ASAS-CSAS Annual Meeting & Trade Show

Animal Science and Technology: Ensuring Food Security

July 8 - 12, 2017 • Baltimore, Maryland

www.asas.org/meetings/annual-2017

CONFERENCE INFORMATION & SCIENTIFIC PROGRAM

Canadian Society of Animal Science / Société canadienne de Science animale
www.csas.net

ASAS-SSR Triennial Reproduction Symposium

Looking Back and Moving Forward—How Reproductive Physiology has Evolved

Thursday, July 13 • 8:00 am – 3:20 pm • Washington Marriott Wardman Park

In honor of SSR's 50th Anniversary, a joint Triennial Reproduction Symposium will be hosted by SSR and ASAS. The ASAS annual meeting in Baltimore precedes SSR's annual meeting. The Triennial Reproduction Symposium is focused on large animal/domestic livestock (USDA-related species) reproduction. The Co-Chairs of this special joint session are Andrea Cupp, Ph.D and Debora Hamernik, Ph.D. Registration for this special event is open. The cost is $50 and includes busing from the ASAS to SSR meeting site if needed.

Note: to attend the joint ASAS–SSR Triennial Reproduction Symposium, one *must* register for either, or both, the ASAS and/or SSR annual meetings. The Symposium will be held on the site of the SSR Meeting, in Marriott Salon 1 and the Mezzanine Level Foyer of the Marriott Wardman Park Hotel.

SCHEDULE AND SPEAKERS

8:00–8:45 am	**Invited Talk:** Michael F. Smith, Ph.D, University of Missouri, Columbia, Missouri and 2015 Casida Awardee. "*Reproduction in Domestic Ruminants During the Past 50 Years: Discovery to Application.*"
8:45–9:20 am	**Invited Talk:** Marc-Andre Sirard, Ph.D., V.M.D., Universite Laval, Quebec, QC, Canada. *"Prime Eggs from Prime Cows."*
9:20–9:55 am	**Invited Talk:** Jennifer A. Hernandez Gifford, Ph.D., New Mexico State University, Las Cruces, New Mexico, USA. *"Wnt's Role in Folliculogenesis."*
9:55–10:15 am	**Break.**
10:15–11:30 am	**Trainee Flash Talk Competition**
11:30 am–1:00 pm	**Posters** (*with "walking" lunch*).
1:00–1:35 pm	**Invited Talk:** Brenda M. Alexander, Ph.D., University of Wyoming, Laramie, Wyoming. *"Male Reproductive Behavior: Pathways and Messengers."*
1:35 pm–2:10 pm	**Invited Talk:** Dustin Tyler Yates, Ph.D., University of Nebraska, Lincoln, Nebraska. *"Fetal Origins of Impaired Muscle Growth and Metabolic Dysfunction: Lessons from Heat-Stressed Pregnant Ewes."*
2:10–2:45 pm	**Invited Talk:** Kazuhiko Imakawa, Ph.D., University of Tokyo, Tokyo, Japan. *"Integration of Molecules to Construct the Processes of Conceptus Implantation to the Maternal Endometrium."*
2:45–3:10 pm	**Annouce 2017 Casida Awardee and Award Presentation**.
3:10–3:20 pm	**Announce Trainee Competition Award Winners.**

Special Thanks to Dr. James W. Lauderdale Appreciation Club and contributors for making this joint symposium possible.

NOTE: The printed program this year is abbreviated in comparison to previous years. ASAS is in the process of converting all of our meeting programs to App driven programs. Therefore, we are providing a "basic" printed program this year, concentrating on the oral and poster sessions. The majority of information usually found in the front of the program can be found on the App.

Beginning in 2018, the ASAS-CSAS Annual Meeting and Trade Show will be Tablet/ Phone driven. There will not be a printed program.

To download the meeting app:
Visit **https://event.crowdcompass.com/2017asascsas** from your mobile device

PROGRAM CHAIR'S WELCOME

Welcome to the 2017 Annual Meeting!

The American Society of Animal Science (ASAS) is excited to be meeting jointly with the Canadian Society of Animal Science (CSAS).

Several new initiatives were incorporated into this year's program that showcase the next generation of animal scientists. These include PhD student award winners from ASAS section meetings as Jr. Platform Speakers within oral sessions and the largest student-based poster competition at an ASAS annual meeting to date. As in previous years, the program committee concentrated its efforts on identifying and creating symposium focusing on current issues and problems facing animal scientists and their solutions. These symposia feature prominent scientists and industry leaders sharing cutting edge results and ideas that will impact future research, education and policy decisions. Continued collaborative activities with our partner scientific societies kick off the meeting with a food and national security themed program cohosted with American Society for Nutrition and conclude our annual meeting with the Triennial Reproductive Biology Symposium cohosted with the Society for the Study of Reproduction.

Student competitions and activities are featured throughout the program. These activities provide an excellent way for students to highlight their scientific achievements and to network with other students and professionals. I encourage everyone to sit in on these competitions. The quality of the papers and information presented by our students is quite impressive.

It has been an honor to serve as the ASAS-CSAS Annual Meeting and Trade Show Program Chair for 2017; however, our program committees do the real work of organizing the meeting. These committees develop the ideas for the symposia, review the abstracts, and construct the oral and poster sessions.

The ASAS staff does a fantastic job with the logistics of the meeting, assuring everything runs smoothly. If it were not for their hard work and dedication, none of this meeting would be possible. Please spare a moment to let the staff know what you think of the meeting.

The 2017 ASAS-CSAS Annual Meeting and Trade Show promises to be an event with a great scientific program and plenty of time for networking.

I look forward to seeing you in Baltimore!

Dr. Sally E. Johnson
Overall Program Chair

ASAS AND CSAS PRESIDENTIAL WELCOMES

This year's meeting begins on Saturday, July 8, and runs through Wednesday, July 12. Many opportunities exist for interacting and networking, starting with the Opening Session on Saturday, July 8, when five ASAS members will share their stories and passion for animal science through short presentations in a series called AnimalX. Consistent with the style of the well-known TED-Talks, each AnimalX presentation offers a unique and personal perspective on animal science. AnimalX spotlights can be found on page 11 of this program.

The Opening Session will be preceded by an ice cream social (page 5). Other special pre-meeting events include the BOLFA Symposium: The Biology of Lactation – From Genes to Cells to Milk; the ASN-ASAS Preconference: The Role Of Animal Sourced Foods in Insuring Food Security And National Security.

The Annual Meeting program includes more than 20 symposia on a variety of topics that cover many species, disciplines and current topics of importance to companion animals and the production of animal-sourced foods.

In honor of the 50th anniversary of the Society for the Study of Reproduction (SSR), a joint ASAS-SSR Triennial Reproduction Symposium will be held from 8:00 am – 3:30 pm on Thursday, July 13, 2017 at the Marriott Wardman Park hotel in Washington, DC. The Triennial Reproduction Symposium is focused on reproduction in domestic livestock and includes six invited presentations, flash talks, and a poster competition. The SSR annual meeting, "50 Years of Research: Looking Back and Moving Forward," is July 13-16, 2017 in Washington, DC.

Attendees are encouraged to take full advantage of these great opportunities to share new ideas, visit with colleagues from around the world, and make new acquaintances.

ASAS and CSAS are grateful to the many volunteers that devoted their time and energy to make this meeting a success. We especially want to thank our sponsors. Their support is essential to the quality program that makes this ASAS-CSAS Annual Meeting and Trade Show an excellent meeting. A list of sponsors of the 2017 Annual Meeting is available in this program book. Please take time to thank these sponsors during the meeting. We are grateful to the Overall Program Committee of Sally Johnson (chair), Geoffery Dahl, Deb Hamernik, Elizabeth Kegley, Jack Whittier and Michael Steele for their time and energy in assembling this outstanding scientific program. We also thank the ASAS staff and many other volunteers who contributed to this huge undertaking.

Finally, thank you, the attendees, for participating in the 2017 ASAS and CSAS Annual Meeting in Baltimore. We hope you appreciate the scientific program and have fun in Baltimore!

Debora L Hamernik

Dr. Debora L. Hamernik, ASAS President

The Canadian Society of Animal Science (CSAS) is excited to be meeting with the American Society of Animal Science (ASAS) here at the 2017 Annual Meeting & Trade Show.

It gives me great pleasure to welcome you to the ASAS-CSAS Annual Meeting & Trade Show in Baltimore. With more than 1,500 participants from over 32 countries, this truly embodies an unparalleled global event of the brightest minds in animal science and agriculture.

This meeting provides an unequalled opportunity to see old friends, meet new ones, learn about CSAS's recent activities and advances in animal science, and participate in discussions with experts from around the globe about some of the most important issues related to animal science. We are honoured to count you among the conference participants.

Another year has passed by with lightning speed; however, I invite all CSAS members to our 2017 Annual General Meeting and Lunch, July 10 from 12:30 pm – 2:00 pm at the Hyatt Regency in Baltimore. During our AGM, I will present to you the most recent updates related to the work of your executive team, inform you of a number of achievements, as well as host a discussion on challenges confronting our society.

I look forward to joining you in attending many exciting presentations including the student competitions, scientific discussions, CSAS symposium, and our CSAS awards night where we recognize and celebrate outstanding members of our society.

Please enjoy the conference and take advantage of the many opportunities to learn, share, and network in Baltimore.

Respectfully yours,

Filippo Miglior

Dr. Filippo Miglior, CSAS President

TABLE OF CONTENTS

NEW THIS YEAR: ASAS-CSAS Highlights our Upcoming Animal Scientists

Make time to attend Jr. Platform Speakers

900 C. Scholte, Department of Animal and Avian Sciences, University of Maryland, College Park
910 C. Vonderohe, Department of Animal Science, Purdue University, West Lafayette, IN
901 A. McGee, Department of Animal Science, Oklahoma State University, Stillwater
902 E. Oosthuysen, New Mexico State University, Las Cruces

Important Message

In the event that protestors interrupt the meeting, please ignore them. Their goal is to attract attention, any attention you give them will only help their cause. Convention staff have a plan to handle these situations, and they depend on attendee cooperation. If members of the media approach you for an interview, please politely decline and direct them to the convention's media room, where spokespersons will be available.

Thank you for your cooperation.

ARPAS Continuing Education Units

The 2017 ASAS-CSAS Annual Meeting and Trade Show has been approved for up to 21 continuing education units (CEUs) for the American Registry of Professional Animal Scientists (ARPAS) certification requirements. ARPAS Exams are available Sunday at 10:30 am and 2:00 pm, Monday at 2:00 pm, and Tuesday, at 10:30 am and 2:00 pm.

Stop by the ARPAS Booth (318) to sign up. Exams will take place in room 305 of the convention center.

GENERAL MEETING INFORMATION

Schedule of Events

The 2017 ASAS-CSAS Annual Meeting & Trade Show is July 8-12 (Saturday-Wednesday). The opening session is Saturday evening; scientific sessions begin Sunday morning, and run through 12:30 pm on Wednesday. Two pre-conference symposia take place on Saturday.

Thursday morning, ASAS has busing available to Washington, DC for a special Triennial Reproduction Symposium held jointly with SSR in honor of SSRs 50th Anniversary.

To view the full schedule of events visit page 13 of this Program.

Location

The main meeting events will be held at the Baltimore Convention Center and area hotels. From the world renowned Inner Harbor to historic Little Italy, there is a grand variety of attractions.

The Center is conveniently located close to public transportation for easy access by MARC Train or Baltimore's Lightrail to Washington, DC or the Baltimore International Airport (BWI). Baltimore's Penn Station is a short 7 minute drive while BWI Airport is only 20 minutes by car.

Program Format for 2017

Poster sessions (Sunday – Tuesday) ..... 8:15 am – 9:15 am, 1:00 pm – 2:00 pm, 5:00 pm – 6:00 pm

Competition poster sessions (Sunday – Tuesday)...7:00 am – 9:15 am

Scientific sessions (Sunday – Wednesday) .....9:30 am – 12:30 pm

Scientific sessions (Sunday – Tuesday) .....2:00 pm – 5:00 pm

Poster sessions (Wednesday)..... 7:15 am – 8:15 am, 8:15 am – 9:15 am

Presentation Information

Oral and Invited Speakers

Oral sessions begin at 9:30 am. Meeting rooms will be equipped with a computer, projector and screen for electronic presentations that are pre-loaded before their sessions. See below for more information on pre-loading your presentation.

Onsite Upload Information

Onsite presentation upload is required. Files must be delivered to the Pre-Load Room (Convention Center 301). All presentations must be uploaded by 5:00 pm on the day before your scheduled presentation. Files will not be accepted via e-mail. No presentations will be loaded while the session is in progress or between presentations.

Pre-Load Room Hours

Saturday - Tuesday ..... 7:00 am – 5:00 pm

Wednesday ..... 7:00 am -12:00 pm

Poster Presentations

General Poster Sessions

We have dedicated 3 one-hour blocks daily, Sunday – Tuesday, and a two one-hour block on Wednesday for poster presentations. Each poster presentation will be available for public viewing for the entire day. The poster presentations will be located in the Exhibit Hall. All posters will be presented as ePosters.

The exhibit hall will open at 6:30 am, Sunday through Wednesday.

Competition Poster Sessions

Competition Poster Sessions are two hours long, starting at 7:15 am on Sunday – Tuesday. Presenting authors of competition posters may be asked to remain by their posters longer than the scheduled two hours listed in the program.

CSAS Graduate Student Poster Competition
Sunday..... 7:00 am – 9:15 am

ASAS Graduate Student Poster Competition: PhD Division
Sunday..... 7:00 am – 9:15 am

ASAS Graduate Student Poster Competition: MS Division
Monday..... 7:00 am – 9:15 am

ASAS Undergraduate Student Poster Competition
Tuesday ..... 7:00 am – 9:15 am

ePoster Help Desk

Onsite technicians are available next to the ePoster screens in the back of the Exhibit Hall.

ePoster Help Desk Hours

Saturday ..... 11:30 am – 2:00 pm

Sunday – Tuesday ..... 7:00 am – 6:00 pm

Wednesday ..... 8:00 am – 9:30 am

Notice to Attendees

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

Transportation in Baltimore

The Convention Center is conveniently located close to public transportation for easy access by MARC Train. It is also located near the Baltimore's Lightrail to Washington, DC and the Baltimore International Airport (BWI). Baltimore's Penn Station is a short 7 minute drive and the BWI Airport is only 20 minutes by car.

ASAS EVENTS

ASAS Undergraduate AQ
Friday, July 7 & Saturday, July 8 • All Day
University of Maryland, College Park

Triennial Lactation/Biology of Lactation of Farm Animals (BOLFA)
Saturday, July 8 • 8:15 am - 5:05 pm
Baltimore Convention Center, 324/325/326

American Society for Nutrition (ASN) and ASAS Symposium
Saturday, July 8 • 8:30 am - 5:00 pm
Baltimore Convention Center, 327/328/329

Opening Ice Cream Social
Saturday, July 8 • 4:15 pm - 5:15 pm
Hilton Baltimore, Holiday Ballroom

Opening Session
Saturday, July 8 • 5:30 pm – 6:30 pm
Baltimore Convention Center, Ballrooms 1 & 2

Family Fun Day: National Aquarium
Sunday, July 9 • 9:30 am – 4:00 pm
Meet in the Hilton Lobby

ASAS Undergraduate Lunch and Learn
Sunday, July 9 • 12:30 – 2:00 pm
Hyatt Regency, Baltimore/Annapolis/Frederick

ASAS Awards Program
Sunday, July 9 • 7:15 pm – 8:45 pm
Hilton Baltimore, Holiday Ballroom 4/5/6

ASAS Awards Celebrations
Featuring Battle of the Brats and Big Scoop
Sunday, July 9 • 8:45 pm
Hilton Baltimore, Holiday Ballroom Foyer 1/2/3

ASAS Graduate Student Mixer
Sunday, July 9 • 9:00 pm
Mex Tequila Bar

Spouse Event 1: Historic Ships in Baltimore tour
Monday, July 10 • 9:30 am – 4:30 pm
Meet in the Hilton Lobby

ASAS Foundation Heritage lunch
Monday, July 10 • 12:00 pm – 2:00 pm
Hyatt Regency, Annapolis/Frederick

ASAS Graduate Student Symposium
Tuesday, July 11 • 9:30 am – 12:05 pm
Baltimore Convention Center, 304

Spouse Event 2: B&O Railroad Museum and Harbor Boat tour
Tuesday, July 11 • 9:30 am – 4:30 pm
Meet in the Hilton Lobby

Closing Reception: Evening at the National Aquarium
Tuesday, July 11 • 7:00 pm – 10:00 pm
National Aquarium

Triennial Reproduction Symposium
Thursday, July 13 • 8:00 am - 3:20 pm
Washington Marriott Wardman Park, Washington, DC

ASAS President's Pick Posters
Baltimore Convention Center, Exhibit Hall

CSAS EVENTS

CSAS Graduate Student Poster Competition
Sunday, July 9 • 7:00 am – 9:15 am
Baltimore Convention Center, Exhibit Hall

CSAS Graduate Student Oral Competition
Sunday, July 9 • 9:30 am – 12:30 pm
Baltimore Convention Center, 317

CSAS Symposium: From One to All Biological Components – The New Approach of System Biology
Sunday, July 9 • 2:00 pm – 5:00 pm
Baltimore Convention Center, 327/328/329

CSAS Symposium: Healthy Food from Healthy Animals, the Emergence of Functional Foods
Monday, July 10 • 2:00 pm – 5:00 pm
Baltimore Convention Center, 307

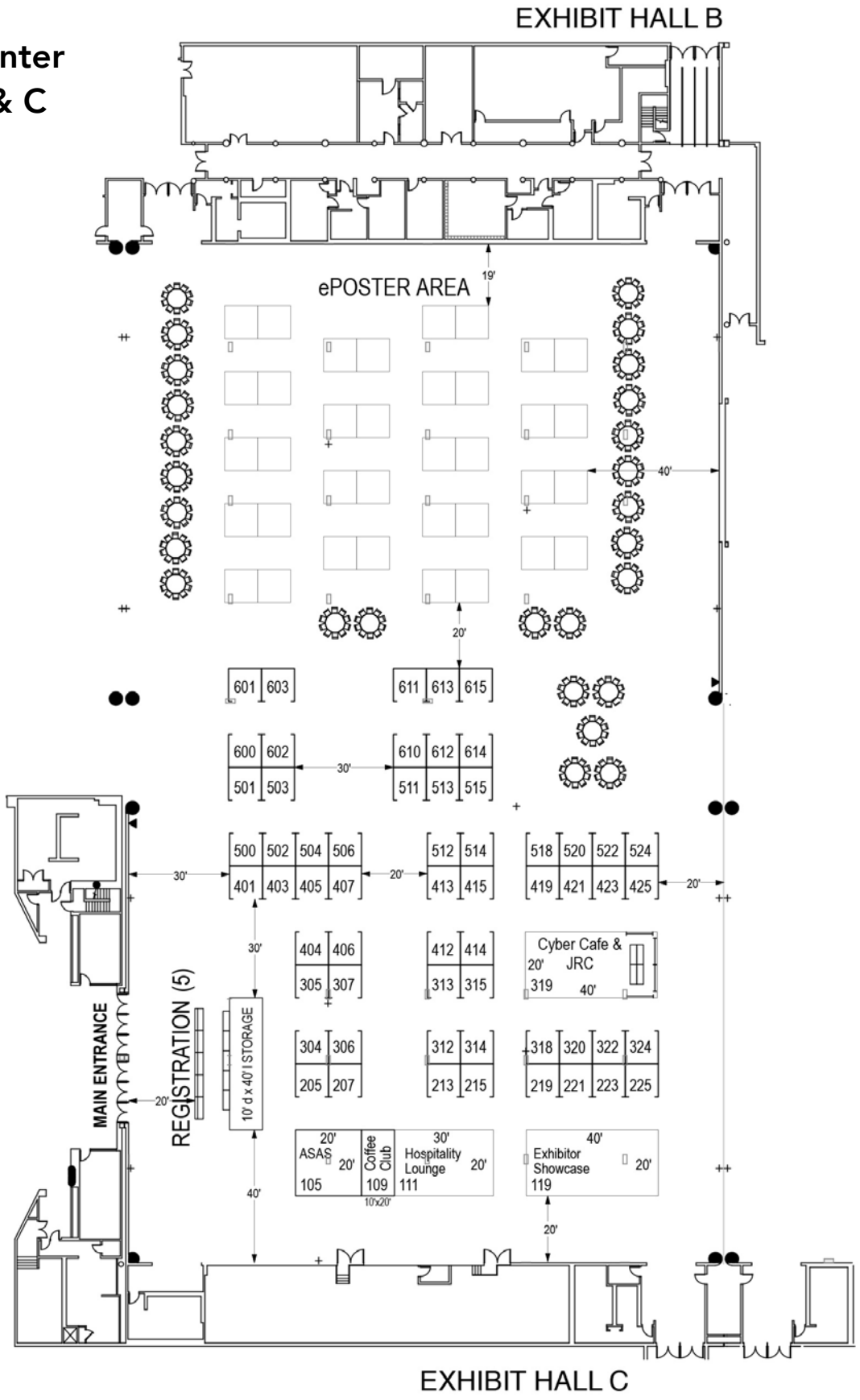
CSAS Annual General Meeting and Lunch
Monday, July 10 • 12:30 pm – 2:00 pm
Hyatt Regency, Columbia

CSAS Awards Banquet
Monday, July 10 • 6:00 pm – 9:00 pm
Hyatt Regency, Constellation A/B

CSAS Member Mixer
Monday, July 10 • 9:00 pm – 12:00 am
Hyatt Regency, Constellation A/B

EXHIBIT FLOOR PLAN

Baltimore Convention Center Exhibit Hall B & C



GUIDE TO EXHIBITORS/BOOTH NUMBERS

Exhibit Schedule

Saturday, July 8	Exhibit set-up	10:00 am – 6:00 pm
Sunday, July 9	Exhibits open	7:30 am – 6:00 pm
Monday, July 10	Exhibits open	7:30 am – 6:00 pm
Tuesday, July 11	Exhibits open	7:30 am – 2:00 pm
Tuesday, July 11	Exhibit dismantle	2:00 pm – 6:00 pm

In consideration of attendees, exhibitors will be prohibited from beginning to dismantle before 2:00 pm on Tuesday, July 11.

EXHIBIT DIRECTORY

American Society of Animal Science Store
Booth 105/107/204/206
PO Box 7410
Champaign, IL 61826-7410
https://asas.org/

ASAS Foundation Coffee Club
Booth 109/208
PO Box 7410
Champaign, IL 61826-7410
https://asas.org/

Hospitality Lounge
Booth 111/113/115/210/212/214
PO Box 7410
Champaign, IL 61826-7410
https://asas.org/

Exhibitor Showcase
Booth 119/121/123/125/218/220/222/224
PO Box 7410
Champaign, IL 61826-7410
https://asas.org/

Enovative Technologies
Booth 205
11935 Worcester Hwy
Bishopville, MD 21813
http://www.enovativetech.com/

Cambridge University Press
Booth 215
1 Liberty Plaza, 20th Floor
New York, NY 10006
http://www.cambridge.org/

HerdStrong
Booth 219
P.O. Box 337175
Greeley, CO 80633
http://www.dvmsystems.com/

Adifo Software
Booth 304
Industrielaan 11b
Maldegem 9990 Belgium
https://www.adifo.com/

Elsevier
Booth 313
Radarweg 29
1043 NX Amsterdam
The Netherlands
https://www.elsevier.com

CABI/CSIRO
Booth 315
22883 Quicksilver Dr.
Sterling, VA 20166
http://www.cabi.org/

ARPAS
Booth 318
1800 S. Oak Ste. 100
Champaign, IL 61820
http://www.arpas.org/

Cyber Café & Job Resource Center
Booth 319
PO Box 7410
Champaign, IL 61826-7410
https://asas.org/

Feedstuffs / Penton Ag
Booth 401
255 38th Ave #P
St.Charles, IL 60174
http://agriculture.penton.com/brands/livestock/feedstuffs/

King Techina Group
Booth 403
3000 Green Rd.
PO Box 131455
Ann Arbor, MI 48105
http://www.kingtechina.com/

Novus International
Booth 404
20 Research Park Drive
Saint Charles, MO 63304
http://www.novusint.com/en-US/

The National Academies Press
Booth 405
500 5th St. NW
Washington, DC 20001
https://www.nap.edu/

ANKOM Technology
Booth 407
2052 O Neil Rd.
Macedon, NY 14502
https://www.ankom.com/

CEV Multimedia
Booth 413
1020 SE Loop 289
Lubbock, TX 79404
http://www.cevmultimedia.com/

Central Life Sciences
Booth 414
301 W. Osborn Road
Phoenix, AZ 85013
https://www.centrallifesciences.com/

BioControl North America Inc
Booth 415
118 N. Conistor Ln. Ste. B327
Liberty, MO 64068
http://www.biocontrol.no/about-us/biocontrolna/

BR-CORTE
(Universidad Federal de Vacosa)
Booth 500
Ph Rolfs Avenue
Vicosa 36570900 Brazil
http://www.brcorte.com.br/br/

Diamond V
Booth 501/600
2525 60th Avenue SW
Cedar Rapids, IA 52404
http://www.diamondv.com/

Micronutrients – Booth 502
2601 Fortune Cir. Dr.
Indianapolis, IN 46241
http://www.micro.net/

Monsanto - GMO Answers
Booth 503
800 N. Lindbergh Blvd.
St. Louis, MO 63167
https://monsanto.com

National Animal Nutrition Program
Booth 504
609 W.P. Garrigus Bldg.
Lexington, KY 40546
https://nanp-nrsp-9.org/

Gasmet Technologies, Inc.
Booth 511
956A, The Queensway
Toronot, ON M8Z 1P5 Canada
http://www.gasmet.com/

Noldus Information Technology
Booth 514
1503 Edwards Ferry Rd. St. 310
Leesburgs, VA 20176
http://www.noldus.com/

DASCOR
Booth 518
P.O. Box 462885
Escondido, CA 92046-2885
http://www.dascor.com/

Bioprocess Control
Booth 601
Scheelevagen 22
Lund, 223 63 Sweden
http://www.bioprocesscontrol.com/

BIOMIN
Booth 610
1842 Lockhill-Selma Rd. Ste. 102
San Antonio, TX 78213
http://www.biomin.net/us/home/

GrowSafe Systems
Booth 614
273216 Range Road 23
RR 1, Site 2, Box 29
Airdrie, AB T4B2A3 Canada
http://www.growsafe.com/

EAAP
Booth 512
Via G. Tomassetti, 3 A/1
Rome, Italy 00161
http://www.eaap.org/

Acumen Detection, LLC
Booth 314
6274 Running Ridge Road
Syracuse, NY 13215
http://acumendetection.com/

Animal Agriculture Alliance
Booth 412
2101 Wilson Blvd Suite 916-B
Arlington, VA 22201
http://www.animalagalliance.org/main/index.cfm

PrairiE Systems
Booth 506
1803 Hwy Blvd
Spencer, IA 51301
http://prairiesystems.com/

BALTIMORE MAP

HOTEL INFORMATION

1. **Hilton Baltimore**
   (ASAS Headquarters Hotel)
   401 West Pratt Street
   Baltimore, MD 21201
   443-573-8700

2. **Hampton Inn Baltimore Downtown**
   (Student Headquarters Hotel)
   550 Washington Boulevard
   Baltimore, MD 21230
   410-685-5000

3. **Holiday Inn Inner Harbor**
   301 W Lombard St.
   Baltimore, MD 21201
   410-685-3500

4. **Hyatt Regency Baltimore**
   (CSAS Headquarters Hotel)
   300 Light Street
   Baltimore, MD 21202
   410-528-1234

5. **Sheraton Inner Harbor Hotel**
   300 South Charles Street
   Baltimore, MD 21201
   410-962-8300

AnimalX

A series of of short, TED-style talks about animal science.

ANIMAL X

TED-Style Talks

DR. STEVEN LONERGAN

Science or Practice – Which Comes First?

What motivates us as we identify questions, search for answers, and propose solutions to scientific challenges? Dr. Lonergan will share his view of how best to learn and apply the scientific method in our work as animal scientists.

Dr. Lonergan is Professor of Animal Science in the area of meat science and muscle biology at Iowa State University.

DR. GRETCHEN HILL

It is Hard Plowing New Ground!

As a woman in the field of animal science, Dr. Hill has overcome many challenges throughout her career. She recaps the memorable, and sometimes amusing moments on her career path—from being one of only three women enrolled in an undergraduate animal science program, to being told that she did not have to castrate boars in swine production lab—you'll be inspired to keep plowing new ground, too.

Dr. Hill is Professor of swine nutrition in the Department of Animal Science at Michigan State University.

DR. CHANTAL FARMER

It's All About Passion…

Dr. Farmer will discuss how being passionate in life is the key to achieving one's goals, whether professionally as an animal scientist or otherwise.

Dr. Farmer is Research Scientist in the area of sow lactation biology at Agriculture and Agri-Food Canada.

MS. ALLISON DEVITRE

From Cows to Comms – A New Way to 'Science'

Science in the public conversation is taking a back seat to 'beliefs', 'fake news' and is being overshadowed by activists/alarmists with a much more creative, louder voice. Policy makers make decisions about our technologies and changing the conversation about science starts with you.

Ms. Devitre is Communications Manager on the Regulatory Policy & Scientific Affairs team within Monsanto.

DR. RONNIE GREEN

Authentic Animal Science – Being Real in the Fake Era

The rapid pace of technological advances continues to accelerate. This, combined with instant access to and dissemination of information, continues to heighten the disconnect and misunderstanding of science-based fundamentals underpinning animal food systems. Now more than ever before, animal scientists must be authentic, practical, impactful, easily understood, and most importantly, trusted.

Dr. Green is the 20th Chancellor of the University of Nebraska-Lincoln.

Friday, July 7

All Day	ASAS Academic Quadrathlon (AQ)	University of Maryland, College Park
7:30 am – 9:30 am	ASAS Membership Committee Meeting	Hyatt Regency, Chesapeake AB
9:30 am – 11:30 am	ASAS Publications Committee	Hyatt Regency, Chesapeake AB
12:00 pm – 5:00 pm	ASAS Board of Directors Meeting	Hyatt Regency, Chesapeake AB
1:00 pm – 5:00 pm	Registration Open (preregistered, badge and material pick-up only)	Baltimore Convention Center, Exhibit Hall C

Saturday, July 8

All Day	ASAS Academic Quadrathlon (AQ)	University of Maryland, College Park
7:00 am – 5:00 pm	Registration Open	Baltimore Convention Center, Exhibit Hall C
7:00 am – 5:00 pm	Upload Room	Baltimore Convention Center, 301
7:00 am – 5:00 pm	Open Meeting Space/Practice Room	Baltimore Convention Center, 311
7:00 am – 5:00 pm	Media Room	Baltimore Convention Center, 320
8:00 am – 5:00 pm	ARPAS Governing Council Meeting	Hyatt Regency, Baltimore
8:15 am – 5:05 pm	BOLFA Symposium: The Biology of Lactation-From Genes to Cells to Milk	Baltimore Convention Center, 324-326
8:30 am – 4:30 pm	American Society for Nutrition (ASN) and ASAS Symposium	Baltimore Convention Center, 327-329
9:00 am – 12:00 pm	ASAS Board of Directors Meeting	Hyatt Regency, Chesapeake AB
10:00 am – 6:00 pm	Exhibit Setup	Baltimore Convention Center, Exhibit Hall C/B
11:00 am – 4:00 pm	CSAS Executive Committee Meeting	Hyatt Regency, Annapolis
12:00 pm – 1:00 pm	ASN Walking Lunch	Baltimore Convention Center, Foyer 327-329
12:30 pm -1:30 pm	BOLFA Walking Lunch	Baltimore Convention Center, Foyer 327-329
1:00 pm – 3:00 pm	2018 Program Committee Meeting	Hyatt Regency, Chesapeake AB
4:15 pm – 5:15 pm	ASAS-CSAS Annual Meeting Opening Ice Cream Social/ Meet & Greet	Hilton, Holiday Ballroom
5:30 pm – 6:30 pm	ASAS-CSAS Annual Meeting and Trade Show Opening Session	Baltimore Convention Center, Ballroom I/II

SCHEDULE OF EVENTS

Sunday, July 9

6:30 am – 5:15 pm	Registration Open	Baltimore Convention Center, Exhibit Hall C
7:00 am – 9:15 am	ASAS Graduate Student Poster Competition: PhD Division	Baltimore Convention Center, Exhibit Hall B-Rear
7:00 am – 9:15 am	CSAS Graduate Student Poster Competition	Baltimore Convention Center, Exhibit Hall B-Rear
7:00 am – 5:00 pm	Upload Room	Baltimore Convention Center, 301
7:00 am – 5:00 pm	Open Meeting Space/ Practice Room	Baltimore Convention Center, 311
7:00 am – 6:00 pm	Media Room	Baltimore Convention Center, 320
7:30 am – 6:00 pm	Exhibits Open	Baltimore Convention Center, Exhibit Hall C/B
7:30 am – 6:00 pm	Job Resource Center	Baltimore Convention Center, Exhibit Hall C
7:30 am – 5:00 pm	Hospitality Lounge	Baltimore Convention Center, Exhibit Hall C
8:15 am – 9:15 am	Poster Session II	Baltimore Convention Center, Exhibit Hall B-Rear
9:30 am – 12:15 pm	Horse Species Symposium: Feed Safety in the Horse Industry – How Safe is the Feed They Consume?	Baltimore Convention Center, 304
9:30 am – 12:30 pm	CSAS Graduate Student Oral Competition	Baltimore Convention Center, 317
9:30 am – 4:00 pm	Family Fun Day: National Aquarium	Hilton Baltimore Lobby
9:30 am – 5:15 pm	Scientific Sessions	Baltimore Convention Center
10:30 am – 12:30 pm	ARPAS Exam	Baltimore Convention Center, 305
12:30 pm – 2:00 pm	ASAS Past Presidents' Lunch	Hyatt Regency, Baltimore Room
12:30 pm – 2:00 pm	Undergraduate Lunch and Learn	Hyatt Regency, Columbia, Annapolis, Frederick
1:00 pm – 2:00 pm	Poster Presentations III	Baltimore Convention Center, Exhibit Hall B-Rear
2:00 pm – 4:00 pm	ARPAS Exam	Baltimore Convention Center, 305
2:00 pm – 5:00 pm	CSAS Symposium: From One to All Biological Components – The New Approach of Systems Biology	Baltimore Convention Center, 327-329
2:00 pm – 5:00 pm	Meat Science Biology Symposium: International Perspective on Animal Handling and Welfare and Meat Qualilty	Baltimore Convention Center, 307
5:00 pm – 6:00 pm	Poster Presentations IV	Baltimore Convention Center, Exhibit Hall B-Rear
5:30 pm – 7:00 pm	ASAS Award Recipient Dinner	Hilton Baltimore, Peale ABC
7:15 pm – 8:45 pm	ASAS Awards Program & Undergraduate Academic Quadrathlon Team Video Presentations	Hilton Baltimore, Holiday 4-6
8:45 pm – 11:30 pm	ASAS Awards Celebration	Hilton Baltimore, Holiday 1-3 & Corridor
8:45 pm – 11:30 pm	Iowa State University Reception	Hilton Baltimore, Blake
9:00 pm – 11:00 pm	ASAS Graduate Student Mixer	Mex Tequila Bar

NOTE: The printed program this year is abbreviated in comparison to previous years. ASAS is in the process of converting all of our meeting programs to App driven programs. Therefore, we are providing a "basic" printed program this year, concentrating on the oral and poster sessions. The majority of information usually found in the front of the program can be found on the App.

Beginning in 2018, the ASAS-CSAS Annual Meeting and Trade Show will be Tablet/Phone driven. There will not be a printed program.

To download the meeting app:
Visit **https://event.crowdcompass.com/2017asascsas** from your mobile device.

Monday, July 10

6:30 am – 5:15 pm	Registration Open	Baltimore Convention Center, Exhibit Hall C
6:30 am – 8:00 am	Kentucky Breakfast	Hyatt Regency, Columbia Room
7:00 am – 9:15 am	ASAS Graduate Poster Competition: MS Division	Baltimore Convention Center, Exhibit Hall B-Rear
7:00 am – 9:00 am	Animal Feed Industry Association and Nutrition Committee Meeting	Baltimore Convention Center, 309
7:00 am – 5:15 pm	Upload Room	Baltimore Convention Center, 301
7:00 am – 5:00 pm	Open Meeting Space/Practice Room	Baltimore Convention Center, 311
7:00 am – 5:00 pm	Media Room	Baltimore Convention Center, 320
7:30 am – 5:00 pm	Job Resource Center	Baltimore Convention Center, Exhibit Hall C
7:30 am – 5:00 pm	Hospitality Lounge	Baltimore Convention Center, Exhibit Hall C
7:30 am – 5:00 pm	Exhibits Open	Baltimore Convention Center, Exhibit Hall C/B
8:15 am – 9:15 am	Poster Presentations VI	Baltimore Convention Center, Exhibit Hall B-Rear
9:00 am – 10:30 am	ASAS Foundation Board of Trustees Meeting	Baltimore Convention Center, 306
9:30 am – 5:45 pm	Scientific Sessions	Baltimore Convention Center
9:30 am – 4:30 pm	Spouse Event I: Historic Ships of Baltimore Tour	Hilton Baltimore Lobby
9:30 am – 12:30 pm	Companion Animal Symposium: Milk Across the Mammalian Kingdom	Baltimore Convention Center, 315
9:30 am – 12:45 pm	PANCOSMA Comparative Gut Physiology Symposium: All About Appetite Regulation	Baltimore Convention Center, 327-329
9:30 am – 5:00 pm	Research Technology Symposium	Baltimore Convention Center, 324-326
9:30 am – 5:00 pm	ARPAS Symposium: Understanding Both Animal Needs and Consumer Demands in Animal Agriculture Transparency	Baltimore Convention Center, 308
10:30 am – 12:00 pm	ASAS Investment Committee Meeting	Baltimore Convention Center, 306
12:00 pm – 2:00 pm	ASAS Foundation Heritage Lunch	Hyatt Regency, Annapolis/Frederick
12:00 pm – 2:00 pm	Graduate Student Networking Mixer	Baltimore Convention Center, 322-323
12:30 pm – 2:00 pm	ARPAS Business Meeting	Baltimore Convention Center, 319
12:30 pm – 2:00 pm	CSAS Annual General Meeting and Lunch	Hyatt Regency, Columbia
1:00 pm – 2:00 pm	Poster Presentations VII	Baltimore Convention Center, Exhibit Hall B-Rear
2:00 pm – 3:00 pm	ACAS Meeting	Baltimore Convention Center, 319
2:00 pm – 4:00 pm	ARPAS Exam	Baltimore Convention Center, 305
2:00 pm – 5:00 pm	CSAS Symposium: Healthy Food from Healthy Animals, the Emergence of Functional Foods	Baltimore Convention Center, 307
2:00 pm – 5:00 pm	Feeds Derived from Innovative Breeding Techniques Symposium	Baltimore Convention Center, 308
3:00 pm – 4:15 pm	The Foundation for Food and Agriculture Research: Supporting Innovative Science to Address Challenges in Sustainable Livestock Production	Baltimore Convention Center, 318.
5:00 pm – 6:00 pm	Poster Presentations VIII	Baltimore Convention Center, Exhibit Hall B-Rear
5:00 pm – 6:00 pm	ASAS Public Policy Committee Meeting	Baltimore Convention Center, 306
6:00 pm – 7:30 pm	ARS Scientist Meeting with ARS National Program Leaders	Baltimore Convention Center, 309
6:00 pm – 9:00 pm	CSAS Awards Banquet	Hyatt Regency, Constellation AB
9:00 pm – 12:00 am	CSAS Member Mixer	Hyatt Regency, Constellation AB-Rear of room

SCHEDULE OF EVENTS

Tuesday, July 11

6:30 am – 5:15 pm	Registration Open	Baltimore Convention Center, Exhibit Hall C
7:00 am - 5:15 pm	Upload Room	Baltimore Convention Center, 301
7:00 am – 5:00 pm	Open Meeting Space/Practice Room	Baltimore Convention Center, 311
7:00 am – 5:00 pm	Media Room	Baltimore Convention Center, 320
7:00 am – 9:15 am	ASAS Undergraduate Student Poster Competition	Baltimore Convention Center, Exhibit Hall B-Rear
7:30 am – 2:00 pm	Exhibits Open	Baltimore Convention Center, Exhibit Hall C/B
7:30 am – 5:00 pm	Job Resource Center	Baltimore Convention Center, Exhibit Hall C
7:30 am – 5:00 pm	Hospitality Lounge	Baltimore Convention Center, Exhibit Hall C
8:15 am – 9:15 am	Poster Presentations X	Baltimore Convention Center, Exhibit Hall B-Rear
9:30 am – 12:00 pm	Production, Management and the Environment: How do we Define Sustainability Metrics for Livestock Sector: What is Feasible and Available? Followed by panel discussion.	Baltimore Convention Center, 316
9:30 am – 12:30 pm	Exercise Physiology Symposium I: Companion Animals	Baltimore Convention Center, 315
10:15 am – 12:30 pm	Small Ruminant Symposium: Small Ruminants as Biomedical Models of Human Health and Disease	Baltimore Convention Center, 308
9:30 am – 12:05 pm	Graduate Student Symposium: Fueling the Future of Animal Science	Baltimore Convention Center, 304
9:30 am – 5:00 pm	Scientific Sessions	Baltimore Convention Center
9:30 am – 4:30 pm	Spouse Event II: B&O Railroad Museum and Harbor Boat Tour	Hilton Baltimore Lobby
10:30 am – 12:30 pm	ARPAS Exam	Baltimore Convention Center, 305
12:30 pm – 2:30 pm	ASAS Board of Directors Meeting	Hyatt Regency, Annapolis/Baltimore
1:00 pm – 2:00 pm	Poster Presentations XI	Baltimore Convention Center, Exhibit Hall B-Rear
2:00 pm – 4:00 pm	ARPAS Exam	Baltimore Convention Center, 305
2:00 pm – 4:15 pm	Exercise Physiology Symposium II: Horse Species	Baltimore Convention Center, 315
2:00 pm – 5:00 pm	Cell Biology Symposium: Male Reproduction	Baltimore Convention Center, 308
2:00 pm – 5:00 pm	Forages and Pastures Symposium: Cover Crops in Livestock Production: Whole-system Approach	Baltimore Convention Center, 324-326
2:00 pm – 5:00 pm	Exhibits Dismantle	Baltimore Convention Center, Exhibit Hall C/B
5:00 pm – 6:00 pm	Poster Presentations XII	Baltimore Convention Center, Exhibit Hall B-Rear
7:00 pm – 10:00 pm	An evening at the aquarium	National Aquarium

Wednesday, July 12

7:00 am – 12:00 pm	Registration Open	Baltimore Convention Center, Exhibit Hall C
7:00 am –11:30 am	Upload Room	Baltimore Convention Center, 301
7:00 am – 11:30 am	Open Meeting Space/Practice Room	Baltimore Convention Center, 311
7:00 am – 11:30 am	Media Room	Baltimore Convention Center, 320
7:15 am – 8:15 am	Poster Presentations XIII	Baltimore Convention Center, Exhibit Hall B-Rear
8:15 am – 9:15 am	Poster Presentations XIV	Baltimore Convention Center, Exhibit Hall B-Rear
9:30 am – 12:30 am	Scientific Sessions	Baltimore Convention Center
9:30 am – 12:30 am	Big Data Analytics and Precision Animal Agriculture Symposium	Baltimore Convention Center, 315
9:30 am – 12:30 am	Growth and Development Symposium: The History of Adipocyte/Adipose Tissue Researsh in Meat Animals	Baltimore Convention Center, 316
12:30 pm – 1:30 pm	ASAS Business Meeting	Baltimore Convention Center, 307

Thursday, July 13

8:00 am – 3:20 pm	Triennial Reproduction Symposium with SSR	Washington Marriott Wardman Park

PRECONFERENCE EVENTS

TRIENNIAL LACTATION SYMPOSIUM/BOLFA:

The Biology of Lactation- From Genes to Cells to Milk

Saturday, July 8 • 8:15 am - 5:05 pm
Baltimore Convention Center, 324/325/326

Welcoming Remarks. *Chantal Farmer, Agriculture and Agri-Food Canada*

BOLFA: The beginning. *Steven A. Zinn, University of Connecticut*

Historical perspectives of lactation biology in the late 20th and early 21st centuries. *Robert J. Collier, University of Arizona*

Plasticity of mammary development in the prepubertal bovine mammary gland. *R. Michael Akers, Virginia Polytechnic Institute and State University*

Dietary regulation of allometric ductal growth in the mammary glands. *Russel Hovey, University of California-Davis*

Quantitative regulation of mammary development. *Stephen R. Davis, Livestock Improvement Corporation, New Zealand*

Adipokines affect mammary growth and function in farm animals. *Marie-France Palin, Agriculture and Agri-Food Canada*

Lactation adaptations to environmental challenges. *Thomas B. McFadden, University of Wisconsin*

Programming and epigenetic impacts of the late gestation heat stress in dairy cattle. *Geoffrey E. Dahl, University of Florida*

Serotonin and the regulation of calcium transport in dairy cows. *Laura L. Hernandez, University of Wisconsin*

Pathogen-specific immune response and changes in the blood-milk barrier in the bovine mammary gland. *Rupert M. Bruckmaier, University of Bern, Switzerland*

ASAS-ASN PRECONFERENCE SYMPOSIUM:

The Role of Animal Sourced Foods in Ensuring Food Security and National Security

Saturday, July 8 • 8:30 am - 4:30 pm
Baltimore Convention Center, 327/328/329

Nutritional and social importance of animal sourced proteins. *Teresa Davis, USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine*

Conflict cuisine: An introduction to war and peace around the dinner table. *Dr. Johanna Mendelson, School of International Service, American University*

Global perspective on addressing food and nutritional security. *Elsa A Murano, Texas A&M University*

Food insecurity and health outcomes. *Craig Gunderson, University of Illinois at Urbana-Champaign*

Small-scale fisheries and livestock production in low-middle-income counries: Implication of malnutrition. *Andrew Jones, University of Michigan*

Nutrition and agriculture sustainability. *Larry Reynolds, North Dakota State University*

"Omics" technologies and their potential impact for food sercurity. *Penny Riggs, Texas A&M*

Panel and audience discussion on critical joint priorities for ASAS and ASN

POSTCONFERENCE EVENT

ASAS-SSR JOINT SYMPOSIUM

Thursday, July 13 • 8:30 am –3:00 pm • Washington Marriott Wardman Park

In honor of SSR's 50th Anniversary, a joint Triennial Reproduction Symposium will be hosted by SSR and ASAS. The ASAS annual meeting in Baltimore precedes SSR's annual meeting. The Triennial Reproduction Symposium is focused on large animal/domestic livestock (USDA-related species) reproduction. The Co-Chairs of this special joint session are Andrea Cupp, Ph.D., and Debora Hamernik, Ph.D. During lunch posters will be available for viewing. See the inside front cover of this program for the schedule and speakers for this event.

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Washington State University

Abstract Numbers by Section (Topic Area)

ORAL AND SYMPOSIA PRESENTATIONS

Abstract Numbers by Section (Topic Area)

Poster Presentations

CSAS SYMPOSIA

Sunday, July 9

CSAS Symposium: From one to all biological component-the new approach of System Biology

Chair: Michael Steele, Department of Agricultural, Food, and Nutritional Science, University of Alberta, Edmonton, AB Canada

2:00 PM - 5:00 PM

327/328/329

2:00 PM	826	**Systems biology: A new approach to tackling periparturient diseases of dairy cows.** *B. Ametaj*, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton AB, Canada*
2:40 PM	757	**Associations between gut, mammary and vaginal microbiomes in dairy cows: Role in health and disease.** *E. Khafipour*, H. Derakhshani, K.B. Fehr, H. Khalouei, Z. Zhang, and J.C. Plazier*, Department of Animal Science, University of Manitoba, Winnipeg MB, Canada*
3:20 PM	758	**Understanding the nature of complex phenotypes in beef cattle using systems biology.** *A.Canovas*[1], M.G. Thomas[2], J. Casellas[3], and J.F. Medrano[4], [1]Department of Animal Biosciences, University of Guelph, Guelph ON, Canada, [2]Department of Animal Science, Colorado State University, Fort Collins, [3]Universitat Autonoma de Barcelona, Bellaterra, Spain, [4]Department of Animal Science, University of California, Davis*
4:00 PM	756	**Reconstruction of metabolic and physiologic adaptations to lactation using systems biology.** *J.J Loor*, Mammalian NutriPhysioGenomics, Department of Animal Sciences, University of Illinois, Urbana-Champaign*
4:40 PM		**Panel Discussion.**

Monday, July 10

CSAS Symposium: Healthy food from healthy animals, the emergence of functional foods

Chair: Michael Steele, Department of Agricultural, Food, and Nutritional Science, University of Alberta, Edmonton, AB Canada

2:00 PM - 5:00 PM

307

2:00 PM	827	**Functional foods of animal origin in relation to human health.** *A. Duncan*, University of Guelph, Department of Human Health and Nutritional Sciences, Waterloo ON, Canada*
2:30 PM	828	**Plant bioactives as functional feed ingredients for animal production systems.** *D. Kitts*, University of British Columbia, Department of Food Science, Food, Nutrition and Health, Vancouver BC, Canada*
3:00 PM	754	**The role of milk fat in modern human nutrition: What is the current state of knowledge?** *P. Vahmani*[1], S.D. Proctor[2], F. Kolahdooz[2], S. Sharma[2], J.L. Aalhus[1] and M.E.R. Dugan[1], [1]Agriculture and Agri-Food Canada, Lacombe AB, Canada, [2]University of Alberta, Edmonton AB, Canada*
3:30 PM	755	**Beef: From a good source of nutrients to a functional food.** *X. Zhao*[1] and L.B. Agellon[2], [1]McGill University, Department of Animal Science, Ste-Anne-de-Bellevue QC, Canada [2]School of Dietetics and Human Nutrition, McGill University, Ste-Anne-de-Bellevue QC, Canada*
4:00 PM	829	**Controlling meat quality through product functionality enhancement.** *H.L. Bruce*, X. Zhao, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton AB, Canada*
4:30 PM	830	**Milk fatty acids: Emerging perspectives.** *R. Gervais*, E. Baumann, M. Leduc, and P.Y. Chouinard, Department of Animal Science, Universite Laval, Quebec QC, Canada*

LOCATING THE CORRECT POSTER BOARD

Find the posters you want to view in the scientific program and identify the screen number (second number to the left of the abstract title). Then locate the corresponding screen in the back of the Exhibit Hall. During Poster Sessions only the poster scheduled for presentation will be available for viewing. At all other times, all posters presented throughout the week will be available for viewing on their assigned screens. E-poster technicians are available on-site if you need help finding a poster.

BOLFA Symposium: The Biology of Lactation - From Genes to Cells to Milk

Chair: Chantal Farmer, Agriculture and Agri-Food Canada, Sherbrooke R & D Centre

Sponsor: ASAS Foundation, EAAP

8:15 AM - 5:05 PM

324/325/326

8:15 AM		**Welcoming Remarks**
8:20 AM		**BOLFA: The beginning.** *S. A. Zinn*, University of Connecticut, Department of Animal Science, Storrs*
8:25 AM	752	**Historical perspectives of lactation biology in the late 20th and early 21st centuries.** *R. J. Collier*[1], and D. E. Bauman[2], [1]University of Arizona, Tucson, [2]Cornell University, Ithaca, NY*
9:10 AM	766	**Plasticity of mammary development in the prepubertal bovine mammary gland.** *R. M. Akers*, Virginia Polytechnic Institute and State University, Blacksburg*
9:55 AM	753	**Dietary regulation of allometric ductal growth in the mammary glands.** *R. C. Hovey*, G. E. Berryhill, S. Miszewski, A. Derpinghaus, C. Donovan, and J. F. Trott, University of California-Davis*
10:40 AM		**Morning break**
11:00 AM	767	**Quantitative regulation of mammary development.** *S. R. Davis*, Livestock Improvement Corporation, Hamilton, New Zealand*
11:45 AM	768	**Adipokines affect mammary growth and function in farm animals.** *M. F. Palin*, and C. Farmer, Agriculture and Agri-Food Canada, Sherbrooke Research and Development Centre, Sherbrooke, QC, Canada*
12:30 PM		**Poster Session and Break**
2:00 PM	769	**Lactational adaptations to environmental challenges.** *T. B. McFadden*, University of Missouri, Columbia*
2:45 PM	770	**Programming and epigenetic impacts of late gestation heat stress in dairy cattle.** *G. E. Dahl*, University of Florida, Department of Animal Sciences, Gainesville*
3:30 PM	771	**Serotonin and the regulation of calcium transport in dairy cows.** *L. L. Hernandez*, University of Wisconsin-Madison, Department of Dairy Science*
4:15 PM	772	**ASAS-EAAP Exchange Speaker. Pathogen-specific immune response and changes in the blood-milk barrier in the bovine mammary gland.** *R. M. Bruckmaier*, University of Bern, Veterinary Physiology, Vetsuisse Faculty, Bern, Switzerland*
5:00 PM		**Concluding Remarks**

ASAS-ASN Pre-conference Symposium:
The Role of Animal Sourced Foods in Ensuring Food Security and National Security

Chair: Penny K. Riggs, Texas A&M University;

Teresa A. Davis, USDA-ARS Children's Nutrition Research Center, Dept. Pediatrics, Baylor College of Medicine

Sponsor: ASAS and ASN

8:30 AM - 4:30 PM

327/328/329

8:30 AM		**Welcoming Remarks**
8:45 AM	782	**Nutritional and social importance of animal sourced proteins.** *T. A. Davis*, USDA-ARS Children's Nutrition Research Center, Baylor College of Medicine, Department of Pediatrics, Houston, TX*
9:30 AM	783	**Conflict cuisine: An introduction to war and peace around the dinner table.** *J. Mendelson Forman*, School of International Service, American University*
10:15 AM		**Break**
10:30 AM	784	**Global perspective on addressing food and nutritional security.** *E. A. Murano*, Texas A&M University*
11:15 AM	785	**Domestic perspective on addressing food security.** *C. Gundersen*, University of Illinois at Urbana-Champaign*
12:00 PM		**Lunch Break**
1:00 PM	787	**Small-scale fisheries and livestock production in low- and middle-income countries: Implications for malnutrition.** *A. D. Jones*, University of Michigan, Ann Arbor*

1:45 PM 786 **Nutrition and agricultural sustainability.**
L.P. Reynolds, Department of Animal Sciences, North Dakota State University, Fargo*

2:30 PM **Break**

2:45 PM **"Omics" technology and their potential impact for food security.**
P. Riggs, Department of Animal Sciences, Texas A&M, College Station*

3:30 PM **Panel and audience discussion on critical joint priorities for ASAS and ASN**
Moderated by P. Riggs, Department of Animal Sciences, Texas A&M, College Station

SUNDAY, JULY 9 / SYMPOSIA AND ORAL SESSIONS

Horse Species Symposium: Feed Safety in the Horse Industry - How Safe is the Feed they Consume?

Chair: Fernanda C. Camargo, University of Kentucky

9:30 AM - 12:15 PM

9:30 AM 794 **Technology of feed production and the impact of the Food Safety Modernization Act.**
P. R. Buff, American Feed Industry Association, Arlington, VA*

10:15 AM 795 **Toxicology of contaminated feed and how it affects horses.**
K. Bischoff, Cornell University, Ithaca, NY*

11:00 AM 796 **International safety for the elite athlete.**
J. D. Pagan, Kentucky Equine Research Inc, Versailles, KY*

11:45 AM 331 **Influence of short term dietary starch inclusion on the equine cecal microbiome.**
C. M. Warzecha[*1], J. C. McCann[2], J. Coverdale[1], J. Janečka[3], W. E. Pinchak[4], T. A. Wickersham[1], and J. L. Leatherwood[1], [1]Texas A&M University, Department of Animal Science, College Station, [2]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [3]Texas A&M University, College of Veterinary Medicine and Biomedical Sciences, College Station, [4]Texas A&M University, AgriLife Research, Vernon*

12:00 PM 332 **Effect of dietary L-Arginine on blood flow dynamics, gestation length, and placental efficiency of mares.**
L. B. Hodge[*1], B. J. Rude[1], and C. O. Lemley[2], [1]Mississippi State University, Mississippi State, [2]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State*

Oral Session: Animal Health: Mycotoxins and Feeding Strategies for Health

Chair: John S. Radcliffe, Purdue University

9:30 AM - 12:00 PM

319

9:30 AM 455 **L.Plantarum-treated NK cells protect intestinal epithelial cells from barrier disruption caused by enterotoxigenic *Escherichia coli*.**
X. Yang[*1,2], Y. Qiu[1,2], S. Hu[1,2], L. Wang[1,2], X. Wen[1,2], X. Ma[1,2], Z. Wang[1,2], and Z. Jiang[1,2], [1]Ministry of Agriculture Key Laboratory of Animal Nutrition and Feed Science in South China, Guangzhou, China, [2]Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, China*

9:45 AM 33 **Survey of mycotoxins in 2016 US corn.**
E. G. Hendel[*1], P. N. Gott[1], G. R. Murugesan[1], and T. Jenkins[2], [1]BIOMIN America Inc., San Antonio, TX, [2]BIOMIN Holding, GMBH, Getzersdorf, Austria*

10:00 AM 34 **Survey of mycotoxins in US corn distillers dried grains with solubles.**
E. G. Hendel[*1], P. N. Gott[1], G. R. Murugesan[1], and T. Jenkins[2], [1]BIOMIN America Inc., San Antonio, TX, [2]BIOMIN Holding, GMBH, Getzersdorf, Austria*

10:15 AM 35 **Omnigen-AF supplementation may attenuate liver damage during a high concentrate diet in finishing steers.**
S. A. Armstrong[*1,2], D. J. McLean[1], M. Bionaz[2], and G. Bobe[2], [1]Phibro Animal Health Corporation, Teaneck, NJ, [2]Oregon State University, Department of Animal and Rangeland Sciences, Corvallis*

10:30 AM 36 **Evaluation of statistical process control procedures to monitor feeding behavior and ruminal temperature changes associated with experimental inoculation of *Mannheimia Haemolytica*.**
W. C. Kayser[*1], G. E. Carstens[1], W. E. Pinchak[2], I. L. Parsons[1], K. E. Washbun[3], S. D. Lawhon[4], E. Chevaux[5], and A. L. Skidmore[5], [1]Texas A&M University, Department of Animal Science, College Station, [2]Texas A&M University, Agrilife Research, Vernon, [3]Texas A&M University, Department of Large Animal Clinical Sciences, College Station, [4]Texas A&M University, Department of Veterinary Pathobiology, College Station, [5]Lallemand Animal Nutrition, Milwaukee, WI*

10:45 AM 37 **Replacing dietary antibiotics with 0.20% L-Glutamine in swine nursery diets: Impact on health and productivity of pigs following weaning and transport during the summer.**
*A. W. Duttlinger[*1], K. R. Kpodo[1], D. C. Lay Jr.[2], B. T. Richert[1], and J. S. Johnson[2], [1]Purdue University, West Lafayette, IN, [2]USDA-ARS Livestock Behavior Research Unit, West Lafayette, IN*

11:00 AM 38 **Survey of mycotoxin contamination in feedlot diets in Brazil.**
*L. Custodio[*1], D. N. Figueira[1], E. M. D. Gloria[2], V. B. Holder[3], A. Yiannikouris[4], J. E. Pettigrew[5], L. N. Kuritza[6], F. D. D. Resende[7], and G. R. Siqueira[7], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [2]University of São Paulo (USP), Luiz de Queiroz College of Agriculture (ESALQ), Piracicaba, Brazil, [3]Alltech Inc, Nicholasville, KY, [4]Alltech Inc.,Center for Animal Nutrigenomics and Applied Animal Nutrition, Nicholasville, KY, [5]University of Illinois at Urbana-Champaign, [6]Alltech Inc., Araucaria, Brazil, [7]São Paulo Agribusiness Technology Agency (APTA), Colina, Brazil*

11:15 AM 39 **Mycotoxin survey of common Bermudagrass in South-Central Florida.**
*P. N. Gott[*1], A. Stam[2], A. Johns[3], B. G. Miller[1], B. Bell[1], T. Jenkins[4], and G. R. Murugesan[1], [1]BIOMIN America Inc., San Antonio, TX, [2]Federally Recognized Tribal Extension Program, Okeechobee, FL, [3]Seminole Tribe of Florida, Inc., Okeechobee, FL, [4]BIOMIN Holding, GMBH, Getzersdorf, Austria*

11:30 AM 30 **Ovicidal effect of the fruit and leaf of *Caesalpinia Coriaria* against *Haemonchus Contortus* and *Haemonchus Placei*.**
*A. Olmedo-Juarez[1], R. Rojo Rubio[*2], P. Mendoza-de Gives[3], J. F. Vázquez-Armijo[2], B. Albarran-Portillo[2], and C. Garcia-Hernandez[2], [1]National Institute of Forestry, Agriculture and Livestock (INIFAP), Center for Disciplinary Research in Veterinary Parasitology(CENIDs-PAVET), Cuernavaca, Mexico, [2]Autonomous University of the State of Mexico (UAEM), Temascaltepec, Mexico, [3]National Institute of Forestry, Agriculture and Livestock (INIFAP), Jiutepec, Mexico*

11:45 AM 32 **Antibacterial activity of different essential oils and their combinations against relevant enteric pathogenic bacteria.**
*J. M. Oddo[*1], L. Mesas[1], C. Sol[1], M. Gómez[2], S. Costillas[2], A. Carvajal[2], J. J. Mallo[1], P. Rubio[2], and R. Miranda[2], [1]Norel S.A., Madrid, Spain, [2]University of León, DIGESPORC Group, León, Spain*

Oral Session: Companion Animal Nutrition and Well-Being

Chair: Anna K Shoveller, University of Guelph

9:30 AM - 12:30 PM

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9:30 AM 217 **Outdated perceptions influence the acquisition of pet dogs in the United States and quietly reshape the dog market place.**
*P. Strand[*1], J. New[2], F. O. Smith[3], and B. Reichman[4], [1]National Animal Interest Alliance, Portland, OR, [2]University of Tennessee, Knoxville, [3]Orthopedic Foundation for Animals, Burnsville, MN, [4]National Animal Interest Alliance, Port Murray, NJ*

9:45 AM 218 **Soybean hulls as a sustainable dietary fiber source in canine diets.**
*K. B. Detweiler[*1], G. M. Davenport[2], and M. Cattai de Godoy[1], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [2]Archer Daniels Midland Company, Decatur, IL*

10:00 AM 219 **Effect of fiber type on extruded dog and cat foods.**
R. A. Donadelli[*], and C. G. Aldrich, Kansas State University, Manhattan

10:15 AM 220 **Crude fiber and total dietary fiber concentrations of popular, premium, and clinical canine diets fed to client-owned osteoarthritic dogs.**
*Z. T. Traughber[*1], K. B. Detweiler[1], A. K. Price[1], K. E. Knap[2], T. A. Harper[2], K. S. Swanson[1,2], and M. R. C. de Godoy[1], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [2]University of Illinois at Urbana-Champaign, Department of Veterinary Clinical Medicine*

10:30 AM 221 **Effects of dietary yeast culture product supplementation on fecal microbial communities of adult healthy dogs.**
*K. de Melo Santos[1], C. Y. Lin[2], M. A. Brunetto[1], and M. R. C. de Godoy[*2], [1]University of São Paulo (USP), School of Veterinary Medicine, Pirassununga, Brazil, [2]University of Illinois at Urbana-Champaign, Department of Animal Sciences*

10:45 AM 222 **Avocado meal: A novel dietary fiber source in feline diets.**
A. N. Dainton[*], and M. R. C. de Godoy, University of Illinois at Urbana-Champaign

11:00 AM 223 **Comparison of four digestibility markers to estimate fecal output of dogs.**
*I. C. Alvarenga[*1], C. G. Aldrich[1], and Z. Ou[2], [1]Kansas State University, Manhattan, [2]Kansas State University, Department of Statistics, Manhattan*

11:15 AM **Break**

11:30 AM 224 **Evaluation of Faba Beans (*Vicia faba L.*) as a dietary ingredient in dog diets.**
*I. C. Alvarenga[*1], C. G. Aldrich[1], L. M. Molnar[1], M. E. Morts[1], and L. Schole[2], [1]Kansas State University, Manhattan, [2]3D Corporate Solutions, Monett, MO*

11:45 AM 225 **Fecal microbiota and metabolites of adult dogs fed extruded, mildly cooked, and raw diets.**
*K. M. Algya[*1], T. W. L. Cross[2], A. H. Lee[1], L. Lye, M. R. C. de Godoy[1], and K. S. Swanson[1], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [2]University of Illinois at Urbana-Champaign, Division of Nutritional Sciences*

12:00 PM 226 **Retention of Thiamine and other water soluble vitamins in a wet pet food application.**
L. M. Molnar[*], R. A. Donadelli, and C. G. Aldrich, Kansas State University, Manhattan

12:15 PM 227 **Apparent and true digestibility of minerals in animal and vegetable ingredient based adult maintenance dog food.**
C. L. Cargo-Froom[*], A. K. Shoveller, and M. Z. Fan, University of Guelph, ON, Canada

Oral Session: Ruminant Nutrition: Dietary Ingredient Selection and Ruminal Fermentation

Chair: Robin Anderson, USDA-ARS

9:30 AM - 12:15 PM

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9:30 AM 623 **Identification of novel rumen bacteria using starch as a selective nutrient in batch cultures.**
V. Bandarupalli[*], South Dakota State University, Brookings

9:45 AM 532 **Intake, digestibility and ruminal parameters in cattle fed with oil, selenium and Vitamin E.**
*O. R. Machado Neto[1], M. M. Ladeira[*2], P. D. Teixeira[2], A. V. P. Ferreira[2], A. Cominotte[3], J. M. Bertocco Ezequiel[3], and E. H. C. B. Van Cleef[3], [1]São Paulo State University (UNESP), Botucatu, Brazil, [2]Federal University of Lavras, Lavras, Brazil, [3]São Paulo State University (UNESP), Jaboticabal, Brazil*

10:00 AM 533 **Selection of white-rot fungi for bioprocessing of wheat straw into ruminant feed.**
*N. Nayan[*1], W. H. Hendriks[1], J. W. Cone[1], and A. Sonnenberg[2], [1]Wageningen University, Animal Nutrition Group, Wageningen, Netherlands, [2]Wageningen University, Plant Breeding Group, Wageningen, Netherlands*

10:15 AM 534 **Effect of Acacia Karroo leaf meal inclusion level on carcass characteristics, physico-chemical and sensory attributes and histological parameters of Pedi goats fed on a Setaria Verticillata grass hay-based diet.**
D. Brown[*], and J. Ng'ambi, University of Limpopo, Polokwane, South Africa

10:30 AM 535 **Ruminal planktonic, weakly, and tightly feed-adhered bacterial community as affected by two *Trichoderma Reesei* enzyme preparations fed to lactating cattle.**
*J. J. Romero[*1,2], D. C. Reyes[1], Z. Ma[2], and A. T. Adesogan[2], [1]University of Maine, Animal and Veterinary Sciences, Orono, [2]University of Florida, Institute of Food and Agricultural Sciences, Department of Animal Sciences, Gainesville*

10:45 AM 536 **Biochanin a mitigates rumen microbial changes associated with a sub-acute ruminal acidosis challenge.**
B. E. Harlow[*], G. E. Aiken, J. L. Klotz, and M. D. Flythe, USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY

11:00 AM 537 **Intake and ruminal fermentation parameters of beef steers consuming Bahiagrass hay treated with calcium oxide.**
*F. M. Ciriaco[*1], D. D. Henry[1], T. M. Schulmeister[1], P. L. P. Fontes[1], N. Oosthuizen[1], C. D. Sanford[1], L. B. Canal[1], G. C. Lamb[2], and N. DiLorenzo[1], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]Texas A&M University, Department of Animal Science, College Station*

11:15 AM 539 **Evaluation of *Brassica Carinata* meal on ruminal metabolism and nutrient digestibility of beef cattle.**
*T. M. Schulmeister[*1], M. Ruiz-Moreno[1], G. M. Silva[2], M. E. Garcia-Ascolani[1], F. M. Ciriaco[1], D. D. Henry[1], G. C. Lamb[3], J. C. B. Dubeux Jr.[1], and N. DiLorenzo[1], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research Center, Ona, [3]Texas A&M University, Department of Animal Science, College Station*

11:30 AM 540 **Acceptability of Spondia Mombin Linn leaves by West African Dwarf (WAD) sheep in Ijebu-Ode local government, Ogun State, Nigeria.**
*A. A. Mako[1], A. O. Mosuro[*2], V. O. Akinwande[1], and A. O. Akinsoyinu[3], [1]Tai Solarin University of Education, Ijebu-ode, Nigeria, [2]University of Ibadan, Ibadan, Nigeria, [3]Babcock University, Ilishan, Nigeria*

11:45 AM A1s **Early Career Award Speaker. Short-chain fatty acid absorption across the ruminal epithelium: Current knowledge and strategies to modulate absorption.**
G.B. Penner[*], Department of Animal & Poultry Science, University of Saskatchewan, Saskatoon, Canada

Oral Session: Extension Education

Chair: Vitor Mercandante, Department of Animal and Poultry Sciences, Virginia Tech

10:30 AM - 11:45 AM

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10:30 AM 258 **Effectiveness of a certification program to facilitate practice change in cattle handling and care.**
*K. D. Bullock[*1], B. R. Crites[1], W. R. Burris[2], J. Lehmkuhler[1], L. Anderson[1], M. Arnold[1], K. Laurent[1], B. Knight[2], B. Thompson[3], and P. Prater[4], [1]University of Kentucky, Lexington, [2]University of Kentucky, Princeton, [3]Kentucky Beef Network, Lexington, [4]Morehead State University, Morehead, KY*

10:45 AM 259 **Relationships between beef bull sale prices and feeder calf price in Virginia.**
A. R. Weaver, J. Saville, and S. P. Greiner, Virginia Polytechnic Institute and State University, Blacksburg*

11:00 AM 260 **The induction and synchronization of estrus in sheep during the fall and late spring (season and out of season) using Controlled Internal Drug Release (CIDR) devices on Delmarva.**
E. N. Escobar[*1], E. Kassa[1], D. O'Brien[2], and H. Taylor[1], [1]University of Maryland Eastern Shore, Princess Anne, MD, [2]Virginia State University, Petersburg*

11:15 AM 261 **Relationships of production practices for producers participating in the UK beef IRM farm program.**
B. R. Crites[*1], G. Conway[1], E. S. Vanzant[1], K. D. Bullock[1], J. W. Lehmkuhler[1], W. R. Burris[2], and L. Anderson[1], [1]University of Kentucky, Lexington, [2]University of Kentucky, Princeton*

11:30 AM 262 **Comparison of production practices for producers participating in the UK beef IRM farm program and USDA Nahms survey data.**
B. R. Crites[1], G. Conway[*1], E. S. Vanzant[1], K. D. Bullock[1], J. W. Lehmkuhler[1], W. R. Burris[2], and L. Anderson[1], [1]University of Kentucky, Lexington, [2]University of Kentucky, Princeton*

CSAS Graduate Student Oral Competition

Chair: Eveline Ibeagha-Awemy, Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada

Sponsor: CSAS

9:30 AM - 12:30 PM

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9:30 AM 240 **Sire verification in multi-sire breeding systems.**
S. J. Domolewski[*1], K. Larson[2], J. Campbell[3], F. C. Buchanan[4], and H. Lardner[2], [1]University of Saskatchewan, Saskatoon, SK, Canada, [2]Western Beef Development Centre, Humboldt, SK, Canada, [3]University of Saskatchewan, Department of Large Animal Clinical Sciences, Saskatoon, SK, Canada, [4]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada*

9:45 AM 241 **Effects of low vs. high dietary lipid and source of lipid on performance of gestating beef cows and subsequent effects on progeny.**
F. Añez-Osuna[*1], G. B. Penner[1], J. Campbell[2], C. F. Fitzsimmons[3,4], M. E. R. Dugan[5], P. G. Jefferson[6], H. A. Lardner[1,6], and J. J. McKinnon[1], [1]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada, [2]University of Saskatchewan, Department of Large Animal Clinical Sciences, Saskatoon, SK, Canada, [3]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [4]Agriculture and Agri-Food Canada, Edmonton, AB, Canada, [5]Agriculture and Agri-Food Canada, Lacombe, AB, Canada, [6]Western Beef Development Centre, Humboldt, SK, Canada*

10:00 AM 242 **Performance response of piglets to acid-preserved high moisture wheat or barley as an alternative to in-feed acidification.**
D. Sotto, Jr., and D. Beaulieu, University of Saskatchewan, Saskatoon, SK, Canada*

10:15 AM 243 **The effect of binding feed enzymes to spores of *Bacillus Subtilis* (var. Natto) on In Vivo digestibility and In Situ disappearance.**
C. L. Rosser[*1,2], L. Jin[1], K. A. Beauchemin[1], M. Oba[2], and T. W. Alexander[1], [1]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [2]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada*

10:30 AM 244 **Kinetic characterization of a porcine intestinal alkaline phosphatase isomer over-expressed in the *E. coli* BL21 (λDE3).**
X. Yin[*1], W. Wang[1], N. Burello[1], M. Li[2], T. Archbold[1], and M. Z. Fan[1], [1]University of Guelph, ON, Canada, [2]Henan University of Animal Husbandry and Economy, Zhengzhou, China*

10:45 AM 245 **Standardizing Infrared Thermography (IRT) and micro-behavioral biometrics for estrus detection in dairy cows.**
H. Perez, University of Alberta, Edmonton, AB, Canada*

11:00 AM 246 **Over-feeding metabolizable protein supply in late gestation beef cattle: Effects on colostrum composition, milk and milk component yield, and pre-weaning growth of calves.**
K. S. Hare[*1], K. M. Wood[2], C. Fitzsimmons[3,4], and G. B. Penner[1], [1]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada, [2]University of Guelph, Department of Animal Biosciences, ON, Canada, [3]Agriculture and Agri-Food Canada, Edmonton, AB, Canada, [4]University of Alberta, Department of Agriculture, Food and Nutritional Science, Edmonton, AB, Canada*

11:15 AM 247 **Effect of 3- Vs. 9-d whole-plant corn allocation with or without fiber supplementation on cow performance, grazing preference, and ruminal fermentation.**
B. Anderson[*1], G. B. Penner[2], K. Larson[3], J. J. McKinnon[1], and H. Lardner[1,3], [1]University of Saskatchewan, Saskatoon, SK, Canada, [2]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada, [3]Western Beef Development Centre, Humboldt, SK, Canada*

11:30 AM 248 **Validating the stage of maturity at harvest for barley, oat, and triticale for swath grazing.**
*C. L. O'Keefe[*1], K. Larson[2], G. B. Penner[3], J. J. McKinnon[1], and H. Lardner[1,2], [1]University of Saskatchewan, Saskatoon, SK, Canada, [2]Western Beef Development Centre, Humboldt, SK, Canada, [3]University of Saskatchewan, Saskatoon, Department of Animal and Poultry Science, SK, Canada*

11:45 AM 249 **Antimicrobial activities of commercial essential oils against the bovine respiratory pathogen *Mannheimia Haemolytica*, and analysis of their chemical composition and cytotoxicity on bovine turbinate cells.**
*S. Amat[*1,2], D. Baines[3], and T. W. Alexander[4], [1]University of Calgary, Department of Production Animal Health, Faculty of Veterinary Medicine, Calgary, AB, Canada, [2]Lethbridge Research and Development Centre, Agriculture Agri-Food Canada, Lethbridge, AB, Canada, [3]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [4]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

12:00 PM 250 **Muscle amino acid composition of pigs is influenced by the feeding system and amino acid intake.**
*A. Remus[*1,2,3], M. P. Létourneau Montminy[2], L. Hauschild[4], and C. Pomar[3], [1] São Paulo State University (UNESP), Jaboticabal, Brazil, [2]Laval University, Department of Animal Sciences, Québec, QC, Canada, [3]Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, [4]São Paulo State University (UNESP), Jaboticabal, Brazil*

12:15 PM 251 **Net energy content of camelina cake fed to growing pigs and additivity of energy in mixed diets.**
J. W. Kim[*], and C. M. Nyachoti, University of Manitoba, Winnipeg, MB, Canada

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Meat Science and Muscle Biology Symposium: International Perspectives on Animal Handling and Welfare and Meat Quality

Chair: Anna C. Dilger, University of Illinois

Sponsor: Elanco Animal Health

2:00 PM - 5:00 PM

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2:00 PM 806 **Preslaughter handling practices and their effects on animal welfare and pork quality.**
L. Faucitano[*], Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada

2:45 PM 807 **Implications of animal handling for cattle welfare and meat quality**.
D. Thomson[*], Kansas State University, Manhatten

3:30 PM 808 **Relationships between welfare measures and meat quality of market age broilers and turkeys during transportation.**
T. G. Crowe[*], University of Saskatchewan, Saskatoon, SK, Canada

4:15 PM **Panel Discussion**

Oral Session: Animal Behavior and Well-Being

Chair: Janeen Salak-Johnson, University of Illinois at Urbana-Champaign

Sponsor: Animal Ag Alliance

2:00 PM - 5:00 PM

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2:00 PM 1 **Effects of embryonic norepinephrine on juvenile and mature quail behaviors.**
J. N. Mengers[*], and R. L. Dennis, University of Maryland, College Park

2:15 PM 2 **Effects of cold temperature and fat supplementation on rumen microbial populations in Korean cattle.**
S. W. Na[*], H. J. Kang, Y. Kim, and M. Baik, Seoul National University, College of Agriculture and Life Science, Department of Agriculture Biotechnology, Seoul, The Republic of Korea (South)

2:30 PM 3 **Relationship between allogrooming and disease in feedlot steers: Social interactions may provide information about individual animal health.**
*L. Hoonhout[*1], I. Reimert[1], and C. L. Daigle[2], [1]Wageningen University, Wageningen, Netherlands, [2]Texas A&M University, College Station*

2:45 13 **Awin mobile apps; animal welfare assessment at your fingertips.**
*I. Estevez[*1,2], M. Battini[3], E. Canali[3], R. Ruíz[1], G. Stilwell[4], V. Ferrante[3], M. Minero[3], J. Marchewka[1,5], S. Barbieri[3], S. Mattiello[3], I. Beltrán de Heredia[1], C. M. Dwyer[6], and A. Zanella[7], [1]Neiker-Tecnalia, Vitoria-Gasteiz, Spain, [2]IKERBASQUE, Basque Foundation for Science, Bilbao, Spain, [3]University of Milan, Department of Veterinary Medicine, Milan, Italy, [4]University of Lisbon, Faculty of Veterinary Medicine, Lisbon, Portugal, [5]Polish Academy of Sciences, Institute of Genetics and Animal Breeding, Department of Animal Behavior and Welfare, Jastrzębiec, Magdalenka, Poland, [6]Scotland's Rural College, Edinburgh, United Kingdom, [7]University of São Paulo (USP), Pirassununga, Brazil*

3:00 PM 5 **Behavior during human approach- and novel object tests and associations with performance from barrows selected for residual feed intake.**
*S. Azarpajouh[*1], J. D. Colpoys[2], E. K. Arkfeld[3], J. C. M. Dekkers[1], N. K. Gabler[1], E. J. Huff-Lonergan[1], S. M. Lonergan[1], J. F. Patience[3], K. J. Stalder[3], and A. K. Johnson[1], [1]Iowa State University, Department of Animal Science Ames, [2]Truman State University, Kirksville, MO, [3]Iowa State University, Ames*

3:15 PM 6 **The effect of repeated handling on behavior in beef cattle.**
*J. T. Parham[*1], A. E. Tanner[2], K. M. Eskridge[1], M. L. Wahlberg[2], W. S. Swecker[3], and R. M. Lewis[1], [1]University of Nebraska-Lincoln, [2]Virginia Polytechnic Institute and State University, Blacksburg, [3]College of Veterinary Medicine, Blacksburg*

3:30 PM 7 **Impact of exercise on productivity and behavior of weaned *Bos Indicus* cross calves housed in drylots.**
*C. L. Daigle[*1], B. L. Jackson[1], R. Gill[1], T. A. Wickersham[2], and J. E. Sawyer[1], [1]Texas A&M University, College Station, [2]Texas A&M University, Department of Animal Science, College Station*

3:45 PM 8 **Effects of simulated self-enurination on reproductive behavior and endocrinology during the transition into the breeding season in male goats (*Capra hircus*).**
W. F. Fritz[*], S. E. Becker, and L. S. Katz, Rutgers University, New Brunswick, NJ

4:00 PM 9 **Consequences of immunization against Gnrf and Ractopamine supplementation on behavioral traits of heavy weight market gilts.**
*L. A. Rodrigues[*1], G. P. Prezotti[2], F. N. Ferreira[1], L. Spricigo[3], L. G. Reis[1], D. M. Junior[1], F. C. Silva[4], W. M. Ferreira[1], and D. O. Fontes[1], [1]Federal University of Minas Gerais, Belo Horizonte, Brazil, [2]Heifer International, Little Rock, AR, [3]Zoetis Brazil, São Paulo, Brazil, [4]Agricultural Research Corporation from Minas Gerais, Viçosa, Brazil*

4:15 PM 10 **Effect of different surgical incisions and anesthesia methods on wound healing in recently weaned beef calves.**
*S. Marti[*1,2], D. M. Meléndez[1,2], E. D. Janzen[1], D. Gellatly[1,2], C. E. M. Heuston[2,3], E. A. Pajor[1], and K. S. Schwartzkopf-Genswein[2], [1]University of Calgary, Calgary, AB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [3]University of Saskatchewan, Saskatoon, SK, Canada*

4:30 PM 11 **Effect of Lidocaine and Meloxicam on indicators of pain and distress after knife castration in weaned beef calves.**
*D. M. Meléndez[*1,2], S. Marti[1,2], E. D. Janzen[1], D. Moya[2,3], D. Gellatly[1,2], E. A. Pajor[1], and K. S. Schwartzkopf-Genswein[2], [1]University of Calgary, Calgary, AB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [3]Institute of Biological, Environmental and Rural Sciences, Aberystwyth, United Kingdom*

4:45 PM 12 **Meloxicam and temperament effects on growth performance and indicators of pain in knife or band castrated calves housed on pasture.**
*D. Gellatly[1], S. Marti[1], D. M. Meléndez[1], D. Moya[2], E. D. Janzen[1], E. A. Pajor[1], and K. S. Schwartzkopf-Genswein[*3], [1]University of Calgary, Calgary, AB, Canada, [2]Aberystwyth University, Aberystwyth, United Kingdom, [3]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*

Oral Session: Animal Health: Physiological and Molecular Indicators of Health

Chair: Michael L. Looper, University of Arkansas

Sponsor: Elanco Animal Health

2:00 PM - 5:00 PM

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2:00 PM 40 **Expression galectins in sheep blood during the periparturient period.**
B. Osei[*], M. Worku, S. Adjei-Fremah, E. Asiamah, K. Ekwemalor, and H. Ismail, North Carolina Agricultural and Technical State University, Greensboro

2:15 PM 41 **Biogenic nano-selenium particles effectively attenuate oxidative stress-induced intestinal epithelial barrier injury by activating the Nrf2 antioxidant pathway.**
*D. Song[*1], Z. Lu[2], F. Wang[1], and Y. Wang[1], [1]Zhejiang University, College of Animal Sciences, Hangzhou, China, [2]Zhejiang University, College of Animal Sciences, Institute of Feed Science, Hangzhou, China*

2:30 PM 42 **Evaluating the metagenome of two sampling locations in the nasal cavity of cattle with Bovine Respiratory Disease Complex (BRDC).**
T. G. McDaneld[*], L. A. Kuehn, and J. W. Keele, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE

2:45 PM 43 **Metabolomics uncovers serum biomarkers that can predict the risk of retained placenta in transition dairy cows.**
*E. Dervishi[1], G. Zhang[1], R. Mandal[2], D. S. Wishart[2], and B. N. Ametaj[*1], [1]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [2]University of Alberta, Edmonton, AB, Canada*

3:00 PM 44 **Serum metabolomics fingerprinting during the dry off period identifies metabolite signatures that can predict the risk of metritis**
*D. Hailemariam[1], G. Zhang[1,2], R. Mandal[1], D.S. Wishart[2], B.N. Ametaj[*1], 1Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, [2]Departments of Computer and Biological Sciences, University of Alberta, Edmonton, Alberta, Canada*

3:15 PM 45 **Genomic characterization of intrauterine pathogenic *Escherichia coli* from cows with metritis.**
*Z. Ma[*1,2], A. Ginn[1,2], R. Mir[1,2], M. Kang[1,2], K. N. Galvão[3], and K. Jeong[1,2], [1]University of Florida, Department of Animal Sciences, Gainesville, [2]University of Florida, Emerging Pathogens Institute, Gainesville, [3]University of Florida, College of Veterinary Medicine, Department of Large Animal Clinical Sciences, Gainesville*

3:30 PM 46 **Serum and urine metallotyping of preketotic and ketotic dairy cows reveals major alterations in multiple mineral elements.**
*G. Zhang[1], R. Mandal[2], D. S. Wishart[2], and B. N. Ametaj[*1], [1]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [2]University of Alberta, Edmonton, AB, Canada*

3:45 PM 47 **Genetic and environmental components of metabolic diseases and lameness in cattle.**
*T. M. Goncalves[*1], P. J. Pinedo[2], J. E. P. Santos[3], G. M. Schuenemann[4], G. J. M. Rosa[5], R. O. Gilbert[6], R. C. Bicalho[6], R. Chebel[3], K. N. Galvao[3], C. M. Seabury[7], J. Fetrow[8], W. W. Thatcher[3], and S. L. Rodriguez Zas[1], [1]University of Illinois at Urbana-Champaign, [2]Colorado State University, Fort Collins, [3]University of Florida, Gainesville, [4]The Ohio State University, Department of Veterinary Preventive Medicine, Columbus, [5]University of Wisconsin-Madison, [6]Cornell University, Ithaca, NY, [7]Texas A&M University, College of Veterinary Medicine & Biomedical Sciences, Department of Veterinary Pathobiology, College Station, [8]University of Minnesota, Saint Paul*

4:00 PM 49 **Wooden breast disease in commercial broiler chickens: A histologic and RNA-seq study.**
*E. L. Fare[1], M. P. Babak[2], and B. Abasht[*2], [1]University of Delaware, Department of Biological Sciences, Newark, [2]University of Delaware, Department of Animal and Food Sciences, Newark – new time*

4:15 PM 29 **Mitochondrial correlates of signaling processes involved with the cellular response to *Eimeria* infection in broiler chickens.**
*T. H. Elsasser[*1], S. Kahl[1], A. Martínez[2], K. B. Miska[1], and R. H. Fetterer[3], [1]USDA-ARS, Animal Biosciences and Biotechnology Laboratory, Beltsville, MD, [2]Center for Biomedical Research of La Rioja (CIBIR), Logroño, Spain, [3]USDA-ARS, Animal Parasitic Diseases Laboratory, Beltsville, MD*

4:30 PM 31 **In vitro evaluation of the antimicrobial activity of several short and medium chain fatty acid salts and their combinations.**
*C. Sol[*1], J. M. Oddo[1], M. Puyalto[1], A. Carvajal[2], M. Gómez[2], S. Costillas[2], J. J. Mallo[1], and P. Rubio[2], [1]Norel S.A., Madrid, Spain, [2]University of León, Grupo Diegesporc, León, Spain*

4:45 PM 28 **Elevated Lipocalin2 expression in vivo protects hosts against bacteria.**
Q. Wang, Feed Science Institute, College of Animal Science, Zhejiang University

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Oral Session: Lactation Biology

Chair: Erin Connor, USDA/ARS, BFGL

2:00 PM - 4:15 PM

324/325/326

2:00 PM 342 **Injections of oxytocin in the early postpartum period affect the status of mammary tight junctions in swine.**
*C. Farmer[*1], H. Quesnel[2], M. Lessard[1], and C. H. Knight[3], [1]Agriculture and Agri-Food Canada, Sherbrooke Research and Development Centre, Sherbrooke, QC, Canada, [2]UMR, Saint Gilles, France, [3]University of Copenhagen, Copenhagen, Denmark*

2:15 PM 343 **Effect of once daily milking on mammary transcriptome and cell turnover in dairy goats.**
*M. Boutinaud[*1], V. Dris-Kerdreux[1], S. Wiart[1], J. M. Aubry[1], D. Laloe[2], F. Jaffrezic[2], E. Devinoy[2], and L. Galio[2], [1]UMR 1348 PEGASE, Agrocampus Ouest, INRA, Saint-Gilles, France, [2]UMR 1313 GABI, INRA, Jouy en Josas, France*

2:30 PM 344 **Supplementing different forms of L-methionine and acetate alters the expression patterns of mRNA, proteins and metabolites related to milk protein synthesis and energy metabolism in bovine mammary cells.**
*J. R. V. Conejos[*1], S. W. Jeon[1], M. H. Bae[1,2], J. E. Lee[3], B. S. Lee[3], J. S. Park[3], J. O. Moon[3], and H. G. Lee[1,2], [1]Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South), [2]Konkuk University, Team of An Educational Program for Specialists in Global Animal Science, Brain Korea 21 Plus Project, Seoul, Republic of Korea (South), [3]CJ CheilJedang Research Institute of Biotechnology, Suwon, Republic of Korea (South)*

2:45 PM 345 **Feed restriction increases mammary epithelial cell exfoliation rate in dairy cows.**
L. Herve[*], M. Veron, P. Lamberton, S. Wiart, P. Debournoux, S. Philau, C. Mustière, H. Quesnel, and M. Boutinaud, UMR1348 PEGASE, Agrocampus Ouest, INRA, Saint-Gilles, France

3:00 PM 346 **Impact of arterial nutrient concentration on the uptake of nutrients by the mammary glands in sows.**
*U. Krogh[*1], and P. K. Theil[2], [1]Aarhus University, Foulum, Denmark, [2]Aarhus University, Tjele, Denmark*

3:15 PM 347 **Prolactin (PRL), prolactin receptor (PRLR-LF) and adiponutrin (PNPLA3) mRNA abundances in mammary extraparenchymal tissue of gilts are affected by body condition.**
*M. F. Palin[*1], C. R. Amaral Duarte[2], M. Comi[3], and C. Farmer[4], [1]Agriculture and Agri-Food Canada, Sherbrooke Research and Development Centre, Sherbrook, QC, Canada, [2]Mato Grosso State University (UNEMAT), Faculty of Agrarian Sciences (FCA), Biological and Health Sciences, Tangará da Serra, Brazil, [3]University of Milan, The Department of Health, Animal Science and Food Safety (VESPA), Milan, Italy, [4]Agriculture and Agri-Food Canada, Sherbrooke Research & Development Centre, Sherbrooke, QC, Canada*

3:30 PM **Break**

3:45 PM 900 **Jr. Platform Speaker. Alternatives to antibiotic treatment for bovine mastitis.**
C. Scholte[*], Department of Animal and Avian Science, University of Maryland, College Park

Oral Session: Nonruminant Nutrition: General

Chair: Charles Starkey, Auburn University

2:00 PM - 5:15 PM

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2:00 PM 910 **Jr. Platform Speaker. The effects of diet and management on environmental footprint of swine production.**
C. Vonderohe[*] and J. S. Radcliffe, Department of Animal Science, Purdue University, West Lafayette, IN

2:30 PM 378 **Effects of replacing pharmacological levels of dietary zinc oxide with lower dietary levels of zinc oxide nanoparticles for weaned piglets.**
*M. Wang[*1], B. Wang[1], L. Liu[1], J. Zhu[1], J. Zou[2], and D. Leng[2], [1]Zhejiang University, College of Animal Science, Hangzhou, China, [2]Jiangxi Innovating Science and Technology Co., Ltd, Nanchang, China*

2:45 PM 379 **Dietary supplementation of microalgal astaxanthin produced dose-dependent enrichments of the phytochemical and elevations of radical absorbance capacity in tissues and eggs of layer hens.**
*A. D. Magnuson[*1], T. Sun[1], R. Yin[1], G. Liu[1], S. Tolba[1], S. Shinde[2], and X. G. Lei[3], [1]Cornell University, Ithaca, NY, [2]Heliae Development, Gilbert, AZ, [3]Cornell University, Department of Animal Science, Ithaca, NY*

3:00 PM 380 **Trans-generational effect of feeding genetically modified maroACC Corn to laying hens and offspring roosters on offspring roosters growth and reproduction.**
*R. Zhong[*1,2], L. Chen[1], L. Zhang[2], and H. Zhang[2], [1]Chinese Academy of Agricultural Sciences, Institute of Animal Sciences, Beijing, China, [2]Chinese Academy of Agricultural Sciences, Institute of Animal Sciences, State Key Laboratory of Animal Nutrition, Beijing, China*

3:15 PM 381 **2-Hydroxy-4-Methylselenobutanoic acid exerted a unique regulation of selenogenome, selenoproteins, and selenocystenine-related genes in tissues of broiler chicks.**
*L. Sun[1], L. Zhao[1], M. Briens[2], S. W. Xu[3], and X. G. Lei[*4], [1]Huazhong Agricultural University, Department of Animal Nutrition and Feed Science, Wuhan, Hubei, China, [2]Adisseo France S.A.S., Antony, France, [3]Northeast Agricultural University, Department of Veterinary Medicine, Harbin, China, [4]Cornell University, Department of Animal Science, Ithaca, NY*

3:30 PM 382 **Interaction between feeding techniques and ambient temperature on growing pigs performance and body composition.**
*L. S. D. Santos[1,2], P. H. R. F. Campos[3], L. Hauschild[*2], W. C. D. Silva[2], A. M. Veira[2], A. Z. Fraga[2], and C. Pomar[4], [1]São Paulo State Foundation (FAPESP), São Paulo, Brazil, [2]São Paulo State University (UNESP), Jaboticabal, Brazil, [3]Federal University of Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, Brazil, [4]Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*

3:45 PM 383 **Highly-processed soy protein is an alternative protein source to fishmeal for weaned piglets.**
*M. A. Ton Nu[*1], H. Hall[2], H. MaseyONeill[2], and H. Schulze[2], [1]Agro Korn A/S, Videbæk, Denmark, [2]AB Agri Ltd, Peterborough, United Kingdom*

4:00 PM 384 **Effects of dietary supplementation of natural feed additives on growth performance of nursery pigs.**
*S. M. Mendoza[*1], G. R. Murugesan[1], E. G. Hendel[1], E. Kadas-Toth[2], and A. Kovacs[2], [1]BIOMIN America Inc., San Antonio, TX, [2]BIOMIN Holding GmbH, Getzersdorf, Austria*

4:15 PM 385 **Effects of supplementing sow diets with *Saccharomyces Cerevisiae* refermented sorghum dried distiller's grains with solubles from late gestation to weaning on the performance of sows and progeny.**
*D. Song[*1], F. Wang[1], Z. Lu[2], and Y. Wang[1], [1]Zhejiang University, College of Animal Sciences, Hangzhou, China, [2]Zhejiang University, College of Animal Science, Institute of Feed Science, Hangzhou, China*

4:30 PM 386 **Dietary calcium and phosphate levels affect bone development and marrow adipose tissue deposition in neonatal pigs.**
*W. Zhang[*1], R. L. Murray[1], C. Guiltinan[1], L. Zhao[2], K. Kroscher[2], R. P. Rhoads[2], and C. H. Stahl[1], [1]University of Maryland, College Park, [2]Virginia Polytechnic Institute and State University, Blacksburg*

4:45 PM 387 **A comparison of total collection and index method estimates of energy values of full fat soybean using regressing method for growing pigs.**
F. Zhang[*], Purdue University, West Lafayette, IN

5:00 PM 377 **DL-Methionyl-DL-Methionine as a methionine source for weaned and growing pigs.**
*L. S. D. Santos[*1], J. K. Htoo[2], C. Fracaroli[1], W. C. D. Silva[1], J. D. P. Gobi[1], A. M. Veira[1], N. A. Barbosa[3], and L. Hauschild[1], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]Evonik Nutrition & Care GmbH, Hanau-Wolfgang, Germany, [3]Evonik Industries, São Paulo, Brazil*

Ruminant Nutrition Symposium

Chair: Philipe Moriel, University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research and Education Center

Sponsor: Zoetis

2:00 PM - 4:15 PM

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2:00 PM	749	**Effects of postruminal flows of protein and amino acids on small intestinal starch digestion in cattle.** *D. W. Brake*, South Dakota State University, Brookings*
2:45 PM	801	**Bioenergetic targets for controlling growth of rumen bacteria; insights into the molecular mode of action of monensin.** *R. L. Mackie*, University of Illinois at Urbana-Champaign*
3:30 PM	802	**Tiny but mighty: The role of rumen microbes in livestock production.** *K. M. Cammack*, South Dakota State University, Brookings*

MONDAY, JULY 10 / SYMPOSIA AND ORAL SESSIONS

ARPAS Symposium: Understanding Both Animal Needs and Consumer Demands in Animal Agriculture Transparency

Chair: John K. Bernard, University of Georgia

Sponsor: ARPAS

9:30 AM - 12:30 PM

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9:30 AM	762	**Using the science of animal wellbeing to establish policy versus consumer perception.** *J. L. Salak-Johnson*, University of Illinois at Urbana-Champaign*
10:15 AM	763	**Creating auditor training and certifications to meet the expectations of livestock production stakeholders.** *C. Kaster*, Professional Animal Auditor Certification Organization, Inc., Kearney, MO*
11:00AM	764	**Successes and opportunities from beef quality assurance training.** *D. U. Thomson*, Kansas State University, Manhattan*
11:45AM		**Panel Discussion**

Companion Animal Symposium: Milk Across the Mammalian Kingdom

Chair: Beth Kitts-Morgan, Lincoln Memorial University

Sponsor: ASAS Foundation, George Fahey Appreciation Club and ADM

9:30 AM - 12:30 PM

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9:30 AM		**Introductory Remarks**
9:40 AM	797	**Milk: How can such a complex, diverse and functional system have such a simple name?** *J. B. German*, University of California-Davis*
10:10 AM	798	**Species differences in amino acid and protein content of milk.** *J. Brunton*, Memorial University of Newfoundland, St John's, NF, Canada*
10:40 AM		**Break**
10:55 AM	799	**The physiological and biochemical regulation of milk synthesis among species.** *J. J. M. Kim*, University of Guelph, ON, Canada*
11:25 AM	800	**Comparative macronutrient composition of milk.** *M. Power*, Smithsonian Conservation Biology Institute, Washington D.C.*
11:55 AM		**Panel Discussion**

Oral Session: Beef Species I

Chair: Reinaldo F. Cooke, Oregon State University - EOARC Burns

9:30 AM - 11:45 AM

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9:30 AM 901 **Jr. Platform Speaker. Intensified Cow/Calf production in the Southern Great Plains**
A. McGee, Oklahoma State University*

10:00 AM 129 **Maternal plane of nutrition during mid-gestation affects the skeletal muscle transcriptome in beef cattle progeny.**
J. C. McCann[1], T. B. Wilson[1], L. L. Guan[2], D. W. Shike[1], and J. J. Loor[1], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [2]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada*

10:15 AM 130 **Changes in feed intake, growth, feed efficiency, and body composition of beef cattle fed forage then concentrate diets.**
A. P. Foote, R. G. Tait, Jr., and H. C. Freetly, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE*

10:30 AM 131 **Alteration in gene expression in the jejunum mucosa of Angus steers with divergent ADG.**
A. P. Foote, B. N. Keel, and A. K. Lindholm-Perry, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE*

10:45 AM 132 **Performance and carcass traits of Nellore and Nellore x Angus steers fed whole shelled corn diets.**
M. M. Ladeira[1], A. C. Rodrigues[1], P. V. R. Paulino[2], S. A. Ferreira[3], L. R. Santos[1], and T. C. Coelho[1], [1]Federal University of Lavras, Lavras, Brazil, [2]Nutron Alimentos Ltda, Campinas, Brazil, [3]IF Sudeste MG, Lavras, Brazil*

11:00 AM 133 **Effects of intermittent feeding of tylosin phosphate on feedlot performance, carcass characteristics, and incidence of liver abscesses in steers.**
H. C. Muller[1], R. G. Amachawadi[1], H. M. Scott[2], C. L. Van Bibber-Krueger[1], and J. S. Drouillard[1], [1]Kansas State University, Manhattan, [2]Texas A&M University, College Station*

11:15 AM 134 **Effect of two-stage weaning duration on behavior in beef calves.**
F. W. Harrelson, and P. L. Harrelson, Morehead State University, Morehead, KY*

11:30 AM 135 **Productivity measures in beef cows and calves following a single subcutaneous injection of long acting eprinomectin.**
C. E. Andresen, and P. J. Gunn, Iowa State University, Department of Animal Science, Ames*

Oral Session: Muscle Biology and Meat Science

Chair: Yang Huang, University of Arkansas

9:30 AM - 12:15 PM

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9:30 AM 349 **Duration of high-concentrate diet prior to forage-finishing I: Effects on animal performance, glucose/insulin levels, carcass traits, and tissue fatty acid composition of beef steers.**
B. M. Koch, J. L. Britt, L. E. Koch, W. C. Bridges, N. M. Long, and S. K. Duckett, Clemson University, Clemson, SC*

9:45 AM 350 **Duration of high-concentrate diet prior to forage-finishing II: Effects on glucose and insulin levels under challenge, and gene expression of beef steers.**
B. M. Koch, J. L. Britt, L. E. Koch, W. C. Bridges, N. M. Long, and S. K. Duckett, Clemson University, Clemson, SC*

10:00 AM 351 **Fatty acid composition and expression of lipid metabolism-related genes in *longissimus dorsi* muscle of grazing beef heifers offered supplements containing either safflower oil or ruminally-protected fish oil.**
A. P. Moloney[1], F. M. Cicognini[2], and S. M. Waters[3], [1]Teagasc, Grange, Dunsany, Meath, Ireland, [2]Catholic University of the Sacred Heart (UCSC), Institute of Food Science and Nutrition, Faculty of Agriculture, Piacenza, Italy, [3]Teagasc, Animal and Bioscience Research Department, Grange, Dunsany, Meath, Ireland*

10:15 AM 352 **Two-year study comparing high-energy forage and feedlot finishing impact on beef consumer acceptability and sensory characteristics in the upper Midwest.**
R. M. Martin[1], J. E. Rowntree[1], J. P. Schweihofer[2], J. B. Harte[1], and S. Cho[1], [1]Michigan State University, East Lansing, [2]Michigan State University Extension, Bad Axe*

10:30 AM 353 **A plant extract with manganese, Vali MP, promotes myotube hypertrophy in mouse C2C12 skeletal muscle cells.**
M. Y. Park[1], S. W. Choi[1,2], S. W. Jung[2], and K. Y. Whang[1], [1]Korea University, Department of Biotechnology, Seoul, Republic of Korea (South), [2]CTCBIO INC., Seoul, Republic of Korea (South)*

10:45 AM **Break**

11:00 AM 354 **Betaine enhances skeletal muscle cell lipid accumulation by promoting adipogenic genes expression.**
W. Wu, Zhejiang University, College of Animal Science, Hangzhou, China*

11:15 AM 355 **Cholecalciferol supplementation in heifer diets increases beef vitamin D concentration and improves beef tenderness.**
A. K. Kelly, J. V. O`Doherty, and S. K. Duffy, University College Dublin, School of Agriculture and Food Science, Belfield, Dublin, Ireland*

11:30 AM 356 **Comparative analysis of the N6-methyladenosine of skeletal muscle in Jinhua and Landrace pigs.**
Q. Jiang, X. Wang, and Y. Wang, Zhejiang University, College of Animal Sciences, Hangzhou, China*

11:45 AM 357 **All-trans retinoic acid impacts myogenic gene expression in bovine satellite cells.**
J. Kim, K. B. Pritchett, Z. K. F. Smith, and B. J. Johnson, Texas Tech University, Lubbock*

12:00 PM 358 **Effects of rumen protected-histidine supplementation dose on finishing beef cattle.**
B. N. Sandberg, C. W. Hunt, M. E. Doumit, R. Richard, and G. K. Murdoch, University of Idaho, Moscow*

Oral Session: Production, Management, and the Environment I

Chair: Adam L Shreck, Feedlot Health Management Services

9:30 AM - 12:00 PM

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9:30 AM 488 **Enteric methane production and ruminal fermentation from forage brassica diets fed in continuous culture.**
S. L. Dillard, A. I. Roca-Fernandez, M. D. Rubano, K. R. Elkin, and K. J. Soder, USDA-Agricultural Research Service, University Park, PA*

9:45 AM 489 **Effects of the inclusion of linseed and increasing concentrations of glycerol as replacement of corn grain on rumen fermentation, methane production and nutrient disappearance in a rusitec system.**
C. Gutierrez[1], N. Vera[1], R. Allende[1], P. Williams[2], and J. Avila-Stagno[*1], [1]University of Concepción, Faculty of Veterinary Science, Chillán, Chile, [2]University of Concepción, Faculty of Agriculture, Chillán, Chile*

10:00 AM 490 **Estimating enteric methane emission from beef heifers with different residual feed intake using greenfeed and respiration chambers.**
A. W. Alemu[*1], D. Vyas[1,2], G. Manafiazar[3], J. A. Basarab[4], and K. A. Beauchemin[1], [1]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [2]University of Florida, Department of Animal Sciences, Institute of Food and Agricultural Sciences, Gainesville, [3]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [4]Alberta Agriculture and Forestry, Lacombe Research Centre, Lacombe, AB, Canada*

10:15 AM 491 **Impact of sulfur level and source on manure and air emissions from swine diets.**
S. L. Trabue, and B. J. Kerr, USDA-ARS, Ames, IA*

10:30 AM 492 **Water use intensity of canadian beef production in 1981 as compared to 2011.**
G. Legesse[*1], M. R. C. Cordeiro[2], K. H. Ominski[1], K. A. Beauchemin[2], R. Kröbel[2], E. J. McGeough[1], S. Pogue[2], and T. A. McAllister[2], [1]University of Manitoba, Department of Animal Science, Winnipeg, MB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

10:45 AM **Break**

11:00 AM 494 **Big data analysis of beef production and quality: An example with the Brazilian cattle industry.**
V. Cardoso Ferreira, J. R. R. Dórea, and G. J. M. Rosa, University of Wisconsin-Madison*

11:15 AM 495 **Conversion of high-frequency partial body weights to total body weight in feedlot cattle.**
D. Benfield[*1], K. Garossino[1], R. D. Sainz[2], M. S. Kerley[3], and C. Huisma[1], [1]GrowSafe Systems Ltd, Airdrie, AB, Canada, [2]University of California-Davis, [3]University of Missouri, Columbia*

11:30 AM 496 **The influence of cow temperament on temperament and performance of offspring.**
R. C. Vann[*1], B. P. Littlejohn[2], D. G. Riley[3], T. H. Welsh, Jr.[4], R. D. Randel[5], and S. T. Willard[6], [1]Mississippi State University, Mississippi Agricultural and Forestry Experiment Station, Brown Loam Branch, Raymond, [2]Texas A&M University, Department of Animal Science, College Station, [3]Texas A&M University, College Station, [4]Texas A&M University, AgriLife Research and Department of Animal Science, College Station, [5]Texas A&M University, AgriLife Research, Overton, [6]Mississippi State University, Department Animal & Dairy Science, Starkville*

11:45 AM 497 **Effects of post-weaning plane of nutrition and estrus synchronization on reproductive performance of *Bos Indicus*-influenced beef heifers.**
P. Moriel[1], M. Piccolo[*1], P. A. Lancaster[2], G. C. Lamb[3], J. Vendramini[1], and J. D. Arthington[1], [1]University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research and Education Center, Ona [2]Missouri State University, Springfield, [3]Texas A&M University, Department of Animal Science, College Station*

Oral Session: Small Ruminant

Chair: Uma Karki, Tuskegee University

9:30 AM - 12:45 PM

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9:30 AM 674 **Lying and standing behavior of a small herd of goats in a woodland pasture.**
*T. A. Gipson[*1], and C. A. Clifford-Rathert[2], [1]Langston University, American Institute for Goat Research, Langston, OK, [2]Lincoln University, Department of Agriculture and Environmental Sciences, Jefferson City, MO*

9:45 AM 675 **Effect of water restriction on hair sheep breeds from different regions of the United States.**
*A. Hussein[*1,2], R. Puchala[1], I. Portugal[1], T. A. Gipson[1], B. K. Wilson[2], and A. L. Goetsch[1], [1]Langston University, American Institute for Goat Research, Langston, OK, [2]Oklahoma State University, Department of Animal Science, Stillwater*

10:00 AM 676 **Effects of grain source and starch concentration in dairy goat diet on ruminal fermentation, milk production and inflammation.**
*Y. Shen[*1,2], W. Yang[2], L. Chen[1], J. Xu[1], and H. Wang[1], [1]Yangzhou University, College of Animal Science and Technology, Yangzhou, China, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

10:15 AM 677 **Prevalent weeds in a southern-pine silvopasture system managed with Kiko wethers.**
U. Karki[*], S. Poudel, Y. Karki, and A. Tillman, Tuskegee University, Tuskegee, AL

10:30 AM 678 **Effect of solar radiation and increased salinity on Awassi ewe adaptation and production.**
*B. Al Masri[1], K. Houchaymi[2], and P. Y. Aad[*3], [1]Saint Joseph University, Taanayel, Lebanon, [2]Lebanese Agricultural Research Institute, Terbol, Lebanon, [3]Notre Dame University, Zouk Mosbeh, Lebanon*

10:45 AM 679 **Effects of restricted periods of diet access on feed intake, behavior, and performance of Alpine goats in early lactation.**
*N. C. D. Silva[1,2], R. Puchala[1], T. A. Gipson[1], T. Sahlu[1], and A. L. Goetsch[*1], [1]Langston University, American Institute for Goat Research, Langston, OK, [2]São Paulo State University (UNESP), Julio de Mesquita Filho, Jaboticabal, Brazil*

11:00 AM 680 **Growth and famacha scores in purebred and terminal sire crossbred lambs produced from Landrace hair sheep under an accelerated mating system.**
S. Wildeus[*], and D. O'Brien, Virginia State University, Petersburg

11:15 AM 681 **Quality of fresh lamb from pasture-raised purebred and crossbred hair sheep lambs gradually removed from soy hull supplementation before harvest.**
*D. Kafle[*1], J. H. Lee[1], S. Wildeus[2], A. Discua[1], and C. Tripp[1], [1]Fort Valley State University, Fort Valley, GA, [2]Virginia State University, Petersburg*

11:30 AM 682 **Fatty acid composition of different fat depots from purebred and crossbred hair sheep lambs gradually removed from soy hull supplementation before harvest.**
*D. Kafle[1], J. H. Lee[*1], S. Wildeus[2], C. Tripp[1], and A. Discua[1], [1]Fort Valley State University, Fort Valley, GA, [2]Virginia State University, Petersburg*

11:45 AM 683 **Effects of DDGS and poultry fat as supplements for bermudagrass hay-based diet on blood metabolites, growth, meat and carcass characteristic of Spanish goats.**
P. Dangal[*], B. Kouakou, C. L. Greene, J. H. Lee, and J. N. Sheed, Fort Valley State University, Fort Valley, GA

12:00 PM 684 **Growing in silvopastoral system does not affect the performance or carcass and meat characteristics of lambs finished in feedlot.**
*F. de Oliveira Scarpino van Cleef[*1,2], V. Zirondi Longhini[1], L. Freitas de Oliveira Melo[1], T. Silva do Nascimento[1,2], P. Costa Borges[1], E. H. C. B. Van Cleef[1], J. M. Bertocco Ezequiel[1], and A. C. Ruggieri[1,2], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]CNPq, Brasília, Brazil*

12:15 PM 685 **Effects of replacing corn and soybean meal with dried distillers grains with solubles on blood metabolites, milk yield and composition of dairy goats during late lactation.**
T. L. Williams, B. Kouakou[*], and J. H. Lee, Fort Valley State University, Fort Valley, GA

12:30 PM 686 **Effect of licking molasses-urea block on weight gain, rumen fermentation and the main microbe populations of grazing sheep during grass withering period.**
C. Li[*], A. X, S. Xue, and Q. Zhao, Inner Mongolia Academy of Agriculture and Animal Husbandry Sciences, Huhhot, China

PANCOSMA Comparative Gut Physiology Symposium: All About Appetite Regulation

Chair: Yanhong Liu, University of California, Davis

Sponsor: Pancosma

9:30 AM - 12:45 PM

327/328/329

9:30 AM		**Welcoming Remarks**
9:45 AM	773	**The role of gut hormones and hypothalamus in appetite regulation.** *T. H. Moran*, Johns Hopkins University, School of Medicine, Baltimore, MD*
10:15 AM	774	**Effects of metabolic fuels on appetite control in dairy cows.** *M. S. Allen*, Michigan State University, East Lansing*
10:45 AM	775	**Role of intestinal nutrient sensors in secretion of satiety hormones regulating appetite.** *K. Daly* and Shirazi-Beechey, University of Liverpool, Liverpool, United Kingdom*
11:15 AM	776	**Effects of diet and gonadal steroids on appetite regulation of companion animals.** *M. R. C. de Godoy*, University of Illinois at Urbana -Champaign, Department of Animal Sciences, Division of Nutritional Sciences*
11:45 AM	777	**The essence of appetite – does olfactory receptor variation play a role?** *E. E. Connor*, Y. Zhou, and G. E. Liu, USDA-ARS, Animal Genomics and Improvement Laboratory, Beltsville, MD*
12:15 PM	778	**ASAS-EAAP Exchange Speaker. Appetite regulation by the interactions of peripheral signals: Hormones, nutrients, and neuronal signals.** *G. Frost*, Imperial College London, London, United Kingdom*

Research Technology Symposium

Chair: Jenny S. Jennings, Texas A & M AgriLife Research and Extension Center

9:30 AM - 5:00 PM

324/325/326

9:30 AM	820	**Use of new technologies to evaluate the sustainability of grazing systems.** *R. Reuter*, Oklahoma State University, Stillwater*
10:15 AM	738	**Use of new technologies to evaluate the environmental footprint of feedlot systems.** *N. A. Cole*[*1], D. B. Parker[2], R. W. Todd[2], A. B. Leytem[3], R. Dungan[3], and S. L. Ivey[4], [1]USDA-ARS, Conservation and Production Research Laboratory, Bushland, TX, [2]USDA-ARS, Bushland, TX, [3]USDA-ARS, Kimberly, ID, [4]New Mexico State University, Las Cruces*
11:00 AM	739	**Measuring the respiratory gas exchange of grazing cattle using the greenfeed emissions monitoring system.** *S. A. Gunter*[*1], S. E. Duke[2], and M. R. Beck[3], [1]USDA-ARS, Woodward, OK, [2]USDA-ARS, College Station, TX, [3]Oklahoma State University, Stillwater*
11:45 AM	740	**Use of GPS tracking collars and accelerometers for rangeland livestock production research.** *D. W. Bailey*[*1], M. G. Trotter[2], C. W. Knight[3], and M. G. Thomas[4], [1]New Mexico State University, Department of Animal and Range Sciences, Las Cruces, [2]Central Queensland University, Rockhampton, Australia, [3]University of Maine, Orono, [4]Colorado State University, Department of Animal Sciences, Fort Collins*
12:30 PM		**Break**
2:00 PM	741	**The use of a rumination monitoring device for finishing beef steers receiving different particle size and inclusion rate of dietary roughage.** *J. S. Jennings*[*1], W. W. Gentry[1], C. P. Weiss[1], C. M. Meredith[1], N. A. Cole[2], and F. T. McCollum[1], [1]Texas A&M AgriLife Research and Extension Center, Amarillo, TX, [2]USDA-ARS, Conservation and Production Research Laboratory, Bushland, TX*
2:45 PM	742	**Continuous ruminal pH measurement: Validation, opportunities, and limitations.** *G. B. Penner*, University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada*
3:30 PM	743	**Using advanced technologies to quantify cattle behavior.** *J. T. Richeson*, West Texas A&M University, Canyon*
4:15 PM	744	**Automated collection of heat stress data in livestock: New technologies and opportunities.** *J. E. Koltes*, University of Arkansas, Department of Animal Science, Fayetteville*

Feeds Derived from Innovative Breeding Techniques Symposium

Chair: John Vicini, Monsanto

Sponsor: EAAP

2:00 PM - 5:00 PM

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2:00 PM **Introductory Remarks**

2:05PM 733 **Genetically engineered feed: Impact on animal performance, health and products.**
A. E. Young, and A. L. Van Eenennaam, University of California-Davis*

2:40 PM 810 **Glyphosate residues in feed.**
D. A. Goldstein, Monsanto, Saint Louis, MO*

3:05 PM 811 **RNA interference: Applications and biosafety.**
K. Witwer, Johns Hopkins University School of Medicine, Baltimore, MD*

3:40 PM 812 **ASAS-EAAP Exchange Speaker. Gene editing: An emerging technology and regulation in animals and plants.**
D. Jenkins, Genus, Basingstoke, United Kingdom*

4:15 PM 734 **Engaging the public about science- it is not about Science.**
K. Folta, University of Florida, Gainesville*

4:50 PM **Panel Discussion**

Oral Session: Breeding and Genetics: Beef Cattle

Chair: Clare A. Gill, Department of Animal Science, Texas A&M University

2:00 PM - 4:00 PM

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2:00 PM 172 **Comparison of genomic-enhanced EPD systems using an external phenotypic database.**
L. A. Kuehn[1], S. P. Miller[2], K. J. Retallick[2], and D. W. Moser[2], [1]USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE, [2]Angus Genetics Inc., Saint Joseph, MO*

2:15 PM 173 **SNP discovery for QTL associated with grazing distribution in Angus cattle using RNA-seq.**
C. F. Pierce[1], M. M. Dias[2], D. W. Bailey[3], J. F. Medrano[4], A. Canovas[5], S. E. Speidel[1], S. J. Coleman[1], R. M. Enns[1], and M. G. Thomas[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]São Paulo State University (UNESP), Department of Animal Science, Jaboticabal, Brazil, [3]New Mexico State University, Department of Animal and Range Sciences, Las Cruces, [4]University of California-Davis, Department of Animal Science, [5]University of Guelph, Department of Animal Biosciences, ON, Canada*

2:30 PM 174 **Multivariate analysis of beef cattle pulmonary arterial pressures measured at differing elevations.**
M. M. Culbertson[1], M. G. Thomas[1], L. L. Leachman[2], R. M. Enns[1], and S. E. Speidel[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Leachman Cattle of Colorado, Fort Collins*

2:45 PM 175 **Construction of an association weight matrix to identify SNP that play a role in performance of Angus cattle at higher elevations.**
K. J. Jennings[1], X. Zeng[1], A. Reverter[2], T. N. Holt[3], S. J. Coleman[1], R. M. Enns[1], S. E. Speidel[1], and M. G. Thomas[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]CSIRO Agriculture, Brisbane, Australia, [3]Colorado State University, College of Veterinary Medicine and Biomedical Sciences, Fort Collins*

3:00 PM 176 **Genotyping a SNP in the endothelial PAS domain-containing protein 1 (EPAS1) gene: Is it associated with mean pulmonary arterial pressures in Yearling Angus cattle?**
N. F. Crawford[1], S. J. Coleman[1], T. N. Holt[2], S. E. Speidel[1], R. M. Enns[1], J. H. Newman[3], R. Hamid[4], and M. G. Thomas[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Colorado State University, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, [3]Vanderbilt University School of Medicine, Department of Medicine, Division of Allergy, Pulmonary and Critical Care, Nashville, TN, [4]Vanderbilt University, School of Medicine, Department of Pediatrics, Division of Medical Genetics and Genomic Medicine, Nashville, TN*

3:15 PM 177 **Genetic structure of Angus and Salers in relation to SNP associated with pulmonary arterial pressure.**
B. C. Krehbiel[1,2], M. G. Thomas[1], S. E. Speidel[1], R. M. Enns[1], and H. D. Blackburn[2], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]USDA-ARS, National Animal Germplasm Program, National Laboratory for Genetic Resources Preservation, Fort Collins, CO*

3:30 PM **Break**

3:45 PM 178 **Black Hereford genetic parameters and predictions for calf traits with alternate modelling strategies.**
J. S. Delgadillo[1], D. G. Riley[1], J. M. Langdon II[1], L. L. Hulsman Hanna[2], and A. D. Herring[1], [1]Texas A&M University, Department of Animal Science, College Station, [2]North Dakota State University, Department of Animal Sciences, Fargo*

4:00 PM 179 **Expected progeny differences for stayability in Angus cattle using a random regression model.**
M. A. Sánchez-Castro, R. J. Boldt, M. G. Thomas, R. M. Enns, and S. E. Speidel, Colorado State University, Department of Animal Sciences, Fort Collins*

4:15 PM 180 **Genetic parameters for carcass traits and stayability in Red Angus cattle.**
R. J. Boldt[1], S. E. Speidel[1], M. G. Thomas[1], and L. D. Keenan[2], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Red Angus Association of America, Denton, TX*

4:30 PM 181 **Supplementation with n-3 PUFA and post-insemination plane of nutrition alters global gene expression patterns in bovine uterine endometrial tissue.**
C. Surlis, S. M. Waters, J. Evans, P. Cormican, D. Doyle, and D. A. Kenny, Teagasc Animal and Bioscience Department, Dunsany, Meath, Ireland*

4:45 PM 182 **Genetic markers associated with susceptibility to bovine respiratory disease.**
R. M. Enns[1], T. G. McDaneld[2], J. W. Keele[2], R. J. Boldt[1], T. P. Smith[2], and L. A. Kuehn[2], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]USD- ARS, U.S. Meat Animal Research Center, Clay Center, NE*

Oral Session: Nonruminant Nutrition: Early Career Award

Chair: John S. Radcliffe, Purdue University

2:00 PM - 2:30 PM

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2:00 PM A2 **Early Career Award: Optimizing nutrition to support immune and brain development in livestock and humans.**
R. N. Dilger, University of Illinois, Urbana-Champaign

Oral Session: Nonruminant Nutrition: Digestibility

Chair: John S. Radcliffe, Purdue University

2:30 PM - 5:30 PM

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2:30 PM 389 **Energy values of wheat bran are additive in corn-soybean meal-based swine diets.**
S. H. Lee, H. Jo, and B. G. Kim, Konkuk University, Department of Animal Science and Technology, Seoul, The Republic of Korea (South)*

2:45 PM 390 **The effects of length of feeding, dietary electrolyte balance, and energy source on ileal endogenous amino acid losses in pigs fed nitrogen-free diets.**
S. Adedokun, K. Dong, and D. L. Harmon, University of Kentucky, Lexington*

3:00 PM 391 **Ileal amino acid and phosphorus digestibility of fermented corn–soybean meal mixed feed with Bacillus Subtilis and Enterococcus Faecium fed to pigs.**
C. Shi[1], Z. Yu[1], Y. Yin[2], Z. Lu[1], and Y. Wang[3], [1]Zhejiang university, College of animal science, Institute of feed science, Hangzhou, China, [2]Chinese Academy of Sciences, Institute of Subtropical Agriculture, Changsha, China, [3]Zhejiang University, College of Animal Sciences, Hangzhou, China*

3:15 PM **Break**

3:30 PM 392 **Effect of dietary fiber type with different viscosity and fermentability on the standardized ileal digestibility of amino acids and intestinal digestion of carbohydrate component in a corn-soybean meal diet fed to growing pigs.**
L. Chen[1], L. Gao[2], R. Zhong[1], L. Zhang[2], J. Liu[1], X. Tang[1], and H. Zhang[2], [1]Chinese Academy of Agricultural Sciences, Institute of Animal Sciences, Beijing, China, [2]Chinese Academy of Agricultural Sciences, Institute of Animal Sciences, State Key Laboratory of Animal Nutrition, Beijing, China*

3:45 PM 394 **Effect of supplemental protease on growth performance, nutrient digestibility, and gut health in nursery pigs fed diets with corn or sorghum.**
H. Chen, I. Park, S. Zhang, and S. W. Kim, North Carolina State University, Raleigh*

4:00 PM 395 **Effects of dietary lysophospholipid complex on apparent ileal digestibility of fatty acids, intestinal morphology and barrier function, and growth performance in nursery pigs.**
L. Zheng, I. Park, and S. W. Kim, North Carolina State University, Raleigh*

4:15 PM 396 **Excess dietary leucine level increases the optimal dietary isoleucine to lysine ratio in 8 to 21 Kg pigs.**
J. K. Htoo[1], K. Männer[2], and J. Zentek[2], [1]Evonik Nutrition & Care GmbH, Hanau-Wolfgang, Germany, [2]Free University of Berlin, Berlin, Germany*

4:30 PM 397 **Metabolome profile of intestinal content of pigs fed diets with wheat and corn fiber supplemented with multi-carbohydrase enzymes.**
Z. K. Zeng[1], G. C. Shurson[1], C. Chen[1], and P. E. Urriola[2], [1]University of Minnesota, Department of Animal Science, Saint Paul, [2]University of Minnesota, Saint Paul*

4:45 PM 388 **Fitting prediction equations of the metabolizable energy of corn obtained from different harvests for piglets.**
*L. A. C. Esteves[1], L. D. Castilha[2], M. R. Fachinello[1], N. T. E. D. Oliveira[3], R. V. Nunes[4], and P. C. Pozza[*5], [1]State University of Maringá, Coordination for the Improvement of Higher Education Personnel (CAPES), Maringá, Brazil [2]State University of Maringá, Maringá, Brazil, [3]State University of Western Paraná, Marechal Cândido Rondon, Brazil, [4]University of Western Paraná, CNPq, Marechal Cândido Rondon, Brazilm, [5]State University of Maringá, CNPq, Maringá, Brazil*

5:00 PM 398 **Supplementation of xylanase and mannanase influences in vitro fermentation characteristics of DDGS in the large intestine of swine.**
U. P. Tiwari[*], and R. Jha, University of Hawaii at Manoa, Honolulu

5:15 PM 393 **Amino acid digestibility of full-fat canola seed, solvent-extracted, and expeller-derived canola meals in broiler chickens and pigs.**
*C. S. Park[*1], A. Helmbrecht[2], J. K. Htoo[2], and O. Adeola[1], [1]Purdue University, Department of Animal Sciences, West Lafayette, IN, [2]Evonik Nutrition & Care GmbH, Hanau-Wolfgang, Germany*

Oral Session: Production, Management, and the Environment II

Chair: April B. Leytem, USDA-ARS

2:00 PM - 4:45 PM

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2:00 PM 498 **Virginiamycin increases performance and carcass weight of feedlot cattle under mexican conditions.**
*M. A. Gorocica[*1], and L. O. Tedeschi[2], [1]Phibro Animal Health, Teaneck, NJ, [2]Texas A&M University, College Station*

2:15 PM 499 **Effects of timing of vaccination relative to weaning and post-weaning supplementation frequency on growth and immunity of growing beef calves.**
*G. M. Silva[*1], P. Moriel[1], M. Piccolo[1], J. Ranches[1], and M. H. Poore[2], [1]University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research and Education Center, Ona, [2]North Carolina State University, Raleigh*

2:30 PM 500 **Appraisal of therapeutic efficacy of antibiotics and prostaglandin based protocol in Holstein cattle suffering from acute puerperal metritis (APM).**
*A. H. Shahzad[*1], and S. Abbas[2], [1]College of Veterinary and Animal Sciences, Department of Clinical Sciences, Jhang, Pakistan, [2]College of Veterinary and Animal Sciences, Lahore, Pakistan*

2:45 PM 501 **Pre-weaning injections of bovine somatotropin altered liver gene expression, and enhanced puberty attainment and calving rates of *Bos Indicus*-influenced beef heifers.**
*M. Piccolo[*1], P. Moriel[1], G. M. Silva[1], R. F. Cooke[2], G. C. Lamb[3], J. Vendramini[1], and J. D. Arthington[1], [1]University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research and Education Center, Ona, [2]Oregon State University, Eastern Oregon Agricultural Research Center (EOARC), Burns, [3]Texas A&M University, Department of Animal Science, College Station*

3:00 PM 502 **Dissipation of antimicrobials and resistance genes in compost originating from cattle manure after direct oral administration or post-excretion fortification of antimicrobials.**
*S. Xu[*1], I. D. Amarakoon[2], R. Zaheer[1], S. Sura[3], T. Reuter[4], F. Zvomuya[2], A. J. Cessna[5], F. J. Larney[1], and T. A. McAllister[1], [1]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [2]University of Manitoba, Department of Soil Science, Winnipeg, MB, Canada, [3]University of Calgary, Cumming School of Medicine, Calgary, AB, Canada, [4]Alberta Agriculture and Forestry, Lethbridge, AB, Canada, [5]Agriculture and Agri-Food Canada, Saskatoon Research and Development Centre, Saskatoon, SK, Canada*

3:15 PM **Break**

3:30 PM 503 **Pen location affects thermoregulation and feed efficiency in swine during late summer.**
*K. R. Kpodo[*1], A. W. Duttlinger[1], and J. S. Johnson[2], [1]Purdue University, West Lafayette, IN, [2]USDA-ARS Livestock Behavior Research Unit, West Lafayette, IN*

3:45 PM 504 **Supplementation with a blend of capsicum and artificial sweetener as a strategy to mitigate the negative heat stress effects on pig growth performance and intestinal physiology.**
*M. E. Biggs[*1], L. Zhao[1], Z. Zhang[1], E. H. Wall[2], D. M. Bravo[2], and R. P. Rhoads[1], [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]Pancosma, Geneva, Switzerland*

4:00 PM 505 **Developing heat stress thresholds for sheep.**
A. M. Lees, M. L. Sullivan, A. J. Cawdell-Smith, and J. B. Gaughan[*], The University of Queensland, Gatton, Australia

4:15 PM 506 **Evaluating the relationship between environment and body temperature of hair sheep ewes in the tropics.**
R. W. Godfrey[*], A. Nero, G. Roberts, and S. A. Lakos, University of the Virgin Islands, Agricultural Experiment Station, St Croix

4:30 PM 507 **Milking efficiency in AMS using quarter level milking can be improved by applying a high take off level.**
*P. D. Krawczel[1], S. Ferneborg[2], R. Black[1], S. Agenäs[2], K. Svennersten-Sjaunja[2], and E. Ternman[*2], [1]The University of Tennessee, Knoxville, [2]Swedish University of Agricultural Sciences, Uppsala, Sweden*

Oral Session: Ruminant Nutrition: Dietary Additives

Chair: Kendall L. Samuelson, Texas A&M AgriLife Research

2:00 PM - 5:00 PM

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2:00 PM 559 **Effect of original XPC in receiving diets on newly weaned beef steer performance and response to a *Mannheimia Haemolytica* vaccination challenge.**
E. L. Deters, R. S. Stokes, O. N. Genther-Schroeder, and S. L. Hansen, Iowa State University, Ames*

2:15 PM 560 **The effect of two additives on ruminal fermentation using a semi-continuous culture system.**
M. Capelari[*1], K. A. Johnson[2], B. Latack[1], J. Roth[1], and W. Powers[3], [1]Michigan State University, East Lansing, [2]Washington State University, Pullman, [3]University of California, Oakland*

2:30 PM 561 **Effects of ractopamine hydrochloride on lysine utilization by growing cattle.**
A. H. Hussein[1], E. D. Batista[1,2], M. A. Vaughn[1], S. R. Davis[1], E. F. Schwandt[1], E. J. McCoy[3], J. C. Simroth[3], C. D. Reinhardt[1], D. U. Thomson[3], M. D. Miesner[4], D. D. Burnett[1], J. M. Gonzalez[1], and E. C. Titgemeyer[*1], [1]Kansas State University, Department of Animal Sciences and Industry, Manhattan, [2]Federal University of Viçosa, Viçosa, Brazil, [3]Kansas State University, Department of Diagnostic Medicine/Pathobiology, Manhattan, [4]Kansas State University, Department of Clinical Sciences, Manhattan*

2:45 PM 562 **Effect of Select TC on performance and health status of newly received feedlot cattle.**
J. R. Pukrop[*1], K. M. Brennan[2], and J. P. Schoonmaker[3], [1]Purdue University, West Lafayette, IN, [2]Alltech Inc., Nicholasville, KY, [3]Purdue University, Department of Animal Science, West Lafayette, IN*

3:00 PM 563 **Effects of bismuth subsalicylate and calcium-ammonium nitrate on ruminal fermentation of beef cattle.**
D. D. Henry[*1], F. M. Ciriaco[1], R. C. Araujo[2,3], P. L. P. Fontes[1], N. Oosthuizen[1], M. E. Garcia-Ascolani[1], C. D. Sanford[1], T. M. Schulmeister[1], M. Ruiz-Moreno[1], L. Rostoll-Cangiano[1], G. C. Lamb[4], and N. DiLorenzo[1], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]EW|Nutrition GMBH, Visbek, Germany, [3]GRASP Ind. & Com. LTDA, Curitiba, Brazil, [4]Texas A&M University, Department of Animal Science, College Station*

3:15 PM 564 **Effects of Biofix Plus PRO supplemented in liquid feed on the performance of cow-calf pairs in south central Florida.**
P. N. Gott[*1], A. Johns[2], A. Stam[3], B. G. Miller[1], B. Bell[1], and T. Weaver[4], [1]BIOMIN America Inc., San Antonio, TX, [2]Seminole Tribe of Florida, Inc., Okeechobee, FL, [3]Federally Recognized Tribal Extension Program, Okeechobee, FL, [4]Westway Feed Products, Tomball, TX*

3:30 PM 565 **Effects of heat load and active dry yeast supplementation on ruminal parameters.**
W. L. Crossland[*1], A. B. Norris[1], T. R. Callaway[2], and L. O. Tedeschi[1], [1]Texas A&M University, College Station [2]USDA-ARS, College Station, TX*

3:45 PM 566 **Isolation of *Fusobacterium Necrophorum*, *Trueperella Pyogenes*, and *Salmonella Enterica* from ruminal, ileal, and colonic epithelial tissues of finishing beef steers receiving different levels of dietary roughage with and without tylosin.**
C. M. Meredith[1], C. P. Weiss[1], W. W. Gentry[1], R. G. Amachawadi[2], S. K. Narayanan[2], T. G. Nagaraja[2], F. T. McCollum[1], and J. S. Jennings[*1], [1]Texas A & M AgriLife Research and Extension Center, Amarillo, [2]Kansas State University, Manhattan*

4:00 PM 567 **Ruminal characteristics and feedlot performance of feedlot steers during accelerated step-up to high-concentrate diets using Lactipro Advance.**
T. J. Ellerman[*], L. M. Horton, S. L. Katulski, C. L. Van Bibber-Krueger, C. C. Aperce, and J. S. Drouillard, Kansas State University, Manhattan*

4:15 PM 541 **Flaxseed containing lipid supplement improves omega-3 concentrations and omega-6-to-omega-3 fatty acid ratios in bovine serum.**
K. Swanson[*1], S. Akers[1], R. Wilson[1], M. Keller[1], L. Goddik[1], G. Cherian[1], R. Day[2], and G. Bobe[3], [1]Oregon State University, Corvallis, [2]N3Feed, Tualatin, OR, [3]Oregon State University, Corvallis*

4:30 PM A3 **Early Career Award: Interactions between trace minerals and growth promoting practices in beef cattle.**
S. Hansen[*], Iowa State University, Ames*

Oral Session: Teaching/Undergraduate and Graduate Education

Chair: Sarah Reed, University of Conneticut

2:00 PM - 4:45 PM

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2:00 PM 723 **Comparing student learning outcomes in a flipped classroom to a traditional lecture pedagogy in applied animal physiology.**
L. M. Judd[*], E. F. Orlando, and S. A. Balcom, University of Maryland, College Park*

2:15 PM 724 **Methods of daily student engagement in an introductory level animal science course.**
P. L. Harrelson, Morehead State University, Morehead, KY*

2:30 PM 725 **Difference in opinion of sustainable agriculture concepts between master of science and master of agriculture cohorts.**
P. Urso, M. M. Beverly, S. F. Kelley, E. F. Miller, M. J. Anderson, and K. J. Stutts, Sam Houston State University, Huntsville, TX*

2:45 PM 726 **Are there only 2Rs in agricultural animal research and production?**
W. R. Stricklin, University of Maryland, College Park*

3:00 PM 727 **What we deserve: A survey of student entitlement.**
M. J. Anderson, S. F. Kelley, M. M. Beverly, and K. J. Stutts, Sam Houston State University, Huntsville, TX*

3:15 PM 728 **Workshop on teaching bioethics in animal agriculture: Outcomes for faculty in animal science and veterinary medicine.**
C. C. Croney[1], R. Anthony[2], A. Bauer[1], C. Elbert[3], J. M. Siegford[4], W. R. Stricklin[5], J. C. Swanson[4], and G. Varner[3], [1]Purdue University, W. Lafayette, IN, [2]University of Alaska, Anchorage, [3]Texas A&M University, College Station, [4]Michigan State University, East Lansing, [5]University of Maryland, College Park*

3:30 PM **Break**

3:45 PM 729 **Effect of an active learning classroom on critical thinking dispositions, motivation to go to class, social community, and learning skills in an animal sciences course.**
M. G. Maquivar[1], and N. Sundararajan[2], [1]Washington State University, Department of Animal Sciences, Pullman, [2]Washington State University, College of Education, Pullman*

4:00 PM 730 **Development and implementation of a peer evaluation teaching protocol in a large animal science program.**
E. J. Huff-Lonergan, J. E. Cunnick, A. K. Johnson, and J. A. Sterle, Iowa State University, Department of Animal Science, Ames*

4:15 PM 731 **How to increase student participation and engagement using Padlet: A case study of collaborative discussion in an animal sciences course.**
N. Sundararajan[1], and M. G. Maquivar[2], [1]Washington State University, College of Education, Pullman, [2]Washington State University, Department of Animal Sciences, Pullman*

4:30 PM 732 **Animal science students perception of learning and the link to student learning outcomes in an introductory course.**
B. D. Whitaker, University of Findlay, Findlay, OH*

Oral Session: Food Safety: Improvement in Foods of Animal Origin

Chair: Clinton R. Krehbiel, University of Nebraska

3:00 PM - 4:15 PM

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3:00 PM 263 **Effects of in-feed administration of a *Saccharomyces Cerevisiae* fermentation product on the liver abscess microbiome and liver abscess rate in cattle reared to produce natural-branded beef.**
K. L. Huebner, J. N. Martin, M. D. Weinroth, K. H. Holzer, C. J. Weissend, Z. Abdo, J. L. Metcalf, I. Geornaras, J. K. Parker, P. S. Morley, and K. E. Belk, Colorado State University, Fort Collins*

3:15 PM 264 **The effect of tylosin supplementation and tylosin alternative control treatments on fecal microbial populations, performance, and liver abscess prevalence in feedlot cattle.**
C. J. Weissend, K. H. Holzer, K. L. Huebner, J. L. Metcalf, I. Geornaras, J. K. Parker, K. E. Belk, P. S. Morley, and J. N. Martin, Colorado State University, Fort Collins*

3:30 PM 265 **Genomic and metagenomic analysis of antibiotic resistance in dairy animals.**
B. J. Haley, S. W. Kim, H. Cao, J. S. Karns, and J. A. S. Van Kessel, USDA-ARS, Beltsville, MD*

3:45 PM 266 **Prevalence and risk factors for antimicrobial resistance on U.S. dairy operations.**
H. Cao[1], A. K. Pradhan[2], J. S. Karns[3], D. R. Wolfgang[4], E. Hovingh[5], B. T. Vinyard[6], and J. A. S. Van Kessel[3], [1]USDA Agricultural Research Service, Beltsville, MD, [2]University of Maryland, Department of Nutrition and Food Science, College Park, MD, [3]USDA-ARS, Beltsville, MD, [4]Pennsylvania State University, Veterinary and Biomedical Sciences, University Park, PA, [5]Penn State University, University Park, PA, [6]USDA-Agricultural Research Service, Beltsville, MD*

4:00 PM 267 **Inspection for fecal contamination on chicken carcass using handheld imaging device.**
M. Oh[1,2], S. Moon[2], and M. S. Kim[1], [1]USDA-ARS, Beltsville, MD, [2]Konkuk University, Chungju, Korea, Republic of (South)*

Exercise Physiology Symposium Part I: Companion Animals

Chair: Anna K. Shoveller, University of Guelph

Sponsor: ASAS Foundation

9:30 AM - 12:30 PM

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9:30 AM		**Welcoming Remarks**
9:40 AM	803	**The value of working dogs and what we need to do to maximize their performance.** *C. M. Otto*, University of Pennsylvania, Philadelphia*
10:10 AM	745	**How nutritional requirements differ among various working canines.** *R. L. Kelley*, Royal Canin, Lewisburg, OH*
10:40 AM		**Break**
10:55 AM	804	**Heat and stress management and alleviation in working dogs.** *J. B. Gaughan*, The University of Queensland, Gatton, Australia*
11:25 AM	805	**Supplemental carnitine for working Labrador Retrievers.** *C. Coon*, University of Arkansas, Fayetteville, AR*
11:55 AM		**Panel Discussion**

Graduate Student Symposium: Fueling the Future of Animal Science

Chair: Amanda K. Jones, Department of Animal Science, University of Connecticut

Sponsor: ASAS

9:30 AM - 12:05 PM

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9:30 AM		**Welcoming Remarks**
9:35 AM	813	**Committed to animal science: An industry perspective on the future of animal research and collaboration.** *C. K. Larson*, Zinpro Corporation, Eden Prairie, MN*
10:05 AM	746	**Be the impact: A graduate student's role in mentoring undergraduates in animal science.** *S. A. Reed*, University of Connecticut, Department of Animal Science, Storrs*
10:35 AM	747	**Navigating pre-tenure: Strategies to establish a successful early career in animal science.** *J. M. Gonzalez*, Kansas State University, Department of Animal Sciences and Industry, Manhattan*
11:05 AM	814	**Toward an impactful career: Integrating your passion for animal science with career choices and opportunities.** *G. P. Lardy*, North Dakota State University, Fargo*
11:35 AM		**Panel Discussion**

Oral Session: Beef Species II

Chair: Reinaldo F. Cooke, Oregon State University - EOARC Burns

9:30 AM - 11:30 AM

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9:30 AM	902	**Jr. Platform Speaker. Blood gas analysis as diagnostic tool for early detection of respiratory disease in cattle.** *E. Oosthuysen*, New Mexico State University, Las Cruces*
10:00 AM	136	**Administration of recombinant bovine somatotropin prior to fixed-time artificial insemination and the effects on pregnancy rates and conceptus development in beef heifers.** *N. Oosthuizen*[1], P. L. P. Fontes[1], D. D. Henry[1], C. D. Sanford[1], F. M. Ciriaco[1], L. B. Canal[1], N. DiLorenzo[1], V. R. G. Mercadante[2], and G. C. Lamb[3], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]Virginia Polytechnic Institute and State University, Animal and Poultry Sciences, Blacksburg, [3]Texas A&M University, Department of Animal Science, College Station*
10:15 AM	137	**Effect of a single dose of long acting eprinomectin on bull reproductive performance.** *C. E. Andresen*, and P. J. Gunn, Iowa State University, Department of Animal Science, Ames*
10:30 AM	138	**Analysis of serial vaginal temperature measurements in crossbred beef cattle grazing novel or toxic fescue.** *S. Chewning*[1], D. A. Koltes[1,2], J. G. Powell[1], L. R. Meyer[1], J. D. Tucker[1,3], D. S. Hubbell, III[1,3], J. J. Chewning[4], and J. E. Koltes[1], [1]University of Arkansas, Department of Animal Science, Fayetteville, [2]University of Arkansas, Division of Agriculture, Department of Poultry Science, Fayetteville, [3]University of Arkansas, Division of Agriculture, Livestock and Forestry Research Station, Batesville, [4]Swine Research Services, Inc., Springdale, AR*

10:45 AM 139 **Zinc injection as a novel castration method in beef bulls: Effects on performance, behavior and testosterone and haptoglobin concentration.**
*J. J. Ball[*1], J. T. Richeson[2], E. B. Kegley[1], T. E. Lawrence[2], S. L. Roberts[2], and J. G. Powell[1], [1]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [2]West Texas A&M University, Canyon*

11:00 AM 141 **Effect of method of breeding and season on pregnancy rate, cumulative embryonic and fetal losses in lactating Nili-Ravi Buffalo.**
N. Ahmad[*], A. Qayyum, and U. Arshad, University of Veterinary and Animal Sciences, Department of Theriogenology, Lahore, Pakistan

11:15 AM 140 **The combination of ß-Carotene and vitamins improves the pregnancy rate at fixed time artificial insemination (FTAI) in grazing beef vows.**
*M. H. A. Colli[1], W. A. Gonçales Junior[1], J. C. Motta[1], V. N. D. Gouvea[*2], T. S. Acedo[2], L. F. M. Tamassia[2], F. M. Ellif[1], R. D. Mingoti[1], and P. S. Baruselli[1], [1]São Paulo University (USP), São Paulo, Brazil, [2]DSM Produtos Nutricionais Brasil, São Paulo, Brazil*

Oral Session: Late Breaking I

Chair: Steven A. Zinn, University of Conneticut

Sponsor: ASAS

9:30 AM - 12:00 PM

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9:30 AM 862 **The use of ultrasonography to examine mammary gland development in ewe lambs with different live-weight gain profiles between 12 and 20 weeks of age.**
*A. J. Molenaar[*1], B. Thompson[2], A. Wall[2], S. McCoard[3], S. R. Leath[4], C. McKenzie[1], J. Koolaard[1], and D. Stevens[2], [1]AgResearch, Palmerston North, New Zealand, [2]AgResearch, Mosgiel, New Zealand, [3]AgResearch Limited, Palmerston North, New Zealand, [4]AgResearch Ltd, Ruakura Research Centre, Hamilton, New Zealand*

9:45 AM 863 **Effects of engineered atimicrobial peptide KR-32 on intestinal inflammation in weaned piglets.**
W. Hu[*], Zhejiang University, College of Animal Science, Hangzhou, China

10:00 AM 864 **Identification of differentially expressed micro RNAs in peripheral blood mononuclear cells of topsoil-exposed piglets.**
M. A. Sales[*], T. Tsai, C. V. Maxwell, D. A. Koltes, and J. E. Koltes, University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville

10:15 AM 865 **Audio and time-lapse imagery analysis of lamb grazing behavior in silvopasture systems.**
*G. J. Pent[*1], and J. H. Fike[2], [1]Virginia Polytechnic Institute and State University, Blackstone [2]Virginia Polytechnic Institute and State University, Blacksburg*

10:30 AM 866 **Dietary supplementation with Yucca Schidigera extract alleviates heat stress-induced growth restriction in chickens.**
R. Rezaei, J. Lei, and G. Wu[*], Texas A&M University, College Station

10:45 AM 867 **Porcine intestinal epithelial cells initiate an early stage protection against *Escherichia coli* K88.**
*Z. Li[*1], and Y. Wang[2], [1]Zhejiang University, College of Animal Science, Institute of Feed Science, Hangzhou, China, [2]Zhejiang University, College of Animal Sciences, Hangzhou, China*

11:00 AM 868 **Impact of essential oils on the growth performance of new-born Holstein calves.**
*T. Liu[*1], H. Chen[1], D. P. Casper[2], and J. Wu[3], [1]Gansu Agricultural University, Lanzhou, China, [2]Furst-McNess Company, Freeport, IL, [3]Gansu Academy of Agricultural Sciences, Lanzhou, China*

11:15 AM 869 **Adaptation period during changing diet of dairy cows changes rumen fermentation characteristics, microbial qualities and communities.**
*L. L. Mamuad[*1,2], S. H. Kim[2,3], and S. S. Lee[2], [1]The Ohio State University, Columbus, [2]Sunchon National University, Suncheon, Republic of Korea (South), [3]The Ohio State University, Wooster*

11:30 AM 870 **In vitro and in situ digestion characteristics and feedlot performance of cattle fed steam-flaked enogen (high-amylase) feed corn.**
L. M. Horton[*], C. L. Van Bibber-Krueger, H. C. Muller, S. L. Katulski, T. J. Ellerman, and J. S. Drouillard, Kansas State University, Manhattan

11:45 AM 871 **Lipid metabolism and mitochondrial energy production are key pathways involved in adipose tissue of cows transitioning from feed restriction to *Ad Libitum* diets.**
*H. C. Cunningham[1], K. M. Cammack[1], K. Hales[2], H. C. Freetly[3], and A. K. Lindholm-Perry[*3], [1]University of Wyoming, Department of Animal Science, Laramie, [2]USDA-ARS, Clay Center, NE, [3]USDA- ARS, U.S. Meat Animal Research Center, Clay Center, NE*

Production, Management and the Environment Symposium and Panel: How do we Define Sustainability Metrics for the Livestock Sector: What is Feasible and Achievable?

Chair: Kristen Johnson, Washington State University

9:30 AM – 12:00 PM

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9:30 AM	**Welcoming Remarks**
9:45 AM	**A Producer's Perspective** *T. Heber, United Egg Producers*
9:57 AM	**A Retailer's Perspective** *R. Osborne, Chobani*
10:09 AM	**The NGO Perspective** *S. Vijn, World Wildlife Fund*
10:21 AM	**An Industry Perspective** *T. A. Armstrong, Elanco Animal Health*
10:33 AM	**A Scientist's Perspective** *S. E. Place, Oklahoma State University*
10:45 AM	**The LCA Perspective** *M. D. Matlock, University of Arkansas*
10:57 AM	**Break**
11:12 AM	**Prepared Questions from the Committee**
11:42 AM	**Open Panel Discussion**

Oral Session: Breeding and Genetics: Methodology and Dairy/Sheep/Poultry

Chair: James E. Koltes, Department of Animal Science, University of Arkansas

9:30 AM - 12:30 PM

319

9:30 AM	183	**Optimum selection of core animals in the efficient inversion of the genomic relationship matrix.** *H. L. Bradford[*], I. Pocrnic, B. O. Fragomeni, D. A. L. Lourenco, and I. Misztal, University of Georgia, Athens*
9:45 AM	184	**Impact of SNP selection on genomic prediction for different reference population sizes.** *D. A. L. Lourenco[*1], B. O. Fragomeni[1], H. L. Bradford[1], I. Menezes[2], S. Tsuruta[1], and I. Misztal[1], [1]University of Georgia, Athens, [2]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil*
10:00 AM	185	**Increasing accuracy of genomic selection in presence of high density marker panels through the prioritization of relevant polymorphisms.** *L. Y. Chang[*1], S. Toghiani[1], S. E. Aggrey[2,3], and R. Rekaya[1,3,4], [1]University of Georgia, Department of Animal and Dairy Science, Athens, [2]University of Georgia, Department of Poultry Science, NutriGenomics Laboratory, Athens, [3]University of Georgia, Institute of Bioinformatics, Athens, [4]University of Georgia, Department of Statistics, Athens*
10:15 AM	186	**A hybrid of prioritized SNP and polygenetic effect method for implementation of genomic selection.** *S. Toghiani[*1], L. Y. Chang[1], S. E. Aggrey[2,3], and R. Rekaya[1,3,4], [1]University of Georgia, Department of Animal and Dairy Science, Athens, [2]University of Georgia, Department of Poultry Science, NutriGenomics Laboratory, Athens, [3]University of Georgia, Institute of Bioinformatics, Athens, [4]University of Georgia, Department of Statistics, Athens*
10:30 AM	187	**Analysis of misclassified categorical responses.** *A. Ling[*1], P. Sumreddee[1], E. H. A. Hay[2], R. Rekaya[1,3,4], and S. E. Aggrey[3,5], [1]University of Georgia, Department of Animal and Dairy Science, Athens, [2]USDA-ARS, Livestock and Range Research Laboratory (LARRL), Miles City, MT, [3]University of Georgia, Institute of Bioinformatics, Athens, [4]University of Georgia, Department of Statistics, Athens, [5]University of Georgia, Department of Poultry Science, NutriGenomics Laboratory, Athens*
10:45 AM		**Break**
11:00 AM	188	**Ability to genotype differing variants with arrays vs. whole genome sequencing.** *P. M. VanRaden[*1], G. L. Spangler[1], C. P. VanTassell[1], J. Jiang[2], L. Ma[2], J. R. O'Connell[3], S. Smith[4], and S. K. DeNise[4], [1]USDA-ARS, Animal Genomics and Improvement Laboratory, Beltsville, MD, [2]University of Maryland, College Park, [3]University of Maryland, Baltimore, [4]Zoetis Inc., Kalamazoo, MI*
11:15 AM	189	**Genomic relatedness strengthens genetic connectedness across management units.** *H. Yu[*], M. L. Spangler, R. M. Lewis, and G. Morota, University of Nebraska-Lincoln*

11:30 AM 190 **Single nucleotide polymorphisms in the signal transducer and regulator of transcription (STAT) genes are associated with milk production, milk composition and fertility traits in Holstein Friesian cattle.**
*L. Ratcliffe[*1], M. Mullen[1], M. C. McClure[2], J. McClure[2], and F. Kearney[2], [1]Bioscience Research Institute, Athlone, Ireland, [2]Irish Cattle Breeding Federation, Bandon, Ireland*

11:45 AM 191 **Genetic relationship between wool shedding in ewe-lambs and ewes.**
*N. Vargas Jurado[*1], K. A. Leymaster[2], L. A. Kuehn[2], and R. M. Lewis[1], [1]University of Nebraska-Lincoln, [2]USD- ARS, U.S. Meat Animal Research Center, Clay Center, NE*

12:00 PM 192 **Single nucleotide polymorphisms of candidate genes associated with growth performance and meat quality traits in Tau Vang chicken.**
*D. Vo Anh Khoa[*1], D. Bo[2], N. Shunlin[3], N. Hoai An[4], N. Thi Dieu Thuy[5], N. Thi Kim Khang[1], N. Van Truyen[6], and N. Thanh Phi Long[1], [1]Can Tho University, Can Tho, Viet Nam, [2]Menon Production and Trade Co., Ltd., Ho Chi Minh, Viet Nam, [3]Thien Bang Animal Feed Co., Ltd, Vietnam Branch, Long An, Viet Nam, [4]Hoang Long Agriculture Co., Ltd., Dong Nai, Viet Nam, [5]Institute of Biotechnology, Ha Noi, Viet Nam, [6]Greenfeed Vietnam Joint Stock Company, Long An, Viet Nam*

12:15 PM 193 **Including causative variants into single step genomic BLUP.**
*B. D. Fragomeni[*1], D. A. L. Lourenco[1], Y. Masuda[1], A. Legarra[2], and I. Misztal[1], [1]University of Georgia, Athens, [2]UMR INR, GenPhySE, Castanet-Tolosan, France*

Oral Session: Forages and Pastures

Chair: Ondieki J. Gekara, California State Polytechnic University

9:30 AM - 12:30 PM

324/325/326

9:30 AM 268 **Environmental impacts from cattle consuming tannin-containing hays.**
*E. K. Stewart[*1], K. A. Beauchemin[2], J. W. MacAdam[3], and J. J. Villalba[1], [1]Utah State University, Logan, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [3]Utah State University, Department of Plants, Soils, and Climate, Logan*

9:45 AM 269 **Effect of oilseed source on ruminal fermentation and methane production of a grass-legume diet in continuous culture.**
*A. I. Roca-Fernandez[*1,2], S. L. Dillard[1], C. J. Dell[1], J. W. MacAdam[3], and K. J. Soder[1], [1]USDA-Agricultural Research Service, University Park, PA, [2]University of Santiago de Compostela (USC), Lugo, Spain, [3]Utah State University, Department of Plants, Soils, and Climate, Logan*

10:00 AM 270 **Monensin effects on beef heifers grazing bahiagrass pastures and receiving molasses supplementation.**
J. Vendramini[*], P. Moriel, C. Carnelos, M. Piccolo, and H. M. da Silva, University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research and Education Center, Ona

10:15 AM 271 **Effect of enhanced management on behavior of calves grazing tall fescue of varied toxicity levels.**
*J. Diaz[*1], S. Gadberry[2], J. T. Richeson[3], P. A. Beck[4], D. Hufstedler[5], D. S. Hubbell, III[6], J. D. Tucker[6], and T. Hess[6], [1]University of Arkansas, Department of Animal Science, Fayetteville, [2]University of Arkansas, Division of Agriculture, Cooperative Extension Service, Little Rock, [3]West Texas A&M University, Canyon, [4]University of Arkansas, Division of Agriculture, Southwest Research and Extension Center, Hope, [5]Elanco Animal Health, Guthrie, OK, [6]University of Arkansas, Division of Agriculture, Livestock and Forestry Research Station, Batesville*

10:30 AM 272 **Impact of adding *Saccharomyces Cerevisiae* and *Lactobacillus Buchneri* on fermentation, aerobic stability, nutritive value and microbial communities in corn silage.**
*S. Xu[*1], J. Yang[2], M. Qi[3], B. Smiley[3], W. Rutherford[3], Y. Wang[1], and T. A. McAllister[1], [1]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [2]Inner Mongolia Agricultural University, Department of Animal Science, Hohhot, China, [3]DuPont Pioneer, Johnston, IA*

10:45 AM 273 **Comparison of in vitro long digestion methods and digestion rates for diverse forages.**
M. Valentine[*], Cornell University, Ithaca, NY

11:00 AM **Break**

11:15 AM 274 **Growth stage at harvest influences forage quality and yield of brown midrib forage sorghum.**
S. E. Lyons[*], Q. M. Ketterings, D. J. R. Cherney, J. H. Cherney, G. S. Godwin, and T. F. Kilcer, Cornell University, Ithaca, NY

11:30 AM 275 **Assessment of *Eragrostis Tef* (Zucc.) as a forage base for growing beef steers.**
J. D. Sugg[*], J. O. Sarturi, C. P. West, L. L. Baxter, and L. A. Pellarin, Texas Tech University, Lubbock

11:45 AM 276 **Effects of feeding *Eragrostis Tef* hay harvested at different stages of maturity on nutrient intake, ruminal fermentation, and nitrogen utilization in beef cattle.**
*J. R. Vinyard[*1], J. B. Hall[1,2], J. E. Sprinkle[1,2], and G. E. Chibisa[1], [1]University of Idaho, Department of Animal & Veterinary Sciences, Moscow, [2]University of Idaho, Nancy M. Cummings Research Extension Education Center, Carmen*

12:00 PM 277 **Evaluation of average daily gain predictions by the integrated farm system model for forage-finished beef steers.**
*J. A. Dillon[*1], D. D. Harmon[2], C. A. Rotz[3], and D. W. Hancock[2], [1]Pennsylvania State University, Department of Animal Science, University Park, PA, [2]University of Georgia, Department of Crop and Soil Sciences, Athens, [3]USDA-ARS Pasture Systems and Watershed Management Research Unit, University Park, PA*

12:15 PM 278 **Differences in digestive kinetics and methane production among rhizoma peanut (*Arachis glabrata Benth*) cultivars.**
*A. B. Norris[*1], W. L. Crossland[1], J. L. Foster[2], J. P. Muir[3], and L. O. Tedeschi[1], [1]Texas A&M University, College Station, [2]Texas A&M University, AgriLife Research, Beeville, [3]Texas A&M University, AgriLife Research, Stephenville*

Oral Session: Physiology and Endocrinology

Chair: Honglin Jiang, Department of Animal and Poultry Sciences, Virginia Tech

9:30 AM - 1:00 PM

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9:30 AM 449 **Effect of early calf-hood nutrition on the hypothalamic-pituitary axis in Holstein-Friesian bulls.**
*A. M. English[*1,2], S. Fair[2], C. J. Byrne[1,3], S. M. Waters[1], and D. A. Kenny[1,3], [1]Teagasc, Grange, Animal and Bioscience Research Department, Dunsany, Meath, Ireland, [2]University of Limerick, Department of Biological Sciences, Limerick, Ireland, [3]University College Dublin, School of Agriculture and Food Science, Dublin, Ireland*

9:45 AM 464 **Comparison of follicular and luteal function in two and three follicular wave estrous cycles and their repeatability.**
*R. A. d'Orey Branco[*1,2], D. A. Neuendorff[2], W. B. Smith[2], T. H. Welsh, Jr.[1], and R. D. Randel[2], [1]Texas A&M University, Department of Animal Science, College Station,[2]Texas A&M University, AgriLife Research, Overton*

10:00 AM 48 **Administration of LPS three times during gestation alters the postnatal acute phase and metabolic responses to an LPS challenge in weaned beef heifers.**
*A. B. Word[*1,2], N. C. Burdick Sanchez[1], J. A. Carroll[1], P. R. Broadway[1], G. M. Silva[3], J. Ranches[3], U. Pardelli[3], J. Warren[3], P. Moriel[3], and J. D. Arthington[3], [1]USDA-ARS-Livestock Issues Research Unit, Lubbock, TX, [2]Texas Tech University, Lubbock, [3]University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research and Education Center, Ona*

10:15 AM 439 **Supplementation of omnigen-AF alters the metabolic response to a glucose tolerance test in beef heifers.**
*N. C. Burdick Sanchez[*1], J. A. Carroll[1], P. R. Broadway[1], T. H. Schell[2], S. B. Puntenney[3], and D. J. McLean[2], [1]USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, [2]Phibro Animal Health Corporation, Teaneck, NJ, [3]Prince Agri Products, Inc, Quincy, IL*

10:30 AM 440 **Influence of vaccination with a combined chemically altered/inactivated Bhv-1/BVD vaccine or a modified live vaccine on reproductive performance in beef cows and heifers.**
*G. A. Perry[*1], T. W. Geary[2], J. A. Walker[3], J. J. J. Rich[3], E. J. Northrop[3], S. D. Perkins[3], C. L. Mogck[3], M. Van Emon[4], A. L. Zezeski[2], and R. F. Daly[5], [1]South Dakota State University, Brookings, [2]USDA-ARS Fort Keogh LARRL, Miles City, MT, [3]South Dakota State University, Department of Animal Science, Brookings, [4]Montana State University, Bozeman, MT, [5]South Dakota State University, Department of Veterinary and Biomedical Sciences, Brookings*

10:45 AM 441 **Effects of post-insemination dam nutrition on calf performance and DNA methylation.**
*E. E. Beck[*1], C. L. Mogck[1], J. A. Walker[1], and G. A. Perry[2], [1]South Dakota State University, Department of Animal Science, Brookings, [2]South Dakota State University, Brookings*

11:00 AM 442 **Effects of parity on neonatal beef calf serum metabolites during the first 72 hours of age.**
N. B. Duncan[*], A. O. Redman, A. R. Rathert, K. S. Stoecklein, and A. M. Meyer, University of Missouri, Division of Animal Sciences, Columbia

11:15 AM 443 **Residual feed intake in beef cattle and its association with ruminal epithelium gene expression.**
*A. A. Elolimy[*1,2], J. C. McCann[2], D. W. Shike[2], and J. J. Loor[1,2,3], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, Mammalian NutriPhysioGenomics, [2]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [3]University of Illinois at Urbana-Champaign, Illinois Informatics Institute, Division of Nutritional Sciences*

11:30 AM 444 **Influence of temperament on skeletal muscle mitochondrial capacity of Brahman cows.**
*S. H. White[*1], C. R. Long[2], R. D. Randel[2], and T. H. Welsh, Jr.[1], [1]Texas A&M University, AgriLife Research and Department of Animal Science, College Station, [2]Texas A&M University, AgriLife Research, Overton*

11:45 AM 445 **Toxy-Nil and unike plus modulate differences in gene expression of milk somatic cells isolated from mammary gland of lactating dairy cows fed Aflatoxin B1.**
*R. O. Rodrigues[*1], R. O. Rodrigues[1], D. R. Ledoux[1], G. E. Rottinghaus[1], R. Borutova[2], O. Averkieva[2], and T. B. McFadden[1], [1]University of Missouri, Columbia, [2]Nutriad International NV, Dendermonde, Belgium*

12:00 PM 446 **Hematological variables are influenced by vaccine antigen type and acute or chronic stress model in beef calves.**
*R. E. Hudson[*1], D. J. Tomczak[1], E. L. Kaufman[1], A. M. Adams[1], J. A. Carroll[2], P. R. Broadway[2], M. A. Ballou[3], and J. T. Richeson[1], [1]West Texas A&M University, Canyon, [2]USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, [3]Texas Tech University, Lubbock*

12:15 PM 447 **Cellular and antibody mediated immune responses are influenced by sex and pregnancy status in mature Brahman cattle.**
*C. L. Cook[*1], T. H. Welsh, Jr.[1], T. J. Garcia[1,2], D. G. Riley[1], W. Mwangi[3], J. Bray[3], A. W. Lewis[2], D. A. Neuendorff[2], and R. D. Randel[2], [1]Texas A&M University, Department of Animal Science, College Station, [2]Texas A&M University, AgriLife Research, Overton, [3]Texas A&M University, Department of Veterinary Pathobiology, College Station*

12:30 PM 448 **The effects of a novel follicle wave and heat synchronization protocol on the follicles, circulating hormones, and estrus of anestrous ewes.**
S. B. Turner, B. Malaweera, M. Payne, L. A. Carroll, and D. M. W. Barrett[*], Dalhousie University, Faculty of Agriculture, Truro, NS, Canada

12:45 PM 465 **Resynchronization with ovsynch improves cumulative pregnancy and reduces embryonic losses in CIDR-GnRH synchronized Nili-Ravi buffalo.**
*N. Ahmad[*1], U. Arshad[2], A. Qayyum[1], M. Hassan[3], A. Husnain[2], and A. Sattar[1], [1]University of Veterinary and Animal Sciences, Department of Theriogenology, Lahore, Pakistan, [2]University of Veterinary and Animal Sciences Ravi Campus, Pattoki, Pakistan, [3]College of Veterinary and Animal Sciences, Jhang, Pakistan*

Oral Session: Ruminant Nutrition: Nitrogen I

Chair: Derek W. Brake, South Dakota State University

9:30 AM - 11:00 AM

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9:30 AM 579 **In situ and in vitro evaluation of a slow release form of nitrate for ruminants: Nitrate release rates, rumen nitrate metabolism and production of methane, hydrogen, and nitrous oxide.**
*C. Lee[*1], R. C. Araujo[2,3], K. M. Koenig[4], and K. A. Beauchemin[4], [1]The Ohio State University, Department of Animal Sciences, Ohio Agricultural Research and Development Center, Wooster, [2]GRASP Ind. & Com. LTDA, Curitiba, Brazil, [3]EW|Nutrition GMBH, Visbek, Germany, [4]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

9:45 AM 580 **Effects of encapsulated nitrate on growth performance, carcass characteristics, nitrate residues in tissues, and enteric methane emissions in feedlot beef steers: Finishing phase.**
*C. Lee[*1], R. C. Araujo[2,3], K. M. Koenig[4], and K. A. Beauchemin[4], [1]The Ohio State University, Department of Animal Sciences, Ohio Agricultural Research and Development Center, Wooster, [2]EW|Nutrition GMBH, Visbek, Germany, [3]GRASP Ind. & Com. LTDA, Curitiba, Brazil, [4]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

10:00 AM 581 **Nitrogen utilisation of West African Dwarf sheep fed mixtures of oil palm slurry and cassava peel in varying proportions.**
*O. Abiola-Olagunju[*1], A. A. Mako[2], A. O. Mosuro[3], and A. O. Akinsoyinu[4], [1]Lead City University, Ibadan, Nigeria, [2] Tai Solarin University of Education, Ijebu-ode, Nigeria, [3]University of Ibadan, Ibadan, Nigeria, [4]Babcock University, Ilishan, Nigeria*

10:15 AM 582 **Effect of fermenten on nitrogen metabolism and ruminal fermentation profile of Angus crossbred steers.**
*M. E. Garcia-Ascolani[*1], A. Lopez[2], T. M. Schulmeister[1], M. Ruiz-Moreno[1], D. D. Henry[1], F. M. Ciriaco[1], G. C. Lamb[3], and N. DiLorenzo[1], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]INTA EEA Santiago del Estero, Santiago del Estero, Argentina, [3]Texas A&M University, Department of Animal Science, College Station*

10:30 AM 583 **Effects of lipid intake and degree of saturation on nutrient digestion and nitrogen balance in steers consuming corn-based diets.**
*E. J. Blom[*1], D. E. Anderson[2], and D. W. Brake[1], [1]South Dakota State University, Brookings, [2]University of Tennessee, Knoxville*

10:45 AM 584 **Novel techniques for the extraction of rumen un-degradable amino acids from distiller's coproducts.**
*Z. Insani Hubi[1], and J. K. Margerison[*2], [1]Gadjah Mada University, Faculty of Animal Science, Yogyakarta, Indonesia, [2]University of Nottingham, Sutton Bonington, United Kingdom*

Small Ruminant Symposium: Small Ruminants as Biomedical Models of Human Health and Disease

Chair: Geoffrey E. Dahl, Department of Animal Sciences, University of Florida

Sponsor: Monsato

10:15 AM - 12:30 PM

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10:15 AM 760 **AAV gene therapy in a sheep model of Tay-Sachs disease.**
H. Gray-Edwards[*], Auburn University, Auburn, AL

10:30 AM 737 **Perinatal programming of pancreatic islets during intrauterine growth restriction.**
S. W. Limesand[*], University of Arizona, Tucson, AZ

10:45 AM 761 **Developmental programming of brain sexual differentiation in sheep.**
C. Roselli[*], Oregon Health & Science University, Portland, OR

Oral Session: Ruminant Nutrition: Vitamins and Minerals
Chair: Stephanie L. Hansen, Iowa State University
11:15 AM - 12:30 PM
310

11:15 AM 636 **The effect of dietary grain inclusion and Zn concentration on rumen epithelial structure and Zn transporter expression in sheep.**
O. N. Genther-Schroeder, and S. L. Hansen, Iowa State University, Ames*

11:30 AM 637 **Effect of repeated trace mineral injections on beef heifer development and reproductive performance.**
R. S. Stokes[1], M. J. Volk[1], F. A. Ireland[1], P. J. Gunn[2], and D. W. Shike[3], [1]University of Illinois at Urbana-Champaign, [2]Iowa State University, Department of Animal Science, Ames, [3]University of Illinois at Urbana-Champaign, Department of Animal Sciences*

11:45 AM 638 **The influence of supplemental zinc and ractopamine hydrochloride on mineral and nitrogen retention of beef steers.**
R. Carmichael, O. N. Genther-Schroeder, C. P. Blank, E. L. Deters, S. J. Hartman, E. K. Niedermayer, and S. L. Hansen, Iowa State University, Ames*

12:00 PM 639 **Effect of trace mineral supplementation with or without hormone implants on growth and carcass characteristics of steers.**
E. K. Niedermayer[1], E. M. McDonald[1], O. N. Genther-Schroeder[1], D. D. Loy[2], and S. L. Hansen[1], [1]Iowa State University, Ames, [2]Iowa State University, Department of Animal Science, Ames*

12:15 PM 640 **Effect of dietary zinc amino-acid complex supplementation on cattle performance, biomarkers of inflammation and metabolism, and liver abscess formation in steers receiving a mild acidosis challenge.**
E. L. Lundy[1], O. N. Genther-Schroeder[1], M. E. Branine[2], and S. L. Hansen[1], [1]Iowa State University, Ames, [2]Zinpro Corporation, Eden Prairie, MN*

Cell Biology Symposium: Male Reproduction
Chair: Kristen E. Govoni, Department of Animal Science, University of Connecticut;
Sarah A. Reed, Department of Animal Science, University of Connecticut
Sponsor: ASAS and USDA-NIFA
2:00 PM - 5:00 PM
308

2:00 PM 818 **Sperm phenotypes - the good, the bad, and the ugly.**
P. Sutovsky, University of Missouri, Columbia*

2:45 PM 751 **Divergent vascular endothelial growth factor A (VEGFA) signaling determines spermatogonial stem cell fate.**
A. S. Cupp, J. R. Essink, M. L. Bremer, W. E. Pohlmeier, M. M. Laughlin, and K. M. Sargent, University of Nebraska-Lincoln*

3:30 PM 819 **Stem cell therapies for male infertility.**
K. Orwig, University of Pittsburgh, Magee-Womens Research Institute, Magee-Womens Hospital, PA*

4:15 PM 750 **Animal models to study germ line stem cells and spermatogenesis.**
I. Dobrinski, University of Calgary, Calgary, AB, Canada*

Exercise Physiology Symposium Part II: Horse Species
Chair: Sally E. Johnson, Department of Animal and Poultry Sciences, Virginia Tech
2:00 PM - 4:15 PM
315

2:00 PM **Of mice, men, and muscle: Improving the equine athlete.**
S. H. White, Texas A&M University, AgriLife Research and Department of Animal Science, College Station*

2:45 PM **Feeding the equine athlete.**
R. D. Jacobs, Purina Animal Nutrition, Gray Summit, MO*

3:30 PM **The use of the horse as a translational model for human exercise physiology.**
T. Lightfoot, Texas A & M University, Vernon, TX*

Forages and Pastures Symposium: Cover Crops in Livestock Production: Whole-system Approach

Chair: Clayton Robins, Manitoba 4-H council

2:00 PM - 5:00 PM

324/325/326

2:00 PM **Welcoming Remarks**

2:05 PM 735 **Can cover crops pull double duty: Conservation and profitable forage production?**
M. E. Drewnoski, J. Parsons, D. Redfearn, H. Blanco-Canqui, and J. C. MacDonald, University of Nebraska-Lincoln*

2:35 PM 779 **Integrated crop-livestock systems and cover crop grazing in the northern Great Plains.**
D. W. Archer, USDA, Morris, MN*

3:05 PM 780 **Animal production and soil characteristics from integrated crop-livestock systems: Towards sustainable intensification.**
P. C. F. Carvalho, Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, Brazil*

3:35 PM 736 **Annual forages: Influence on animal performance and water/nutrient management.**
S. L. Dillard[*1], D. W. Hancock[2], D. D. Harmon[2], M. K. Mullenix[3], P. A. Beck[4], and K. J. Soder[1], [1]USDA-ARS, University Park, PA, [2]University of Georgia, Department of Crop and Soil Sciences, Athens, [3]Auburn University, Deparment of Animal Science, Auburn, AL, [4]University of Arkansas, Department of Animal Science, Hope*

4:05 PM 781 **Managing grazing to restore soil health and ranch livelihoods.**
R. Teague, Texas A & M University, Vernon*

4:35 PM **Panel Discussion**

Oral Session: Growth and Development

Chair: John Gonzalez, Kansas State University

2:00 PM - 5:00 PM

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2:00 PM 320 **The effects of biweekly administration of recombinant bovine somatotropin during the first trimester on fetal development in gestating beef heifers.**
C. D. Sanford[*1], N. Oosthuizen[1], P. L. P. Fontes[1], L. B. Canal[1], K. A. Vonnahme[2], C. O. Lemley[3], N. DiLorenzo[1], and G. C. Lamb[4], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]North Dakota State University, Department of Animal Science, Fargo, [3]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State, [4]Texas A&M University, Department of Animal Science, College Station*

2:15 PM 321 **The effects of fescue toxicosis at different stages of gestation on fetal development.**
M. F. Miller Jr., Clemson University, Clemson, SC*

2:30 PM 322 **Altered mRNA expression in placental tissues of ewes exposed to ergot alkaloids during gestation.**
J. L. Britt, A. Feltus, M. F. Miller Jr., B. M. Koch, M. C. Miller, and S. K. Duckett, Clemson University, Clemson, SC*

2:45 PM 323 **Does genotype play a role in resistance to fescue toxicosis in the ovine?**
S. K. Adams[*1], C. J. Kojima[2], J. L. Britt[1], M. F. Miller Jr.[1], B. M. Koch[1], J. G. Andrae[1], and S. K. Duckett[1], [1]Clemson University, Clemson, SC, [2]University of Tennessee, Department of Animal Science, Knoxville*

3:00 PM 324 **Altered expression of placental miRNAs in ewes with uteroplacental insufficiency due to consumption of endophyte-infected tall fescue seed.**
J. L. Britt, A. Feltus, M. F. Miller Jr., B. M. Koch, M. C. Miller, and S. K. Duckett, Clemson University, Clemson, SC*

3:15 PM **Break**

3:30 PM 325 **Genes in skeletal muscle associated with gain and intake identified in a multi-season study of crossbred beef steers.**
A. K. Lindholm-Perry, B. N. Keel, C. M. Zarek, J. W. Keele, L. A. Kuehn, W. M. Snelling, W. T. Oliver, and H. C. Freetly, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE*

3:45 PM 326 **Shifts in hepatic transcriptome profiles of growing vs. finished beef steers.**
J. Huang, P. Bridges, and J. C. Matthews, University of Kentucky, Lexington*

4:00 PM 327 **GTRAP3-18 protein negatively modulates canalicular glutamate transport and glutamine synthesis capacity in the liver of finishing vs. growing beef steers.**
J. Huang[*1], Y. Jia[1], Q. Li[1], W. R. Burris[2], P. Bridges[1], and J. C. Matthews[1], [1]University of Kentucky, Lexington, [2]University of Kentucky, Princeton*

4:15 PM 328 **Effect of maternal nutrition and sex on skeletal muscle gene expression in Angus cattle during immune challenge.**
L. M. Pereira Sanglard[*1], M. Nascimento[2], P. Moriel[3], M. Merrill[1], M. Poore[1], M. S. Duarte[2], and N. V. Serão[1], [1]North Carolina State University, Raleigh, [2] Federal University of Viçosa, Viçosa,Brazil, [3]University of Florida, Institute of Food and Agricultural Sciences, Range Cattle Research and Education Center, Ona*

4:30 PM 329 **Impact of fetal versus maternal contributions of *Bos Indicus* and *Bos Taurus* genetics on early embryonic development.**
P. L. P. Fontes[*1], N. Oosthuizen[1], D. D. Henry[1], F. M. Ciriaco[1], C. D. Sanford[1], L. B. Canal[1], V. R. G. Mercadante[2], S. E. Johnson[3], A. D. Ealy[3], N. DiLorenzo[1], and G. C. Lamb[4], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]Virginia Polytechnic Institute and State University, Animal and Poultry Sciences, Blacksburg, [3]Virginia Polytechnic Institute and State University, Blacksburg, [4]Texas A&M University, Department of Animal Science, College Station*

4:45 PM 330 **Effect of heat stress on serum and tissue fatty acid profile in pigs.**
H. Qu[*1], and K. M. Ajuwon[2], [1]Purdue University, West Lafayette, IN, [2]Purdue University, Department of Animal Sciences, West Lafayette, IN*

Oral Session: Nonruminant Nutrition: Gut Health

Chair: Theodore Elsasser, USDA-ARS

2:00 PM - 4:15 PM

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2:00 PM 903 **Platform Speaker. Importance of gut health in pig performance.**
J. S. Radcliffe[*], Purdue University, West Lafayette, IN*

2:30 PM 404 **Effect of supplementation of Xylanase and live yeast on long-term growth performance of pigs.**
H. Lu[*1], C. L. Bradley[2], P. Wilcock[2], O. Adeola[1,3], and K. M. Ajuwon[3], [1]Purdue University, West Lafayette, IN, [2]AB Vista, Marlborough, United Kingdom, [3]Purdue University, Department of Animal Sciences, West Lafayette, IN*

2:45 PM 405 **Functional difference of free L-Lysine and L-Lysine HCl on growth performances, intestinal health, and intestinal integrity in newly weaned pigs.**
W. Parnsen[*], I. Park, and S. W. Kim, North Carolina State University, Raleigh*

3:00 PM 406 **Effects of modified yeast cell wall extract on gut health and growth of newly weaned pigs under chronic dietary challenges of Aflatoxin, Deoxynivalenol, and Fumonisin.**
I. Park[*1], W. Parnsen[1], M. E. Duarte[1], A. Yiannikouris[2], and S. W. Kim[1], [1]North Carolina State University, NC, [2]Alltech Inc., Center for Animal Nutrigenomics and Applied Animal Nutrition, Nicholasville, KY*

3:15 PM 407 **Effects of Bacillus-based direct-fed microbials on growth and gut health of nursery pigs.**
K. L. Brooks[*], and S. W. Kim, North Carolina State University, Raleigh*

3:30 PM 408 **Aromatic amino acids alleviate intestinal inflammation in piglets through calcium-sensing receptor activation.**
B. Tan[*], Institute of Subtropical Agriculture, Chinese Academy of Sciences, Changsha, China*

3:45 PM 409 **Effects of combinational use of Xylanase and protease on growth performance and gut health of newly weaned pigs.**
M. E. Duarte[*1,2], I. Park[1], W. Parnsen[1], F. X. Zhou[3], and S. W. Kim[1], [1]North Carolina State University, Raleigh, NC, [2]Federal Rural University of Pernambuco, Recife, Brazil, [3]BioResource International, Inc., Durham, NC*

4:00 PM 403 **Effects of *Lactobacillus Reuteri* LR1 on the growth performance, intestinal morphology and intestinal barrier function in weaned piglets.**
H. Yi[*], L. Wang, and Z. Jiang, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, China*

Oral Session: Late Breaking II

Chair: Elizabeth Kegley, Department of Animal Science, University of Arkansas

Sponsor: ASAS

2:00 PM - 4:30 PM

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2:00 PM 872 **Effects of including ruminally-inert fat in the diet of heat stressed lambs on dry matter and water intake and physiological parameters.**
V. Morales, E. Benabe, L. C. Solorzano, and A. A. Rodriguez[*], University of Puerto Rico, Mayaguez, PR*

2:15 PM 873 **Fam134b, a novel golgi protein, influences adipogenesis by regulating golgi vesicular transport in porcine adipocytes.**
M. Cai[*], Zhejiang University, Hanghzou, China*

2:30 PM 874 **Effect of dietary fish oil and vitamin E on DNA damage in dogs undergoing training.**
A. L. Risso[*1], F. Pellegrino[1], Y. Corrada[1], N. Nicolof[1], A. Seoane[2], and A. Relling[3], [1]The National Scientific and Technical Research Council (CONICET), College of Veterinary Science, Buenos Aires, Argentina, [2]The National Scientific and Technical Research Council (CONICET), College of Veterinary Science, La Plata, Argentina, [4]The Ohio State University, Department of Animal Sciences, Wooster*

2:45 PM 875 **Effects of a twelve-hour sequential feeding cycle with diets varying in amino acid content on performance and body composition of growing-finishing pigs.**
*W. C. D. Silva[1], L. Hauschild[*1], L. S. D. Santos[1], P. H. R. F. Campos[2], A. M. Veira[1], and A. Z. Fraga[1], [1]São Paulo State University (UNESP) Jaboticabal, Brazil, [2]Federal University of Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, Brazil*

3:00 PM 876 **Effects of sporoderm-broken spores of *Ganoderma lucidum* on growth performance, antioxidant function and immune response of broiler chickens.**
*T. Liu[*1], L. Zhao[1], Y. Fan[1], L. Xi[2], J. Zhang[1], C. Ji[1], Q. Ma[1], and X. Rong[1], [1]China Agricultural University, Beijing, China, [3]North Carolina State University, Raleigh*

3:15 PM 877 **Serum haptoglobin concentrations in Water Buffalo heifers: Impacts of the vaccination and animal handling.**
*C. L. Francisco[*1,2], A. M. Castilhos[1], D. C. M. Silva[1], F. M. Silva[1], H. L. Correa[1], A. S. Aranha[1], and A. M. Jorge[1], [1]São Paulo State Univeristy (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil, [2]São Paulo State Foundation (FAPESP), São Paulo, Brazil*

3:30 PM 878 **Effect of monensin and protein on digestion and ruminal fermentation parameters in cattle consuming low-quality forage.**
*J. J. Martinez[*1], K. C. McCuistion[1], C. A. Loest[2], L. P. Sastre[1], J. I. Solis[1], M. A. Fonseca[3] and N. L. Bell[1], [1]Texas A&M University, Kingsville, [2]New Mexico State University, Las Cruces, [3]University of Nevada, Reno*

3:45 PM 879 **Reduction of campylobacter on chicken livers using a low acid processing aid.**
*M. A. Landrum[*1], N. A. Cox[2], D. E. Cosby[2], M. E. Berrang[2], S. C. Mize[2], and J. S. Jackson[1], [1]University of Georgia, Athens, [2]The U.S. National Poultry Research Center, Athens, GA*

4:00 PM 880 **The effect of partial replacement of corn with a high-lipid, high-fibre by-product pellet on hepatic indicators of metabolic efficiency and insulin sensitivity in beef steers throughout the finishing period.**
*J. J. M. Kim[*1], G. B. Penner[2], J. P. Cant[1], and K. M. Wood[1], [1]University of Guelph, Department of Animal Biosciences, Guelph, ON, Canada, [2]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada*

4:15 PM 881 **Assessment of current musher practices across the sled dog industry.**
J. R. Templeman[*], S. Mai, and A. K. Shoveller, University of Gueph, Guelph, ON, Canada

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Oral Session: Ruminant Nutrition: Beef Production

Chair: Eric A. Bailey, University of Missouri

2:00 PM - 4:45 PM

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2:00 PM 626 **Maternal nutrition during the first 50 Days of gestation alters bovine fetal hepatic metabolic transcriptome.**
*M. S. Crouse[*1], J. S. Caton[1], R. A. Cushman[2], K. J. McLean[3], C. R. Dahlen[1], P. P. Borowicz[1], L. P. Reynolds[1], and A. K. Ward[1], [1]North Dakota State University, Department of Animal Sciences, Fargo, [2]USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE, [3]University of Kentucky, Department of Animal and Food Sciences, Lexington*

2:15 PM 627 **Beeftrader: Optimal economical endpoint decision support system for feedlots and meat packers.**
*T. Z. Albertini[*1], A. G. Biase[1], M. Barbosa[1], A. G. Cerqueira[1], H. C. Gonçalves[1], L. G. Barioni[2], J. V. Caixeta-Filho[3], T. G. Péra[3], C. T. D. S. Dias[4], S. R. Medeiros[5], J. W. Oltjen[6], N. H. C. Nepomuceno[7], and D. P. D. Lanna[8], [1]Tech - Innovation Technology for Agriculture, Piracicaba, Brazil, [2]Embrapa Informatica Agropecuaria, Campinas, Brazil, [3]University of São Paulo, Luiz de Queiroz College of Agriculture, Dpt. of Economics, Management and Sociology, Piracicaba, Brazil, [4]University of São Paulo, Luiz de Queiroz College of Agriculture, Deptmartment of Exact Sciences, Piracicaba, Brazil, [5]Embrapa Gado de Corte, Campo Grande-MS, Brazil, [6]University of California-Davis, [7]Integra Software, Brasília, Brazil, [8]University of São Paulo (USP), Luiz de Queiroz College of Agriculture (ESALQ), Department of Animal Science, Animal Nutrition and Growth Lab, Piracicaba, Brazil*

2:30 PM 628 **Short-term herbage intake of grazing multiparous and primiparous Holstein cows.**
*J. P. Soutto[*1], P. Gauthier[1], P. Pellaton[1], M. Carriquiry[1], P. Chilibroste[2], and A. I. Trujillo[1], [1] University of the Republic, Faculty of Agronomy, Montevideo, Uruguay, [2]University of the Republic, Faculty of Agronomy, Paysandu, Uruguay*

2:45 PM 629 **Effects of strategic supplementation of low quality diets and residual feed intake classification to optimize performance in gestating beef cattle.**
*K. M. Spence[*1], C. P. Campbell[1], J. P. Cant[1], A. Cánovas[1,2], and I. B. Mandell[1], [1]University of Guelph, Department of Animal Biosciences, ON, Canada, [2]University of Guelph, Department of Animal Biosciences, Centre for Genetic Improvement of Livestock, ON, Canada*

3:00 PM 630 **Bicarbonate supplementation as a strategy to mitigate effects of endophyte-infected tall fescue on replacement heifer development.**
*K. N. Hardin[*1], N. W. Dias[1], D. A. Fiske[1], V. R. G. Mercadante[2], M. L. Rhoads[1], A. D. Ealy[1], T. B. Wilson[1], and R. R. White[1], [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]Virginia Polytechnic Institute and State University, Animal and Poultry Sciences, Blacksburg*

3:15 PM		**Break**
3:30 PM	631	**Effect of increasing protein and fat inclusion in the diets of beef cows during gestation and lactation on progeny performance, carcass characteristics, and plasma nonesterified fatty acids.** *A. J. C. Nuñez, and J. P. Schoonmaker*, Purdue University, Department of Animal Science, West Lafayette, IN*
3:45 PM	632	**Effect of spring and fall calving on the subsequent impact of monensin supplementation in 1st and 2nd parity cows.** *J. J. Ball*[1], E. B. Kegley[1], P. A. Beck[2], E. A. Backes[1], R. W. Rorie[1], T. D. Lester[1], D. S. Hubbell, III[3], J. D. Tucker[3], K. M. Loeschner[3], and J. G. Powell[1], [1]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [2]University of Arkansas, Division of Agriculture, Southwest Research Extension Center, Hope, [3]University of Arkansas, Division of Agriculture, Livestock and Forestry Research Station, Batesville*
4:00 PM	633	**Effects of low-moisture molasses block supplements on tissue concentrations of trace elements and growth performance of forage-fed beef cattle.** *S. L. Katulski*, C. L. Van Bibber-Krueger, C. A. Blevins, N. F. D. Schrag, L. M. Horton, T. J. Ellerman, H. C. Muller, and J. S. Drouillard, Kansas State University, Manhattan*
4:15 PM	634	**Analysis strategies for calculating intake for cattle with plant waxes.** *E. J. Hilburger*[1], H. C. Wilson[1], H. C. Freetly[2], and R. M. Lewis[1], [1]University of Nebraska-Lincoln, [2]USDA-ARS, U. S. Meat Animal Research Center, Clay Center, NE*
4:30 PM	635	**Effects of solvent- or mechanically extracted-*Brassica carinata* meal on performance of cows.** *E. J. Rosenthal*, J. A. Clapper, G. A. Perry, and D. W. Brake, South Dakota State University, Brookings*

WEDNESDAY, JULY 12 / SYMPOSIA AND ORAL SESSIONS

Big Data Analytics and Precision Animal Agriculture Symposium

Chair: Guilherme J. M. Rosa, University of Wisconsin-Madison

Sponsor: ASAS Foundation CDGKV Appreciation Club

9:30 AM - 12:30 PM

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9:30 AM		**Welcoming Remarks**
9:35 AM	822	**Applications of data mining and prediction methods to animal sciences.** *G. Morota*, University of Nebraska-Lincoln*
10:15 AM	823	**Graphical modeling and causal inference using farm-recorded data.** *G. J. M. Rosa*, University of Wisconsin-Madison*
10:55 AM		**Break**
11:10 AM	824	**Data to decisions from remote cattle monitoring.** *B. J. White*, Kansas State University, Manhattan*
11:50 AM	748	**Mining farm- and animal-level data to optimize beef cattle production.** *J. R. R. Dorea*, and G. J. M. Rosa, University of Wisconsin-Madison*

Growth and Development Symposium: The History of Adipocyte/Adipose Tissue Research in Meat Animals

Chair: Gary J. Hausman, University of Georgia

Sponsor: Elanco Animal Health and Zoetis

9:30 AM - 12:30 PM

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9:30 AM	789	**History of carcass composition, fat depot and marbling research in meat animals.** *G. J. Hausman*, University of Georgia, Athens*
10:00 AM	790	**History of adipose tissue metabolism research in meat animals.** *W. G. Bergen*, Auburn University, Auburn, AL*
10:30 AM	791	**History of adipocyte cellularity research in meat animals.** *T. D. Etherton*, Pennsylvania State University, University Park*
11:00 AM	792	**Molecular regulation of adipose tissue in meat animals.** *T. D. Brandebourg*, Auburn University, Auburn, AL*
11:30 AM	793	**Regulation of the differentiation of porcine adipose-derived stem cells to adipocytes by adipokines and fatty acids.** *S. T. Ding*, National Taiwan University, Taipei, Taiwan*

Oral Session: Ruminant Nutrition: Nitrogen II

Chair: Glenn C. Duff, New Mexico State University

9:30 AM - 12:30 PM

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9:30 AM 568 **Effects of encapsulated nitrate on growth performance, nitrate toxicity, and enteric methane emissions in feedlot beef steers: Backgrounding phase.**
*C. Lee[*1], R. C. Araujo[2,3], K. M. Koenig[4], and K. A. Beauchemin[4], [1]The Ohio State University, Department of Animal Sciences, Ohio Agricultural Research and Development Center, Wooster, [2]EW|Nutrition GMBH, Visbek, Germany, [3]GRASP Ind. & Com. LTDA, Curitiba, Brazil, [4]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

9:45 AM 569 **Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing wheat distillers grains: Ruminal fermentation, digestibility, and route of nitrogen excretion.**
K. M. Koenig[*], and K. A. Beauchemin, Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada

10:00 AM 570 **Characterization of nutritional values, ruminal and total digestibility of nutrients and predicted metabolizable protein supply to dairy cows: Comparison of tannin and non-tannin faba bean.**
H. Xin, M. Espinosa, and P. Yu[*], University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada

10:15 AM 571 **Reduction of the nitrogen excretion and ammonia volatilization from manure of fattening bulls during the finishing phase by reducing the concentrate crude protein concentration.**
*M. Devant[*1], B. Quintana[2], A. Sole[3], A. Pérez[4], C. Medinya[5], J. Riera[6], J. Grau[7], B. Fernández[8], and F. Prenafeta[9], [1]IRTA, Department of Ruminant Production, Caldes De Montbui, Barcelona, Spain, [2]IRTA, Department of Ruminant Production, Caldes Montbui, Barcelona, Spain, [3]IRTA, Department of Ruminant Production, Caldes Montbui, Spain, [4]Corporación Alimentària Guissona, Guissona, Lleida, Spain, [5]SINUAL, Sallent, Spain, [6]NANTA, Tres Cantos, Madrid, Spain, [7]Setna Nutrición Animal SAU, Rivas Vaciamadrid, Madrid, Spain, [8]IRTA, GIRO, Caldes Montbui, Barcelona, Spain, [9]IRTA, GIRO, Caldes de Montbui, Barcelona, Spain*

10:30 AM 572 **Evaluation of *Brassica carinata* meal as a protein supplement for growing beef heifers.**
*T. M. Schulmeister[*1], M. Ruiz-Moreno[1], J. Benitez[1], M. E. Garcia-Ascolani[1], F. M. Ciriaco[1], D. D. Henry[1], G. C. Lamb[2], J. C. B. Dubeux Jr.[1], and N. DiLorenzo[1], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]Texas A&M University, Department of Animal Science, College Station*

10:45 AM 573 **Over-feeding metabolizable protein supply in late gestation beef cattle: Effects on DMI, ruminal fermentation, and performance.**
*K. S. Hare[*1], K. M. Wood[2], C. Fitzsimmons[3], and G. B. Penner[1], [1]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada, [2]University of Guelph, Department of Animal Biosciences, ON, Canada, [3]University of Alberta, Department of Agriculture, Food and Nutritional Science, Edmonton, AB, Canada*

11:00 AM **Break**

11:15 AM 574 **Effects of protein supplementation with low to medium quality forage on intake and circulating amino acids in beef heifers in early pregnancy.**
*A. L. Jones[*1], E. L. Stephenson[2], K. Kruckenburg[2], M. Randall[2], E. Zwiefelhofer[2], J. Stuttgen[2], K. Martin[2], P. M. Fricke[1], J. S. Luther[2], and A. E. Radunz[2], [1]University of Wisconsin-Madison, [2]University of Wisconsin-River Falls*

11:30 AM 575 **Impacts of balancing feedlot diets for effective energy and predicted amino acid requirement on plasma lysine levels and finishing steer performance.**
J. M. Prestegaard[*], A. L. Kenny, M. M. Masiero, B. R. McDonald, C. D. Martin, and M. S. Kerley, University of Missouri, Columbia

11:45 AM 576 **The potential benefit of corn dried distillers' grain (Co) products (DDG) fed alone or in combination with ionophore and condensed tannin to mitigate methane emission in cattle.**
*M. A. Fonseca[*1,2], W. L. Crossland[2], A. B. Norris[2], A. K. Almeida[2,3], and L. O. Tedeschi[2], [1]University of Nevada, Reno, [2]Texas A&M University, College Station, [3]São Paulo State University (UNESP), Department of Animal Production, Jaboticabal, Brazil*

12:00 PM 577 **In vitro ruminal fermentation and enteric methane production of tropical forages supplemented with nitrogen or the combination of nitrogen and starch.**
*M. A. Cardozo[1], C. B. Sampaio[2], E. Detmann[1], A. N. Z. Vargas[3], and M. A. Fonseca[*4], [1]Federal University of Viçosa, Viçosa, Brazil, [2]Federal University of Viçosa, Department of Animal Science, Viçosa, Brazil, [4]Corporation University Santa Rosa de Cabal (UNISARC), Santa Rosa de Cabal, Colombia, [5]University of Nevada, Reno*

12:15 PM 578 **Effects of roughage removal, rumen modifiers inclusion and post ruminal amino acid supply on growth performance in beef steers.**
M. M. Masiero[*], A. L. Kenny, J. M. Prestegaard, B. R. McDonald, C. D. Martin, and M. S. Kerley, University of Missouri, Columbia

Oral Session: Swine Species

Chair: Ronald O. Bates, Department of Animal Science, Michigan State University

9:30 AM - 11:35 AM

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9:30 AM **Welcoming Remarks**

9:35 AM 715 **Effect of leucine supplementation to a reduced crude protein diet on nitrogen utilization in lactating sows.**
S. Zhang, N. Regmi, M. Qiao, and N. L. Trottier, Michigan State University, East Lansing*

9:50 AM 716 **Maternal supplementation of DL-Met or OH-Met above the requirement in total sulfur amino acids benefits to neonatal growth of piglets.**
B. Y. Xu[1], D. I. Batonon-Alavo[2], Y. Mercier[2], F. Rouffineau[2], L. B. Ma[1], N. Y. Zhang[1], and L. Sun[3], [1]Huazhong Agricultural University, Department of Animal nutrition and Feed Science, Wuhan, Hubei, China, [2]Adisseo France SAS, Commentry, France, [3]Huazhong Agricultural University, Department of Animal Nutrition and Feed Science, Wuhan, Hubei, China*

10:05 AM 717 **Combination of multi-strain *Bacillus Spp.* direct-fed microbial and a protease enzyme improved wean-to-finish pig performance - a commercial scale evaluation.**
W. Li, L. Payling, and M. C. Walsh, Danisco Animal Nutrition, DuPont Industrial Biosciences, Marlborough, United Kingdom*

10:20 AM 718 **Factors affecting the color of dried distillers grains with solubles.**
B. J. Breitling[1], and K. J. Herrick[2], [1]POET Research Inc., Sioux Falls, SD, [2]POET Nutrition Inc., Sioux Falls, SD*

10:35 AM 719 **Identifcation of risk factors associated with slow growth rate of swine in commercial conditions.**
S. López-Vergé[1], M. Farré[2], D. Solà-Oriol[1], J. Bonet[3], J. Coma[3], and J. Gasa[1], [1]Autonomous University of BarcelonaAnimal Nutrition and Welfare Service, Department of Animal and Food Science, Bellaterra, Spain, [2]Autonomous University of Barcelona, Department of Mathematics, Statistics and Operations Research, Bellaterra, Spain, [3]Vall Companys Group, Polígono Industrial El Segre, Lleida, Spain*

10:50 AM 720 **Gene expression profile of porcine tissues in response to short-term feeding of dietary fiber followed by a high-fat diet.**
K. M. Ajuwon, and V. V. Almeida, Purdue University, Department of Animal Sciences, West Lafayette, IN*

11:05 AM 721 **Effects of the standardized ileal digestible methionine: Lysine ratio on milk performance, litter growth and plasma indices of lactating sows.**
H. Wei[1], X. Zhao[2], M. Xia[3], J. Gao[4], J. K. Htoo[5], and J. Peng[1,6], [1]College of Animal Science and Technology, Huazhong Agricultural University, Department of Animal Nutrition and Feed Science, Wuhan, China, [2]Huazhong Agricultural University, Wuhan, China, [3]Huazhong Agricultural University, WUHAN, China, [4]Evonik Degussa (China) Co., Ltd, Beijing, China, [5]Evonik Nutrition & Care GmbH, Hanau-Wolfgang, Germany, [6]The Cooperative Innovation Center for Sustainable Pig Production, Wuhan, China*

11:20 AM 722 **Increased consumption of methionine by piglets fed with DL-Met or OH-Met strengthens piglets' ability to cope with LPS-induced inflammatory stress during post-weaning period.**
B. Y. Xu[1], L. Zhao[2], D. I. Batonon-Alavo[3], Y. Mercier[3], D. Qi[1], and L. Sun[2], [1]Huazhong Agricultural University, Department of Animal nutrition and Feed Science, Wuhan, Hubei, China, [2]Huazhong Agricultural University, Department of Animal Nutrition and Feed Science,Wuhan, Hubei, China, [3]Adisseo France SAS, Commentry, France*

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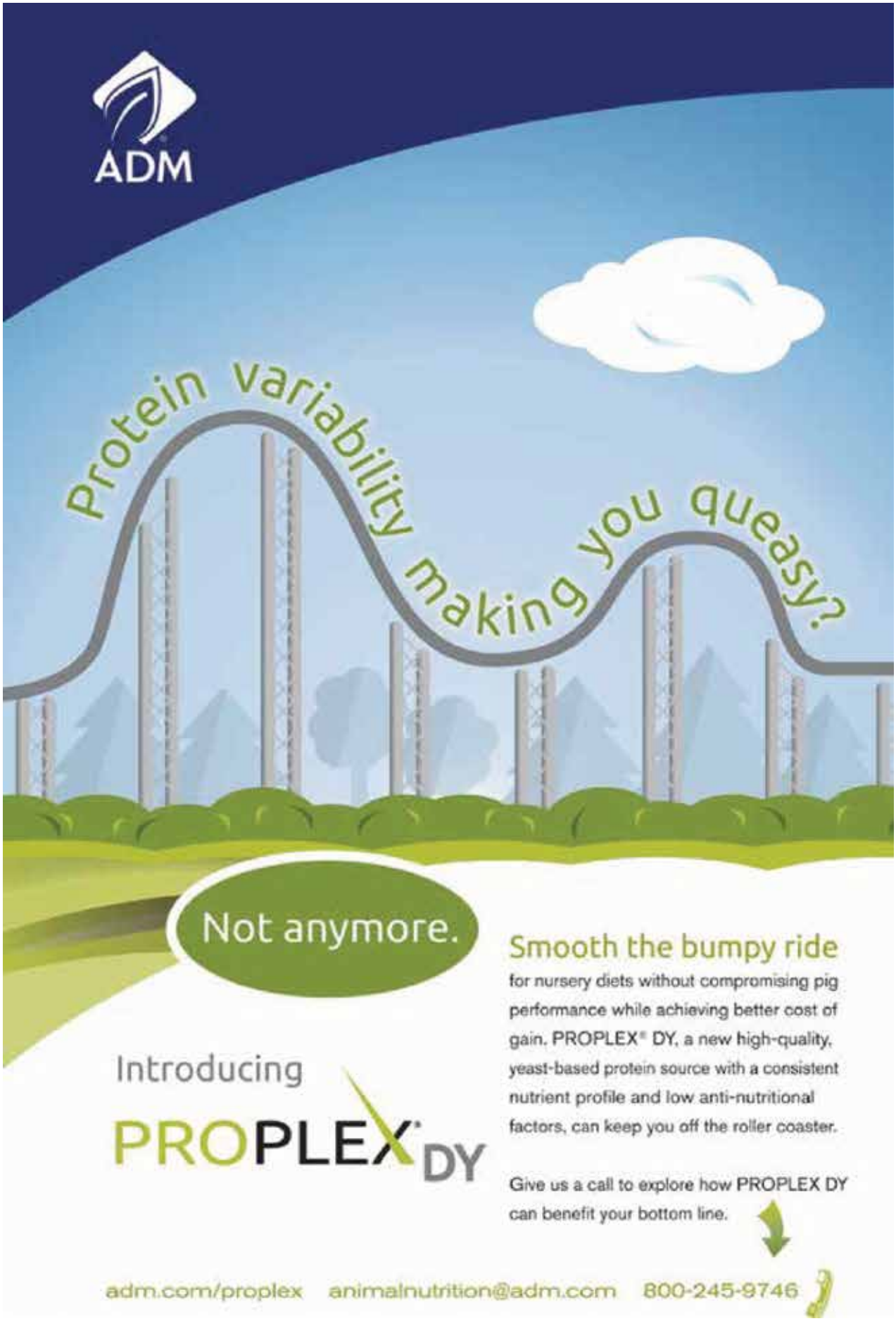
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POSTER SESSION I

CSAS Graduate Student Poster Competition

7:00 AM - 9:15 AM
Exhibit Hall

254 1 **In-vitro evaluation of short-season corn silage hybrids grown in Central and Southern Alberta, Canada and harvested before or after frost: Nutrient content, degradability and enteric methane emission.**
*I. A. Aboagye[*1,2], V. Baron[3], M. Oba[1], and K. A. Beauchemin[2], [1]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [3]Agriculture and Agri-Food Canada, Lacombe Research and Development Centre, Lacombe, AB, Canada*

257 2 **Ruminal volatile fatty acid concentration and microbial populations as a proxy for of feed efficiency in beef steers.**
*P. B. A. I. K. Bulumulla[*1], M. M. Li[2], Y. Chen[1], F. Li[1], R. R. White[3], M. D. Hanigan[2], G. Plastow[1], and L. L. Guan[1], [1]University of Alberta, Edmonton, Department of Agricultural, Food, and Nutritional Science, AB, Canada, [2]Virginia Polytechnic Institute and State University, Department of Dairy Science, Blacksburg, [3]Virginia Polytechnic Institute and State University, Blacksburg*

253 3 **Sire verification in multi-sire breeding systems.**
*S. J. Domolewski[*1], K. Larson[2], J. Campbell[3], F. C. Buchanan[4], and H. Lardner[2], [1]University of Saskatchewan, Saskatoon, SK, Canada, [2]Western Beef Development Centre, Humboldt, SK, Canada, [3]University of Saskatchewan, Saskatoon, Department of Large Animal Clinical Sciences, SK, Canada, [4]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada*

255 4 **Evaluation of canola meal versus soybean meal as a protein supplement on performance and carcass characteristics of growing and finishing beef cattle.**
*A. C. Good[*1], J. J. McKinnon[1], G. B. Penner[1], T. A. McAllister[2], and T. Mutsvangwa[1], [1]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

256 5 **Effects of post-partum lipid supplementation and source of supplemental lipid on reproductive performance of lactating beef cows grazing cool-season grass pastures.**
*F. Añez-Osuna[*1], G. B. Penner[1], J. Campbell[2], D. Damiran[1,3], P. G. Jefferson[3], H. A. Lardner[1,3], and J. J. McKinnon[1], [1]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada, [2]University of Saskatchewan, Department of Large Animal Clinical Sciences, Saskatoon, SK, Canada, [3]Western Beef Development Centre, Humboldt, SK, Canada*

252 6 **Apparent ileal and total tract digestibility of corn DDGS steeped without or with fiber degrading enzymes and fed to growing pigs.**
Y. Rho[*], C. Zhu, E. Kiarie, and C. F. M. de Lange, University of Guelph, Department of Animal Biosciences, ON, Canada

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ASAS Graduate Student Poster Competition: PhD Division

7:00 AM - 9:15 AM
Exhibit Hall

90 7 **The hydroxyproline-glycine pathway for glycine synthesis in neonatal pigs.**
*S. Hu[*1], G. Nawaratna[1], B. D. Long[1], F. W. Bazer[1], G. A. Johnson[1], J. T. Brosnan[2], and G. Wu[1], [1]Texas A&M University, College Station, [2]Memorial University of Newfoundland, St. John's, NF, Canada*

92 8 **Life cycle assessment of sheep meat and wool production in Northern California.**
*H. C. Dougherty[*1], J. W. Oltjen[1], F. M. Mitloehner[1], K. A. Rodrigues[2], and E. Kebreab[1], [1]University of California-Davis, [2]University of California, Agriculture and Natural Resources Hopland Research & Extension Center, Hopland*

93 9 **16S characterization of liver abscesses in western United States feedlot cattle.**
M. D. Weinroth[*], C. R. Carlson, J. N. Martin, J. L. Metcalf, P. S. Morley, and K. E. Belk, Colorado State University, Fort Collins

94 10 **The effect of two additives on ruminal fermentation using a semi-continuous culture system.**
*M. Capelari[*1], K. A. Johnson[2], B. Latack[1], J. Roth[1], and W. Powers[3], [1]Michigan State University, East Lansing, [2]Washington State University, Pullman, [3]University of California, Oakland*

95 11 **Influence of supplemental copper, manganese, and zinc source on reproduction, mineral status and performance in a grazing beef cow-calf herd over a two-year period.**
*S. Jalali[*1], K. Lippolis[2], J. K. Ahola[1], J. J. Wagner[1], K. Sellins[1], S. B. Laudert[3], J. S. Heldt[3], J. Spears[4], and T. E. Engle[1], [1]Colorado State University, Fort Collins, [2]Oregon State University, Eastern Oregon Agricultural Research Center, Burns, [3]Micronutrients, Indianapolis, IN, [4]North Carolina State University, Raliegh*

96 12 **Maternal restricted- and over-feeding during gestation alters offspring gene expression of inflammatory markers in the liver at d 135 of gestation and at birth.**
A. K. Jones, S. M. Pillai, M. L. Hoffman, K. K. McFadden, K. E. Govoni, S. A. Zinn, and S. A. Reed, University of Connecticut, Department of Animal Science, Storrs*

97 13 **Evaluation of methods for determining cleaning performance in pig stables.**
C. Heinemann, B. Petersen, and J. Steinhoff-Wagner, University of Bonn, Institute of Animal Science, Bonn, Germany*

98 14 **The regulation of proline on cell proliferation involved in polyamine metabolism in porcine enterocyte Ipec-J2.**
J. Wang, Institute of Subtropical Agriculture, Chinese Academy of Sciences, Changsha, China*

99 15 **Effects of dietary lysine restriction on the concentrations of free amino acids and other selected metabolites in the blood plasma of growing pigs.**
M. S. Hasan, M. A. Crenshaw, J. M. Feugang, and S. F. Liao, Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State*

100 16 **Big data analysis of beef production and quality: An example with the Brazilian cattle industry.**
V. Cardoso Ferreira, J. R. R. Dórea, and G. J. M. Rosa, University of Wisconsin-Madison*

101 17 **Effects of dietary protease on immune responses of weaned pigs.**
J. Kim[*1], I. H. Park[2], S. Kim[1], J. J. Lee[1], K. Jang[1], B. Kim[1], S. Park[1], D. Mun[1], J. Choe[1], J. Kang[1], J. Baek[1], J. Y. Cho[2], S. H. Cho[2], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]DSM Nutrition Korea Ltd., Seoul, The Republic of Korea*

102 18 **Effects of substitution of corn with brown rice on growth performance, nutrient digestibility, and blood profiles of weaned pigs.**
S. Kim[*1], K. Jang[1], J. Kang[1], D. Mun[1], B. Kim[1], J. Kim[1], S. Park[1], J. J. Lee[1], J. Choe[1], Y. Kim[2], J. Park[2], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]National Institute of Animal Science, Cheonan, Republic of Korea (South)*

103 19 **Effect of energy source, level, sex, and age on meat characteristics of lambs.**
J. R. Jaborek[*1], H. N. Zerby[1], S. J. Moeller[1], and F. L. Fluharty[2], [1]The Ohio State University, Columbus [2]The Ohio State University, Wooster*

104 20 **Effects of carbohydrase on productive performance and white blood cells of lactating sows.**
J. J. Lee[*1], J. Kim[1], B. Kim[1], S. Kim[1], K. Kim[1], J. Choe[1], Y. Kim[2], J. Park[2], I. H. Park[3], J. Y. Cho[3], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]National Institute of Animal Science, Cheonan, Republic of Korea (South) , [3]DSM Nutrition Korea Ltd., Seoul, The Republic of Korea (South)*

105 21 **Effects of biweekly administration of recombinant bovine somatotropin on steroid metabolizing enzymes during early gestation.**
M. P. T. Owen[*1], K. J. McCarty[1], M. M. Steichen[1], C. D. Sanford[2], L. B. Canal[2], P. L. P. Fontes[2], N. Oosthuizen[2], N. DiLorenzo[2], K. Vonnahme[3], G. C. Lamb[4], and C. O. Lemley[1], [1]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State, [2]University of Florida, North Florida Research and Education Center, Marianna, [3]North Dakota State University, Fargo, [4]Texas A&M University, Department of Animal Science, College Station*

106 22 **Effect of β-hydroxybutyrate on gene expression in the hypothalamus and pituitary of sheep.**
E. R. Cope[*1], B. H. Voy[2], M. Staton[1], T. Lane[1], J. Davitt[1], and J. T. Mulliniks[1], [1]University of Tennessee, Knoxville, [2]University of Tennessee, Department of Animal Science, Knoxville*

107 23 **Validation of primary antibodies for multiple immunofluorescent labeling of horse skeletal muscle fiber type.**
C. M. Latham[*1], and S. H. White[2], [1]Texas A&M University, College Station, [2]Texas A&M University, AgriLife Research, Department of Animal Science, College Station*

108 24 **Effects of Omnigen-AF supplementation on in-vitro embryo development and gene expression in superovulated donor beef cows.**
A. P. Snider[*1,2], S. A. Armstrong[1], D. J. McLean[1], and A. R. Menino[2], [1]Phibro Animal Health Corporation, Teaneck, NJ, [2]Oregon State University, Department of Animal and Rangeland Sciences, Corvallis*

109 25 **Effect of delayed wrapping and wrapping source on nitrogen balance and blood urea nitrogen in gestating sheep offered alfalfa silage.**
V. Niyigena[*1], K. P. Coffey[2], W. K. Coblentz[3], D. Philipp[2], A. N. Young[1], and R. T. Rhein[1], [1]University of Arkansas Division of Agriculture, Department of Animal Science, Fayetteville, [2]University of Arkansas, Division of Agriculture, Fayetteville, [3]US Dairy Forage Research Center, Marshfield, WI*

110 26 **Effect of forage species and supplement type on rumen kinetics and serum metabolites in developing beef heifers grazing winter forage.**
Z. D. McFarlane[*1], R. P. Barbero[2], R. L. Nave[3], and J. T. Mulliniks[1], [1]University of Tennessee, Knoxville, [2]São Paulo State University (UNESP), Jaboticabal, Brazil, [3]University of Tennessee, Crossville*

111 27 **Effect of oil source, cooking method and storage time on lipid oxidation in ground beef patties from Nellore cattle.**
*A. R. Cabral[*1], F. S. Costa[2], M. E. Groto[3], A. S. C. Pereira[4], and S. L. Silva[3], [1]Texas A&M University, College Station, [2] São Paulo Agribusiness Technology Agency (APTA), São Jose do Rio Preto, Brazil, [3]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [4]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Department of Animal Science (ZAZ), Pirassununga, Brazil*

112 28 **Evaluation of fecal NIRS profiling technology to predict forage intake estimated using N-Alkane markers in grazing cattle.**
*J. R. Johnson[*1], G. E. Carstens[2], S. D. Prince[3], K. H. Ominski[4], K. M. Wittenberg[5], M. Undi[6], D. A. Forbes[7], A. N. Hafla[8], D. R. Tolleson[9], and J. A. Basarab[10], [1]Texas A&M University, College Station, [2]Texas A&M University, Department of Animal Science, College Station, [3]Texas A&M University, AgriLife Research, Temple [4]University of Manitoba, Department of Animal Science, Winnipeg, MB, Canada, [5]University of Manitoba, Winnipeg, MB, Canada, [6]NDSU Central Grasslands Research Extension Center, Streeter, ND, [7]Texas AgriLife Research, Uvalde, TX, [8]Agri-King, Inc, Fulton, IL, [9]Senora Research Station, Sonora, TX, [10]University of Alberta, Edmonton, Livestock Gentec, Department of Agricultural, Food and Nutritional Science, AB, Canada*

113 29 **Supplementation of blackberry pomace during the transition phase may improve health and immune function of dairy cows in the week before calving.**
*K. Swanson[*1], S. Akers[1], K. Estenson[1], R. Wilson[1], M. Keller[1], and G. Bobe[2], [1]Oregon State University, Corvallis, [2]Oregon State University, Department of Animal and Rangeland Sciences, Corvallis*

91 30 **Relationship between body weight and growth rate of healthy gilts with osteochondrosis lesions.**
*L. Fabà[*1], D. Solà-Oriol[1], E. Varella[2], and J. Gasa[1], [1]Autonomous University of Barcelona, Animal Nutrition and Welfare Service, Department of Animal and Food Science, Bellaterra, Spain, [2]Tecnología & Vitaminas, S.L., Alforja, Spain*

POSTER SESSION II

Ruminant Nutrition: Meat Science

8:15 AM - 9:15 AM

Exhibit Hall

524 31 **Chemical composition of meat in calves under diferent diets.**
A. A. Gomes Lobo[*], University of São Paulo (USP), Pirassununga, Brazil

525 32 **Carcass characteristics of Nellore cattle submitted to either nutritional restriction or intake of concentrate feedstuffs prior to adaptation period.**
*D. D. Millen[*1], M. C. Pereira[2], O. A. Souza[1], A. C. J. Pinto[3], G. P. Bertoldi[1], L. A. Tomaz[2], A. A. Santos[1], and M. D. Arrigoni[2], [1] São Paulo State University (UNESP), Dracena, Brazil, [2]São Paulo State University (UNESP), Botucatu, Brazil*

526 33 **Meat quality of feedlot buffalo fed with forage palm + cottonseed replacing high concentrate diet.**
*V. L. Lima Junior[*1], F. Brandão Pereira[2], J. Nunes Batista[3], L. Rocha Bezerra[2], V. L. F. Santos[2], F. F. da Silva Filho[1], M. dos Santos Menezes[1], L. Andressa da Costa Silva[1], L. Dias do Nascimento Ferreira[1], R. Loiola Edvan[2], A. M. de Azevedo Silva[3], and A. H. N. Rangel[1], [1]Federal University of Rio Grande do Norte, Natal, Brazil, [2]Federal University of Piauí, Bom Jesus, Brazil, [3]Federal University of Campina Grande, Patos, Brazil,*

527 34 **Liver metabolomics analysis associated with feed efficiency on steers.**
*V. M. Artegoitia[*1], A. P. Foote[2], R. M. Lewis[3], and H. C. Freetly[2], [1]University of Nebraska, [2]USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE, [3]University of Nebraska-Lincoln*

528 35 **Metabolic profile in multiple tissues associated with feed efficiency on steers.**
*V. M. Artegoitia[*1], A. P. Foote[2], R. M. Lewis[1], and H. C. Freetly[2], [1]University of Nebraska-Lincoln, [2]USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE*

529 36 **Effect of different nutritional strategies on meat quality and fatty acids profile of Nellore bulls finished on pasture.**
*P. H. Gonçalves[1], M. A. P. Alves[2], I. M. D. Oliveira[2,3], R. M. Fernandes[1], L. F. Prados[*2,4], A. D. Moreira[1], V. A. C. Mota[5], F. D. D. Resende[1,2], and G. R. Siqueira[1,2], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]Agribusiness Technology of the Paulista Agency (ATPA), Colina, Brazil, [3]São Paulo Research Foundation (FAPESP), São Paulo, Brazil, [4]Bolsista CNPq, Colina, Brazil, [5]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil*

531 37 **Effects of dietary concentration of polyunsaturated fatty acids on the carcass traits of feedlot *B. Indicus* and cross-bred *B. Taurus* x *B. Indicus cattle*.**
*D. Silva Antonelo[*1], J. Fernando Morales Gomez[1], R. R. S. Corte[1], M. Beline[1], J. Silva[1], H. Bueno Silva[1], G. A. Sene[1], N. Pereira Dias[1], A. R. Cabral[2], and S. L. Silva[1], [1]University of São Paulo (USP), Pirassununga, Brazil, [2]Texas A&M University, College Station*

530 38 **Vitamin A, Zfp423 and intramuscular adipogenesis in beef cattle.**
*C. L. Harris[*1], M. Du[1], M. L. Nelson[1], and J. R. Busboom[2], [1]Washington State University, Pullman, [2]Washington State University, Department of Animal Sciences, Pullman*

Lactation Biology
8:15 AM - 9:15 AM
Exhibit Hall

339 39 **1H-NMR based metabolomics identifies new predictive urinary biomarkers and highlights the pathobiology of ketosis in periparturient dairy cows**.
G. Zhang[1], E. Dervishi[1], R. Mandal[2], D. S. Wishart[2], and B. N. Ametaj[1], [1]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [2]University of Alberta, Edmonton, AB, Canada*

340 40 **Metabolomics-based profiling identifies serum signatures that predict the risk of metritis in transition dairy cows.**
G. Zhang[1], Q. Deng[1], R. Mandal[2], D. S. Wishart[2], and B. N. Ametaj[1], [1]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [2]University of Alberta, Edmonton, AB, Canada*

341 41 **Comparison of five commercial kits for total RNA isolation including microRNA from three bovine milk fractions.**
P. L. Dudemaine, B. Fomenky, A. Dutoit, L. Béjanin, and E. M. Ibeagha-Awemu, Agriculture and Agri-Food Canada, Sherbrooke Research and Development Centre, Sherbrooke, QC, Canada*

338 42 **The effect of stage of lactation and parturition on galectin expression in cow blood.**
E. Asiamah, S. Adjei-Fremah, K. Ekwemalor, B. Osei, H. Ismail, and M. Worku, North Carolina Agricultural and Technical State University, Greensboro*

POSTER SESSION III

Meat Science and Muscle Biology
1:00 PM - 2:00 PM
Exhibit Hall

359 1 **Effects of dietary glycerin on carcass characteristics, fatty acid profile, and volatile compounds in longissimus dorsi muscle of Korean steers.**
S. W. Na, M. Y. Piao, H. I. Yong, H. J. Lee, C. Jo, and M. Baik, Seoul National University, College of Agriculture and Life Science, Department of Agriculture Biotechnology, Seoul, Republic of Korea (South)*

360 2 **Characterization of rigor mortis process in longissimus dorsi of crossbred calves.**
A. A. Gomes Lobo, University of São Paulo (USP), Pirassununga, Brazil*

361 3 **FAK-mTOR pathway mediated different proliferation, migration and differentiation abilities of satellite cells in Lantang and Landrace piglets.**
C. Gao, C. Jin, H. Yan, and X. Wang, South China Agricultural University, College of Animal Science, Guangzhou, China*

362 4 **Identification of a beneficial role of proteasome-mediated protein degradation in the differentiation of bovine myoblasts into myotubes.**
X. Leng, and H. Jiang, Virginia Polytechnic Institute and State University, Department of Animal and Poultry Sciences, Blacksburg*

375 5 **Effect of oregano essential oil supplementation to a reduced-protein diet on meat quality, fatty acid composition, and oxidative stability of Longissimus thoracis muscle in growing-finishing pigs.**
C. Cheng, H. Wei, and J. Peng, Huazhong Agricultural University, College of Animal Science and Technology, Department of Animal Nutrition and Feed Science, Wuhan, China*

363 6 **Color and lipid oxidation of meat from young bulls finished in feedlot supplemented with clove or cinnamon essential oils.**
J. A. Torrecilhas[1], C. Mottin[2], M. G. Ornaghi[2], P. A. C. Rodrigo[2], M. V. Valero[2], K. A. Souza[2], F. Zawadzki[2], A. M. Bridi[3], and I. N. Prado[2], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [2]Maringá State University, Maringá, Brazil, [3]Londrina State University, Londrina, Brazil*

364 7 **Effect of breed and finishing system on meat quality from beef cattle.**
J. A. Torrecilhas[1], O. R. Machado Neto[2], M. G. Ornaghi[3], E. San Vito[1], L. O. Lima[1], T. Adriano Simioni[1], E. E. Dallantonia[1], and T. T. Berchielli[1], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [2]São Paulo State University (UNESP), Botucatu, Brazil, [3]Maringá State University, Maringá, Brazil*

365 8 **Effect of growth rate on beef fatty acid profile from hereford steers finished either on pasture or in feedlot.**
*A. M. Ferrinho[*1], E. Peripolli[2], G. Banchero[3], A. S. C. Pereira[4], G. Brito[3], A. F. La Manna[3], E. Fernandez[3], F. Montossi[3], and F. Baldi[5], [1]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [2]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Department of Animal Science (VNP), Jaboticabal, Brazil, [3]National Agricultural Research Institute (INIA), Colonia, Uruguay, [4]University of São Paulo (USP), Pirassununga, Brazil, [5]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil*

366 9 **Gender status effects on beef fatty acid profile of Angus x Nellore cattle.**
*L. F. Mueller[1], J. C. D. C. Balieiro[2], A. M. Ferrinho[*3], J. D. J. M. Furlan[4], M. L. N. Furlan[2], M. Zanata[2], T. R. Amorin[2], I. H. S. Fuzikawa[2], T. S. Martins[2], F. Baldi[5], and A. S. C. Pereira[2], [1]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Department of Animal Science (ZAZ), Pirassununga, Brazil, [2]University of São Paulo (USP), Pirassununga, Brazil, [3]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [4]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Department of Animal Science (VNP), Pirassununga, Brazil, [5]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil*

367 10 **Chemical treatment of poultry litter does not affect the chicken meat quality.**
*J. D. J. M. Furlan[1], L. F. Mueller[2], A. M. Ferrinho[*3], M. L. N. Furlan[4], M. Zanata[4], M. C. Izeppi[4], T. R. Amorin[4], I. H. S. Fuzikawa[4], T. S. Martins[4], F. Baldi[5], and A. S. C. Pereira[4], [1]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Department of Animal Science (VNP), Pirassununga, Brazil, [2]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Department of Animal Science (ZAZ), Pirassununga, Brazil, [3]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [43]University of São Paulo (USP), Pirassununga, Brazil, [5]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil*

368 11 **Effects of functional oils and Vitamin E addition on meat sensory traits from feedlot lambs.**
*M. L. N. Furlan[1], L. F. Mueller[2], A. M. Ferrinho[*1], J. D. J. M. Furlan[3], M. Zanata[1], I. H. S. Fuzikawa[1], T. R. Amorin[1], T. S. Martins[1], S. B. Gallo[4], and A. S. C. Pereira[1], [1]University of* São Paulo *(USP), Pirassununga, Brazil, [2]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Department of Animal Science (ZAZ), Pirassununga, Brazil, [3]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Department of Animal Science (VNP), Pirassununga, Brazil, [4]University of São Paulo (USP), School of Animal Science and Food Engineering (ZEA), Pirassununga, Brazil*

369 12 **Performance and carcass quality of Nellore cattle evaluated during termination phase in integrated agricultural production systems.**
*P. A. C. Luz[*1], C. Andrighetto[2], G. C. Lupatini[2], H. S. Aranha[2], A. S. Aranha[3], E. A. R. D. Santana[3], J. A. M. D. Almeida[2], R. F. Vaz[2], and A. M. Jorge[1], [1]São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil, [2]São Paulo State University (UNESP), Dracena, Brazil, [3]São Paulo State University (UNESP), Botucatu, Brazil*

370 13 **Relationships between fatty acid composition, trained panel descriptors and volatile aroma compounds of ground beef patties of brisket, flank and plate with 10, 20 and 30% total fat.**
*A. R. Cabral[*1], T. L. Blackmon[2], R. K. Miller[1], C. R. Kerth[1], and S. B. Smith[1], [1]Texas A&M University, College Station [2]Kansas State University, Manhattan*

371 14 **The effect of feeding high fiber and fat diet on pig meat quality.**
*S. Conte[*1], C. Pomar[1], D. Paiano[2], Y. Duan[3], P. Zhang[4], J. Lévesque[5], F. Guay[6], M. Ellis[7], N. Devillers[1], and L. Faucitano[1], [1]Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, [2]Santa Catarina State University (UDESC), Department of Animal Science, Chapecó, Brazil, [3]Inner Mongolia Agricultural University, College of Food Science and Engineering, Hohhot, China, [4]Inner Mongolia Agricultural University, College of Animal Science, Hohhot, China, [5]Animal Science Research Center Deschambault (CRSAD), Deschambault, QC, Canada, [6]Laval University, Quebec City, QC, Canada, [7]University of Illinois at Urbana-Champaign*

372 15 **Effect of yeast polysaccharide on meat quality of finishing pigs.**
X. Ma[*], Z. Tian, Y. Xiong, Y. Qiu, D. Deng, and L. Wang, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, The Key Laboratory of Animal Nutrition and Feed Science (South China) of Ministry of Agriculture, State Key Laboratory of Livestock and Poultry Breeding, Guangzhou, China

376 16 **Effect of fatty acids on myogenesis and mitochondrial biosynthesis during murine skeletal muscle cell differentiation.**
T. Y. Hsueh[*], X. Wang, and Y. Huang, University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville

373 17 **Chemical composition, color and tenderness of beef from Nellore and Nellore X Angus steers fed whole shelled corn diets.**
A. C. Rodrigues, M. M. Ladeira[*], T. C. Coelho, M. P. Gionbelli, J. M. Oliveira Júnior, and G. M. Moreira, Federal University of Lavras, Lavras, Brazil

374 18 **Mechanism of continuous high ambient temperature affecting meat quality of finishing pigs.**
X. Ma[*], Z. Jiang, X. Yang, L. Wang, Y. Xiong, and Z. Tian, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, China

Nonruminant Nutrition: Additives

1:00 PM - 2:00 PM

Exhibit Hall

410 19 **SID methionine+cystine levels and vitamin B6 supplementation on performance, blood parameters and metabolic enzymes gene expression of finishing barrows.**
*C. P. Sangali[1], L. D. Castilha[2], M. R. Fachinello[1], E. Gasparino[3], R. V. Nunes[4], and P. C. Pozza[*3], [1]Maringá State University, Coordination for the Improvement of Higher Education Personnel (CAPES), Maringá, Brazil, [2]Maringá State University, Maringá, Brazil, [3]Maringá State University, CNPq, Maringá, Brazil, [4]Western Paraná State, CNPq, Marechal Cândido Rondon, Brazil*

411 20 **Effects of dietary deoxynivalenol and zearalenone on the organ pro-inflammatory gene expressions and serum immunoglobulins of pigs.**
*K. E. Reddy[1], W. Lee[1], S. D. Lee[1], J. Y. Jeong[1], D. W. Kim[1], M. Kim[1], H. J. Lee[1], Y. K. Oh[1], and H. Jo[*2], [1]Animal Nutrition & Physiology Team, National Institute of Animal Science, Rural Development Administration, Wanju, Republic of Korea (South) , [2]Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South)*

412 21 **Supplementation of tea polyphenol mixed with sweetener to diet included with or without flax oil increased blood serum antioxidantive capacity without affecting growth performance of large white gilts.**
*F. F. Li[1], Y. Zhang[1,2], Y. D. Cao[1], and M. L. He[*2,3], [1]Shenyang Agricultural University, Shenyang, China, [2]Lucta (Guangzhou) Flavours Co., Ltd., Guangzhou, China, [3]Zhejiang Agricultural and Forestry University, Hangzhou, China*

413 22 **Supplementation of tea polyphenol mixed with sweetener in diet included with or without flax oil increased antioxidative capacity of blood serum and Longissimus Dorsi muscle of fattening pigs.**
*Y. Zhang[1,2], F. F. Li[1], Y. D. Cao[1], and M. L. He[*2,3], [1]Shenyang Agricultural University, Shenyang, China, [2]Lucta (Guangzhou) Flavors Co., Ltd., Guangzhou, China, [3]Zhejiang Agricultural and Forestry University, Hangzhou, China*

414 23 **Inclusion of flax oil in diet supplemented with or without tea polyphenol increased omega-3 fatty acids in blood serum, subcutaneous fat, and longissimus dorsi muscle of fattening pigs.**
*M. L. He[*1,2], H. F. Wang[1,3], Y. J. Cui[1], Y. Zhang[2,4], F. F. Li[4], and Y. D. Cao[4], [1]Zhejiang Agricultural and Forestry University, Hangzhou, China, [2]Lucta (Guangzhou) Flavors Co., Ltd., Guangzhou, China, [3]Zhejiang University, Hangzhou, China, [4]Shenyang Agricultural University, Shenyang, China*

415 24 **Effect of Cu provided as Bioplex Cu or TBCC for weaned pigs: Growth performance, tissue mineral retention, and fecal mineral excretion.**
*Y. Guo[1], B. Liu[1], P. Xiong[1], J. He[1], L. Gang[2], Y. Xue[2], A. F. Koontz[*3], and D. Yu[1], [1]Zhejiang University, College of Animal Sciences, Hangzhou, China, [2]Alltech Biological Products Co., Ltd., Beijing, China, [3]Alltech Inc., Center for Animal Nutrigenomics and Applied Animal Nutrition, Nicholasville, KY*

417 25 **Effects of dietary lysine supply on plasma concentrations of growth-related hormones in late-stage finishing pigs.**
*T. Wang[1], M. S. Hasan[*1], G. Wu[2], M. A. Crenshaw[1], and S. F. Liao[1], [1]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State, [2]Texas A&M University, College Station*

416 26 **Effect of sodium butyrate protected with medium chain fatty acids or bacillus licheniformis on behavior of weaned piglets oral challenged with Etec K88.**
M. Puyalto[*], Norel S.A., Madrid, Spain

Ruminant Nutrition: Additives I

1:00 PM - 2:00 PM

Exhibit Hall

656 27 **Effects of two sources of malate on milk performance and feed efficiency of dairy cows.**
*I. Guasch[1], G. Elcoso[1], M. Puyalto[*2], and A. Bach[3], [1]Blanca, Lleida, Spain, [2]Norel S.A., Madrid, Spain, [3]Institute for Food and Agricultural Research and Technology (IRTA), Department of Ruminant Production, Caldes de Montbui; Barcelona, Spain*

641 28 **Effect of supplemental sodium butyrate on gastrointestinal tract measurements in sheep.**
*P. Górka[*1], B. Śliwiński[2], J. Flaga[1], J. Barć[1], J. Olszewski[3], M. M. Godlewski[3], R. Zabielski[3], and Z. M. Kowalski[1], [1]University of Agriculture in Kraków, Kraków, Poland, [2]National Research Institute of Animal Production, Balice, Poland, [3]Warsaw University of Life Sciences, Warszawa, Poland*

642 29 **Effect of supplemental sodium butyrate on the activity of carbohydrate-digesting enzymes in the reticulo-ruminal digesta and brush border enzymes in sheep.**
*P. Górka[*1], B. Śliwiński[2], R. Miltko[3], J. Flaga[1], J. Barć[1], M. M. Godlewski[4], R. Zabielski[4], and Z. M. Kowalski[1], [1]University of Agriculture in Krakow, Kraków, Poland, [2]National Research Institute of Animal Production, Balice, Poland, [3]The Kielanowski Institute of Animal Physiology and Nutrition Polish Academy of Sciences, Jabłonna, Poland, [4]Warsaw University of Life Sciences, Warszawa, Poland*

654 30 **Effect of fibrolytic enzyme and different supplementation strategies on performance and carcass characteristics of Nellore Bulls in the finishing phase in pasture.**
*R. L. Miorin[*1], F. D. A. Nascimento[1], L. F. Gomes[2], L. F. Prados[3,4], F. D. D. Resende[1,5], G. R. Siqueira[1,5], V. B. Holder[6], and J. E. Pettigrew[7], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]University Center of the Educational Foundation of Barretos (UNIFEB), Barretos, Brazil, [3]São Paulo Agribusiness Technology Agency (APTA), Colina, Brazil, [4]Federal University of Viçosa, Viçosa, Brazil, [5]São Paulo Agribusiness Technology Agency (APTA), Colina, Brazil, [6]Alltech Inc., Nicholasville, KY, [7]University of Illinois at Urbana-Champaign*

643 31 **Effects of feeding functional oils or monensin on rumen morphometrics of Nellore cattle.**
*A. L. J. Lelis[*1], A. C. Melo[1], M. C. Pereira[2], D. D. Estevam[2], A. F. Toledo[1], M. M. Ferreira[1], A. L. Rigueiro[2], M. M. Squizatti[1], and A. H. Assumpção[1], [1]São Paulo State University (UNESP), Dracena, Brazil, [2]São Paulo State University (UNESP), Botucatu, Brazil*

644 32 **Effect of pineapple cannery by-product on growth performance, blood parameters, carcass characteristics, and longissimus muscle fatty acid and free amino acid composition in growing-finishing Hanwoo steers.**
Y. Na[*], Konkuk University, Seoul, Republic of Korea (South)

655 33 **Effect of carbohydrate additives on fermentation characteristics, chemical composition and ruminal degradability of napier grass (pennisetum purpureum) silage.**
M. D. Rambau[*], F. Fushai, and J. J. Baloyi, University of Venda, Thohoyandou, South Africa

645 34 **Effects of *Saccharomyces Boulardii*-based feed additive on performance, hormone level, diarrhea scoring and fecal microbial population in Holstein calves experiencing heat stress.**
*J. S. Lee[*1,2], N. Kacem[1], W. S. Kim[1,2], D. Q. Peng[1,2], Y. H. Jo[1,2], Y. G. Jung[3], Y. J. Kim[4], and H. G. Lee[1,2], [1]Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South) , [2]Konkuk University, Team of An Educational Program for Specialists in Global Animal Science, Brain Korea 21 Plus Project, Seoul, Republic of Korea (South) , [3]Eaglevet Co. Ltd., Seoul, Republic of Korea (South) , [4]Korea University, Department of Food and Biotechnology, Sejong, Republic of Korea (South)*

646 35 **Inclusion of fennel herbaceous flavors in total mixed rations increased dry matter intake without affecting health, milk quality and fatty acid composition of lactation cow.**
*H. F. Wang[1,2], X. D. Wang[1], C. Wang[1], and M. L. He[*1,3], [1]Zhejiang Agricultural and Forestry University, Hangzhou, China, [2]Zhejiang University, Hangzhou, China, [3]Lucta (Guangzhou) Flavours Co., Ltd., Guangzhou, China*

647 36 **Comparison of ruminal protected versus non-protected live yeast on omasal flows, site and extent of digestion in the digestive tract of beef heifers fed high-grain diet.**
*P. Jiao[1,2], F. Liu[2], S. Ding[1], N. D. Walker[3], and W. Yang[*1], [1]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [2]Northwest Agriculture and Forestry University, Yangling, China, [3]AB Vista, Marlborough, United Kingdom*

648 37 **Validation of micro-encapsulation method to protect probiotics and feed enzyme from rumen degradation.**
*Y. Shen[*1,2], P. Jiao[1,3], H. Wang[2], L. Chen[4], N. D. Walker[5], and W. Yang[1], [1]Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [2]Yangzhou University, College of Animal Science and Technology, Yangzhou, China, [3]Northwest Agriculture and Forestry University, Yangling, China, [4]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [5]AB Vista, Marlborough, United Kingdom*

649 38 **Nellore metabolism receiving exogenous amylase in high-concentrate diets.**
*C. F. Nascimento[*1,2], L. L. Oliveira[3], N. C. D. Silva[1], F. D. Santos[3], V. B. Holder[4], J. E. Pettigrew[5], G. R. Siqueira[1,6], and F. D. D. Resende[1,6], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]São Paulo State Foundation (FAPESP), São Paulo, Brazil, [3]University Center of the Educational Foundation of Barretos (UNIFEB), Barretos, Brazil, [4]Alltech Inc., Nicholasville, KY, [5]University of Illinois at Urbana-Champaign, [6]São Paulo Agribusiness Technology Agency (APTA), Colina, Brazil*

650 39 **High dosage of live yeast for transition dairy cows: Nutrition and health benefits.**
*C. Julien[*1], L. Desmaris[2], P. Dubois[2], M. Vagneur[3], J. P. Marden[1], and L. Alves de Oliveira[4], [1]Phileo Lesaffre Animal Care, Marcq-en-Baroeul, France, [2]Service Promotion Elevage Laitier (Rhône Conseil Elevage) 18, avenue des Monts d'Or 69890, La Tour de Salvagny, France, [3]10 rue de Boyse 39300, Champagnole, France, [4]VetAgro-sup Campus Vétérinaire de Lyon 69280, Marcy-l'Etoile, France*

651 40 **Effects of monensin or narasin on rumen metabolism of steers during the period of adaptation to high-concentrate diets.**
*D. M. Polizel[*1], M. F. Westphalen[2], A. A. Miszura[1], M. V. C. Ferraz Junior[1,2], A. V. Bertoloni[1], G. B. Oliveira[1], L. G. M. Gobato[1], J. P. R. Barroso[1], and A. V. Pires[1,2], [1]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Pirassununga, Brazil, [2]University of São Paulo (USP), Luiz de Queiroz College of Agriculture (ESALQ), Piracicaba, Brazil*

652 41 **The supplementation with a flavonoid extract from citrus aurantium reduces concentrate intake and improves rumen health parameters in Holstein bulls fed high-concentrate diets when fed in a single-space feeder.**
*M. Paniagua[*1], J. F. Crespo[2], A. Bach[3,4], and M. Devant[3], [1]Quimidroga, Barcelona, Spain, [2]Interquim SA, Barcelona, Spain, [3]Institute for Food and Agricultural Research and Technology (IRTA), Department of Ruminant Production, Caldes de Montbui, Barcelona, Spain, [4]Catalan Institution for Research and Advanced Studies (ICREA), Barcelona, Spain*

653 42 **Feeding Red Osier Dogwood (Cornus sericea) affected feed intake and digestion in the digestive tract of beef heifers fed high-grain diet.**
*L. Wei[1,2], W. M. S. Gomaa[2,3], T. W. Alexander[2], R. Bazylo[4], R. Scales[5], and W. Yang[*2], [1]Key Laboratory for Green Chemical Process of Ministry of Education, Wuhan Institute of Technology, WuHan, China, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [3]Assiut University, Department of Animal Nutrition and Clinical Nutrition, Faculty of Veterinary Medicine, Assiut, Egypt, [4]Manitoba Agriculture, Food and Rural Development, Winnipeg, MB, Canada, [5]Red Dog Enterprises Ltd, Winnipeg, MB, Canada*

POSTER SESSION IV

Horse Species

5:00 PM - 6:00 PM
Exhibit Hall

333 1 **Beta 1-3, 1-6 Glucan supplementation modulates the immune response of horses undergoing a glucocorticoid challenge.**
*R. D. Jacobs[*1], M. E. Gordon[2], M. J. Felippe[3], and R. H. Raub[4], [1]Purina Animal Nutrition, LLC, Gray Summit, MO, [2]Purina Animal Nutrition, LLC, Gray Summit, MO, [3]Cornell University College of Veterinary Medicine, Ithaca, NY, [4]Hubbard Feeds, Mankato, MN*

334 2 **Muscle metabolic effects of whole-body vibration in yearling horses.**
C. S. Hyatt[*], D. H. Sigler, and M. M. Vogelsang, Texas A&M University, College Station

335 3 **Oral administration of L-citrulline increases plasma concentrations of L-citrulline and arginine in horses.**
*J. A. Daniel[*1], M. G. Stockwell-Goering[1], A. R. Crane[1], C. M. Hernandez[1], D. F. Qualley[1], and B. K. Whitlock[2], [1]Berry College, Mt. Berry, GA, [2]University of Tennessee, Knoxville*

336 4 **The effect of dietary microalgae on AAEP lameness scores and whole blood cytokine gene expression following a LPS challenge in mature horses.**
*K. M. Brennan[*1], C. Whorf[2], L. E. Harris[1], and E. Adam[2], [1]Alltech Inc., Nicholasville, KY, [2]University of Kentucky, Lexington*

337 5 ***Saccharomyces Cerevisiae* fermentation product, but not inulin, increases total volatile fatty acid production in an equine in-vitro intestinal model.**
J. M. Butler[*], Diamond V, Cedar Rapids, IA

Ruminant Nutrition: Additives II

5:00 PM - 6:00 PM
Exhibit Hall

657 6 **Effects of adding live yeast or yeast derivative on dry matter disappearance of high-forage diet in batch culture.**
*P. Jiao[1,2], F. Liu[1], Z. He[2], S. Ding[2], N. D. Walker[3], and W. Yang[*2], [1]Northwest Agriculture and Forestry University, Yangling, China, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [3]AB Vista, Marlborough, United Kingdom*

658 7 **Effect of feeding isoquinoline alkaloids on performance and carcass characteristics of finishing bulls fed a high-energy diet.**
*M. Neumann[*1], A. Michels[1], A. M. Reck[1], B. Beyer[2], H. Godoi Bertagnon[1], G. F. Mattos Leão[3], E. J. Askel[1], I. Goldoni[1], and L. da Costa[1], [1]Central Western Paraná State University, Guarapuava, Brazil, [2]Phytobiotics Futterzusatzstoffe GmbH, Eltville, Germany, [3]Federal University of Paraná, Curitiba, Brazil*

659 8 **The influence of microencapsulated secondary plant compounds on receiving beef cattle performance.**
*A. Budde[*1], S. Jalali[1], J. J. Wagner[1], O. Guimaraes[1], R. S. Goodall[2], and T. E. Engle[1], [1]Colorado State University, Fort Collins, [2]EW Nutrition, Des Moines, IA*

556 9 **Effect of feeding isoquinoline alkaloids on biomarkers of inflammation and inflammatory cells in feedlot finishing bulls fed a high-grain diet.**
*H. Godoi Bertagnon[*1], A. M. Reck[1], M. Neumann[1], and B. Beyer[2], [1]Central Western Paraná State University, Guarapuava, Brazil, [2]Phytobiotics Futterzusatzstoffe GmbH, Eltville, Germany*

557 10 **Ruminal microbiology from Nellore steers supplemented with additives in the rainy season.**
*E. E. Dallantonia[*1], J. F. Lage[2], E. San Vito[1], J. A. Torrecilhas[1], P. D. S. Castagnino[1], L. M. Delevatti[1], R. A. Reis[1], and T. T. Berchielli[1], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [2]Trouw Nutrition Brazil, Campinas, Brazil*

549 11 **Influence of commercial yeast products in diets for beef cattle new to the feedlot environment.**
*E. A. Palmer[*1], J. J. Ball[1], E. B. Kegley[1], P. A. Beck[2], J. G. Powell[1], J. A. Hornsby[1], J. L. Reynolds[1], B. P. Shoulders[1], and A. Boyer[3], [1]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [2]University of Arkansas, Southwest Research and Extension Center, Hope [3]University of Arkansas, Fayetteville*

550 12 **The application of *Trichoderma* fermentation extract to growing and finishing rations improved beef cattle performance.**
*O. AlZahal[*1], A. Waite[2], N. D. Walker[1], T. Byrd[3], and D. Bechtol[2], [1]AB Vista, Marlborough, United Kingdom, [2]Agri Research Centre Inc., Canyon, TX, [3]Feedworks USA Ltd, Cincinnati, OH*

551 13 **Effect of diet inclusion of tropical fodder trees on digestibility in hair lambs.**
R. Castaneda Serrano[*], M. Sanchez, A. Huertas, J. Pardo Guzmán, V. Díaz, R. Piñeros, and A. Velez, Tolima University, Ibagué, Colombia

558 14 **Feeding behavior of Nellore cattle supplemented with different combinations of sodium monensin and virginiamycin.**
*A. L. Rigueiro[*1], F. P. Luiz[1], M. C. Pereira[1], G. F. Melo[1], R. A. Rizzieri[1], A. G. Veiga[1], M. M. Squizatti[2], L. V. Toledo[1], D. D. Millen[2], C. L. Martins[1], and M. D. Arrigoni[1], [1]São Paulo State University (UNESP), Botucatu, Brazil, [2]São Paulo State University (UNESP), Dracena, Brazil*

552 15 **Effects of fibrolytic enzyme on in-vitro true digestibility of by-products commonly fed to cattle.**
L. Barbosa Kondratovich[*], J. O. Sarturi, M. A. Ballou, D. Sugg, P. R. B. Campanili, B. Q. Reis, A. C. B. Melo, L. A. Pellarin, and L. A. Ovinge, Texas Tech University, Lubbock

553 16 **Effects of pentacyclic triterpenes on in-vitro fermentation of bahiagrass hay and a high-grain substrate.**
*L. Rostoll-Cangiano[*1], D. D. Henry[1], F. M. Ciriaco[1], M. E. Garcia-Ascolani[1], T. M. Schulmeister[1], I. R. Ipharraguerre[2], G. C. Lamb[3], and N. DiLorenzo[1], [1]University of Florida, North Florida Research and Education Center, Marianna, [2]University of Kiel, Kiel, Germany, [3]Texas A&M University, Department of Animal Science, College Station*

554 17 **Effects of eucalyptus citriodora oil on beef cattle ruminal fermentation characteristics on continuous culture system.**
*B. Q. Reis[*1], R. Ferreira Carvalho[2], J. O. Sarturi[1], P. R. B. Campanili[1], L. A. Pellarin[3], and L. A. Ovinge[1], [1]Texas Tech University, Lubbock, [2]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [3]University of São Paulo (USP), São Paulo, Brazil*

555 18 **Effect of level of Spirulina supplementation on oxidative stress, immunity, productive performance and reproductive parameters during the transition period by grazing dairy cattle.**
*C. H. Ponce[*1], D. Vela[2], A. Mullo[2], V. Cabezas[2], and A. Alvear[2], [1]Universidad San Francisco de Quito (USFQ), The College of Sciences of Health, School of Veterinarian Medicine, Quito, Ecuador, [2]University of the Armed Forces (ESPE), Department of Life Sciences and Agriculture, Sangolqui, Ecuador*

Animal Behavior and Well-Being

5:00 PM - 6:00 PM

Exhibit Hall

4 19 **Influence of pre- and post-natal stress on the social motivation and fear response in lambs.**
*Xavier Averós[1], Ignacia Beltrán de Heredia[1], Roberto Ruiz[1] and Inma Estevez[*1,2], [1]Neiker-Tecnalia, Vitoria-Gasteiz, Spain, [2]IKERBASQUE, Basque Foundation for Science, Bilbao, Spain*

14 20 **Benchmarking indicators of compromised and unfit conditions in cattle arriving at auctions and abattoirs in Alberta.**
*C. E. M. Heuston[*1,2], A. Greter[1], N. Diether[1], M. Moggy[1], M. Jelinski[2], C. Windeyer[3], D. Moya[4,5,6], E. A. Pajor[3], E. D. Janzen[3], and K. S. Schwartzkopf-Genswein[4], [1]Alberta Farm Animal Care Association, High River, AB, Canada, [2]University of Saskatchewan, Saskatoon, SK, Canada, [3]University of Calgary, Calgary, AB, Canada, [4]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [5]Institute of Biological, Environmental and Rural Sciences, Aberystwyth, United Kingdom, [6]Aberystwyth University, Aberystwyth, United Kingdom*

15 21 **Investigation of an animal-in-motion-optical-sensor system for detecting biomechanical patterns in variable cattle gaits.**
*C. A. Atkins[*1], K. R. Pond[1], and C. K. Madsen[2], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Ag Tech Optics, LLC, Bryan, TX*

16 22 **Exit velocity and feeding behavior of water buffalo: A relationship to be considered during the feedlot adaptation phase.**
*C. L. Francisco[*1], A. M. Castilhos[1], P. R. L. Meirelles[1], D. C. M. Silva[1], F. M. Silva[1], H. L. Correa[1], A. S. Aranha[1], P. A. C. Luz[1], C. Andrighetto[2], and A. M. Jorge[1], [1]São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil, [2]São Paulo State University (UNESP), Dracena, Brazil*

17 23 **Effect of standardized capsicum oleoresin on behavior of feedlot cattle during summer.**
*C. Oguey[1], T. H. McCullough[*2], G. Parsons[3], E. H. Wall[1], and T. L. Mader[4], [1]Pancosma, Geneva, Switzerland, [2]Gladwin A. Read Co., Waterloo, NE, [3]Kansas State University, Saint George, [4]Mader Consulting, LLC, Gretna, NE*

18 24 **Essential oils in the diet of young bulls: Effect on animal temperament.**
*M. G. Ornaghi[*1], J. A. Torrecilhas[2], R. A. C. Passetti[1], C. Mottin[1], A. Guerrero[3], C. E. Eiras[1], D. C. Rivaroli[1], T. R. Ramos[1], and I. N. Prado[1], [1]Maringá State University, Maringá, Brazil, [2]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [3]The Agro-Food Institute of Aragon (IA2), Zaragoza, Spain*

19 25 **Characterization of piglet losses in regard to boar genetics and management factors.**
J. Steinhoff-Wagner[*], and C. Achten, University of Bonn, Institute of Animal Science, Bonn, Germany

20 26 **Cattle breed and head dimension effects on the performance of a captive bolt stunner equipped with three different length bolts.**
*D. R. Wagner[*1], H. C. Kline[1], M. S. Martin[1], K. Vogel[2], L. Alexander[3], and T. Grandin[1], [1]Colorado State University, Fort Collins, [2]University of Wisconsin-River Falls, [3]Cargill Protein Group, Wichita, KS*

21 27 **Evaluation of different captive bolt lengths and breed influence upon post mortem leg activity in fed cattle.**
*M. S. Martin[*1], H. C. Kline[1], D. R. Wagner[1], L. Alexander[2], and T. Grandin[1], [1]Colorado State University, Fort Collins, [2]Cargill Protein Group, Wichita, KS*

22 28 **Correlation between blood proteins and physiological parameters in beef calves under heat stress.**
*W. S. Kim[*1,2], J. S. Lee[1,2], D. Q. Peng[1,2], Y. S. Kim[1,2], M. H. Bae[1,2], Y. H. Jo[1,2], and H. G. Lee[1,2], [1]Konkuk University, Seoul, Department of Animal Science and Technology, Republic of Korea (South) , [2]Konkuk University, Team of An Educational Program for Specialists in Global Animal Science, Brain Korea 21 Plus Project, Seoul, Republic of Korea (South)*

27 29 **Effect of dehorning and multi-alleviation treatment on the growth, behavior, and blood parameters of Korean cattle bull calves.**
S. J. Park[*], H. J. Kim, M. Y. Piao, D. J. S. Jung, S. Y. Kim, S. W. Na, and M. Baik, Seoul National University, College of Agriculture and Life Science, Department of Agriculture Biotechnology, Seoul, Republic of Korea (South)

23 30 **Effect of subcutaneous meloxicam on indicators of acute pain and distress after castration and branding in 2 month old beef calves.**
*D. M. Meléndez[*1,2], S. Marti[1,2], E. D. Janzen[1], D. Moya[2,3], D. Gellatly[1,2], E. A. Pajor[1], and K. S. Schwartzkopf-Genswein[2], [1]University of Calgary, Calgary, AB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [3]Institute of Biological, Environmental and Rural Sciences, Aberystwyth, United Kingdom*

24 31 **Timing and frequency of antibiotic and NSAID administration does not affect wound healing in recently weaned beef calves after band castration.**
*S. Marti[*1,2], D. M. Meléndez[1,2], E. D. Janzen[1], D. Gellatly[1,2], C. E. M. Heuston[2,3], E. A. Pajor[1], and K. S. Schwartzkopf-Genswein[2], [1]University of Calgary, Calgary, AB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [3]University of Saskatchewan, Saskatoon, SK, Canada*

25 32 **Prevalence and characteristics of bruises of beef cattle carcasses from two regions of Northwest Mexico.**
*J. N. Sanchez-Perez[*1], F. G. Rios-Rincon[1], K. H. Leyva-Medina[1], J. C. Robles-Estrada[2], and J. J. Portillo-Loera[1], [1]Autonomous University of Sinaloa Sinaloa, Mexico, [2]Autonomous University of Sinaloa, Mexico, Culiacan, Mexico*

26 33 **Evaluation of heat tolerance of Tabapua Bovines in the central region of Brazil.**
*R. Z. Taveira[*1], J. Moraes[2], R. M. D. Silva[3], A. Amaral[4], F. Mendonça[4], F. Ponte[4], F. Carvalho[4], and A. Pereira[5], [1]Goiás State University (UEG), São Luís de Montes Belos, Goiás, Brazil, [2]Federal University of Goiás, Jataí, Brazil, [3]Goiás State University (UEG), São Luis de Montes Belos, Goiás, Brazil, [4]Goiás State University (UEG), São Luis de Montes Belos, Brazil, [5]University of Évora, Évora, Portugal*

Nonruminant Nutrition: Digestibility

5:00 PM - 6:00 PM

Exhibit Hall

418 34 **Determination of adequate adaptation period in total tract digestibility studies using index method in lactating and gestating sows.**
H. Jo[*], and B. G. Kim, Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South)

419 35 **Influence of green tea on performance, nutrient utilisation and cecal microbiota of broiler chickens.**
D. V. Thomas, A. L. Molan, and V. Ravindran[*], Massey University, Palmerston North, New Zealand

420 36 **Prediction equations for digestible and metabolizable energy concentrations based on feed ingredients and diets for pigs.**
J. Y. Sung[*], K. R. Park, and B. G. Kim, Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South)

421 37 **Effects of β-Mannanase (CTCzyme) supplementation on growth performance and nutrient digestibilities in comparison to multi-enzyme complexes in broilers.**
*D. J. Ha[*1,2], M. Y. Park[1], J. Kim[1], S. W. Jung[2], and K. Y. Whang[1], [1]Korea University, Department of Biotechnology, Seoul, Republic of Korea (South) , [2]CTCBIO INC., Seoul, Republic of Korea (South)*

422 38 **Effects of protease on growth performance and nutrient digestibility of growing pigs.**
J. Baek[*1], S. Park[1], J. J. Lee[1], J. Kim[1], S. Kim[1], K. Jang[1], B. Kim[1], J. Kang[1], D. Mun[1], J. Choe[1], I. H. Park[2], J. Y. Cho[2], S. H. Cho[2], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]DSM Nutrition Korea Ltd., Seoul, The Republic of Korea (South)*

423 39 **Effects of dietary protease on nutrient digestibility of weaned pigs.**
D. Mun[*1], I. H. Park[2], J. Kim[1], S. Kim[1], J. J. Lee[1], K. Jang[1], B. Kim[1], S. Park[1], J. Kang[1], J. Baek[1], J. Choe[1], J. Y. Cho[2], S. H. Cho[2], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]DSM Nutrition Korea Ltd., Seoul, The Republic of Korea (South)*

424 40 **Effect of dietary net energy and digestible lysine levels on growth performance and carcass composition of finishing pigs.**
J. K. Htoo[*1], and J. Morales[2], [1]Evonik Nutrition & Care GmbH, Hanau-Wolfgang, Germany, [2]PigChamp Pro Europa, Segovia, Spain*

425 41 **Time course of indigestible indexes in the ileal out flow of pigs fed a soybean meal-based or nitrogen-free diet.**
B. G. Kim[1], K. R. Park[*1], and H. H. Stein[2], [1]Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South) , [2]University of Illinois at Urbana-Champaign*

426 42 **Ileal amino acid digestibility values vary depending on the exogenous indigestible indexes in pigs fed a soybean meal-based diet.**
B. G. Kim[1], K. R. Park[*1], and H. H. Stein[2], [1]Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South) , [2]University of Illinois at Urbana-Champaign*

MONDAY, JULY 10 / POSTER SESSIONS

POSTER SESSION V

ASAS Graduate Student Poster Competition: MS Division

7:00 AM - 9:15 AM
Exhibit Hall

62 1 **Identification of the MUC2 promoter as a strong promoter for intestinal gene expression through generation of transgenic quail expressing GFP in gut epithelial cells.**
R. M. Woodfint[*], The Ohio State University, Columbus*

63 2 **The effects of age at weaning and length of lipid supplementation on growth, metabolites, and carcass quality of young steers.**
J. E. Tipton[*], L. K. Lewis, and N. M. Long, Clemson University, Clemson, SC*

64 3 **Effects of dietary supplementation of β-Mannanase on immune responses in nursery pigs.**
K. Jang[*1,2], K. Kim[1], S. Kim[1], J. Kim[1], B. Kim[1], S. Park[1], J. J. Lee[1], J. H. Lee[3], S. W. Kim[2], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]North Carolina State University, Raleigh, [3]CTCBIO Inc., Seoul, Republic of Korea (South)*

65 4 **Studies on innate immune characteristics of baylis and low country spanish goats on pasture.**
H. L. Thompson[*], M. Worku, A. M. Hamilton, B. Osei, E. Asiamah, and K. Ekwemalor, North Carolina Agricultural and Technical State University, Greensboro*

66 5 **Goat parasite incidence and host resilience in North Carolina during the fall season.**
A. M. Hamilton[*], M. Worku, H. L. Thompson, and S. Adjei-Fremah, North Carolina Agricultural and Technical State University, Greensboro*

67 6 **Evaluation of body condition index in comparison with body condition score in horses and ponies.**
K. DeLano[*1], B. McIntosh[1], K. Kaufman[1], and P. Harris[2], [1]Virginia Polytechnic Institute and State University, Blacksburg, VA, [2]WALTHAM Centre for Pet Nutrition, Melton Mowbray, Leicestershire, United Kingdom*

68 7 **Environmental impacts from cattle consuming tannin-containing hays.**
E. K. Stewart[*1], K. A. Beauchemin[2], J. W. MacAdam[3], and J. J. Villalba[1], [1]Utah State University, Logan, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [3]Utah State University, Department of Plants, Soils, and Climate, Logan*

69 8 **Effects of dietary β-Glucan on growth performance, diarrhea, and gut permeability of weanling pigs experimentally infected with a pathogenic *E. coli*.**
K. Kim[*1], A. Ehrlich[1], V. Perng[1], J. Chase[1], H. Raybould[1], X. Li[1], E. R. Atwill[1], R. Whelan[2], A. Sokale[3], and Y. Liu[1], [1]University of California-Davis, [2]Evonik Nutrition & Care GmbH, Hanau-Wolfgang, Germany, [3]Evonik Corporation, Kennesaw, GA*

70 9 **Ruminal microbes of adult steers extensively degrade L-glutamine, but not L-glutamate or L-citrulline.**
*K. R. Gilbreath[*1], G. Nawaratna[1], T. A. Wickersham[2], M. C. Satterfield[1], F. W. Bazer[1], and G. Wu[1], [1]Texas A&M University, College Station, [2]Texas A&M University, Department of Animal Science, College Station*

71 10 **Effect of melatonin supplementation from mid- to late- gestation on hair growth and skin temperature of beef cattle.**
K. J. McCarty[*], M. P. T. Owen, C. G. Hart, K. C. Yankey, T. Smith, and C. O. Lemley, Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State

72 11 **Insect larvae fed mycotoxin-contaminated wheat – a possible safe, sustainable protein source for animal feed?**
C. Ochoa Sanabria[*], University of Saskatchewan, Saskatoon, SK, Canada

73 12 **The effects of a low Vitamin A diet on the mechanism of intramuscular fat development.**
*E. E. Knutson[*1], A. B. P. Fontoura[1], J. J. Gaspers[1], P. P. Borowicz[2], K. C. Swanson[2], M. L. Bauer[1], J. A. Clapper[3], and A. K. Ward[2], [1]North Dakota State University, Fargo, [2]North Dakota State University, Department of Animal Sciences, Fargo [3]South Dakota State University, Brookings*

74 13 **Dietary supplementation with arginine between days 14 and 30 of gestation enhances survival and development of conceptuses in gilts.**
C. M. Herring[*], Texas A&M University, College Station

75 14 **Effects of poor maternal nutrition and gender on satellite cell metabolism in lambs.**
D. E. Martin[*], A. K. Jones, S. M. Pillai, M. L. Hoffman, K. K. McFadden, K. E. Govoni, S. A. Zinn, and S. A. Reed, University of Connecticut, Department of Animal Science, Storrs

76 15 **Estimation of the effects of mutations causing complex vertebral malformation and brachyspina on milk production, milk composition and fertility traits in Holstein Friesian dairy cattle.**
*L. Ratcliffe[*1], M. Mullen[1], F. Kearney[2], M. C. McClure[2], and J. McClure[2], [1]Bioscience Research Institute, Athlone, Ireland, [2]Irish Cattle Breeding Federation, Bandon, Ireland*

77 16 **Effects of dietary protease on gut microbiota of weaned pigs.**
*B. Kim[*1], I. H. Park[2], J. Kim[1], S. Kim[1], J. J. Lee[1], K. Kim[1], K. Jang[1], S. Oh[3], S. Oh[4], Y. Kim[4], J. Y. Cho[2], S. H. Cho[2], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]DSM Nutrition Korea Ltd., Seoul, The Republic of Korea (South), [3]Chonnam National University, Gwangju, Republic of Korea (South) , [4]Chonbuk National University, Jeonju, Republic of Korea (South)*

78 17 **The induction and synchronization of estrus in meat goats during the fall and late spring (season and out-of-season) using controlled internal drug release (CIDR) devices on Delmarva.**
*E. N. Escobar[1], E. Kassa[*1], D. O'Brien[2], and H. Taylor[1], [1]University of Maryland Eastern Shore, Princess Anne, [2]Virginia State University, Petersburg*

79 18 **The effects of supplementing ad libitum olive pomace on serum fatty acid composition in spanish goats.**
P. Urso[*], M. M. Beverly, S. F. Kelley, M. J. Anderson, and K. J. Stutts, Sam Houston State University, Huntsville, TX

80 19 **The effect of CLA supplementation on fat deposition and lean muscle mass in horses.**
*E. F. Miller[*1], J. L. Leatherwood[2], M. J. Anderson[1], and M. M. Beverly[1], [1]Sam Houston State University, Huntsville, TX, [2]Texas A&M University, Department of Animal Science, College Station*

81 20 **Assessment of bovine ruminal and mesenteric vascular serotonin receptor populations.**
*M. A. Snider[*1], D. L. Harmon[1], and J. L. Klotz[2], [1]University of Kentucky, Lexington, [2]USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY*

82 21 **The effects of poor maternal nutrition during gestation on the number of Pax7 positive myogenic progenitor cells.**
M. C. Wynn[*], A. K. Jones, M. L. Hoffman, S. M. Pillai, K. K. McFadden, S. A. Reed, S. A. Zinn, and K. E. Govoni, University of Connecticut, Department of Animal Science, Storrs

83 22 **Egg production and quality from laying quails fed three levels of moringa meal.**
*K. M. Degollado Aguayo[*1], H. Bernal Barragán[1], E. Olivares Sáenz[1], F. Sánchez Dávila[1], M. Cervantes Ramírez[2], A. Morales[2], and N. C. Vásquez Aguilar[1], [1]Autonomous University of Nuevo León, San Nicolas de los Garza, Mexico, [2]Autonomous University of Baja California, Institute of Agricultural Sciences, Mexicali, Mexico*

84 23 **Effect of Omnigen-AF on the pre-weaning performance of beef calves.**
*T. S. Crook[*1], J. E. Koltes[2], B. Stewart[3], C. Shelton[3], M. B. Sims[3], D. J. McLean[4], J. D. Chapman[4], and P. A. Beck[3], [1]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [2]University of Arkansas, Department of Animal Science, Fayetteville, [3]University of Arkansas, Southwest Research and Extension Center, Hope, [4]Phibro Animal Health Corporation, Quincy, IL*

85 24 **Effects of vaccine treatment and temperament classification on intake and feeding behavior responses to bovine viral diarrhea virus challenge in beef steers.**
*P. S. Smith[*1], G. E. Carstens[1], C. A. Runyan[2], J. F. Ridpath[3], J. E. Sawyer[4], and A. D. Herring[1], [1]Texas A&M University, Department of Animal Science, College Station, [2]Angelo State University, San Angelo, TX, [3]USDA National Animal Disease Center, Ames, IA, [3]USDA-ARS & Ridpath Consulting, Ames, IA, [4]Texas A&M University, College Station*

86 25 **Effects of dietary methionine deficiency on the growth performance and plasma concentrations of selected metabolites in growing pigs.**
*Z. Yang[*1], M. S. Hasan[1], R. C. Thompson[1], M. A. Crenshaw[1], D. D. Burnett[1], J. K. Htoo[2], and S. F. Liao[1], [1]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State, [2]Evonik Nutrition & Care GmbH, Hanau-Wolfgang, Germany*

87 26 **Evaluation of passive transfer immunity and predicting survivability in newborn white-tailed deer fawns.**
*E. E. Evers[*1], K. J. Stutts[1], J. L. Leatherwood[2], C. R. Stewart[1], C. J. Hammer[3], and M. J. Anderson[1], [1]Sam Houston State University, Huntsville, TX, [2]Texas A&M University, Department of Animal Science, College Station, [3]North Dakota State University, Fargo*

88 27 **Effect of level of dietary sulfur on in-vitro true digestibility of a commercial ration fed to Dorper Wethers.**
*V. Garza[*1], K. C. McCuistion[2], G. Faz[1], C. L. Lara[3], J. J. Martinez[4], L. P. Sastre[4], and N. L. Bell[4], [1]Texas A&M University, Kingsville, [2]Texas A&M University, Kingsville, [3]Texas A&M University, Kingsville, [4]Texas A&M University, Kingsville*

89 28 **Two days of adaptation period may be enough for measuring Ileal AA digestibility using Cr or Ti as an indigestible index in swine diets.**
*B. G. Kim[1], S. A. Lee[*2], and H. H. Stein[2], [1]Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South) , [2]University of Illinois at Urbana-Champaign*

POSTER SESSION VI

Small Ruminant I
8:15 AM - 9:15 AM
Exhibit Hall

661 30 **Comparison of high resolution aerial photography to manual field collection in assessing the control of red cedar using goats.**
*R. V. Lourencon[*1], S. P. Hart[1], T. A. Gipson[1], and M. White[2], [1]Langston University, American Institute for Goat Research, Langston, OK, [2]Langston University, Department of Agriculture and Natural Resources, Langston, OK*

662 31 **Effect of biosurfactant and oils over the morphometry of the rumen and duodenum of lambs.**
*S. B. Gallo[*1], I. Bueno[1], S. F. Costa[2], L. Brochine[1], T. Brochado[1], and I. Bohn[2], [1]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [2]Federal University of Lavras, Lavras, Brazil*

663 32 **Performance of lambs fed with different oil sources and biosurfactant.**
*S. B. Gallo[*1], C. G. Titto[1], L. F. Greco[2], L. Brochine[1], T. Brochado[1], B. Resende[1], and I. Bohn[1], [1]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [2]Kemin Industries, Inc., South America, Indaiatuba, Brazil*

664 33 **Effect of antioxidants on the performance of lambs fed high concentrate diets.**
T. R. F. Lima[*], T. Brochado, A. Stuart, I. Bohn, S. B. Gallo, and P. R. Leme, University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil

665 34 **Production, composition and fatty acid profile of goat milk supplemented with buriti oil.**
*V. L. Lima Junior[*1], L. Rocha Bezerra[2], J. Santos de Morais[3], N. Eufrasino de Freitas[3], M. Jácome de Araújo[2], C. Batista de Oliveira Neto[2], A. M. de Azevedo Silva[3], J. M. Pereira Filho[3], J. F. Paulino de Moura[3], R. Loiola Edvan[2], R. L. Oliveira[4], and E. Sales Pereira[5], [1]Federal University Of Rio Grande Do Norte (UFRN), Natal, Brazil, [2]Federal University of Piauí (UFPI), Bom Jesus, Brazil, [3]Federal University of Campina Grande (UFCG), Patos, Brazil, [4]Federal University of Bahia (UFBA), Salvador, Brazil, [5]Federal University of Ceará (UFCE), Fortaleza, Brazil*

666 35 **Effect of oregano essential oil and black wattle tanniniferous extract in the diet of feedlot lambs on meat fatty acid composition.**
*K. C. Welter[*1], C. M. de Magalhães Rodrigues Martins[2], F. A. Melo[1], G. Benetel[1], C. M. D. Silva[1], A. M. Ferrinho[1], A. S. C. Pereira[1], S. B. Gallo[1], and I. C. D. S. Bueno[1], [1]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil, [2]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (IMVZ), Pirassununga, Brazil*

667 36 **Zilpaterol Hydrochloride improved growth performance and some carcass characteristics in finishing ram lambs in feedlot.**
*J. Cayetano de Jesús[1], R. Rojo Rubio[*2], H. Lee-Rangel[3], L. Avendaño-Reyes[4], U. Macias-Cruz[5], J. F. Vázquez-Armijo[6], B. Albarran-Portillo[6], J. C. D. García-López[1], and M. A. Jaime[6], [1]Autonomous University of San Luis Potosi, San Luis Potosi, Mexico, [2]Centro Universitario UAEM Temascaltepec, Temascaltepec, Mexico, [3]Autonomous University of San Luis Potosi, San Luis Potosi, Mexico, [4]Autonomous University of Baja California, Institute of Agricultural Sciences, Ejido Nuevo Leon, Baja California, Mexico, [5]Autonomous University of Baja California, Mexicali, Mexico, [6]University of the State of Mexico, Temascaltepec, Mexico*

668 37 **Daily ration intake and performance of semi-feedlot lambs in integrated crop-livestock system.**
*V. Zirondi Longhini[*1,2], C. Costa[3], P. R. L. Meirelles[3], C. M. Pariz[3], V. M. Protes[3], D. M. Souza[3], M. L. S. T. Piza[3], A. M. Castilhos[3], L. D. Fernandes[3], C. N. R. Braga[3], and A. P. O. Santos[3], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]São Paulo State Foundation (FAPESP), São Paulo, Brazil, [3]São Paulo State University (UNESP), Botucatu, Brazil*

669 38 **Effects of replacing corn with DDGS and poultry fat on performance and meat quality of lambs consuming bermudagrass hay.**
C. L. Greene[*], B. Kouakou, P. Dangal, J. H. Lee, and J. N. Sheed, Fort Valley State University, Fort Valley, GA

671 40 **Longissimus muscle fatty acid profile of lambs fed diets containing babassu oil or buriti oil.**
*M. O. M. Parente[1], K. S. Rocha[1], H. N. Parente[1], S. P. Alves[2], J. M. S. Sousa[1], N. A. F. Machado[1], R. M. S. Gomes[1], G. S. de Oliveira[*1], A. M. Zanine[1], R. J. Bessa[3], and I. Susin[4], [1]Federal University of Maranhão, Chapadinha, Brazil, [2]University of Lisbon, Lisbon, Portugal, [3]University of Lisbon, The Centre for Interdisciplinary Research in Animal Health (CIISA), Faculty of Veterinary Medicine (FMV), Lisbon, Portugal, [4]University of São Paulo (USP), Luiz de Queiroz College of Agriculture (ESALQ), Piracicaba, Brazil*

672 41 **How much does a ram lose during the breeding season? Assessment of pre and post breeding reproductive traits of rams in a range flock in the Pacific Northwest.**
M. J. Stotts[*], M.R. Corpron, N.R. Moffitt, J.L. Mutch, S.M. Smith, J.R. Busboom, M.E. Benson and M.G. Maquivar Washington State University, Department of Animal Sciences, Pullman

673 42 **Hematological and biochemical parameters of Saanen goats supplemented with selenium and vitamin E during the transition period.**
*A. Saran Netto[*1], B. Barcelos[2], J. A. Cunha[2], and M. A. Zanetti[2], [1]University of São Paulo (USP), Pirassununga, Brazil, [2]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Pirassununga, Brazil,*

POSTER SESSION VII

Companion Animal

1:00 PM - 2:00 PM
Exhibit Hall

228 1 **Chemical composition, nutrient digestibility, and true metabolizable energy of differentially processed chicken-based pet food ingredients using the precision-fed cecectomized rooster assay.**
*K. S. Swanson[*1,2,3], P. L. Utterback[4], and C. M. Parsons[4], [1]University of Illinois at Urbana-Champaign, Department of Veterinary Clinical Medicine, [2]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [3]University of Illinois at Urbana-Champaign, Division of Nutritional Sciences, [4]University of Illinois at Urbana-Champaign*

229 2 **Bioprocessed soy protein influences the fecal microbiota of healthy adult dogs.**
A. H. Lee[*], University of Illinois Urbana-Champaign, Department of Animal Sciences

230 3 **Gastrointestinal mucosal microbiota of young adult and geriatric dogs fed animal- or plant-based diets.**
*C. Y. Lin[*1], T. W. L. Cross[2], and K. S. Swanson[1,3,4], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [2]University of Illinois at Urbana-Champaign, [3]University of Illinois at Urbana-Champaign, Department of Veterinary Clinical Medicine, [4]University of Illinois at Urbana-Champaign, Division of Nutritional Sciences*

231 4 ***Saccharomyces Cerevisiae* fermentation product increases volatile fatty acid production and reduces salmonella growth in an in-vitro rabbit intestinal model.**
J. M. Butler[*], Diamond V, Cedar Rapids, IA

232 5 **Relationship between velocity and step parameters for the stepping gait of leash led large-breed dogs.**
*K. Cotton[1], M. C. Nicodemus[*1], and K. Slater[2], [1]Mississippi State University, Mississippi State, [2]Banfield Pet Hospital, Magnolia, TX*

233 6 **Variation in macronutrient composition of popular, premium, and clinical canine diets fed to client-owned osteoarthritic dogs.**
*K. B. Detweiler[*1], Z. T. Traughber[1], A. K. Price[1], K. E. Knap[2], T. A. Harper[2], K. S. Swanson[1], and M. Cattai de Godoy[1], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [2]University of Illinois at Urbana-Champaign, Department of Veterinary Clinical Medicine*

234 7 **Paws for a cause: Stress relief using therapy dogs.**
M. J. Anderson[*], K. Franks, M. M. Beverly, S. F. Kelley, and K. J. Stutts, Sam Houston State University, Huntsville, TX

235 8 **An evaluation of the protein quality of various protein sources from chicken, whey, and soy concentrates commonly used in pet diets and select human performance foods.**
M. E. Morts[*], G. Aldrich, C. K. Jones, and S. Beyer, Kansas State University, Manhattan

236 9 **Effect of miscanthus grass as a dietary method to aid hairball control in cats.**
R. A. Donadelli, and C. G. Aldrich, Kansas State University, Manhattan*

237 10 **Development of a preference ranking test with dogs.**
S. C. Smith, Kansas State University, Manhattan*

238 11 **The effect of container size and type on lethality values during production of thermally processed wet pet foods.**
L. M. Molnar, R. A. Donadelli, and C. G. Aldrich, Kansas State University, Manhattan*

239 12 **Effect of diets containing sorghum fractions on antioxidant capacity of dogs and phenolic acids of both food and plasma measured by high performance liquid chromatography (HPLC).**
I. C. Alvarenga, and C. G. Aldrich, Kansas State University, Manhattan*

Ruminant Nutrition: Beef Production

1:00 PM - 2:00 PM
Exhibit Hall

593 13 **Water intake prediction for beef cattle in Brazil.**
D. Zanetti[1], L. F. Prados[1], A. C. B. Menezes[1], J. M. V. Pereira[1], E. Detmann[1], T. E. Engle[2], and S. C. Valadares Filho[1], [1]Federal University of Viçosa, Viçosa, Brazil, [2]Colorado State University, Fort Collins*

594 14 **Feedlot performance of Nellore cattle submitted to either nutritional restriction or intake of concentrate feedstuffs prior to adaptation period.**
M. C. Pereira[1], A. L. Rigueiro[1], A. C. Melo[2], A. M. Silvestre[2], R. R. Ferreira Filho[2], C. H. Soares[2], M. D. Arrigoni[1], and D. D. Millen[2], [1]São Paulo State University (UNESP), Botucatu, Brazil, [2]São Paulo State University (UNESP), Dracena, Brazil*

609 15 **Feeding behavior and particle sorting of Nellore cattle submitted to either nutritional restriction or intake of concentrate feedstuffs prior to adaptation period.**
J. V. Dellaqua[1], M. C. Pereira[2], D. H. Watanabe[1], A. L. J. Lelis[1], A. F. Toledo[1], A. H. Assumpção[1], M. D. Arrigoni[2], and D. D. Millen[1], [1]São Paulo State University (UNESP), Dracena, Brazil, [2]São Paulo State University (UNESP), Botucatu, Brazil*

610 16 **Effects of ambient temperature and glycerol supplementation on growth performance in Korean cattle steers.**
H. J. Kang, M. Y. Piao, H. J. Kim, and M. Baik, Seoul National University, College of Agriculture and Life Science, Department of Agriculture Biotechnology, Seoul, Republic of Korea (South)*

595 17 **Does the supplementation during the growing phase and finishing phase influence the performance of Nellore cattle?**
I. M. D. Oliveira[1,2], M. H. Moretti[3], L. F. Prados[1], C. F. Nascimento[4,5], P. H. Gonçalves[5], G. R. Siqueira[1,5], and F. D. D. Resende[1,5], [1]São Paulo Agribusiness Technology Agency (APTA), Colina, Brazil, [2]São Paulo State Foundation (FAPESP), São Paulo, Brazil, [3]Agroceres, Rio Claro, Brazil, [4]São Paulo State Foundation (FAPESP),* São Paulo, Brazil, *[5]São Paulo State University (UNESP), Jaboticabal, Brazil*

596 18 **Effects of grinding versus steam-flaking on feeding value of blending barley and corn in low-forage diets fed to dairy cows.**
K. Safaei[1], G. R. Ghorbani[1], M. Alikhani[1], A. Sadeghism[1], W. Yang[2], and M. Saebi-Far[1], [1]Isfahan University of Technology, Department of Animal Sciences, Isfahan, Iran (Islamic Republic of), [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

597 19 **Nutrient profiles, sub-fractions, energy values and degradation and digestion kinetics and their relationship with inherent molecular structures in chickpeas.**
B. Sun[1,2], and P. Yu[1], [1]University of Saskatchewan, Saskatoon, SK, Canada, [2]South China Agricultural University, Guangzhou, China*

598 20 **Effect of amount of milk replacer for first two weeks after farm arrival on concentrate consumption and performance in milk-fed Holstein calves.**
M. Verdu[1], A. Bach[2,3], and M. Devant[4], [1]bonÀrea Agrupa, Guissona, Lleida, Spain, [2]Institute for Food and Agricultural Research and Technology (IRTA), Department of Ruminant Production, Caldes de Montbui; Barcelona, Spain, [3]Catalan Institution for Research and Advanced Studies (ICREA), Barcelona, Spain, [4]Institute for Food and Agricultural Research and Technology (IRTA), Department of Ruminant Production, Caldes De Montbui, Barcelona, Spain*

599 21 **Energy requirements for maintenance of growing Korean indigenous goats (*Capra hircus coreanae*).**
S. Moon, Konkuk University, Chungju, Republic of Korea (South)*

600 22 **Performance and carcass traits of feedlot Murrah buffalos fed with forage palm associated at cottonseed replacing high concentrate diets.**
V. L. Lima Junior[1], F. Brandão Pereira[2], J. Nunes Batista[3], L. Rocha Bezerra[2], V. L. F. Santos[2], F. F. da Silva Filho[1], L. Dias do Nascimento Ferreira[1], W. alves Saraiva[1], R. L. Oliveira[5], R. Loiola Edvan[2], M. Jácome de Araújo[2], and A. M. de Azevedo Silva[3], [1]Federal University Of Rio Grande Do Norte (UFRN), Natal, Brazil, [2]Federal University of Piauí (UFPI), Bom Jesus, Brazil, [3]Federal University of Campina Grande (UFCG), Patos, Brazil, [5]Federal University of Bahia (UFBA), Salvador, Brazil*

601 23 **Changes in body composition of primiparous Holstein cows with different feeding strategies during early lactation.**
*A. Jasinsky[*1], A. Casal[2], M. Ceriani[1], A. L. Astessiano Dickson[2], D. A. Mattiauda[1], and M. Carriquiry[2], [1]University of the Republic, Faculty of Agronomy, Paysandu, Uruguay, [2]University of the Republic, Faculty of Agronomy, Montevideo, Uruguay*

602 24 **The impact of time on feed and partial replacement of high-moisture corn with a high-lipid high-fiber pellet on steer performance, visceral organ weight, fat deposition, and carcass composition.**
*K. M. Wood[*1], and G. B. Penner[2], [1]University of Guelph, Department of Animal Biosciences, ON, Canada, [2]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada*

603 25 **Replacement of rolled barley with citrus pulp in a concentrate supplement for finishing beef cattle offered grass silage.**
*M. J. Kelly[1], A. P. Moloney[2], A. K. Kelly[3], and M. McGee[*4], [1]Teagasc Grange, Dunsany, Meath, Ireland, [2]Teagasc, Grange, Dunsany, Meath, Ireland, [3]University College Dublin, School of Agriculture and Food Science, Belfield, Dublin, Ireland, [4]Teagasc Grange, Dunsany, Meath, Ireland*

611 26 **Varying levels of low quality grass hay NDF in finishing diets for Nellore cattle.**
*F. A. P. Santos[*1], J. J. D. R. Fernandes[2], J. S. Drouillard[3], L. G. Oliveira[4], and L. S. Leite[5], [1]University of São Paulo (USP), Piracicaba, Brazil, [2]Federal University of Goiás (UFG), Goiania, Brazil, [3]Kansas State University, Manhattan, [4]Nutripura Nutrição Animal Ltda, Goiânia, Brazil, [5]Nutripura Nutrição Animal Ltda, Rondonópolis, Brazil*

604 27 **Effect of milk replacer fat content during calfhood and cereal type and supplemental saturated fat inclusion in the finishing ration on the performance and carcass composition of young Holstein Friesian bulls.**
*N. Ferguson[1], A. K. Kelly[1], A. P. Moloney[2], and D. A. Kenny[*3], [1]University College Dublin, School of Agriculture and Food Science, Belfield, Dublin, Ireland, [2]Teagasc, Grange, Dunsany, Meath, Ireland, [3]Teagasc, Animal and Bioscience Department, Grange, Dunsany, Meath, Ireland*

605 28 **Effects of residual feed intake phenotype and dietary glycerin on growth and carcass composition of feedlot Nellore bulls.**
*R. S. Barducci[*1], J. M. B. Ezequiel[1], M. T. C. Almeida[1], E. H. C. B. Van Cleef[1], J. N. S. G. Cyrillo[2], M. E. Z. Mercadante[2], G. V. Silva[2], R. O. Rodrigues[3], T. B. McFadden[3], M. M. Masiero[3], and M. S. Kerley[3], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]São Paulo Agribusiness Technology Agency (APTA), The Center for Beef Cattle, The Animal Science Institute, Sertaozinho, Brazil, [3]University of Missouri, Columbia*

606 29 **Dry-rolled corn reconstitution using sorghum silage.**
A. Alrumaih, J. O. Sarturi, M. A. Ballou, B. J. M. Lemos, J. D. Sugg[*], P. R. B. Campanili, L. A. Ovinge, and L. A. Pellarin, Texas Tech University, Lubbock

607 30 **Effects of irrigation levels of corn silage hybrids on nutrient profile and in-vitro disappearances.**
*A. Alrumaih[1], J. O. Sarturi[1], W. Xu[2], M. A. Ballou[1], B. J. M. Lemos[1], J. D. Sugg[*1], P. R. B. Campanili[1], L. A. Ovinge[1], and L. A. Pellarin[1], [1]Texas Tech University, Lubbock [2]Texas AgriLife Extension, Lubbock*

608 31 **Replacing corn grain by crude glycerol in diets of grazing dairy cows: Feed intake, pasture degradability, and milk production.**
*M. D. L. A. Bruni[*1], M. Carriquiry[2], A. Delgado[3], and P. Chilibroste[1], [1]University of the Republic, Faculty of Agronomy, Paysandu, Uruguay, [2]University of the Republic, Faculty of Agronomy, Montevideo, Uruguay, [3]Institute of Animal Science (ICA), San José de las Lajas, Mayabeque, Cuba*

Breeding and Genetics: Dairy

1:00 PM - 2:00 PM
Exhibit Hall

161 32 **Population structure in a Thai multibreed dairy cattle population.**
*T. Laodim[1], M. A. Elzo[*1], S. Koonawootrittriron[2], and T. Suwanasopee[2], [1]University of Florida, Gainesville [2]Kasetsart University, Bangkok, Thailand*

162 33 **Comparison of genomic-polygenic evaluations using random regression models with legendre polynomials and splines for milk yield and fat percentage in Thai multibreed dairy cattle.**
*D. Jattawa[1], S. Koonawootrittriron[1], M. A. Elzo[*2], and T. Suwanasopee[1], [1]Kasetsart University, Bangkok, Thailand, [2]University of Florida, Gainesville*

163 34 **Population structure and genetic diversity of Russian native cattle breeds.**
*A. V. Dotsev[1], A. A. Sermyagin[1], E. A. Gladyr'[1], T. Deniskova[*1], K. Wimmers[2], H. Reyer[2], G. Brem[1,3], and N. A. Zinovieva[1], [1]L.K. Ernst Institute of Animal Husbandry, Moscow, Russian Federation, [2]Institute of Genome Biology, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, [3]Institute of Animal Breeding and Genetics, VMU, Vienna, Austria*

164 35 **Single nucleotide variants and indels identified from whole-genome re-sequencing of Gyr, Girolando and Holstein cattle breeds.**
*N. B. Stafuzza[*1], A. Zerlotini[2], F. P. Lobo[2], M. E. B. Yamagishi[2], T. C. S. Chud[1], A. R. Caetano[3], D. P. Munari[1], D. J. Garrick[4], J. B. Cole[5], M. A. Machado[6], M. F. Martins[6], M. R. Carvalho[7], and M. V. G. B. da Silva[6], [1]São Paulo State University (UNESP), Deparment of Exact Sciences, Faculty of Agricultural Sciences and Veterinary, Jaboticabal, Brazil, [2]Embrapa Agricultural Informatics, Campinas, Brazil, [3]Embrapa Genetic Resources and Biotechnology, Brasília, Brazil, [4]Iowa State University, Department of Animal Science, Ames, [5]USDA-ARS, Animal Genomics and Improvement Laboratory, Beltsville, MD, [6]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [7]Federal University of Minas Gerais, Department of General Biology, Belo Horizonte, Brazil*

165 36 **Genetic variants with potential loss of function in Gyr, Girolando, and Guzerat cattle breeds by re-sequencing.**
*N. B. Stafuzza[*1], A. Zerlotini[2], F. P. Lobo[2], M. E. B. Yamagishi[2], M. E. Buzanskas[3], T. C. S. Chud[1], A. R. Caetano[4], D. P. Munari[1], D. J. Garrick[5], M. A. Machado[6], M. F. Martins[6], M. R. Carvalho[7], J. B. Cole[8], and M. V. G. B. da Silva[6], [1]São Paulo State Univeristy (UNESP), Department of Exact Sciences, Faculty of Agrarian and Veterinarian Sciences, Jaboticabal, Brazil, [2]Embrapa Agricultural Informatics, Campinas, Brazil, [3]Federal University of Paraíba, Deparment of Animal Science, Areia, Brazil, [4]Embrapa Genetic Resources and Biotechnology, Brasília, Brazil, [5]Iowa State University, Department of Animal Science, Ames, [6]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [7]Federal University of Minas Gerais, Department of General Biology, Belo Horizonte, Brazil [8]USDA-ARS, Animal Genomics and Improvement Laboratory, Beltsville, MD*

166 37 **Effects of genetic and non-genetic factors on bovine milk cholesterol content.**
*D. N. Do[1,2], F. S. Schenkel[3], F. Miglior[3,4], X. Zhao[2], and E. M. Ibeagha-Awemu[*1], [1]Agriculture and Agri-Food Canada, Sherbrooke Research and Development Centre, Sherbrooke, QC, Canada, [2]McGill University, Department of Animal Science, Sainte-Anne De Bellevue, QC, Canada, [3]University of Guelph, Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, ON, Canada, [4]Canadian Dairy Network, Guelph, ON, Canada*

167 38 **Genetic and genomic estimation for somatic cell score in relation with milk production traits of Russian Holstein dairy cattle.**
*A. A. Sermyagin[*1], E. A. Gladyr'[1], A. A. Kharzhau[1], K. V. Plemyashov[2], E. N. Tyurenkova[3], H. Reyer[4], K. Wimmers[4], G. Brem[1,5], and N. A. Zinovieva[1], [1]L.K. Ernst Institute of Animal Husbandry, Moscow, Russian Federation, [2]Russian Research Institute of Farm Animal Genetics and Breeding, St.Petersburg, Pushkin, Russian Federation, [3]RC Plinor, St.Petersburg, Pushkin, Russian Federation, [4]Institute of Genome Biology, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, [5]Institute of Animal Breeding and Genetics, VMU, Vienna, Austria*

168 39 **The distribution for Lof mutations in the FANCI, APAF1, SMC2, GART and APOB genes of the Russian Holstein cattle population.**
O. S. Romanenkova, V. V. Volkova, O. V. Kostyunina, E. A. Gladyr', E. N. Naryshkina, A. A. Sermyagin[*], and N. A. Zinovieva, L.K. Ernst Institute of Animal Husbandry, Moscow, Russian Federation

169 40 **A dairy calf DNA biobank for the discovery of new recessive genetic disorders.**
J. B. Cole[*],USDA-ARS, Animal Genomics and Improvement Laboratory, Beltsville, MD

170 41 **Genetic parameters of incidence and timing of respiratory disease in cattle.**
*T. M. Goncalves[*1], P. J. Pinedo[2], J. E. P. Santos[3], G. M. Schuenemann[4], G. J. M. Rosa[5], R. O. Gilbert[6], R. C. Bicalho[6], R. Chebel[3], K. N. Galvao[3], C. M. Seabury[7], J. Fetrow[8], W. W. Thatcher[3], and S. L. Rodriguez Zas[1], [1]University of Illinois at Urbana-Champaign, [2]Colorado State University, Fort Collins, [3]University of Florida, Gainesville [4]The Ohio State University, Department of Veterinary Preventive Medicine, Columbus, [5]University of Wisconsin-Madison, [6]Cornell University, Ithaca, NY, [7]Texas A&M University System, College of Veterinary Medicine & Biomedical Sciences, Department of Veterinary Pathobiology, College Station, [8]University of Minnesota, St. Paul*

171 42 **Molecular breeding value prediction of pregnancy rate in Holstein dairy cows managed in a heat-stressed environment using candidate gene SNP.**
*R. Zamorano-Algandar[*1], J. C. Leyva-Corona[1], R. I. Luna-Ramirez[1], G. Luna-Nevarez[1], G. Rincon[2], J. F. Medrano[3], A. I. Hernandez[4], M. A. Sánchez-Castro[4], R. M. Enns[4], S. E. Speidel[4], M. G. Thomas[4], and P. Luna-Nevarez[1], [1]Sonora Institute of Technology, Ciudad Obregon, Sonora, Mexico, [2]Zoetis Inc., Kalamazoo, MI, [3]University of California-Davis, Department of Animal Science, [4]Colorado State University, Department of Animal Sciences, Fort Collins*

POSTER SESSION VIII

Ruminant Nutrition: Minerals

5:00 PM - 6:00 PM

Exhibit Hall

542 1 **Calcium, phosphorus, and micro minerals supplementation does not affect nutrient intake and digestibility, and performance of Nellore cattle fed different diets.**
*D. Zanetti[1], L. A. Godoi[1], T. E. Engle[2], M. V. C. Pacheco[1], B. C. Silva[1], E. B. Ferreira[1], and S. C. Valadares Filho[*1], [1]Federal University of Viçosa, Viçosa, Brazil, [2]Colorado State University, Fort Collins*

543 2 **Supplemental trace minerals (Cu, Mn, and Zn) as sulfates or hydroxychloride sources for beef heifers.**
*R. H. Burnett[*1], E. B. Kegley[2], J. G. Powell[2], R. W. Rorie[2], J. J. Ball[2], J. A. Hornsby[2], J. L. Reynolds[2], B. P. Shoulders[2], J. D. Tucker[3], D. S. Hubbell, III[3], and S. B. Laudert[4], [1]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [2]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [3]University of Arkansas, Livestock and Forestry Research Station, Batesville, [4]Micronutrients, Indianapolis, IN*

544 3 **Effect of narasin addition in mineral mixture on gain and intake of feedlot Nellore heifers.**
*L. G. M. Gobato[*1], R. G. Silva[1], A. A. Miszura[1], D. M. Polizel[1], M. V. C. Ferraz Junior[1,2], G. B. Oliveira[1], A. V. Bertoloni[1], J. P. R. Barroso[1], and A. V. Pires[1,2], [1]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Pirassununga, Brazil, [2]University of São Paulo (USP), Luiz de Queiroz College of Agriculture (ESALQ), Piracicaba, Brazil*

545 4 **The addition of narasin into a mineral mixture improves performance of grazing Nellore steers.**
*D. M. Polizel[*1], M. J. P. T. Barbosa[2], B. I. Cappellozza[3], C. N. Lopes[3], M. V. C. Ferraz Junior[1,4], L. G. M. Gobato[1], J. R. S. Gonçalves[5], and A. V. Pires[1,4], [1]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Pirassununga, Brazil, [2]CCA State University of Londrina, Londrina, Brazil, [3]Elanco Saúde Animal, São Paulo, Brazil, [4]University of São Paulo (USP), Luiz de Queiroz College of Agriculture (ESALQ), Piracicaba, Brazil, [5]Experimental Station Hildegard Georgina Von Pritzelwitz, Londrina, Brazil*

546 5 **Inclusion of zeolites (clinoptilolite) in finishing ration of feedlot beef cattle.**
N. M. Jones[*], T. E. Engle, H. Han, J. J. Wagner, and S. L. Archibeque, Colorado State University, Fort Collins

547 6 **Fatty acid profile of omasum from cattle fed with soybean oil, selenium and vitamin E.**
*P. D. Teixeira[1], A. V. P. Ferreira[1], O. R. Machado Neto[2], M. P. Gionbelli[1], L. R. Santos[1], F. F. Moreira[1], A. Cominotte[3], and M. M. Ladeira[*1], [1]Federal University of Lavras, Lavras, Brazil, [2]São Paulo State University (UNESP), Botucatu, Brazil, [3]São Paulo State University (UNESP), Jaboticabal, Brazil*

548 7 **Effect of copper supplementation on pre- and postpartum primiparous beef heifer and progeny hematological parameters fed diets with or without supplemental sulfur.**
J. Hawley[*], E. B. Kegley, and J. G. Powell, University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville

Beef Species

5:00 PM - 6:00 PM
Exhibit Hall

143 8 **Price differences due to preconditioning of beef calves compared to traditional marking in Alabama from 2012-2016.**
F. W. Abrahamsen[*], A. W. Elliott, N. K. Gurung, B. R. Min, and W. H. McElhenney, Tuskegee University, Tuskegee, AL

144 9 **A meta-analytical approach to evaluate the relative effectiveness of virginiamycin for veal calf performance is maximized after ten weeks of administration.**
*M. A. Gorocica[*1], and L. O. Tedeschi[2], [1]Phibro Animal Health, Teaneck, NJ, [2]Texas A&M University, College Station*

145 10 **A meta-analytical approach to evaluate the performance of cattle fed virginiamycin or monensin under feedlot conditions from seven European countries.**
*M. A. Gorocica[*1], and L. O. Tedeschi[2], [1]Phibro Animal Health, Teaneck, NJ, [2]Texas A&M University, College Station*

146 11 **Epnix and liver abscess treatment effects on the performance, health, and carcass characteristics of feedlot steers.**
*V. B. Holder[*1], B. P. Holland[2], and A. B. Word[2,3], [1]Alltech Inc., Nicholasville, KY, [2]Cactus Feeders, Amarillo, TX, [3]Texas Tech University, Lubbock*

147 12 **Efficiency measures and feedlot performance of growing buffaloes (Bubalus bubalis).**
*F. M. Silva[1], A. M. Castilhos[1], P. R. L. Meirelles[1], D. C. M. Silva[1], H. L. Correa[1], A. S. Aranha[1], M. A. Paschoa[1], B. C. Agustinho[2], P. A. C. Luz[1], L. M. Zeoula[2], C. L. Francisco[1], and A. M. Jorge[*1], [1]São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil, [2]State University of Maringá (UEM), Maringá, Brazil*

148 13 **Use of infrared thermography to evaluate the residual feed intake in water buffaloes.**
D. C. M. Silva, C. L. Francisco, A. M. Castilhos, F. M. Silva, H. L. Correa, A. S. Aranha, A. A. Longuini, P. A. C. Luz, P. R. L. Meirelles, and A. M. Jorge[*], São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil

149 14 **Quantitative carcass characteristics of water buffaloes: A great option for meat producers.**
*A. S. Aranha[1], C. L. Francisco[1], A. M. Castilhos[1], M. H. M. P. Narciso[1], F. M. Silva[1], H. L. Correa[1], D. C. M. Silva[1], P. A. C. Luz[1], C. Andrighetto[2], P. R. L. Meirelles[1], and A. M. Jorge[*1], [1]São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil, [2]São Paulo State University (UNESP), Dracena, Brazil*

150 15 **Efficiency measures and feedlot performance of water buffaloes for meat production.**
A. M. Castilhos, C. L. Francisco, P. R. L. Meirelles, H. L. Correa, A. S. Aranha, F. M. Silva, D. C. M. Silva, C. M. Pariz, P. A. C. Luz, and A. M. Jorge[*], São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil

151 16 **Apparent diet digestibility and morphometric measurements of ruminal papillae of water buffaloes finished in feedlot.**
H. L. Correa, P. R. L. Meirelles, F. M. Silva, D. C. M. Silva, A. S. Aranha, M. A. Paschoa, M. H. M. P. Narciso, A. A. Longuini, P. A. C. Luz, A. M. Castilhos, C. L. Francisco, and A. M. Jorge[*], São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil

152 17 **Effects of frequency of supplementation during peri and postpartum of grazing primiparous Nellore cows.**
*F. H. de Moura[*1,2], M. Fonseca[1], M. F. Paulino[2], M. M. Lopes[2], and M. S. Duarte[2], [1]University of Nevada, Reno, Reno, NV, [2]Federal Univeristy of Viçosa, Viçosa, Brazil*

157 18 **Accounting for backfat thickness on the prediction of residual feed intake of young beef bulls influences its relationship to breeding soundness examination traits.**
J. Antillon-Ruiz, J.J. Molina-Cardenas, F.A. Rodríguez-Almeida and M.E. Burrola-Barraza, Universidad Autónoma de Chihuahua, Chihuahua, Mexico

158 19 **Effects of an AI plastic sheath with three semen outputs on AI pregnancy rates of beef heifers enrolled in estrus synchronization protocols.**
*C. L. Timlin1, N.W. Dias1, J.F. Currin2, S. Clark2 and V.R.G. Mercadante1, (1)Virginia Tech - Animal and Poultry Sciences, Blacksburg, VA, (2)Virginia-Maryland R*egional College of Veterinary Medicine, Blacksburg, VA

153 20 **Cryoprotectant effect of different antioxidants added to bovine sperm.**
J.M. Valdez-Torres1, M.E. Burrola-Barraza1, J.A. Grado Ahuir1, J. Antillon-Ruiz1, B. Sanchez-Ramirez1, N. Hernandez-Parra2 and H. Hernandez-Cano1, (1)Universidad Autónoma de Chihuahua, Chihuahua, Mexico, (2)Union Ganadera Regional de Chihuahua, Chihuahua, Mexico

154 21 **Effect of sperm dose on pregnancy per timed AI in Brazilian beef cattle.**
*S. Menegatti Zoca[*1], B. Shafii[1], W. Price[1], M. D. Utt[2], L. H. Cruppe[2], M. DeJarnette[2], L. D. Peters[2], J. L. M. Vasconcelos[3], and J. Dalton[4], [1]University of Idaho, Moscow, [2]Select Sires Inc, Plain City, OH, [3]São Paulo State University (UNESP), Botucatu, Brazil, [4]University of Idaho, Caldwell*

159 22 **The effect of fescue toxicosis on semen quality and fertility of young growing beef bulls.**
*S. L. Pratt[*1], C. Burnett[1], N. M. Long[1], F. N. Schrick[2], and G. S. Sell[1], [1]Clemson University, Clemson, SC, [2]University of Tennessee, Knoxville*

155 23 **Repeatability of number of progeny born to bulls used in group mating of cows.**
G. L. Bennett[*], R. G. Tait, Jr., L. A. Kuehn, W. M. Snelling, and T. G. McDaneld, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE

160 24 **Breeding soundness evaluations of beef bulls at approximately 14 and 20 months of age developed on forage.**
S. L. Pratt[*], and G. S. Sell, Clemson University, Clemson, SC

156 25 **Relationships between DMI fluctuation and feeding behavior at the beginning and end of the finishing phase in feedlot cattle.**
*J. C. McCann[*1], L. M. Shoup[2], M. D. Miller[3], G. E. Carstens[4], and D. W. Shike[1], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [2]University of Illinois, at Urbana-Champaign, [3]Texas A&M University, College Station, [4]Texas A&M University, Department of Animal Science, College Station*

Growth and Development

5:00 PM - 6:00 PM
Exhibit Hall

303 26 **Poor maternal nutrition during gestation alters muscle gene expression in fetal offspring.**
*S. M. Pillai[*1], M. L. Hoffman[1], A. K. Jones[1], K. K. McFadden[1], J. R. Stevens[2], S. A. Zinn[1], S. A. Reed[1], and K. E. Govoni[1], [1]University of Connecticut, Department of Animal Science, Storrs, [2]Utah State University, Department of Mathematics and Statistics,Logan*

304 27 **Fetal and placental growth during the first 90 days of gestation in beef heifers, and effects of maternal nutrition.**
*N. Negrin Pereira[*1,2], C. R. Dahlen[1,2], P. P. Borowicz[1,2], J. S. Caton[1,2], M. S. Crouse[1,2], K. J. McLean[3], X. Sun[1], A. K. Ward[1,2], and L. P. Reynolds[1,2], [1]North Dakota State University, Department of Animal Sciences, Fargo, [2]North Dakota State University, Center for Nutrition and Pregnancy, Fargo, [3]University of Kentucky, Department of Animal and Food Sciences, Lexington*

305 28 **Beef cows nutrition and the effect in the fetal development – a meta-analysis.**
*D. Zago[1], M. E. A. Canozzi[1], E. D. Sartori[1], M. Bitello[1], and J. O. Barcellos[*1,2], [1]Federal University of Rio Grande do Sul (UFRGS), NESPRO, Department of Animal Science, Porto Alegre, Brazil, [2]Federal Council of Veterinary Medicine (CFMV), Brasília, Brazil*

306 29 **Maternal under- and over-nutrition during gestation alters pancreatic DNA methylation in fetal offspring.**
M. L. Hoffman[*], S. M. Pillai, A. K. Jones, M. C. Wynn, K. K. McFadden, S. A. Reed, S. A. Zinn, and K. E. Govoni, University of Connecticut, Department of Animal Science, Storrs

307 30 **Effect of maternal melatonin supplementation during mid- to late- gestation on fatty acid composition in maternal and fetal plasma and perirenal adipose tissue collected from bovine fetuses at 240 days of gestation.**
R. C. Thompson[*1], K. J. McCarty[1], A. T. Sukumaran[1], R. L. Lemire[1], E. H. King[2], R. M. Hopper[2], C. O. Lemley[1], T. T. N. Dinh[1], and D. D. Burnett[1], [1]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State, [2]Mississippi State University, College of Veterinary Medicine, Department of Pathobiology and Population Medicine, Mississippi State*

308 31 **Fetal brown fat deposition is increased by melatonin implants in sheep.**
F. Sales[*1], V. H. Parraguez[2], S. McCoard[3], E. Cofré[2], O. A. Peralta[2], and I. Subiabre[4], [1]Agricultural Research Institute, Punta Arenas, Chile, [2]University of Chile, Faculty of Veterinary Sciences, Santiago, Chile, [3]AgResearch Ltd., Palmerston North, New Zealand, [4]Agricultural Research Institute, Osorno, Chile*

309 32 **Changes in fetal muscle miRNA expression from exposure to ergot alkaloids in utero.**
M. F. Miller Jr.[*], Clemson University, Clemson, SC*

310 33 **Genetics is the essential factor for the precocious puberty in Nellore heifers.**
M. V. C. Ferraz Junior[*1,2], D. M. Polizel[2], A. A. Miszura[2], G. B. Oliveira[2], A. V. Bertoloni[2], R. Sartori[1], G. P. Nogueira[3], and A. V. Pires[1,2], [1]University of São Paulo (USP), Luiz de Queiroz College of Agriculture (ESALQ), Piracicaba, Brazil, [2]São Paulo State University (UNESP), Faculty of Veterinary Medicine (FMVA), Pirassununga, Brazil, [3]São Paulo State University (UNESP), Faculty of Veterinary Medicine (FMVA), Aracatuba, Brazil*

311 34 **Effect of compensatory growth on puberty of Nellore heifers.**
A. A. Miszura[*1], M. V. C. Ferraz Junior[1,2], D. M. Polizel[1], G. B. Oliveira[1], A. V. Bertoloni[1], J. P. R. Barroso[1], L. G. M. Gobato[1], G. P. Nogueira[3], and A. V. Pires[1,2], [1]São Paulo State University (UNESP), Faculty of Veterinary Medicine (FMVA), Pirassununga, Brazil, [2]Luiz de Queiroz College of Agriculture, University of São Paulo (USP), Piracicaba, Brazil, [3]São Paulo State University (UNESP), Faculty of Veterinary Medicine (FMVA), Aracatuba, Brazil*

312 35 **Consequences of birthweight differences on carcass traits, as well as muscle and adipose tissue cellularity in crossbred bulls.**
E. Albrecht[1], C. Kühn[2], and S. Maak[*3], [1]Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany, [2]Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, [3]Muscle Biology and Growth, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany*

313 36 **Heat-shock protein beta 1 is related to muscle growth and development in beef cattle.**
Y. S. Kim[*1,2], Y. Lee[3], J. S. Lee[1,2], W. S. Kim[1,2], D. Q. Peng[1,2], M. H. Bae[1,2], Y. H. Jo[1,2], and H. G. Lee[1,2], [1]Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South) , [2]Konkuk University, Team of An Educational Program for Specialists in Global Animal Science, Brain Korea 21 Plus Project, Seoul, Republic of Korea (South) , [3]Hankyung National University, Department of Biotechnology, Anseong-si, Gyeonggi-do, Republic of Korea (South)*

314 37 **High roughage diet alters performance, carcass characteristics, and adipogenic gene expression of bovine m. longissmus thoracis.**
K. Y. Chung[*], S. S. Chang, S. H. Yang, K. S. Ki, E. M. Lee, and E. G. Kwon, National Institute of Animal Science, Rural Development Administration, Pyeongchang, Republic of Korea (South)*

315 38 **Vitamin C induces PRDM16 of bovine muscle-derived cell isolated from semimembranosus and longissimus dorsi tissues.**
K. Y. Chung[*], D. H. Kang, S. S. Jang, S. H. Yang, K. S. Ki, E. M. Lee, and E. G. Kwon, National Institute of Animal Science, Rural Development Administration, Pyeongchang, Republic of Korea (South)*

316 39 **Different dietary calcium and phosphorus inclusion levels alter satellite cell activity in neonatal pigs.**
K. Kroscher[*1], R. L. Murray[2], W. Zhang[2], L. Zhao[1], C. H. Stahl[2], and R. P. Rhoads[1], [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]University of Maryland, College Park*

317 40 **In-vitro betagro supplementation stimulates myogenesis of porcine fetal myoblasts and porcine satellite cells in a divergent manner.**
O. S. Khatri[*], M. A. Vaughn, K. J. Phelps, and J. M. Gonzalez, Kansas State University, Manhattan*

318 41 **Comparison of a point-of-care glucometer (POCG) and an automated biochemical analyzer to measure glucose concentrations in whole blood, serum, and plasma from porcine blood samples.**
M. K. Gohlke[*], W. Z. Nunnelley, and T. D. Brandebourg, Auburn University, Auburn, AL*

319 42 **Metabolomic analysis of the longissimus muscle revealed differences between underperforming and normal preweaning growth piglets.**
T. G. Ramsay[*], M. J. Stoll, A. E. Shannon, and L. A. Blomberg, USDA-ARS, Beltsville, MD*

POSTER SESSION IX

ASAS Undergraduate Student Poster Competition
7:00 AM - 9:15 AM
Exhibit Hall

114 1 **Effects of medicated feed on coccidia rates in early gestation goats.**
J. Eier[*], C. R. Fisher, and T. L. Bova, University of Findlay, Findlay, OH

116 2 **Chemical composition of enzymatically digested food waste byproducts.**
*C. Jinno[*1], D. Morash[2], E. McNamara[2], A. King[1], and Y. Liu[1], [1]University of California-Davis, [2]California Safe Soil, LLC, McClellan, CA*

117 3 **Prediction models for standardized total tract digestible phosphorus in swine diets.**
J. Y. Sung[*], and B. G. Kim, Konkuk University, Department of Animal Science and Technology, Seoul, Republic of Korea (South)

118 4 **Is the time of insemination linked with the reproductive response of the animal? Assessment of follicular size at FTAI and behavioral patterns in beef cattle following 7-day CO-synch + CIDR estrus synchronization protocol.**
*M. R. Corpron[*1], R. Griffiths[1], S. Parish[2], and M. G. Maquivar[1], [1]Washington State University, Department of Animal Sciences, Pullman, [2]Washington State University, Pullman*

119 5 **Evaluation of circulating plasma amino acid concentrations in beef heifers supplemented protein in a low to medium quality forage diet.**
*E. L. Stephenson[*1], A. L. Jones[2], J. S. Luther[1], and A. E. Radunz[1], [1]University of Wisconsin-River Falls, [2]University of Wisconsin-Madison*

120 6 **Effect of body condition score on steroid and eicosanoid metabolizing enzymes in various horse tissues.**
K. C. Yankey[*], M. P. T. Owen, E. N. Ferjak, C. A. Cavinder, K. J. McCarty, C. G. Hart, D. D. Burnett, T. T. N. Dinh, and C. O. Lemley, Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State

121 7 **Characterizing fetal liver and placental steroid and eicosanoid metabolizing enzymes from dams supplemented with melatonin.**
*C. N. McGee[*1], M. P. T. Owen[1], K. J. McCarty[1], C. G. Hart[1], K. C. Yankey[1], E. H. King[2], R. M. Hopper[2], D. D. Burnett[1], and C. O. Lemley[1], [1]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State, [2]Mississippi State University, College of Veterinary Medicine, Department of Pathobiology and Population Medicine, Mississippi State*

122 8 **Traits influencing sale price of performance tested beef bulls in Michigan.**
K. M. Rizzolo[*], and D. D. Buskirk, Michigan State University, East Lansing

123 9 **Transcriptional regulation of genes involved in calcium and phosphate metabolism in neonatal pigs fed with different levels of dietary calcium and phosphate.**
*R. Gagliardi[*1], W. Zhang[1], R. L. Murray[1], L. Zhao[2], K. Kroscher[2], R. P. Rhoads[2], and C. H. Stahl[1], [1]University of Maryland, College Park, [2]Virginia Polytechnic Institute and State University, Blacksburg*

124 10 **High-fibre high-lipid by-product pellets are an effective replacement for barley grain in diets for finishing beef cattle.**
J. A. Johnson[*], and G. B. Penner, University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada

125 11 **Effect of monensin and protein supplementation on in situ degradability of low-quality forage fed to cattle.**
*J. I. Solis[*1], J. L. Foster[2], C. A. Loest[3], J. J. Martinez[1], L. P. Sastre[1], and N. L. Bell[1], [1]Texas A&M University, Kingsville, [2]Texas A&M University, AgriLife Research, Beeville, [3]New Mexico State University, Las Cruces*

126 12 **Evaluation of protein supplementation on protein digestibility in beef cattle fed a low to medium quality forage diet.**
*C. M. Rawson[*1], J. R. Pukrop[1], S. Day[2], A. L. Jones[3], J. S. Luther[1], and A. E. Radunz[1], [1]University of Wisconsin-River Falls, [2]BioZyme, Inc., St. Joseph, MO, [3]University of Wisconsin-Madison*

127 13 **Impact of two-stage weaning on calf growth parameters.**
L. L. Seim[*], P. L. Harrelson, and F. W. Harrelson, Morehead State University, Morehead, KY

128 14 **Flaxseed containing lipid supplement increases omega-3 content in bovine serum more than ground flaxseed.**
*R. Wilson[*1], S. Akers[1], K. Swanson[1], M. Keller[1], L. Goddik[1], G. Cherian[1], R. Day[2], and G. Bobe[3], [1]Oregon State University, Corvallis, [2]N3Feed, Tualatin, OR, [3]Oregon State University, Department of Animal and Rangeland Sciences, Corvallis*

115 15 **Oral administration of L-arginine-HCl to low-birth-weight piglets improves their growth and survival.**
D. W. Long[*], N. Wu, W. He, G. Nawaratna, B. D. Long, W. Bin, S. Hu, and G. Wu, Texas A&M University, College Station

POSTER SESSION X

Animal Health

8:15 AM - 9:15 AM

Exhibit Hall

50 16 **Effects of nitro-treatment on salmonella, *E. coli* and nitrogen metabolism during composting of poultry litter.**
C. Arzola[*1], E. J. Ledezma-Perez[1], R. Anderson[2], M. Hume[2], O. Ruiz-Barrera[1], A. Corral-Luna[1], Y. Castillo-Castillo[3], J. A. Byrd[2], J. Salinas-Chavira[4], M. Ontiveros-Magadan[1], and C. Rodriguez-Muela[1], [1]Autonomous University of Chihuahua, CHIHUAHUA, Mexico, [2]USDA-ARS, College Station, TX, [3]Autonomous University of Ciudad Juarez, Ciudad Juarez, Mexico, [4]Autonomous University of Tamaulipas, Ciudad Victoria, Mexico*

51 17 **Effect of *Eimeria Acervulina* infection on cell-specific xanthine oxidase (XO) and inducible NO synthase (iNOS) activities and duodenal protein tyrosine nitration (NTp) in chickens.**
S. Kahl[*1], T. H. Elsasser[1], K. B. Miska[1], and R. H. Fetterer[2], [1]USDA-ARS, Beltsville, MD, [2]USDA-ARS, Beltsville, MD*

52 18 **Differential expression of intestinal ion transporters and water channel aquaporins in young piglets challenged with enterotoxigenic Escherichia coli K88.**
C. Zhu[*1], K. Yang[2], J. Ye[1], J. Yang[1], L. Wang[2], R. Liang[1], X. Wu[1], Z. Chen[1], and Z. Jiang[1,2], [1]Agro-Biological Gene Research Center, Guangdong Academy of Agricultural Sciences, Guangzhou, China, [2]Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, China*

53 19 **Screening the ability of common feed ingredients to reduce enterotoxigenic *Escherichia coli* (ETEC) K88 attachment to porcine epithelial cells.**
Y. Zhu, G. González-Ortiz, D. Solà-Oriol, S. López-Vergé[*], and S. M. Martín-Orúe, Autonomous University of Barcelona, Animal Nutrition and Welfare Service, Department of Animal and Food Science, Bellaterra, Spain*

54 20 **The effect of tannin-containing peanut skin supplementation as a natural anthelmintic supplement on drug-resistant *haemonchus contortus* control and animal performance in meat goat.**
B. R. Min[*], A. Shipp, J. Byrd, N. Gurung, and W. H. McElhenney, Tuskegee University, Tuskegee, AL*

55 21 **The anti-inflammatory effect of cowpea polyphenol in bovine blood.**
S. Adjei-Fremah[*], E. Asiamah, K. Ekwemalor, B. Osei, H. Ismail, L. E. Jackai, and M. Worku, North Carolina Agricultural and Technical State University, Greensboro*

56 22 **Probiotic administration modulates the expression of TLR in goat blood.**
K. Ekwemalor[*], S. Adjei-Fremah, E. Asiamah, B. Osei, H. Ismail, and M. Worku, North Carolina Agricultural and Technical State University, Greensboro*

57 23 **The effects of supplementing growing purebred angus heifers with bacillus coagulans during dietary transitions on performance and acute phase proteins.**
S. A. Armstrong, V. R. Morrow[*], T. H. Schell, and D. J. McLean, Phibro Animal Health Corporation, Teaneck, NJ*

58 24 **Impact of neosporosis sero-positivity status on some key performance indicators in spring calving beef cow herds in Ireland.**
M. H. Parr[1], D. Barrett[2], M. G. Diskin[3], M. McGee[4], and D. A. Kenny[*1], [1]Teagasc, Meath, Ireland, [2]Department of Agriculture Food and Marine, Kildare, Ireland, [3]Teagasc, Athenry, Ireland, [4]Teagasc, Meath, Ireland*

59 25 **Validation of candidate markers associated with reproductive performance in PRRSV naturally-infected replacement gilts in Southern Sonora Mexico.**
C. M. Aguilar-Trejo[*1], K. M. Valerio-Valle[2], R. I. Luna-Ramirez[2], G. Luna-Nevarez[2], J. R. Reyna-Granados[2], J. A. Romo[3], M. A. Sánchez-Castro[4], X. Zeng[4], R. M. Enns[4], S. E. Speidel[4], M. G. Thomas[4], and P. Luna-Nevarez[2], [1]Autonomous University of Sinaloa, Culiacan Sinaloa, Mexico, [2]Sonora Institute of Technology, Ciudad Obregon Sonora, Mexico, [3]Autonomous University of Sinaloa, School of Veterinary Medicine and Animal Science (FMVZ), Culiacan, Mexico, [4]Colorado State University, Department of Animal Sciences, Fort Collins*

60 26 **The nasopharyngeal microbiota of beef cattle before and after transport to a feedlot.**
D. B. Holman[1], J. Hallewell[*2], and T. W. Alexander[2], [1]USDA National Animal Disease Center, Ames, IA, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

61 27 **Chronic hypobaric hypoxia induces high expression of nitric oxide in Holstein heifers in Tibet.**
S. Wang[*1], Y. J. Wang[2], Z. J. Cao[2], and S. LI[1], [1]China Agricultural University, College of Animal Science and Technology, Beijing Engineering Technology Research Center of Raw Milk Quality and Safety Control, State Key Laboratory of Animal Nutrition, Beijing, China, [2]China Agricultural University, College of Animal Science and Technology, Beijing Engineering Technology Research Center of Raw Milk Quality and Safety Control, State Key Laboratory of Animal Nutrition, Beijing, China*

Swine Species

8:15 AM - 9:15 AM

Exhibit Hall

700 28 **Utilization of high quality cassava peel (HQCP) mash as an alternative source of energy in weaned pigs diet.**
A. O. Adesehinwa[*1], A. A. Fatufe[2], A. Samireddypalle[3], E. Ajayi[2,4], T. A. Adetunji[2], and I. Okike[3], [1]Institute of Agricultural Research & Training, Ibadan, Nigeria, [2]Obafemi Awolowo University, Ile Ife, Nigeria, [3]Internatinal Livestock Research Institute, Ibadan, Nigeria, [4]Nigeria Institute of Animal Science, Ibadan, Nigeria*

701 29 **Decreased ileal permeability in piglets at weaning following exposure to irradiated topsoil.**
M. A. Sales[*1], T. C. Tsai[1], C. V. Maxwell[1], and D. A. Koltes[2], [1]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [2]University of Arkansas, Division of Agriculture, Department of Poultry Science, Fayetteville*

702 30 **Differential gene expression in peripheral mononuclear cells of pigs exposed to topsoil in early life.**
T. C. Tsai[*1], D. A. Koltes[2], M. A. Sales[1], C. V. Maxwell[1], and J. E. Koltes[1], [1]University of Arkansas, Division of Agriculture, Department of Animal Science, Fayetteville, [2]University of Arkansas, Division of Agriculture, Department of Poultry Science, Fayetteville*

703 31 **Evaluation of NRC method of estimating body protein to lipid ratio in growing pigs.**
S. Ghimire[*], and C. Pomar, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*

704 32 **Effects of plant extracts on amino acid metabolism in pig small-intestinal bacteria in-vitro.**
L. Zhang[1], Z. Dai[*1], W. Zhu[2], Z. Wu[1], and G. Wu[1,3], [1]China Agricultural University, State Key Laboratory of Animal Nutrition, Beijing, China, [2]College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, China, [3]Texas A&M University, College Station*

705 33 **Evaluation of the compositional and nutritional values of mCry1Ac corn and maroacc corn in growing pigs.**
R. Zhong[*1,2], L. Chen[1], L. Gao[2], L. Zhang[2], and H. Zhang[2], [1]Chinese Academy of Agricultural Sciences, Institute of Animal Sciences , Beijing, China, [2]Chinese Academy of Agricultural Sciences, Institute of Animal Sciences, State Key Laboratory of Animal Nutrition, Beijing, China*

706 34 **Lycopene affects hepatic gene expression of the main antioxidant enzymes in gilts.**
M. R. Fachinello[1], A. V. S. Partyka[2], A. D. S. Khatlab[2], E. Gasparino[2], R. V. Nunes[3], and P. C. Pozza[*2], [1]State University of Maringá, Coordination of Higher Education Personnel Training (CAPES), Maringá, Brazil, [2]State University of Maringá, CNPq, Maringá, Brazil, [3]State University of the West of Paraná, CNPq, Marechal Cândido Rondon, Brazil*

707 35 **Effect of fermented liquid potato hash diet with or without exogenous enzyme on growth performance of growing large white × landrace crossbred pigs.**
R. R. Thomas[*1], A. A. Kanengoni[2], and M. C. Chimonyo[3], [1]Agricultural Research Council-Animal Production Institute, Irene, South Africa, [2]University of South Africa, College of Agriculture and Environmental Sciences, Florida, South Africa, [3]University of KwaZulu-Natal, School of Agricultural, Earth and Environmental Sciences, Animal and Poultry Science, Pietermaritzburg, South Africa*

708 36 **Influence of CLA supplementation on body composition of growing pigs.**
K. J. Stutts[*1], C. E. Lindsey[1], M. J. Anderson[1], J. L. Leatherwood[2], S. F. Kelley[1], and M. M. Beverly[1], [1]Sam Houston State University, Huntsville, TX, [2]Texas A&M University, Department of Animal Science, College Station*

709 37 **Betaine affects muscle lipid metabolism via regulating the fatty acid intake and oxidation in finishing pig.**
H. Wang[*], S. Li, X. Wang, Y. Wang, and J. Feng, Zhejiang University, College of Animal Sciences, Hangzhou, China*

710 38 **Effect of oregano essential oil supplementation to a reduced-protein diet on meat quality, fatty acid composition, and oxidative stability of Longissimus Thoracis muscle in growing-finishing pigs.**
C. Chuan-Shang[1], H. Wei[2], and J. Peng[*2,3], [1]Huazhong Agricultural University, WUHAN, China, [2]Huazhong Agricultural University, College of Animal Science and Technology, Department of Animal Nutrition and Feed Science, Wuhan, China, [3]The Cooperative Innovation Center for Sustainable Pig Production, Wuhan, China*

711 39 **Occurrence of non-infectious lameness during rearing of gilts and its relationship with body weight and growth rate.**
L. Fabà[*1], D. Solà-Oriol[1], E. Varella[2], and J. Gasa[1], [1]Autonomous University of Barcelona, Animal Nutrition and Welfare Service, Department of Animal and Food Science, Bellaterra, Spain, [2]Tecnología & Vitaminas, S.L., Alforja, Spain*

712 40 **Carcass traits and meat quality of Berkshire crossbreds sired by heritage breeds.**
H. S. PARK[*1], T. Tennant[2], K. Spann[1], Y. Robbins[1], D. Hanson[2], N. C. Whitley[3], and S. H. OH[1], [1]North Carolina Agricultural and Technical State University, Greensboro, [2]North Carolina State University, Raleigh, [3]Fort Valley State University, Fort Valley, GA*

713 41 **Sensory characteristics of Berkshire crossbreds sired by heritage breeds.**
H. S. PARK[*1], T. Tennant[2], K. Spann[1], Y. Robbins[1], D. Hanson[2], N. C. Whitley[3], and S. H. OH[1], [1]North Carolina Agricultural and Technical State University, Greensboro, [2]North Carolina State University, Raleigh, [3]Fort Valley State University, Fort Valley, GA*

714 42 **The association of DMD gene with productive traits of Russian Landrace pigs.**
T. V. Karpushkina, M. S. Fornara, O. V. Kostyunina, V. R. Kharzinova[*], and N. A. Zinovieva, L.K. Ernst Institute of Animal Husbandry, Moscow, Russian Federation*

POSTER SESSION XI

Breeding and Genetics: Beef

1:00 PM - 2:00 PM

Exhibit Hall

195 1 **Genome-wide association study of heifer pregnancy in Red Angus cattle.**
*B. A. Buckley[1], S. E. Speidel[*2], R. J. Boldt[2], R. M. Enns[2], X. Zeng[2], M. L. Spangler[3], J. Lee[3], and M. G. Thomas[2], [1]University of Hawaii - Manoa, Honolulu, HI, [2]Colorado State University, Department of Animal Sciences, Fort Collins, [3]University of Nebraska -Lincoln*

196 2 **Genome-wide association study for stayability in Red Angus cattle.**
*S. E. Speidel[*1], B. A. Buckley[2], R. J. Boldt[1], R. M. Enns[1], X. Zeng[1], J. Lee[3], M. Spangler[3], and M. G. Thomas[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]University of Hawaii, Manoa, Honolulu, HI, [3]University of Nebraska-Lincoln*

197 3 **Functional SNP associated with birth weight in independent populations identified with a permutation step added to GBLUP-GWAS.**
*W. M. Snelling[*1], S. D. Kachman[2], G. L. Bennett[1], M. L. Spangler[2], L. A. Kuehn[1], and R. M. Thallman[1], [1]USDA- ARS, U.S. Meat Animal Research Center, Clay Center, NE, [2]University of Nebraska- Lincoln*

198 4 **Meta-analysis of RNA-Seq data across cohorts in a multi-season feed efficiency study of crossbred beef steers accounts for biological and technical variability within season.**
B. N. Keel[*], C. M. Zarek, J. W. Keele, L. A. Kuehn, W. M. Snelling, W. T. Oliver, H. C. Freetly, and A. K. Lindholm-Perry, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE

199 5 **Genetic correlation between body weights and frame size measures in Hanwoo.**
A. Mahboob, T. Choi, B. Park, M. N. Park, and Y. H. Choy[*], National Institute of Animal Science, Chonan, Republic of Korea (South)

200 6 **Genetic correlation between yearling body size traits and carcass traits in Hanwoo steers.**
Y. H. Choy[*], A. Mahboob, T. Choi, B. Park, and M. N. Park, National Institute of Animal Science, Chonan, Republic of Korea (South)

201 7 **Genotype x nutritional environment interaction in a composite beef cattle breed.**
E. H. A. Hay[*], and A. J. Roberts, [1]USDA-ARS, Livestock and Range Research Laboratory (LARRL), Miles City, MT

202 8 **Residual feed intake is not associated with muscle, fat, or liver expression of growth hormone receptor, insulin-like growth factor I, or beta-adrenergic receptor mRNA in Angus steers.**
*W. Zheng[1,2], X. Leng[2], M. Vinsky[3], C. Li[3,4], and H. Jiang[*2], [1]Nanjing Agricultural University, College of Animal Sciences, Nanjing, China, [2]Virginia Polytechnic Institute and State University, Department of Animal and Poultry Sciences, Blacksburg, [3]Agriculture and Agri-Food Canada, Lacombe Research and Development Centre, Lacombe, AB, Canada, [4]University of Alberta, Livestock Gentec, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada*

205 9 **Estimates of genetic parameter for tick count and infection level of *babesia bovis* traits in Braford and Hereford cattle.**
*L. Cavani[*1,2], F. F. Cardoso[3], C. G. Gomes[3], A. R. Caetano[4], R. Giglioti[2], M. C. D. S. Oliveira[5], and H. N. Oliveira[2], [1]São Paulo State Foundation (FAPESP), São Paulo, Brazil, [2]São Paulo State University (UNESP), Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [3]Embrapa Southern Region Animal Husbandry, Bage, Brazil, [4]Embrapa Genetic Resources and Biotecnology, Brasilia, Brazil, [5]Embrapa Southeast Livestock, São Carlos, Brazil*

203 10 **Genetic parameter estimation for foot structure in American Angus cattle.**
L. Wang[*], S. P. Miller, K. J. Retallick, and D. W. Moser, Angus Genetics Inc., St. Joseph, MO

204 11 **Genomic study for beef tenderness in a polled Nellore cattle population.**
*R. M.O. Silva[*1], L. Mendes de Castro[2], E. Peripolli[3], F. B. Lopes[2], A. S. C. Pereira[4], F. Baldi[1], G. J. M. Rosa[5], L. C. A. Regitano[6], R. D. Sainz[7], and C. Ulhôa Magnabosco[8], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [2]Embrapa Cerrados, Brasília, Brazil, [3]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Department of Animal Science (VNP), Jaboticabal, Brazil, [4]São Paulo State University (UNESP), Jaboticabal, Brazil, [5]University of Wisconsin-Madison, [6]Embrapa Southeast Livestock, São Carlos, Brazil, [7]University of California-Davis, [8]Brazilian Agricultural Research Corporation (EMBRAPA), Brasília, Brazil*

206 12 **Impact of multiple sire mating system on the accuracy of genomic breeding value prediction in a beef cattle population under selection.**
*R. L. Tonussi[*1], R. M. O. Silva[2], A. F. B. Magalhães[2], E. Peripolli[1], B. F. Olivieri[1], F. L. B. Feitosa[1], A. S. C. Pereira[3], R. B. Lôbo[4], C. U. Magnabosco[5], I. Aguilar[6], and F. Baldi[1], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Department of Animal Science (VNP), Jaboticabal, Brazil, [2]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [3]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Department of Animal Science (ZAZ), Pirassununga, Brazil, [4]National Association of Breeders and Researchers (ANCP), Ribeirão Preto, Brazil, [5]Brazilian Agricultural Research Corporation (EMBRAPA), Brasília, Brazil, [6]National Agricultural Research Institute (INIA), Las Brujas, Uruguay*

207 13 **Genome-wide association study for beef fatty acid profile using haplotypes in Nellore cattle.**
*F. L. B. Feitosa[*1], C. U. Braz[1], M. V. A. D. Lemos[1], M. P. Berton[1], R. M. D. O. Silva[1], R. L. Tonussi[1], E. Peripolli[1], B. F. Olivieri[1], A. M. Ferrinho[2], L. F. Mueller[2], J. D. J. M. Furlan[3], A. S. C. Pereira[3], L. G. de Albuquerque[1], F. S. Schenkel[4], and F. Baldi[1], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Department of Animal Science (VNP), Jaboticabal, Brazil, [2]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Department of Animal Science (ZAZ), Pirassununga, Brazil, [3]University of São Paulo (USP), School of Veterinary Medicine and Animal Science (FMVZ), Department of Animal Science (VNP), Pirassununga, Brazil, [4]University of Guelph, Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, ON, Canada*

194 14 **Multibreed Angus-Brahman genetic parameters and predictions for nine ultrasound and carcass traits using three genomic-polygenic models and one polygenic model.**
M. A. Elzo[*], R. G. Mateescu, D. D. Johnson, T. L. Scheffler, J. M. Scheffler, C. Carr, D. O. Rae, J. D. Wasdin, M. D. Driver, and J. D. Driver, University of Florida, Gainesville

Production, Management, and the Environment

1:00 PM - 2:00 PM
Exhibit Hall

508 15 **Trend for diurnal temperature variation and relative humidity and their impact on milk yield of dairy cattle in tropical climates.**
*T. Sae-tiao[1], S. Koonawootrittriron[1], T. Suwanasopee[1], and M. A. Elzo[*2], [1]Kasetsart University, Bangkok, Thailand, [2]University of Florida, Gainesville*

509 16 **Environmental impact based on life cycle assessment of starting pig production receiving diets with reduced crude protein content.**
*A. N. T. R. Monteiro[1], M. R. Fachinello[1], L. M. Diaz-Huepa[1], A. V. S. Partyka[2], R. V. Nunes[3], and P. C. Pozza[*2], [1]State University of Maringá, Coordination of Higher Education Personnel Training (CAPES), Maringá, Brazil, [2]State University of Maringá, CNPq, Maringá, Brazil, [3]State University of Western Paraná, CNPq, Marechal Cândido Rondon, Brazil*

510 17 **Impact of estrus synchronization and fixed-time artificial insemination on calving distribution in *Bos Indicus* influenced beef heifers.**
*N. Oosthuizen[*1], P. L. P. Fontes[1], C. D. Sanford[1], F. M. Ciriaco[1], D. D. Henry[1], L. B. Canal[1], N. DiLorenzo[1], and G. C. Lamb[2], [1]University of Florida, Institute of Food and Agricultural Sciences, North Florida Research and Education Center, Marianna, [2]Texas A&M University, Department of Animal Science, College Station*

511 18 **Evaluation of phenotypic and marketing variables that affect the selling prices of Braford bulls using quantile regression.**
*J. F. Lopes[1], L. A. K. Aguiar[2], D. Paparas[3], I. P. Pereira[1], M. E. A. Canozzi[1], and J. O. Barcellos[*1,4], [1]Federal University of Rio Grande do Sul (UFRGS), NESPRO, Department of Animal Science, Porto Alegre, Brazil, [2]Harper Adams University, Department of Food Science, Newport, United Kingdom, [3]Harper Adams University, Department of Land, Farm and Agribusiness Management, Newport, United Kingdom, [4]Federal Council of Veterinary Medicine (CFMV), Brasília, Brazil*

512 19 **Preventive effect of nasal lavage with physiologic saline on the colonization with MRSA after working in porcine stable.**
*C. Heinemann[*1], R. M. Schmithausen[2], E. Sib[2], I. Meyer[1], B. Petersen[1], and J. Steinhoff-Wagner[1], [1]University of Bonn, Institute of Animal Science, Bonn, Germany, [2]University of Bonn, University Hospital, Institute for Hygiene and Public Health, Bonn, Germany*

513 20 **Effect of the number of concentrate feeding places per pen for first two weeks after farm arrival on concentrate consumption and performance in milk-fed Holstein calves.**
*M. Verdu[1], A. Bach[2,3], and M. Devant[*4], [1]bonÀrea Agrupa, Guissona, Lleida, Spain, [2]Institute for Food and Agricultural Research and Technology (IRTA), Department of Ruminant Production, Caldes de Montbui; Barcelona, Spain, [3]Catalan Institution for Research and Advanced Studies (ICREA), Barcelona, Spain, [4]Institute for Food and Agricultural Research and Technology (IRTA), Department of Ruminant Production, Caldes De Montbui, Barcelona, Spain*

514 21 **Tracking the movement of hair sheep grazing in pastures in the tropics.**
R. W. Godfrey, A. Nero, G. Roberts, and S. A. Lakos, University of the Virgin Islands, Agricultural Experiment Station, St Croix*

515 22 **Evaluation of the grazing behavior of hair sheep in the tropics.**
R. W. Godfrey, A. Nero, G. Roberts, and S. A. Lakos, University of the Virgin Islands, Agricultural Experiment Station, St Croix*

516 23 **Additional exercise among grazing dairy cows and effects on uterine artery blood flow, milk production, and milk quality parameters.**
J. E. Larson, G. R. Dunnam, K. C. Yankey, M. P. T. Owen, M. M. Steichen, K. J. McCarty, A. E. Stone, and C. O. Lemley, Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State*

517 24 **Effect of herbage allowance on forage mass, insulin and IGF-1 concentrations during the gestation and lactation of primiparous beef cows grazing campos.**
M. Claramunt[1], and P. Soca[2], [1]University of the Republic, University Center of the Eastern Region (CURE), Uruguay, Treinta y Tres, Uruguay, [2]University of the Republic, Faculty of Agronomy, Paysandu, Uruguay*

518 25 **Carcass evaluation of Nellore and Nellore x Angus females recreated in two production system with and without crop-livestock integration.**
A. A. Gléria[1,2], L. F. Gonçalves[1], T. D. P. Paim[1], R. Z. Taveira[3], P. V. R. Paulino[4], F. L. Claudio[1], E. M. Alves[1], and R. M. D. Silva[3,5,6,7], [1]Goiano Federal Institute, Iporá, Goiás, Brazil, [2]State University of Goiás (UEG), Student in the Master in Sustainable Rural Development (MDRS), São Luis de Montes Belos, Goiás, Brazil, [3]State University of Goiás (UEG), São Luis de Montes Belos, Goiás, Brazil, [4]Nutron Alimentos Ltda, Campinas, Brazil, [5]State University of Goiás (UEG), Researcher Incentive Grant (BIP),* São Luis de Montes Belos, Goiás, Brazil, *[6]State University of Goiás (UEG), Master in Sustainable Rural Development (MDRS), São Luis de Montes Belos, Goiás, Brazil, [7]Foundation for Research Support of the State of Goiás (FAPEG), Goiânia, Goiás, Brazil*

519 26 **Effects of different pen lighting sources on growth, feed efficiency and gene expression in blood and liver of broiler chickens.**
L. K. Hirtz[1], R. O. Rodrigues[1], T. Leiva[2], M. F. Martins[3], M. B. Leigh[1], J. F. Firman[1], L. G. Schumacher[1], and T. B. McFadden[1], [1]University of Missouri, Columbia, [2]São Paulo State University (UNESP), Botucatu, Brazil, [3]University of São Paulo (USP), Pirassununga, Brazil*

520 27 **Order of loading of ingredients and mixing time on the quality of the diet in bovine's feedlot.**
J. R. D. Costa Júnior[1], R. M. D. Silva[2,3,4,5], R. Z. Taveira[2], J. G. L. Regadas Filho[6], and P. V. R. Paulino[7,8], [1]State University of Goiás (UEG), Student in the Master in Sustainable Rural Development (MDRS), São Luis de Montes Belos, Goiás, Brazil, [2]State University of Goiás (UEG), São Luis de Montes Belos, Goiás, Brazil, [3]State University of Goiás (UEG), Researcher Incentive Grant (BIP), São Luis de Montes Belos, Goiás, Brazil, [4]State University of Goiás (UEG), Master in Sustainable Rural Development (MDRS), São Luis de Montes Belos, Goiás, Brazil, [5]Foundation for Research Support of the State of Goiás (FAPEG), Goiânia, Goiás, Brazil, [6]Cargill Animal Nutrition, Campinas, Brazil, [7]Nutron Alimentos Ltda, Campinas, Brazil, [8]Cargill Animal Nutrition, Campinas, Brazil*

521 28 **Pen-shade and morning versus afternoon feeding on feedlot-performance and respiratory rate of growing calves under hot weather.**
R. Barajas[1], B. J. Cervantes[2], B. O. Lopez[1], D. Jimenez-Leyva[1], and L. Avendaño-Reyes[3], [1]Autonomous University of Sinaloa, School of Veterinary Medicine and Animal Science, Culiacan, Mexico, [2]Ganadera los Migueles, S.A. de C.V., Culiacán, Mexico, [5]Autonomous University of Baja California, Institute of Agricultural Sciences, Ejido Nuevo Leon, Baja California, Mexico*

522 29 **Evaluation of oats incorporated into annual ryegrass on performance of beef cattle.**
J. D. Rivera, J. T. Johnson, M. L. Gipson, and R. G. Gipson, Mississippi State University, South Branch Experiment Station, Poplarville*

523 30 **Body condition change and foraging strategy of gestating beef cows in response to herbage allowance and cow genotype.**
P. Soca[1], M. Do Carmo[2], C. Genro[3], and S. Scarlato[2], [1]University of the Republic of Uruguay, Faculty of Agronomy, Uruguay, [2]University of the Republic of Uruguay, Paysandu, Uruguay, [3]Brazilian Agricultural Research Corporation (Embrapa), Bage, Brazil*

Nonruminant Nutrition: General

1:00 PM - 2:00 PM
Exhibit Hall

427 31 **Using near-infrared spectroscopy to predict the metabolizable energy of corn for pigs.**
S. L. Ferreira[1], M. R. Fachinello[1], L. M. Diaz Huepa[1], R. M. Rossi[2], R. V. Nunes[3], and P. C. Pozza[4], [1]State University of Maringá, Coordination of Higher Education Personnel Training (CAPES), Maringá, Brazil, [2]State University of Maringá, Maringá, Brazil, [3]State University of Western Paraná, CNPq, Marechal Cândido Rondon, Brazil, [4]University State of Maringá, CNPq, Maringá, Brazil*

428 32 **Pig adipose depot-specific response to a reduced protein diet in combination with n-3/n-6 polyunsaturated fatty acid intervention.**
D. Dannenberger[*], C. Kalbe, and G. Nuernberg, Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany

429 33 **Effect of increasing lead concentrations in diets on the lead residue of the liver and feather in broiler chickens.**
*D. Y. Koo[*1], J. H. Kim[1], G. H. Park[1], H. S. Choi[1], H. Jung[2], and D. Y. Kil[1], [1]Chung-Ang University, Anseong, Republic of Korea (South), [2]National Institute of Animal Science, Rural Development Administration, Wanju-Gun, Republic of Korea (South)*

430 34 **Effect of dietary mercury concentrations on growth performance and relative organ weight in male broiler chickens.**
*G. H. Park[*1], D. Y. Koo[1], J. H. Kim[1], H. S. Choi[1], F. M. Pitargue[1], H. Jung[2], and D. Y. Kil[1], [1]Chung-Ang University, Anseong, Republic of Korea (South) , [2]National Institute of Animal Science, Rural Development Administration, Wanju-Gun, Republic of Korea (South)*

431 35 **Effect of dietary mercury concentrations on growth performance and relative organ weight in female broiler chickens.**
*H. S. Choi[*1], G. H. Park[1], J. H. Kim[1], D. Y. Koo[1], F. M. Pitargue[1], H. Jung[2], and D. Y. Kil[1], [1]Chung-Ang University, Anseong, Republic of Korea (South) , [2]National Institute of Animal Science, Rural Development Administration, Wanju-Gun, Republic of Korea (South)*

432 36 **Alterations in bile acid profiling in large white pigs during heat stress.**
*W. Fang[*1,2], J. Xie[1], Q. Meng[3], and H. Zhang[4], [1]The State Key Laboratory of Animal Science, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, [2]University of Liège, Gembloux Agro-Bio Tech, Precision Livestock and Nutrition Unit, Gembloux, Belgium, [3]The State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, [4]State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*

438 37 **Estimating voluntary feed intake of slow-growing pigs fed progressive levels of diluted potato hash silage.**
C. Ncobela[*], ARC- Animal Production Institute, Pretoria, South Africa; University of KwaZulu-Natal, Pietermaritzburg, South Africa

433 38 **Effects of protease on growth performance and carcass characteristics of finishing pigs.**
*J. Kang[*1], J. Choe[1], S. Park[1], J. Kim[1], B. Kim[1], S. Kim[1], J. J. Lee[1], K. Jang[1], D. Mun[1], J. Baek[1], I. H. Park[2], J. Y. Cho[2], S. H. Cho[2], and M. Song[1], [1]Chungnam National University, Daejeon, Republic of Korea (South) , [2]DSM Nutrition Korea Ltd., Seoul, The Republic of Korea*

434 39 **Energy values of passion fruit seed oil for broiler chickens.**
*L. H. Zanetti[*1], J. R. Sartori[2], A. C. Pezzato[2], J. C. Denadai[2], G. A. M. Pasquali[2], E. M. Muro[2], T. S. D. Santos[2], D. S. D. Souza[2], L. C. Dornelas[2], R. G. Ferreira Netto[2], A. C. Contin Neto[2], and P. G. Serpa[2], [1]São Paulo State University (UNESP), Botucatu, Brazil, [2]São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil*

435 40 **Spray-dried plasma on weaning piglets' feed with in diets with high or low mycotoxins levels.**
D. Paiano[*], Santa Catarina State University (UDESC), Chapecó, Brazil

436 41 **Comparison of performance of finishing pigs fed diets containing different levels of distiller's dried grains with solubles.**
J. M. Uriarte[*], H. R. Guemez Gaxiola, J. M. Romo, and J. A. Romo, Autonomous University of Sinaloa, Faculty of Veterinary Medicine and Zootechnics (FMVZ), Culiacan, Mexico

437 42 **Effects of lipopolysaccharide challenge and weaning on serum biochemical parameters and hepatic hepcidin gene expression in piglets.**
*M. Li[*1], W. Li[1], Y. Liu[1], X. Yin[2], and M. Z. Fan[2], [1]Henan University of Animal Husbandry and Economy, Zhengzhou, China, [2]University of Guelph, ON, Canada*

POSTER SESSION XII

Breeding and Genetics: Livestock Breeding and Methods

5:00 PM - 6:00 PM
Exhibit Hall

208 1 **Fillet yield and quality traits as selection criteria for nile tilapia (*Oreochromis niloticus*) breeding.**
*A. L. Garcia[*1], C. Sary[2], H. M. Karin[2], R. P. Ribeiro[2], D. A. L. Lourenco[1], S. Tsuruta[1], and C. A. Oliveira[2], [1]University of Georgia, Athens, [2]State University of Maringa, Maringa, Brazil*

209 2 **Prospecting genomic regions associated with columnaris disease in two rainbow trout breeding populations.**
*R. M.O. Silva[*1,2], R. L. Vallejo[1], J. P. Evenhuis[1], T. D. Leeds[1], G. Gao[1], J. E. Parsons[3], K. E. Martin[3], D. A. L. Lourenco[2], and Y. Palti[1], [1]USDA-ARS, National Center for Cool and Cold Water Aquaculture, Kearneysville, WV, [2]University of Georgia, Athens, [3]Troutloged, Inc., Sumner, WA*

210 3 **Genetic analysis of production traits in different parities using multiple trait animal models in a Thai landrace-yorkshire swine population.**
*U. Noppibool[1], S. Koonawootrittriron[1], M. A. Elzo[*2], and T. Suwanasopee[1], [1]Kasetsart University, Bangkok, Thailand, [2]University of Florida, Gainesville*

211 4 **Joint genome wide association analysis of continuous and discrete traits.**
*P. Sumreddee[*1], S. Toghiani[1], S. E. Aggrey[2,3], and R. Rekaya[1,3,4], [1]University of Georgia, Department of Animal and Dairy Science, Athens, [2]University of Georgia, Department of Poultry Science, Athens, [3]University of Georgia, Institute of Bioinformatics, Athens, [4]University of Georgia, Department of Statistics, Athens*

213 5 **Association of microsatellite profile with phenotypic traits of semi-domesticated reindeer.**
*V. R. Kharzinova[*1], T. V. Karpushkina[1], A. V. Dotsev[1], A. D. Solovieva[1], T. M. Romanenko[2], G. Brem[1,3], and N. A. Zinovieva[1], [1]L.K. Ernst Institute of Animal Husbandry, Moscow, Russian Federation, [2]Narjan-Mar Agricultural Experimental Station, Narjan-Mar, Russian Federation, [3]Institute of Animal Breeding and Genetics, VMU, Vienna, Austria*

215 6 **Effect of breed (local, imported and crossbreed) on turkey egg measurements.**
*O. T. Abanikannda[1], O. A. Oyeleke[2], O. N. Ottun[3], F. H. Abanikannda[3], and A. O. Giwa[*1], [1]Lagos State University, Ojo-Lagos, Nigeria, [2]La Trobe University, Melbourne, Australia, [3]University of Lagos, Akoka-Lagos, Nigeria*

216 7 **Genomic regions and pathways associated with resistance to gastrointestinal parasites in tropical sheep breed.**
*M. P. Berton[*1], R. M. D. O. Silva[1], E. Peripolli[1], N. B. Stafuzza[2], J. Fernández[3], M. Saura[3], B. Villanueva[4], M. A. Toro[5], G. Banchero[6], P. S. Oliveira[7], J. P. Eler[8], F. Baldi[1], and J. B. S. Ferraz[8], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FCAV), Department of Animal Science (VNP), Jaboticabal, Brazil, [2]São Paulo State University (UNESP), Department of Exact Sciences, School of Agriculcultural and Veterinarian Sciences (FCAV), Jaboticabal, Brazil, [3]National Institute of Agricultural and Food Research and Technology, Madrid, Spain, [4]National Institute of Agricultural and Food Research and Technology, Madrid, Spain, [5]Technical University of Madrid, Animal Production Department, Madrid, Spain, [6]National Agricultural Research Institute, Colonia, Uruguay, [7]University of São Paulo (USP), Pirassununga, Brazil, [8]University of São Paulo (USP), School of Animal Science and Food Engineering (FZEA), Research Center for Animal Genetics, Biotechnology, and Transgenesis (NAP-GMABT), Pirassununga, Brazil*

214 8 **The leptin R84Q mutation is present in charollais sheep increasing fat deposition of carrier crossbred lambs.**
J. A. Martínez-Quintana[*], D. E. Briones, F. A. Rodríguez-Almeida, M. E. Burrola-Barraza, and I. A. García-Galicia, Autonomous University of Chihuahua, Chihuahua, Mexico

Ruminant Nutrition: Fermentation I

5:00 PM - 6:00 PM

Exhibit Hall

625 9 **Effects of bacterial inoculation on the fermentation and aerobic stability of ensiled avocado (persea americana) pulp.**
*B. D. Nkosi[*1], and V. N. Johan[2], [1]ARC-Animal Production Institute, Irene, South Africa, [2]University of Free State, Bloemfontein, South Africa*

612 10 **Effects of the seaweed ascophyllum nodosum on the rumen microbiome and fecal pathogenic *Escherichia coli* serotypes in sheep.**
*M. Zhou[*1], M. Huenerberg[2], Y. Chen[1], T. Reuter[3], T. A. McAllister[4], F. D. Evans[5], and L. L. Guan[1], [1]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [3]Alberta Agriculture and Forestry, Lethbridge, AB, Canada, [4]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [5]Acadian Seaplants Limited, Dartmouth, NS, Canada*

613 11 **Humic substances supplementation reduces ruminal methane production and increases the efficiency of microbial protein synthesis in-vitro.**
*P. Sheng[*1,2], G. O. Ribeiro Jr.[2], Y. Wang[2], and T. A. McAllister[2], [1]Institute of Biological Resources, Jiangxi Academy of Sciences, Nanchang, China, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

614 12 **Effects of synbiotics on rumen fermentation.**
*U. Y. Anele[*1], C. L. Engel[1], K. C. Swanson[2], and D. Baines[3], [1]North Dakota State University, Carrington Research Extension Center, Carrington, [2]North Dakota State University, Department of Animal Sciences, Fargo, [3]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*

615 13 **Rumen morphometrics of Nellore cattle submitted to either nutritional restriction or intake of concentrate feedstuffs prior to adaptation period.**
*B. Q. Reis[*1], M. C. Pereira[2], P. F. Santi[1], M. M. Squizatti[1], S. C. Dondé[1], M. M. Ferreira[1], L. F. Oliveira[1], and D. D. Millen[1], [1]São Paulo State University (UNESP), Dracena, Brazil, [2]São Paulo State University (UNESP), Botucatu, Brazil*

616 14 **Effect of conservation method on in-vitro ruminal fermentation of purple prairie clover (*Dalea purpurea Vent.*) in batch culture.**
*K. Peng[1,2], Z. Xu[2], L. Jin[2], T. A. McAllister[2], S. Acharya[2], S. Wang[1], and Y. Wang[*2], [1]China Agricultural University, College of Engineering, Beijing, China, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada*

617 15 **Microbial community structure of conventional and brown midrib corns ensiled at low dry matter concentrations with and without a combo inoculant.**
*J. J. Romero[*1,2], J. Park[3], Y. Zhao[4], Y. Joo[3], M. A. Balseca-Paredes[1], E. Gutierrez-Rodriguez[5], and M. S. Castillo[1], [1]North Carolina State University, Department of Crop Science, Raleigh, [2]University of Maine, Animal and Veterinary Sciences, Orono, [3]Gyeongsang National University, Division of Applied Life Science, Institute of Agriculture and Life Science, BK21, Jinju, Republic of Korea (South) , [4]China Agricultural University, Department of Animal Nutrition and Feed Science, Beijing, China, [5]North Carolina State University, Department of Food, Bioprocessing, and Nutrition Sciences, Raleigh*

618 16 **Identification of six uncultured rumen bacteria from different phylogenetic lineages using cellulose as a selection agent.**
L. J. Opdahl[*], South Dakota State University, Brookings

619 17 **Rumen microbial population dynamics driven by the interactions between the host and diet in cattle with different feed efficiencies.**
*A. L. A. Neves[*1], F. Li[1], B. Ghoshal[1], T. A. McAllister[2], J. A. Basarab[3], K. H. Ominski[4], and L. L. Guan[1], [1]University of Alberta, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [5]University of Alberta, Livestock Gentec, Department of Agricultural, Food and Nutritional Science, Edmonton, AB, Canada, [4]University of Manitoba, Department of Animal Science, Winnipeg, MB, Canada*

620 18 **Estimating gas volume from headspace pressure in a batch culture system.**
A. Romero-Pérez[*], and K. A. Beauchemin, Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada

621 19 **Effects of different forages and kenaf silage on in-vitro rumen fermentation and growth performance of Hanwoo steer.**
*C. Ryu[*1], M. Park[1], E. Jeon[1], Y. Kim[1], H. S. Lee[1], S. Cho[2], and N. J. Choi[1], [1]Chonbuk National University, Jeonju, Republic of Korea (South) , [2]CALSNBT, Seoul, Republic of Korea (South)*

622 20 **Relation between organic acids in total mixed ration and rumen volatile fatty acids.**
*C. Ryu[*1], M. Park[1], E. Jeon[1], Y. Kim[1], H. S. Lee[1], N. J. Choi[1], and S. Cho[2], [1]Chonbuk National University, Jeonju, Republic of Korea (South) , [2]CALSNBT, Seoul, Republic of Korea (South)*

624 22 **Effects of replacing mushroom by-product with tofu by-product on chemical composition, microbe and rumen fermentation indices of the fermented diet.**
*H. J. Lee[*1], Y. H. Joo[1], S. S. Lee[1], D. H. V. Paradhipta[2], S. B. KIM[3], I. H. Choi[4], and S. C. Kim[1], [1]Gyeongsang National University, Division of Applied Life Science, Jinju, Republic of Korea (South) , [2]Gyeongsang National University, Division of Applied Life Science, Jiju, Republic of Korea (South) , [3]National Institute of Animal Science, Rural Development Administration, Cheonan, Republic of Korea (South) , [4]Joongbu University, Department of Companion Animal & Animal Resources Science, Geumsan, Republic of Korea (South)*

Ruminant Nutrition: Gene Expression

5:00 PM - 6:00 PM
Exhibit Hall

585 23 **Expression of genes involved in energy metabolism and transport of volatile fatty acids and urea in rumen epithelium of bulls identified for high, medium, and low residual feed intake.**
*P. Del Bianco Benedeti[1], M. M. Lopes[1], S. F. M. Bonilha[2], N. V. L. Serão[3], D. R. Lopes[1], H. C. Mantovani[1], M. P. Gionbelli[4], C. J. Newbold[5], E. Detmann[1], and M. S. Duarte[*1], [1]Federal University of Viçosa, Viçosa, Brazil, [2]São Paulo Agribusiness Technology Agency (APTA), The Center for Beef Cattle, The Animal Science Institute, Sertaozinho, Brazil,, [3]North Carolina State University, Raleigh, [4]Federal University of Lavras, Lavras, Brazil, [5]Aberystwyth University, Aberystwyth, United Kingdom*

586 24 **Grain processing effects on expression of genes involved in volatile fatty acid transport in rumen epithelium of beef cattle.**
*P. Del Bianco Benedeti[1], B. C. Silva[1], M. V. Pacheco[1], I. C. Filho[1], M. M. Lopes[1], N. V. L. Serão[2], S. C. Valadares Filho[1], M. P. Gionbelli[3], E. Detmann[1], and M. S. Duarte[*1], [1]Federal University of Viçosa, Viçosa, Brazil, [2]North Carolina State University, Raleigh, [3]Federal University of Lavras, Lavras, Brazil*

587 25 **The role of diet composition fed during residual feed intake determinations and the impact of the diet on the gene sets associated with efficiency as determined by a gene set enrichment analysis.**
*J. L. Mutch[1], H. L. Neibergs[2], M. Neupane[1], J. J. Michal[2], D. J. Garrick[3], M. S. Kerley[4], D. W. Shike[5], J. E. Beever[6], S. L. Hansen[3], J. F. Taylor[7], U. S. Feed Efficiency Consortium[7], and K. A. Johnson[*1], [1]Washington State University, Department of Animal Sciences, Pullman, [2]Washington State University, Pullman, [3]Iowa State University, Ames, [4]University of Missouri, Division of Animal Sciences, Columbia, [5]University of Illinois at Urbana-Champaign, [6]University of Illinois at Urbana-Champaign, [7]University of Missouri, Columbia*

588 26 **Gastrointestinal tract gene expression in ewes under feed restriction**.
*A. I. Trujillo[*1], C. Febrer[1], A. Casal[1], V. de Brun[2], A. L. Astessiano Dickson[1], M. Carriquiry[1], and J. A. Abecia[3], [1]University of the Republic, Faculty of Agronomy, Montevideo, Uruguay, [2] University of the Republic, Faculty of Veterinary Medicine, Montevideo, Uruguay, [3]University of Zaragoza, Environmental Sciences Institute (IUCA), Zaragoza, Spain*

Small Ruminant II

5:00 PM - 6:00 PM
Exhibit Hall

687 27 **Performance of goat kids suckling does fed supplement at different times.**
*O. J. Gekara[*1], J. Onyilagha[2], and G. Wangila[2], [1]California Polytechnic State University, Pomona, [2]University of Arkansas, Pine Bluff*

689 28 **Effect of increasing levels of babassu mesocarp flour on feed intake, nutrient digestibility and rumen fermentation in sheep.**
*M. O. M. Parente[1], H. N. Parente[1], O. A. Gerude Neto[1], P. A. Carvalho[1], R. M. S. Gomes[1], M. A. Moreira Filho[1], V. L. F. Santos[2], A. M. Zanine[1], D. J. Ferreira[1], G. S. de Oliveira[*1], and J. S. Araújo[1], [1]Federal University of Maranhão, Chapadinha, Brazil, [2]Federal University of Piauí, Bom Jesus, Brazil*

690 29 **Effects of supplementation of lambs' diets with babassu oil or buriti oil on nutrient digestibility and growth performance.**
*J. M. S. Sousa[1], H. N. Parente[1], R. M. S. Gomes[1], K. S. Rocha[1], R. J. Bessa[2], G. S. de Oliveira[*1], L. M. Freitas[1], L. F. dos ANjos[1], D. J. Ferreira[1], N. A. F. Machado[1], and M. O. M. Parente[1], [1]Federal University of Maranhão, Chapadinha, Brazil, [2]University of Lisbon, The Centre for Interdisciplinary Research in Animal Health (CIISA), Faculty of Veterinary Medicine (FMV), Lisbon, Portugal*

691 30 **Effects of selecting growing male hair sheep of different flocks for internal parasite resistance on performance.**
*Y. Tsukahara[*1], T. A. Gipson[1], S. P. Hart[1], L. J. Dawson[1,2], Z. Wang[1], R. Puchala[1], and A. L. Goetsch[1], [1]American Institute for Goat Research, Langston University, Langston, OK, [2]Oklahoma State University, Center of Veterinary Health Sciences, Stillwater*

692 31 **Effects of high heat load conditions on rectal temperature, panting score, and respiration rate of hair sheep breeds from different regions of the USA.**
*D. Tadesse[*1], R. Puchala[1], T. A. Gipson[1], I. Portugal[1], T. Sahlu[1], L. J. Dawson[1,2], and A. L. Goetsch[1], [1]American Institute for Goat Research, Langston University, Langston, OK, [2]Oklahoma State University, Center of Veterinary Health Sciences, Stillwater*

693 32 **Feeding behavior of grazing lambs in a silvopastoral system during dry season in Brazil.**
*F. de Oliveira Scarpino van Cleef[*1,2], T. Silva do Nascimento[1], D. J. A. Santos[1], E. H. C. B. Van Cleef[1], and A. C. Ruggieri[1,2], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]CNPq, Brasilia, Brazil*

694 33 **In vitro methane production of diets containing high concentrations of crude glycerin for feedlot sheep.**
*E. H. C. B. van Cleef[*1,2,3], M. T. C. Almeida[1,3], F. O. S. van Cleef[1,4], A. L. Abdalla Filho[3,5], P. P. Santos[5], A. L. Abdalla[5], and J. M. B. Ezequiel[1], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]Foundation for Research of the State of Minas Gerais (FAPEMIG), Belo Horizonte, Brazil, [3]São Paulo Research Foundation (FAPESP), São Paulo, Brazil, [4]CNPq, Brasilia, Brazil, [5]University of São Paulo (USP), Centre for Nuclear Energy in Agriculture, Piracicaba, Brazil*

695 34 **Effects of high concentrations of crude glycerin on rumen microbial populations in sheep.**
*E. H. C. B. van Cleef[*1,2,3], M. T. C. Almeida[1,3], F. O. S. van Cleef[1,4], A. L. Abdalla Filho[3,5], P. S. Correa[5], A. L. Abdalla[5], and J. M. B. Ezequiel[1], [1]São Paulo State University (UNESP), Jaboticabal, Brazil, [2]Foundation for Research of the State of Minas Gerais (FAPEMIG), Belo Horizonte, Brazil, [3]São Paulo Research Foundation (FAPESP), São Paulo, Brazil, Brasilia, Brazil, [6]University of São Paulo (USP), Centre for Nuclear Energy in Agriculture, Piracicaba, Brazil*

696 35 **Whole-genome SNP study of Romanov sheep.**
*T. Deniskova[*1], A. V. Dotsev[1], M. Selionova[2], K. Wimmers[3], H. Reyer[3], V. R. Kharzinova[1], G. Brem[1,4], and N. A. Zinovieva[1], [1]L.K. Ernst Institute of Animal Husbandry, Moscow, Russian Federation, [2]All-Russian Research Institute of Sheep and Goat, Stavropol, Russian Federation, [3]Institute of Genome Biology, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, [4]Institute of Animal Breeding and Genetics, VMU, Vienna, Austria*

697 36 **Effects of high heat load conditions on body weight, dry matter intake, and blood constituent levels of Dorper, Katahdin, and St. Croix sheep from different regions of the USA.**
*D. Tadesse[1], R. Puchala[*1], T. A. Gipson[1], I. Portugal[1], L. J. Dawson[1,2], T. Sahlu[1], and A. L. Goetsch[1], [1]American Institute for Goat Research, Langston University, Langston, OK, [2]Oklahoma State University, Center of Veterinary Health Sciences, Stillwater*

698 37 **Effects of level of intake of a 50% concentrate pelleted diet on digestion and energy utilization by Katahdin wethers.**
*D. Tadesse[*1], R. Puchala[1], I. Portugal[1], A. Hussein[1,2], and A. L. Goetsch[1], [1]Langston University, American Institute for Goat Research, Langston, OK, [2]Oklahoma State University, Department of Animal Science, Stillwater*

699 38 **Effect of dietary sulfur on in-vitro true digestibility of various feedstuffs.**
V. Garza[*], K. C. McCuistion, G. Faz, C. L. Lara, J. J. Martinez, L. P. Sastre, and N. L. Bell, Texas A&M University, Kingsville

Nonruminant Nutrition: Gut Health

5:00 PM - 6:00 PM
Exhibit Hall

399 39 **Prophylactic enrichment of sow milk and intestinal mucosa of piglets by supplementation of arachidonic and eicosapentaenoic acid to sows during lactation.**
P. L. Chang[*], J. Odle, and E. van Heugten, North Carolina State University, Raleigh

400 40 **Proteomic analysis of intestinal mucosa from weaning piglets with feeding *Clostridium butyricum*.**
*B. Xia[*1], Q. Meng[1], M. Pang[1], Q. Lu[1], and H. Zhang[2], [1]The State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, [2]State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*

401 41 **Effect of inclusion of a monocomponent amylase in a corn-soybean meal diet on performance and intestinal histology in 1- to 21-day-old broilers.**
*X. Zhang[*1,2], L. Chen[1], L. Zhang[1], R. Zhong[1,3], L. Zhang[2], and H. Zhang[1], [1]State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China, [2]Hebei University of Engineering, Handan, China, [3]Purdue University, Department of Animal Sciences, West Lafayette, IN*

402 42 **Effects of dietary protease on growth performance and intestinal morphology of weaned pigs.**
*I. H. Park[*1], J. Kang[2], J. Kim[2], S. Kim[2], J. J. Lee[2], K. Jang[2], B. Kim[2], S. Park[2], D. Mun[2], J. Baek[2], J. Choe[2], J. Y. Cho[1], S. H. Cho[1], and M. Song[2], [1]DSM Nutrition Korea Ltd., Seoul, The Republic of Korea (South), [2]Chungnam National University, Daejeon, Republic of Korea (South)*

WEDNESDAY, JULY 12 / POSTER SESSIONS

POSTER SESSION XIII

Physiology and Endocrinology

7:15 AM - 8:15 AM
Exhibit Hall

466 1 **Administration of a subcutaneous high concentrate prostaglandin F2α in replacement beef heifers and the effects on estrus response and pregnancy rates.**
*N. Oosthuizen[*1], L. B. Canal[1], P. L. P. Fontes[1], C. D. Sanford[1], N. DiLorenzo[1], C. R. Dahlen[2], and G. C. Lamb[3], [1]University of Florida, Institute of Food and Agricultural Sciences, North Florida Research and Education Center, Marianna, [2]North Dakota State University, Department of Animal Sciences, Fargo, [3]Texas A&M University, Department of Animal Science, College Station*

857 2 **The dynamics of spermatogenesis in quail.**
E. Tomgorova[*], N. Volkova, A. Vetokh, I. Novgorodova, E. Mennibaeva, and N. A. Zinovieva, L.K. Ernst Institute of animal husbandry, Podolsk, Russian Federation

468 3 **The application of busulfan to inhibit the spermatogenesis in chicken testis.**
A. Vetokh, N. Volkova, E. Tomgorova[*], D. Beloglazov, A. V. Dotsev, and N. A. Zinovieva, L.K. Ernst Institute of animal husbandry, Podolsk, Russian Federation

852 4 **Oxidative stress and inflammation in sows with excess backfat: Up-regulated cytokine expression and elevated oxidative stress biomarkers in placenta.**
*Y. Zhou[*1], H. Wei[1], and J. Peng[1,2], [1]Huazhong Agricultural University, College of Animal Science and Technology, Department of Animal Nutrition and Feed Science, Wuhan, China, [2]The Cooperative Innovation Center for Sustainable Pig Production, Wuhan, China*

470 5 **Effects of eCG administration 4 versus 2 days prior to timed AI on Nellore cows.**
*G. H. L. Marquezini[*1,2], G. F. Santos Junior[2], R. A. Franco[2], and R. A. Souza[2], [1]FARON, Faculty Marechal Rondon, Vilhena, Brazil, [2]Norte Genética, Vilhena, Brazil*

471 6 **Use of doppler ultrasound to evaluate testicular blood flow dynamics in bulls.**
*P. Favaro[*1], F. A. Barca Junior[1], G. R. Pereira[1], S. R. Menegassi[2], J. O. Barcellos[3], and C. Koetz Junior[1], [1]UNOPAR, Arapongas, Brazil, [2]Federal University of Rio Grande do Sul (UFRGS), NESPRO, Porto Alegre, Brazil, [3]Federal University of Rio Grande do Sul (UFRGS), NESPRO, Department of Animal Science, Porto Alegre, Brazil*

472 7 **Sophorolipids are a potential antimicrobial agent in-vitro and in broilers.**
*K. P. Sung[*1,2], S. K. Lee[2], D. Garnett[3], J. Kim[1], and K. Y. Whang[1], [1]Korea University, Department of Biotechnology, Seoul, Republic of Korea (South), [2]EASY BIO, Inc., Seoul, Republic of Korea (South), [3]Pathway Intermediates Ltd., Shrewsbury, Shropshire, United Kingdom*

450 8 **Effect of sire breed on pregnancy rate of Katahdin ewes after liquid semen vaginal artificial insemination.**
*D. O'Brien[*1], S. Wildeus[1], D. L. Wright[2], A. R. Weaver[2], and S. P. Greiner[2], [1]Virginia State University, Petersburg, [2]Virginia Polytechnic Institute and State University, Blacksburg*

451 9 **Effects of maternal nutrient restriction during either the first or second trimester on bovine fetal adipose tissue microRNA at the end of mid-gestation.**
N. M. Long[*], and S. L. Pratt, Clemson University, Clemson, SC

460 10 **Assessment of chromatin damage in bull semen utilizing an acridine orange assay adapted for Agilent 2100 Bioanalyzer.**
P. Rowan[*], R. Johnston, A. N. DeCarlo, and S. L. Pratt, Clemson University, Clemson, SC

452 11 **Effects of *lactobacillus reuteri* LR1 on tight junction proteins expression in IPEC-1 cells during enterotoxigenic *Escherichia coli* k88 infection and its underlying mechanisms.**
*L. Wang[*1,2], H. Yi[1,2], Z. Wang[1,2], Y. Qiu[1,2], X. Wen[1,2], X. Ma[1,2], X. Yang[1,2], and Z. Jiang[1,2], [1]Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, China, [2]Ministry of Agriculture Key Laboratory of Animal Nutrition and Feed Science in South China, Guangzhou, China*

453 12 **Effects of feeding strategy in early lactation on oxidative stress of primiparous dairy cows.**
*M. Carriquiry[*1], M. Garcia-Roche[1], A. Casal[1], A. M. Cassina[2], and D. A. Mattiauda[3], [1]University of the Republic, Faculty of Agronomy, Montevideo, Uruguay, [2]University of the Republic, Faculty of Medicine, Montevideo, Uruguay, [3]Facultad de Agronomia, University of the Republic, Faculty of Agronomy, Paysandu, Uruguay*

454 13 **A high-fat diet expands body fat mass and up-regulates expression of genes involved in adipogenesis and inflammation in a genetically lean pig.**
*X. Yang[*1,2], X. Ma[1,2], L. Wang[1,2], K. Gao[1,2], and Z. Jiang[1,2], [1]Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, China, [2]Ministry of Agriculture Key Laboratory of Animal Nutrition and Feed Science in South China, Guangzhou, China*

455 14 ***L.Plantarum*-treated NK cells protect intestinal epithelial cells from barrier disruption caused by enterotoxigenic *Escherichia coli.***
*X. Yang[*1,2], Y. Qiu[1,2], S. Hu[1,2], L. Wang[1,2], X. Wen[1,2], X. Ma[1,2], Z. Wang[1,2], and Z. Jiang[1,2], [1]Ministry of Agriculture Key Laboratory of Animal Nutrition and Feed Science in South China, Guangzhou, China, [2]Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, China*

456 15 **Residual feed intake in beef cattle and hypothalamic regulation of appetite-related genes.**
*A. A. Elolimy[*1,2], J. C. McCann[2], D. W. Shike[2], and J. J. Loor[1,2,3], [1]University of Illinois at Urbana-Champaign, Department of Animal Sciences, Mammalian NutriPhysioGenomics, [2]University of Illinois at Urbana-Champaign, Department of Animal Sciences, [3]University of Illinois at Urbana-Champaign, Division of Nutritional Sciences, Illinois Informatics Institute*

461 16 **Clostat alters the serum metabolome of Holstein steer calves.**
*P. R. Broadway[*1], J. A. Carroll[1], N. C. Burdick Sanchez[1], T. R. Callaway[2], S. D. Lawhon[3], L. K. Bryan[3], E. V. Gart[3], D. O'Connor[4], and P. W. Rounds[4], [1]USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, [2]USDA-ARS, College Station, TX, [3]Texas A&M University, Department of Veterinary Pathobiology, College Station, [4]Kemin Industries, Inc., Des Moines, IA*

457 17 **Effects of protein supplementation with low to medium quality forage on reproductive parameters in beef heifers in early pregnancy.**
*A. L. Jones[*1], E. L. Stephenson[2], K. Kruckenburg[2], M. Randall[2], E. Zwiefelhofer[2], J. Stuttgen[2], K. Martin[2], A. E. Radunz[2], P. M. Fricke[3], and J. S. Luther[2], [1]University of Wisconsin-Madison, [2]University of Wisconsin-River Falls, [3]University of Wisconsin-Madison*

462 18 **Fractionated dairy cow milk β-casein enhances affinity of the jejunal alkaline phosphatase for hydrolyzing ATP in piglets fed liquid formulas.**
N. Burello[*], N. Rafiee Tari, K. Zhou, T. Archbold, M. Corredig, and M. Z. Fan, University of Guelph, ON, Canada

458 19 **Assessment of glucose homeostasis in crossbred steer progeny sired by Brahman bulls that experienced prenatal transportation stress.**
*B. P. Littlejohn[*1,2], N. C. Burdick Sanchez[3], P. R. Broadway[3], J. A. Carroll[3], R. D. Randel[2], T. H. Welsh, Jr.[1], and R. C. Vann[4], [1]Texas A&M University, AgriLife Research, Department of Animal Science, College Station, [2]Texas A&M University, AgriLife Research, Overton, [3]USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, [4]Mississippi State University, Mississippi Agricultural and Forestry Experiment Station, Brown Loam Branch, Raymond*

473 20 **Differences in embryo survival between *Bos Indicus* and *Bos Taurus* females receiving energy restricted diets during early gestation.**
*P. L. P. Fontes[*1], N. Oosthuizen[1], D. D. Henry[1], F. M. Ciriaco[1], C. D. Sanford[1], L. B. Canal[1], V. R. G. Mercadante[2], S. E. Johnson[3], A. D. Ealy[3], N. DiLorenzo[1], and G. C. Lamb[4], [1]University of Florida, Institute of Food and Agricultural Sciences, North Florida Research and Education Center, Marianna, [2]Virginia Polytechnic Institute and State University, Department of Animal and Poultry Sciences, Blacksburg, [3]Virginia Polytechnic Institute and State University, Blacksburg, [4]Texas A&M University, Department of Animal Science, College Station*

474 21 **Effect of four assisted hatching techniques and two in-vitro culture media on embryo hatching rate.**
N. C. Negota[*], L. P. Nethenzheni, and N. R. Serota, University of Venda, Polokwane, South Africa

475 22 **Pregnancy loss associated with timed-artificial insemination using gender-selected semen in cows.**
S. L. Pratt[*], A. N. DeCarlo, G. S. Sell, L. K. Lewis, and N. M. Long, Clemson University, Clemson, SC

476 23 **The presence of prolactin and tyrosine hydroxylase messenger ribonucleic acid in bovine testis and epididymis.**
A. N. DeCarlo[*], and S. L. Pratt, Clemson University, Clemson, SC

477 24 **Effects of delayed insemination on pregnancy rates of suckled beef cows enrolled in the 7-d CO-Synch+CIDR estrus synchronization protocol and that were not detected in estrus by the time of fixed-time AI.**
*N. W. Dias[*1], C. L. Timlin[1], J. F. Currin[2], S. Clark[2], W. D. Whittier[2], and V. R. G. Mercadante[1], [1]Virginia Polytechnic Institute and State University, Department of Animal and Poultry Sciences, Blacksburg, [2]Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA*

463 25 **Broiler chickens express differential alkaline phosphatase activity and enzyme affinity in hydrolyzing ATP along the small intestinal longitudinal axis.**
K. Zhou[*], N. Burello, W. Wang, T. Archbold, H. Leung, E. Kiarie, and M. Z. Fan, University of Guelph, ON, Canada

459 26 **Assessment of physiological parameters in response to an endotoxin challenge in crossbred steer progeny sired by Brahman bulls that experienced prenatal transportation stress.**
*B. P. Littlejohn[*1,2], N. C. Burdick Sanchez[3], P. R. Broadway[3], J. A. Carroll[3], T. H. Welsh, Jr.[1], R. D. Randel[2], and R. C. Vann[4], [1]Texas A&M University, AgriLife Research, Department of Animal Science, College Station, [2]Texas A&M University, AgriLife Research, Overton, [3]USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, [4]Mississippi State University, Mississippi Agricultural and Forestry Experiment Station, Brown Loam Branch, Raymond*

478 27 **Effects of administration of prostaglandin F2α 7 days prior to initiation of the 7-day CO-Synch + CIDR protocol in beef heifers on estrus response and pregnancy rates.**
*N. Oosthuizen[*1], L. B. Canal[1], P. L. P. Fontes[1], C. D. Sanford[1], N. DiLorenzo[1], C. R. Dahlen[2], G. E. Seidel[3], and G. C. Lamb[4], [1]University of Florida, Institute of Food and Agricultural Sciences, North Florida Research and Education Center, Marianna, [2]North Dakota State University, Department of Animal Sciences, Fargo, [3]Animal Reproduction and Biotechnology Laboratory, Colorado State University, Fort Collins, [4]Texas A&M University, Department of Animal Science, College Station*

479 28 **LH concentration after kisspeptin injection for sexual precocity evaluation in heifers.**
*G. P. Nogueira[*1], A. F. T. Paiva[1], M. A. Maioli[1], D. M. Pinheiro[1], and T. Arrieiro Rodrigues[2], [1]São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences (FMVA), Araçatuba, Brazil, [4]Farm Santa Encarnacao, Bataguacu, Brazil*

480 29 **Follicle dynamics and fertility at fixed-time AI of *Bos Indicus*-influenced beef cows synchronized with the 5-day bee Synch + CIDR protocol with or without GnRH on day 0.**
*J. O. Scarpa[*1,2], M. M. O'Neil[1,2], R. C. Cardoso[2], R. L. Stanko[1,3], and G. L. Williams[1,2], [1]Texas A&M University, AgriLife Research, Beeville, [2]Texas A&M University, Department of Animal Science, College Station, [3]Texas A&M University, Department of Animal, Rangeland, and Wildlife Sciences, Kingsville*

481 30 **Examining uterine endometrial blood perfusion using a novel laser doppler technique in Angus cows.**
M. P. T. Owen[*], K. J. McCarty, K. C. Yankey, C. N. McGee, C. G. Hart, and C. O. Lemley, Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State

482 31 **Age at puberty and pregnancy rate in beef heifer genotypes offered contrasting nutrition levels.**
*J. Heslin[*1,2], D. A. Kenny[3], A. K. Kelly[1], and M. McGee[3], [1]University College Dublin, School of Agriculture and Food Science, Belfield Dublin, Ireland, [2]Teagasc, Grange, Animal and Bioscience Research Department, Dunsany, Meath, Ireland, [3]Teagasc, Grange, Dunsany, Meath, Ireland*

483 32 **Vasoconstrictive responses of the carotid artery in pregnant ewes to ergot alkaloid exposure.**
*G. E. Aiken[*1], A. John[2], J. L. Britt[2], M. F. Miller Jr.[2], S. K. Adams[2], and S. K. Duckett[2], [1]USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY, [2]Clemson University, Clemson, SC*

484 33 **Effects of ergot alkaloid exposure during gestation on maternal and fetal vasoactivity in sheep.**
*J. L. Klotz[*1], M. F. Miller Jr.[2], J. L. Britt[2], M. A. Snider[3], G. E. Aiken[1], N. M. Long[2], S. L. Pratt[2], A. John[2], and S. K. Duckett[2], [1]USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY, [2]Clemson University, Clemson, SC, [3]University of Kentucky, Lexington*

485 34 **Impacts of estrus expression and intensity during a fixed-time AI protocol on parameters associated with fertility and pregnancy success in beef cows.**
*R. F. Cooke[*1], A. D. P. Rodrigues[2], R. S. Cipriano[3], L. G. T. da Silva[2], R. L. A. Cerri[4], L. H. Cruppe[5], M. Meneghetti[6], K. G. Pohler[7], and J. L. M. Vasconcelos[2], [1]Oregon State University, Eastern Oregon Agricultural Research Center, Burns, [2]São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, Brazil, [3]UniSalesiano, Araçatuba, Brazil, [4]University of British Columbia, Applied Animal Biology, Faculty of Land and Food Systems, Vancouver, BC, Canada, [5]Select Sires Inc, Plain City, OH, [6]Zoetis, São Paulo , Brazil, [7]The University of Tennessee, Knoxville*

486 35 **Effects of late gestational forage system on fetal growth and neonatal calf blood chemistry.**
*A. M. Meyer[*1], N. B. Duncan[1], J. M. Larson[1], and B. L. Vander Ley[2], [1]University of Missouri, Division of Animal Sciences, Columbia, [2]Great Plains Veterinary Educational Center, Clay Center, NE*

487 36 **Effect of melatonin supplementation during mid- to late- gestation on maternal uterine blood flow and calf size at birth.**
*K. J. McCarty[*1], M. P. T. Owen[1], C. G. Hart[1], K. C. Yankey[1], R. C. Thompson[1], D. D. Burnett[1], E. H. King[2], R. M. Hopper[2], and C. O. Lemley[1], [1]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State, [2]Mississippi State University, College of Veterinary Medicine, Department of Pathobiology and Population Medicine, Mississippi State*

Ruminant Nutrition: Fermentation II

7:15 AM - 8:15 AM
Exhibit Hall

589 37 **Heat-induced changes in protein molecular structure associated with rumen degradation of oat grains in dairy cows detecting by vibrational molecular spectroscopy.**
L. Louzada Prates[*], and P. Yu, University of Saskatchewan, College of Agriculture and Bioresources, Department of Animal and Poultry Science, Saskatoon, SK, Canada

590 38 **Identification of a previously uncharacterized *Ruminococcaceae* bacterial species associated with inclusion of high levels of lipid in the diet of beef steers.**
*C. Hron[*1], D. W. Brake[1], E. J. Blom[1], and B. St-Pierre[2], [1]South Dakota State University, Brookings, [2]South Dakota State University, Animal Science Department, Brookings*

591 39 **Effect of rumen inoculum on diet utilisation and ruminal fermentation parameters of commonly used by-product ingredients in the rumen simulation technique (Rusitec).**
A. K. Kelly[*], T. M. Boland, and J. S. Heffernan, University College Dublin, School of Agriculture and Food Science, Belfield, Dublin, Ireland

592 40 **Effects of by-product inclusion and linseed oil supplementation to a pasture based diet on methane production, diet utilisation and ruminal fermentation parameters in the rumen simulation technique (Rusitec).**
A. K. Kelly[*], T. M. Boland, and J. S. Heffernan, University College Dublin, School of Agriculture and Food Science, Belfield, Dublin, Ireland

POSTER SESSION XIV

Forages and Pastures

8:15 AM - 9:15 AM

Exhibit Hall

280 1 **Isolation and identification of lactic acid bacteria that colonize tropical whole-plant corn silage during fermentation process.**
L. Silva[1], O. G. Pereira[*1], T. C. Silva[1], J. P. Roseira[1], M. C. N. Agarussi[1], V. P. Silva[1], R. A. Paula[1], R. M. Martins[1], and T. F. Bernardes[2], [1]Federal University of Vicosa, Vicosa, Brazil, [2]Federal University of Lavras, Lavras, Brazil*

281 2 **Effect of *Lactobacillus buchneri* isolated from tropical corn silage on fermentation and aerobic stability.**
L. Silva[1], O. G. Pereira[*1], S. A. Santos[2], K. G. Ribeiro[1], J. P. Roseira[1], M. C. N. Agarussi[1], V. P. Silva[1], F. Amaro[1], and R. M. Martins[1], [1]Federal University of Vicosa, Vicosa, Brazil, [2]Federal University of Bahia, Salvador, Brazil*

282 3 **Effect of *Lactobacillus buchneri* isolated from tropical corn silage on fermentation and aerobic stability of sugarcane silage.**
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283 4 **Effects of condensed tannins on bacterial and fungal core microbiomes involved in the ensiling and aerobic spoilage of purple prairie clover (*Dalea purpurea Vent.*) silage.**
K. Peng[1,2], Q. Huang[2,3], L. Jin[2], D. Niu[4], T. A. McAllister[2], H. Denis[5], H. E. Yang[2], S. Acharya[2], Z. Xu[2], S. Wang[1], and Y. Wang[*2], [1]China Agricultural University, College of Engineering, Beijing, China, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [3]College of Animal Science and Technology, Yangzhou University, Yangzhou, China, [4]Alberta Agriculture and Forestry, Lethbridge, AB, Canada, [5]European Molecular Biology Laboratory, European Bioinformatics Institute, Wellcome Trust Genome Campus, Hinxton, United Kingdom*

284 5 **Characterization of condensed tannins from freeze-dried, silage or hay purple prairie clover (*Dalea purpurea Vent.*): Structure composition, protein precipitation and anti-*Escherichia coli* properties.**
K. Peng[1,2], Q. Huang[2,3], Z. Xu[2], T. A. McAllister[2], S. Acharya[2], S. Wang[1], I. Mueller-Harvey[4], C. Drake[4], and Y. Wang[*2], [1]China Agricultural University, College of Engineering, Beijing, China, [2]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [3]College of Animal Science and Technology, Yangzhou University, Yangzhou, China, [4]University of Reading, School of Agriculture, Policy and Development, Food Production and Quality Division, Chemistry and Biochemistry Laboratory, Reading, United Kingdom*

285 6 **Effects of isolated bacteria application on chemical composition and fermentation characteristic of rye silage.**
Y. H. Joo[*1], H. J. Lee[1], S. S. Lee[1], O. K. Han[2], and S. C. Kim[1], [1]Gyeongsang National University, Division of Applied Life Science, Jinju, Republic of Korea (South) , [2]National Institute of Crop Science, Rural Development Administration, Suwon, Republic of Korea (South)*

286 7 **Structural composition and protein precipitation capacity of condensed tannins from purple prairie clover (*Dalea purpurea Vent*).**
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287 8 **Comparison of diet selection by Raramuri Criollo and angus crossbreds in the Chihuahuan Desert.**
S. Spiegal[1], S. Nyamurekung'e[2], R. Estell[*1], A. Cibils[2], M. McIntosh[2], A. Gonzalez[1], and D. James[1], [1]Jornada Experimental Range, Las Cruces, NM, [2]New Mexico State University, Las Cruces*

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T. A. Omokanye[**], Peace Country Beef & Forage Association, Grande Prairie Regional College, Fairview, AB, Canada*

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G. Scaglia, LSU AgCenter Iberia Research Station, Jeanerette, LA*

292 13 **Study on the seasonal changes in average daily gain, feed value, forage productivity and grazing intensity in native pasture grazed by Korean native goat (*Capra hircus coreanae*).**
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293 14 **Nutritional evaluation of forage ephedra (*Ephedra nevadensis*) as an alternative forage using a dual-flow continuous culture system.**
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294 15 **Productivity and carbon sequestration potential of re-established native grassland in Canadian prairie following grazing.**
A. W. Alemu[1], A. D. Iwaasa[2], R. Kröbel[1], and B. McConkey[2], [1]Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, Lethbridge, AB, Canada, [2]Agriculture and Agri-Food Canada, Swift Current Research and Development Centre, Swift Current, SK, Canada*

295 16 **Feed processing affects palatability of ventenata-infested grass hay.**
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301 19 **Effect of nitrogen source on CH4 emissions from grassland soil.**
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B. R. Brunsvig, A. J. Smart, and D. W. Brake, South Dakota State University, Brookings*

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