Canada.

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Physiology and Endocrinology
Reproductive Physiology
Chair: Ron Butler, Cornell University
M100 B-C

2:00 PM 571  Reflections on past history of reproductive physiology research. R. Foot, Cornell University, Ithaca, NY.

2:15 PM 577  Effect of decreasing the interval from GnRH to PGF\(\alpha\)\(\alpha\), and lengthening proestrus on reproductive performance in GnRH-CIDR-PGF\(\alpha\)\(\alpha\), synchronization programs. L. A. Helser*1, G. A. Bridges1, D. E. Grum1, M. L. Mussard1, C. L. Gasser2, D. M. Lantz1, and M. L. Day1, 1The Ohio State University, Columbus, 2Southern Utah University, Cedar City.


2:45 PM 579  Influence of a CIDR insert after a fixed-time AI on pregnancy rates and return to estrus of nonpregnant cows. K. N. Thielen1, J. E. Larson*1, B. J. Lovasa1, D. J. Kesler1, J. S. Stevenson1, T. T. Marston1, and G. C. Lamb2, 1University of Minnesota, St. Paul, 2University of Minnesota, Grand Rapids, 3University of Illinois, Urbana, 4Kansas State University, Manhattan.

3:00 PM 580  Effects of estrous synchronization with a CIDR prior to the breeding season in bull-breeding herds on pregnancy rates. G. C. Lamb1, C. R. Dahlen*2, K. A. Vonnahme1, G. R. Hansen1, J. D. Arsenneau1, G. A. Perry4, J. Clement2, and J. D. Arthington4, 1University of Minnesota, Grand Rapids, 2University of Minnesota, Crookston, 3North Dakota State University, Fargo, 4University of Florida, Gainesville, 5University of Florida, West Lafayette, IN, 6University of South Dakota, Brookings, 7Clement Cow-Calf Consulting, Mandan, ND, 8University of Florida, Ona.

3:15 PM 581  Prevalence and risk factors for postpartum anestrus in dairy cows. R. B. Walsh*1, J. S. Walton2, K. E. Leslie1, and S. J. LeBlanc1, 1University of Guelph, Ontario, Canada, 2University of Guelph, Ontario, Canada.


3:45 PM 583  Digital infrared thermal imaging of the eye as correlated to rectal and vaginal temperature measurements in the ewe. S. T. Willard1, M. C. Vinson1, and R. W. Godfrey*2, 1Mississippi State University, Mississippi State, 2University of the Virgin Islands, St. Croix.

4:00 PM 584  The effects of immunization against LHRH using recombinant LHRH fusion protein OL on testicular development, ultrasonographic and histological appearance of the testis in buck kids. H. Ülker*, M. Küçük1, A. Yilmaz1, M. Yörük1, L. Arslan1, D. M. deAvila2, and J. J. Reeves2, 1Yıldızıhlı University, Van, Turkey, 2Washington State University, Pullman.
Using novel chimeric gonadotropins with single (FSH) or dual (LH and FSH) activity to induce follicle development in sheep. E. P. Lemke1, B. M. Adams1, I. Boime2, and T. E. Adams3, 1University of California, Davis, 2Washington University, St. Louis, MO.


Cis-9, trans-11 and trans-10, cis-12 conjugated linoleic acids reduce prostaglandin F2α production by bovine endometrial cells. N. R. Kendall1, A. L. Lock2, D. E. Bauman2, B. K. Campbell3, and G. E. Mann*1, 1University of Nottingham, Sutton Bonington, Loughborough, UK, 2Cornell University, Ithaca, NY, 3University of Nottingham, Queens Medical Centre, UK.

Ruminant Nutrition
Calves & Heifers - Dairy
Chair: Jim Wohlt, Rutgers University
101 F-G

Time Abstract #
2:00 PM ADSA Pioneer Calf nutrition management over the last 30 years. M. Fowler, Land O Lakes, Fort Dodge, IA.
2:15 PM 589 Effects of dietary fish oil on immunocompetence of neonatal Jersey calves. M. A. Ballou* and E. J. DePeters, University of California, Davis.
2:30 PM 590 Modifying the acute phase response of neonatal Jersey calves by supplementing milk replacer with fish oil. M. A. Ballou* and E. J. DePeters, University of California, Davis.
2:45 PM 591 Sodium zeolite A supplementation to dairy calves. K. Turner*, B. Nielsen2, C. O’Connor2, D. Rosenstein2, H. Schott2, C. Womack2, F. Nielsen3, and M. Orth2, 1The University of Georgia, Athens, 2Michigan State University, East Lansing, 3Grand Forks Human Nutrition Research Center, Grand Forks, ND.
3:15 PM 593 Effect of altering theoretical rumen degraded and metabolizable protein in a calf starter. T. Hill*, J. Aldrich, H. Bateman, and R. Schlotterbeck, Akey, Lewisburg, OH.
3:30 PM 594 Effect of altering theoretical rumen undegraded soybean protein in a calf starter. T. Hill*, J. Aldrich, H. Bateman, and R. Schlotterbeck, Akey, Lewisburg, OH.
3:45 PM 595 Enhanced-growth feeding program: Starter digestibility at weaning. M. Terré*, A. Bach1,1, and M. Devant1, 1Institut de Recerca i Tecnologia Agroalimentàries-Unitat de Remugants, Barcelona, Spain, 2Institució Catalana de Recerca i Estudis Avançats, Barcelona, Spain.
4:00 PM 596 Effects of an intensified compared to a moderate feeding program during the preweaning phase on long-term growth, age at calving, and first lactation milk production. L. Davis Rincker*, M. VandeHaar, C. Wolf, J. Liesman, L. Chapin, and M. Weber Nielsen, Michigan State University, East Lansing.
4:15 PM 597 The effects of restricted feeding high concentrate or high forage rations on rumen fermentation in dairy heifers. G. I. Zanton* and A. J. Heinrichs, The Pennsylvania State University, University Park.
Ruminant Nutrition
Minerals & Vitamins
Chair: Katharine Knowlton, Virginia Tech
101 H-I

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<tr>
<th>Time</th>
<th>Abstract #</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>600</td>
<td>Effect of dietary vitamin A restriction on marbling in growing cattle.</td>
<td>M. Gorocica-Buenfil*, F. Fluharty, C. Reynolds, and S. Loerch, *The Ohio State University, Wooster.</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>602</td>
<td>Plasma diamine oxidase as a biomarker of copper deficiency in the bovine.</td>
<td>L. R. Legleiter* and J. W. Spears, North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>604</td>
<td>Effect of increasing dietary concentrations of dried distillers grains plus solubles on P balance in finishing steers.</td>
<td>C. Benson, C. Wright*, J. McCarthy, and R. Pritchard, South Dakota State University, Brookings.</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>607</td>
<td>Calcium and phosphorus supplementation for transition cows.</td>
<td>V. Moreira* and C. Coxe, Louisiana State University, Franklin.</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>608</td>
<td>Development of methodologies to reduce the DCAD of hays for transition dairy cows.</td>
<td>R. L. Horst*, K. T. Pecinovsky, K. J. Moore, D. R. Thoreson, J. R. Russell, E. C. Brummer, and J. P. Goff, National Animal Disease Center, Ames, IA, **Iowa State University, Ames.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>610</td>
<td>Sodium zeolite A supplementation to lactating Holsteins.</td>
<td>K. Turner, B. Nielsen, and C. O’Connor, The University of Georgia, Athens, Michigan State University, East Lansing.</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>611</td>
<td>The relationship between dry matter intake and acid-base status of lactating dairy cows as manipulated by dietary cation-anion difference.</td>
<td>W. Hu, L. Kung, Jr, and M. R. Murphy, University of Delaware, Newark, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>612</td>
<td>Influence of altering dietary cation anion difference on milk yield and its composition by early lactating Nili Ravi buffaloes in summer.</td>
<td>M. A. Shahzad*, M. Sarwar, M. Nisa, and A. Khan, University of Agriculture, Faisalabad, Pakistan.</td>
</tr>
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</table>

Closing/International Reception
Ballroom B
4:30 PM
Thursday, July 13

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM
Animal Behavior and Well-Being
Current Issues of Animal Well-Being: Public Perception Versus Science
Chair: Janeen Salak-Johnson, University of Illinois
Sponsors: American Veal Association’s Veal Quality Assurance Program, Animal Agriculture Alliance, Center for Consumer Freedom, National Pork Board

M100 B-C

Time Abstract #
8:30 AM Animal well-being in the public mind - can we change perception? G. Coleman, Monash University, Australia.
9:45 AM Well-being issues of poultry management. J. A. Mench, University of California, Davis.
10:15 AM Well-being issues of swine management. D. Butler¹ and S. Curtis², ¹Murphy-Brown, LLC, ²University of Illinois, Champaign.

SYMPOSIUM
Beef Species
Enterprise Integration for Sustainable Beef Production
Chair: Elaine Grings, USDA-ARS

L100 D-E

Time Abstract #
8:30 AM 614 Applications of grazingland simulation models. J. D. Hanson*, USDA/ARS, Mandan, ND.
9:00 AM Integrated beef and crop production in a biofuel era: A case for interdisciplinary research approaches. J. R. Russell, J. D. Lawrence, and A. Trenkle, Iowa State University, Ames.
9:30 AM 615 Whole farm integration: Silvopastoral systems. J. P. S. Neel* and D. P. Belesky, USDA-ARS Appalachian Farming Systems Research Center, Beaver, WV.
10:00 AM Break
10:15 AM 616 Sustainable beef production systems: An international perspective. G. R. Hagevoort*, New Mexico State University Agricultural Science Center, Clovis.
11:15 AM Discussion.
Breeding and Genetics
Beef, Sheep & Swine Breeding
Chair: Ron Lewis, VPI & SU
M100 G-H

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<th>Time</th>
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<tr>
<td>8:30 AM</td>
<td>617</td>
<td>Connectedness in Targhee and Suffolk flocks participating in the U.S. National Sheep Improvement Program. L.A. Kuehn*, R. M. Lewis, and D. R. Notter, Virginia Polytechnic Institute and State University, Blacksburg.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>622</td>
<td>Some hybrid beef performances (B. taurus x B. indicus) in tropical Malaysia. A. Aman*, O. Ahmad, and S. Othman, International Islamic University Malaysia, Jalan Gombak, Kuala Lumpur, Malaysia, MARDI, Kuala Lumpur, Malaysia.</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>623</td>
<td>Use of a mathematical computer model to predict feed intake: Genetic parameters between observed and predicted values, and relationships with other traits. D. P. Kirschten*, E. J. Pollak, L. O. Tedeschi, D. G. Fox, B. Bourg, and G. E. Carstens, Cornell University, Ithaca, NY, Texas A&amp;M University, College Station.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>624</td>
<td>Examination of feed efficiency traits with post-weaning growth and carcass traits in central test bulls. G. S. Hecht* and L. A. Kriese-Anderson, Auburn University, Auburn, AL.</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>625</td>
<td>Significance of cytoplasmic origin on body composition in Limousin cattle. M. M. Rolf, D. W. Moser, and L. R. Hyde, Kansas State University, Manhattan, North American Limousin Foundation, Englewood, CO.</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>626</td>
<td>Association of microsatellite markers on bovine chromosomes 5 and 6 with carcass traits. A. M. Sanborn, E. Casas, and A. J. M. Rosa, South Dakota State University, Brookings, U.S. Meat Animal Research Center, Clay Center, NE.</td>
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SYMPOSIUM
FASS Environment, Waste Management and Ecosystems
Transforming Forages to Improve Nitrogen Use by Dairy Cows and Decrease Nitrogen Emissions
Chair: Neal Martin, USDA-ARS
Sponsor: US Dairy Forage Research Center
L100 A

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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tr>
<td>8:30 AM</td>
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<td>Opening remarks. N. Martin, USDA-ARS, Madison, WI.</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>628</td>
<td>Source, amount and fate of nitrogen on US dairy farms. R. A. Kohn* and M. Wattiaux, University of Maryland, College Park, University of Wisconsin, Madison.</td>
</tr>
</tbody>
</table>

9:30 AM 630 Preservation of protein during harvest and storage. L. Kung, Jr.*1 and R. E. Muck2, 1University of Delaware, Newark, 2USDA-ARS, Madison, WI.

10:00 AM Break

10:15 AM 631 Challenges in utilization of high protein forages by lactating dairy cows. P. Huhtanen* 1, G. A. Broderick2, and J. B. Russel3, 1MTT Agrifood Finland, Jokioinen, Finland, 2USDA-ARS, Madison, WI, 3USDA-ARS, Ithaca, NY.

10:45 AM 632 Manure nitrogen transformations in air, soil and crops on dairy farms. J. M. Powell*1, K. F. Knowlton2, M. P. Russelle1, and M. D. Hanigan2, 1USDA-ARS Dairy Forage Resh. Center, Madison, WI, 2Virginia Tech University, Blacksburg, 3USDA-ARS Dairy Forage Resh. Center, St. Paul, MN.

11:15 AM 633 Transforming forage plants to increase nitrogen utilization in dairy systems: What are the possibilities? R. Hatfield*, J. Grabber1, M. Sullivan1, G. Waghorn2, and M. McCaslin3, 1USDA-ARS, Madison, WI, 2Dexcel Limited, New Zealand, 3Forage Genetics, St. Paul, MN.

11:45 AM Discussion.

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Physiology and Endocrinology

Endocrinology

Chair: Rick Barb, USDA, ARS

M100 D-E

Time Abstract # Abstract

8:30 AM 634 An erythropoietin receptor (EPOR) gene polymorphism (SNP) alters EPOR mRNA in fetal liver of swine during early gestation. J. L. Vallet* and B. A. Freking, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.

8:45 AM 635 Serum constituents and thyroid hormones in sheep fed halophyte forages. A. Riasi*1, M. Danesh Mesgaran2, M. J. Zamiri2, and M. D. Stern4, 1University of Birjand, Birjand, Khorasan, Iran, 2Ferdowsi University of Mashad, Mashad, Khorasan, Iran, 3University of Shyraz, Shyraz, Fars, Iran, 4University of Minnesota, St. Paul.

9:00 AM 636 Food deprivation-induced decrease in blood insulin-like growth factor-I is associated with decreased liver growth hormone receptor mRNA and protein in steers. M. Wu*, R. Akers1, R. Torres-Diaz1, S. Frank2, J. Hall1, W. Beal1, and J. Jiang1, 1Virginia Tech, Blacksburg, 2University of Minnesota, St. Paul.


9:30 AM 638 Species-specific differences in constitutive androstane receptor (CAR) coding region predicts altered constitutive activity in ruminants. D. L. Greger*1, C. Morel2, C. R. Baumrucker1, and J. W. Blum2, 1Pennsylvania State University, University Park, 2University of Bern, Bern, Switzerland.

9:45 AM 639 Cortisol enhances N-acetylglutamate synthase activity and arginine synthesis in enterocytes of suckling piglets. G. Y. Wu*1,2, Y. L. Yin1, and N. E. Flynn2,3, 1The Chinese Academy of Sciences, Changsha, Hunan, P.R. China, 2Texas A&M University, College Station, 3Angelo State University, San Angelo, TX.

10:00 AM 640 Adrenal involvement in the biostimulatory effect of bulls. S. A. Tauck*, J. R. Olsen, and J. G. Berardinelli, Montana State University, Bozeman.

10:15 AM 641 Localization of Period1 mRNA in the ruminant oocyte and investigations of its role in ovarian function. R. A. Cushman*, M. F. Allan1, S. A. Jones1, G. P. Rupp2, and S. E. Echternkamp1, 1U.S. Meat Animal Research Center, Clay Center, NE, 2University of Nebraska, Lincoln.

10:30 AM 642 Trace element concentration of bovine ovarian and hepatic tissue. W. S. Swecker, Jr*1 and D. J. Tomlinson2, 1Virginia Tech, Blacksburg, 2Zinpro Corp, Eden Prairie, MN.
### Ruminant Nutrition

**Grazing Nutrition**

**Chair: Stacey Gunter, University of Arkansas**

**L100 J**

<table>
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<tr>
<th>Time</th>
<th>Abstract #</th>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>ADSA Pioneer</td>
<td>Feeding dairy cattle: Oh how it has changed and yet stayed the same. J. Clark, <em>University of Illinois, Urbana.</em></td>
</tr>
<tr>
<td>8:45 AM</td>
<td>643</td>
<td>Effects of ruminal fill on bite and grazing dynamics. P. Gregorini*1,2, S. Gunter1, C. Masino2, and P. Beck1, 1University of Arkansas, Hope, 2Universidad Nacional de La Plata, La Plata, Buenos Aires, Argentina.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>644</td>
<td>Strain of Holstein-Friesian and concentrate feeding level influence endogenous plasma ghrelin concentration. A. J. Sheahan1, D. P. Berry2, and J. R. Roche*1, 1Dexcel, Hamilton, New Zealand, 2Moorepark Dairy Production Research Center, Fermoy, Co. Cork, Ireland.</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>646</td>
<td>Effect of daily herbage allowance and concentrate level on the milk production performance of spring calving dairy cows in early lactation. E. Kennedy*1,2, M. O’Donovan1, M. Rath2, F. O’Mara2, and L. Delaby1, 1Dairy Production Research Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland, 2School of Agriculture, Food Science and Veterinary Medicine, NUI Dublin, Belfield, Dublin, Ireland, 1INRA, UMR Production du Lait, St. Gilles, France.</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>647</td>
<td>Effects of offering different types of supplementation to spring calving dairy cows at grass in autumn. M. O’Donovan*1, E. Kennedy1, T. Guinee2, and J. J. Murphy1, 1Teagasc, Dairy Production Research Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland, 2Teagasc, Moorepark Food Research Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>648</td>
<td>The effect of supplementing grazing cows with barley, corn or a mixture of both on milk yield, blood metabolites and rumen pH fluctuation. F. Dohme*, A. Scharenberg, and A. Münger, Agroscope Liebefeld-Posieux, Swiss Federal Research Station for Animal Production and Dairy Products (ALP), Posieux, Switzerland.</td>
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### Ruminant Nutrition

**Nitrogen Metabolism - Beef**

**Chair: Clint Loest, New Mexico State University**

**L100 F-G**

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<tr>
<td>8:30 AM</td>
<td>649</td>
<td>Balancing diets to meet the animal’s requirement for absorbable amino acids. J. W. Golden*1, M. S. Kerley1, and N. A. Pyatt2, 1University of Missouri, Columbia, 2ADM Animal Nutrition Research, Decatur, IN.</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>650</td>
<td>Effects of energy supplementation on leucine utilization by growing steers. G. F. Schroeder*, E. C. Titgemeyer, and E. S. Moore, Kansas State University, Manhattan.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>651</td>
<td>Influence of dietary protein concentration and source on ruminal metabolism, nutrient digestibility, and urinary purine derivative excretion in steers. G. I. Crawford*, M. K. Luebbe, T. J. Klopfenstein, and G. E. Erickson, University of Nebraska, Lincoln.</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>653</td>
<td>Determining the proportion of urea recycled to the gut that is incorporated into ruminal microbial protein. T. A. Wickersham*, E. C. Titgemeyer, and R. C. Cochran, Kansas State University, Manhattan.</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>655</td>
<td>Effects of methionine supplementation on selected serum constituents in steers following an endotoxin challenge. J. W. Waggoner*, C. A. Loest, T. M. Thelen, C. P. Mathis, D. M. Hallford, and M. K. Petersen, New Mexico State University, Las Cruces.</td>
</tr>
</tbody>
</table>
As part of ADSA’s Centennial Celebration, Departments of Dairy Science, Animal Science and Food Science, government institutions in the US and Canada, and Dairy Clubs as well as ADSA Sustaining Members will have posters on display during the meeting. These posters will showcase the history, accomplishments and contributions from their institution/organization from the past 100 years.

The Centennial Posters will be on display in the Exhibit Hall from Monday, July 10 through Wednesday, July 12. A reception will be held on Monday, July 10 from 4:00 to 5:00 p.m. near the Centennial Posters in the Exhibit Hall.

Posters are listed in alphabetical order by institution/organization.

<table>
<thead>
<tr>
<th>Abstract #</th>
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<tr>
<td>C2</td>
<td>California Polytechnic State University, San Luis Obispo “Tradition Never Graduates”. N. Borges*, E. Jaster, and W. Gillis, California Polytechnic State University, San Luis Obispo.</td>
</tr>
<tr>
<td>C5</td>
<td>Over 100 Years of Milk and Dairy Foods Research by the United States Department of Agriculture-Agricultural Research Service. D. L. Van Hekken*, Dairy Processing and Products Research Unit, USDA, ARS, ERRC, Wyndmoor, PA.</td>
</tr>
<tr>
<td>C6</td>
<td>The products, the people and the services of Diamond V Mills make the dairy industry more productive. I. Yoon*, M. Scott, and B. Kimbro, Diamond V Mills, Cedar Rapids, IA.</td>
</tr>
<tr>
<td>C7</td>
<td>100 Years of Dairy Science at Kansas State University. K. A. Schmidt*, M. J. Brouk, T. G. Rozell, J. E. Shirley, J. F. Smith, and J. S. Stevenson, Kansas State University, Manhattan.</td>
</tr>
<tr>
<td>C8</td>
<td>The Dairy Science Club at Louisiana State University Celebrates the 100th Anniversary of ADSA. C. C. Williams, B. Lyons, M. Konzelman*, A. Greenbaum, K. McClelland, and P. McGrew, Louisiana State University, Baton Rouge.</td>
</tr>
<tr>
<td>C9</td>
<td>100 Years of service to the dairy industry. B. Jenny*, K. Aryana, G. Hay, and C. Williams, Louisiana State University Agricultural Center, Baton Rouge.</td>
</tr>
<tr>
<td>C10</td>
<td>100+ Years of Dairy Manufacturing at MAC / MSC / MSU. J. Partridge*, Z. Ustunol, and E. Ryser, Michigan State University, East Lansing.</td>
</tr>
<tr>
<td>C12</td>
<td>North Carolina State University Dairy Science Club History. A. Nelkie*, North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>C13</td>
<td>Contributions to the Dairy Industry by the Food Science Department at North Carolina State University. H. E. Swaisgood and T. R. Klaenhammer*, North Carolina State University, Raleigh.</td>
</tr>
<tr>
<td>C14</td>
<td>100 Years of Dairy Science at The Ohio State University. D. L. Palmquist*, J. L. Firkins, M. L. Eastridge, and H. R. Conrad, The Ohio State University Department of Animal Sciences, Columbus.</td>
</tr>
<tr>
<td>C15</td>
<td>100 Years of Dairy Science at Oklahoma State University. S. E. Gilliland*, Oklahoma State University, Stillwater.</td>
</tr>
<tr>
<td>C16</td>
<td>100 years of dairy science at Oregon State University. M. J. Gamroth* and L. Goddik, Oregon State University, Corvallis.</td>
</tr>
<tr>
<td>C18</td>
<td>Penn State: The Second Land-Grant University. R. Pruyn, L. Muller, R. Kensinger*, and M. O’Connor, The Pennsylvania State University, University Park.</td>
</tr>
<tr>
<td>C19</td>
<td>A Century of Dairy Science at Purdue University. J. Chambers*, Purdue University, West Lafayette, IN.</td>
</tr>
<tr>
<td>C20</td>
<td>Highlights of Dairy Production at Purdue University. M. M. Schutz*, B. R. Baumgardt, and J. L. Albright, Purdue University, West Lafayette, IN.</td>
</tr>
</tbody>
</table>
More than 100 Years of Dairy Science at South Dakota State University. Dairy Science Faculty*, South Dakota State University, Brookings.


100 Years of Dairy Science at Texas A&M University. M. A. Tomaszewski*, E. Jordan, and H. O. Kunkel, Texas A&M University, College Station.

100 years of Dairy Science at the University of Alberta. M. Oba, C. Strawson*, P. Jelen, and J. Kennelly, University of Alberta, Edmonton, Alberta, Canada.


100+ Years of Dairy Foods Research, Teaching and Extension at the University of Guelph. H. D. Goff* and D. W. Stanley, University of Guelph, Guelph, ON, Canada.

100 Years of Dairy Science at the University of Illinois. J. Clark* and J. Baltz, University of Illinois, Urbana-Champaign.

100 Years of ADSA-SAD at the University of Illinois Illini Dairy Club. G. McCoy*, University of Illinois, Urbana-Champaign.

Gopher Dairy Club. B. Hemmesch*, University of Minnesota, St. Paul.

100 Years of Dairy Science at the University of Minnesota. J. Linn*, University of Minnesota, St. Paul.

Advances in Dairy Manufacturing and Food Science at the University of Missouri-Columbia, 1902-2006. R. T. Marshall*, University of Missouri, Columbia.

100 Years of Dairy Science at the University of Missouri-Columbia. F. Martz, J. R. Campbell, R. Ricketts, and J. N. Spain*, University of Missouri, Columbia.


100 Years of Dairy Science at the University of Tennessee (UT). G. W. Rogers*, M. J. Montgomery, and J. B. Cooper, University of Tennessee, Knoxville.

Celebrating a Century—1906 to 2006—of the University of Vermont Department of Animal Science. J. M. Smith*, University of Vermont, Burlington.


Dairying Becomes a Highlight of the Utah Rocky Mountains: Glimpses into a century of Contributions in Research, Service and Teaching at Utah State University. G. H. Richardson, R. Lamb, T. Dhiman, and D. J. McMahon*, Utah State University, Logan.

Virginia Dairy Foods Research Program. S. Duncan*, Virginia Polytechnic Institute and State University, Blacksburg.

Dairy Club of Virginia Tech: Capturing the Past, Defining the Future. J. L. Leech* and D. R. Winston, Virginia Polytechnic Institute and State University, Blacksburg.


West Central*: Practicing dairy-nutrition innovation for 50+ years! P. W. Jardon*, West Central, Ralston, IA.