



# **2013 CSAS – CMSA Joint Meeting**

**June 17-20, 2013  
Banff Park Lodge  
Banff, Alberta, Canada**



# EXECUTIVE COMMITTEES

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# GENERAL MEETING INFORMATION

## Registration

The registration desk will be located in the Alpine Meadow Room. Pre-registration packets and onsite registration will be available during the hours listed below.

Monday, June 17	6:30 pm – 9:00 pm
Tuesday, June 18	7:30 am – 6:00 pm
Wednesday, June 19	6:30 am – 5:00 pm
Thursday, June 20	7:30 am – 12:30 pm

## Meeting Location

The conference venue is the Banff Park Lodge & Conference Center, located in Banff, Alberta, Canada. Banff is a picturesque town located in the Rocky Mountains of western Canada, just one hour by shuttle bus from Calgary's International Airport (to your hotel).

## Transportation

Shuttle transport between Calgary Airport and the hotels can be made through **Banff Airporter**. CSAS-CMSA delegates receive a 15% discount on the Banff Airporter for shuttle requirements between the Calgary Airport and the Banff Park Lodge. Click [www.banffairporter.com/book](http://www.banffairporter.com/book) and type Science in the Apply Promotional Code section on the final payment page to receive your discount. This brings the price to \$50.74 One Way and \$101.47 Return.

## Important Phone Numbers

Banff Park Lodge and Conference Center	(800) 661-9266
Banff Airporter	(888) 449-2901

## Presentation Guidelines

### Oral

Only PowerPoint presentations will be accommodated (i.e., no slides, no overheads, no alternative programs allowed).

1. All session rooms will have Master PCs running PowerPoint 2007/2010 in Windows 7.
2. Individual laptops may not be connected to the projectors in the session rooms.
3. Oral presenters must upload their presentation no later than one hour prior to the start of their session. The upload computer will be available at the registration area starting 2 hours prior to the first session of the day. Presentations for upload should be on flash drives.

## **Poster**

Posters should be placed on the appropriate poster board by 7:00 am Wednesday, June 19 and remain up all day. Poster presenters should be at their poster for presentation at 7:30 am – 9:00 am on Wednesday, June 19. Posters may be removed at 5:00 pm. Posters may be attached to the board using tacks or velcro. Posters may be a maximum size of 44 in x 45 in (w x h).

## **SPONSORS**

*As of May 31, 2013*

Agriculture Institute of Canada

Alberta Beef

Alberta Beef Magazine

Alberta Livestock and Meat Agency Ltd.

Alltech Canada Inc.

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Aon

Beef Cattle Research Council

Canadian Centre for Swine Improvement

Canadian Pork Council

Chicken Farmers of Canada

Dairy Farmers of Canada

Elanco Animal Health/Eli Lilly Canada Inc.

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# SCHEDULE OF EVENTS

*All events will meet at the Banff Park Lodge unless otherwise noted.*

## **MONDAY, JUNE 17, 2013**

1:00 pm – 5:00 pm Annual Executive Meeting

## **TUESDAY, JUNE 18, 2013**

7:00 am – 8:30 am Video broadcast of AMSA keynote speaker:  
Temple Grandin, Summit Room

8:30 am – 3:00 pm Beef Symposium, Summit Room

10:15 am Coffee Break

12:00 pm – 1:00 pm Lunch

3:00 pm Coffee Break

3:15 pm – 5:30 pm Graduate Student Oral Competition Session 1,  
Summit Room

## **WEDNESDAY, JUNE 19, 2013**

7:30 am – 9:00 am Poster Presentations, Assiniboine Room

8:30 am – 11:45 am Graduate Student Oral Competition Session 2,  
Summit Room

9:00 am – 11:00 am Video Link Presentations with AMSA, Castle Room

10:00 am Coffee Break

11:45 am – 1:15 pm Annual General Meeting & Lunch, Castle Room

1:15 pm – 3:00 pm Animal Health & Emerging Issues Oral Session,  
Summit Room

3:00 pm Coffee Break

3:15 pm – 5:00 pm Nonruminant Nutrition Oral Session, Castle Room

3:15 pm – 5:00 pm Ruminant Production & Management Oral Session,  
Summit Room

6:30 pm Reception, Summit Room

7:00 pm – 8:30 pm Banquet Dinner, Summit Room

8:30 pm – 10:30 pm Student Mixer

## **THURSDAY, JUNE 20, 2013**

8:00 am – 10:45 am Food Safety and Meat Science Oral Session, Summit  
Room

9:45 am Coffee Break

10:45 am – 12:15 pm Breeding and Genetics Oral Session, Summit Room

12:15 pm – 1:15 pm Workshop, Summit Room

1:15 pm – 1:45 pm NSERC Presentation, Summit Room

# SCIENTIFIC SESSIONS

## Tuesday, June 18, 2013 Symposium & Oral Presentations

### BEEF SYMPOSIUM

Chairs: Tim McAllister, Agriculture and Agri-Food Canada, Lethbridge and  
Karen Beauchemin, Agriculture and Agri-Food Canada, Lethbridge

Room: Summit

- 8:30**                    **Welcome/Introduction - CSAS/CMSA presidents**
- 8:45**                    **Industry overview, new opportunities**  
R. Bergen\*, Beef Cattle Research Council, Calgary, AB,  
Canada
- 9:15**                    **Industry economics, market stressors**  
K. Larson\*, Western Beef Development Centre, University  
of Saskatchewan, Saskatoon, SK, Canada
- 9:45**                    **Genetic drivers of cow-calf profitability**  
S. Miller\*, Centre for the Genetic Improvement of  
Livestock, University of Guelph, Guelph, ON, Canada
- 10:15**                   **Coffee break**
- 10:30**                   **Forage and water management in cow-calf systems**  
B. Ladner\*, Western Beef Development Centre, University  
of Saskatchewan, Saskatoon, SK, Canada
- 11:00**                   **Bovine respiratory disease, predisposing factors for  
bacterial pneumonia**  
A. Confer\*, Oklahoma State University, Stillwater, OK,  
United States
- 11:30**                   **Acidosis, mitigation strategies**  
G. Penner\*, University of Saskatchewan, Saskatoon, SK,  
Canada
- 12:00**                   **Lunch**
- 1:00**                    **Welfare/management practices to increase production**  
K. Schwartzkopf-Genswein\*, Lethbridge Research  
Centre, Agriculture, Agriculture and Agri-Food Canada,  
Lethbridge, Canada
- 1:30**                    **Food safety, mitigating pathogens**  
T. Callaway\*, USDA-ARS, College Station, TX, United States
- 2:00**                    **Meat quality and improving carcass value**  
J. Alhus\*, Agriculture & Agri-Food Canada (AAFC)  
Research Centre, Lacombe, Alberta, Canada
- 2:30**                    **Open Forum (Moderated by ALMA)**
- 3:00**                    **Coffee break**



## GRADUATE STUDENT COMPETITION - ORAL (SESSION #1)

Chair: Karen Koenig, Agriculture and Agri-Food Canada, Lethbridge  
3:15 – 5:30 pm • Room: Summit

- 3:15**      **O01-GS**      **The potential of 3-nitrooxipropanol to lower enteric methane emissions from beef cattle**  
A. Romero Perez<sup>1,2,\*</sup>, K. Beauchemin<sup>1</sup>, S. McGinn<sup>1</sup>, E. Okine<sup>2</sup>, L. Guan<sup>2</sup>, M. Oba<sup>2</sup>, S. Duval<sup>3</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, Research Centre, Lethbridge, Alberta, <sup>2</sup>Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada, <sup>3</sup>DSM Nutritional Products France, Research Centre for Animal Nutrition and Health, Saint Louis Cedex, France
- 3:30**      **O02-GS**      **Relationship of severity of sub-acute ruminal acidosis with rumen fermentation, chewing activities and milk fat concentration in lactating dairy cows when fed a common high grain diet**  
X. Gao<sup>\*</sup>, M. Oba, AFNS, University of Alberta, Edmonton, Canada
- 3:45**      **O03-GS**      **Effect of Harvest Maturity of Whole-Crop Oat (*Avena* spp.) on Forage Intake, Rumen Fermentation and Total Tract Digestibility**  
C. L. Rosser<sup>1,\*</sup>, A. D. Beattie<sup>2</sup>, H. C. Block<sup>3</sup>, J. J. McKinnon<sup>1</sup>, H. A. Lardner<sup>1,4</sup>, G. B. Penner<sup>1</sup>, <sup>1</sup>Department of Animal and Poultry Science, <sup>2</sup>Department of Plant Science, University of Saskatchewan, Saskatoon, <sup>3</sup>Brandon Research Center, Agriculture and Agri-Food Canada, Brandon, <sup>4</sup>Western Beef Development Center, Humboldt, Canada
- 4:00**      **O04-GS**      **Management system and marine oil supplementation affect the milk fatty acid profile**  
P. Vahmani<sup>1,\*</sup>, K. E. Glover<sup>2</sup>, L. MacLaren<sup>3</sup>, J. Green-Johnson<sup>4</sup>, A. Fredeen<sup>3</sup>, <sup>1</sup>Department of Biology, Dalhousie University, Halifax, <sup>2</sup>Azar Agriculture, <sup>3</sup>Department of Plant and Animal Sciences, Dalhousie University, Truro, <sup>4</sup>Department of Biology, University of Ontario Institute of Technology, Oshawa, Canada
- 4:15**      **O05-GS**      **Effects of frequency and level of energy supplementation on intake, rumen fermentation and digestibility of beef heifers fed low-quality forage**  
F. Anez<sup>1,\*</sup>, G. B. Penner<sup>1</sup>, P. G. Jefferson<sup>1,2</sup>, H. A. Lardner<sup>1,2</sup>, J. J. McKinnon<sup>1</sup>, <sup>1</sup>Animal & Poultry Science, University of Saskatchewan, Saskatoon, <sup>2</sup>Western Beef Development Centre, Humboldt, Canada

- 4:30 O06-GS Response of Different Types of Cereal Grains to Different Heating Methods in Ruminant and Intestinal Digestions in Dairy Cattle**  
Y. Ying\*, D. A. Christensen, J. J. McKinnon, P. Yu,  
Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada
- 4:45 O07-GS The effect of malt characteristics on in situ digestibility of malt barley grain harvested in three years**  
S. Ding<sup>1,2,\*</sup>, M. Oba<sup>2</sup>, M.-L. Swift<sup>3</sup>, W. Z. Yang<sup>1</sup>, T. McAllister<sup>1</sup>, <sup>1</sup>Research Centre, Agriculture and Agri-Food Canada, Lethbridge, <sup>2</sup>Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, <sup>3</sup>Research Centre, Alberta Agriculture and Food , Lacombe, Canada
- 5:00 O08-GS Evaluation of canola meal derived from Brassica napus versus Brassica juncea for growing and finishing cattle.**  
J. Nair<sup>1,\*</sup>, G. B. Penner<sup>1</sup>, P. Yu<sup>1</sup>, H. A. Lardner<sup>1,2</sup>, T. McAllister<sup>3</sup>, J. J. McKinnon<sup>1</sup>, <sup>1</sup>Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, <sup>2</sup>Western Beef Development Centre, Humboldt, SK, <sup>3</sup>Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada
- 5:15 O09-GS Ruminal epithelium barrier function following abrupt change to moderately fermentable diet**  
B. L. Schurmann<sup>1,\*</sup>, M. E. Walpole<sup>1</sup>, P. Gorka<sup>1,2</sup>, C. H. Ching<sup>3</sup>, M. E. Loewen<sup>3</sup>, G. B. Penner<sup>1</sup>, <sup>1</sup>Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada, <sup>2</sup>Animal Nutrition and Feed Management, University of Agriculture, Krakow, Poland, <sup>3</sup>Department of Biomedical Sciences, Western College of Veterinary Medicine, Saskatoon, Canada

**Wednesday, June 19, 2013**

**Poster Presentations**

**Room: Assiniboine**

**Presentation Time: 7:30 am – 9:00 am**

*Posters should be placed on poster boards by 7:00 am and remain up all day.*

*Posters may be removed at 5:00 pm.*

**ANIMAL HEALTH AND BEHAVIOUR**

- P01 Non Invasive Surveillance of Bovine Respiratory Disease Using Infrared**  
A. Schaefer<sup>1,\*</sup>, C. Bench<sup>2</sup>, N. Cook<sup>3</sup>, K. Wynne-Edwards<sup>4</sup>, M. Jelinski<sup>5</sup>, R. Lewis<sup>6</sup>, R. McCorkell<sup>7</sup>, <sup>1</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, <sup>2</sup>AFNS, University of ALberta, Edmonton, <sup>3</sup>Lacombe Research Centre, Alberta Agriculture, Lacombe, <sup>4</sup>Vet Med, University of Calgary, Calgary, <sup>5</sup>Vet Agri-Health, Airdrie, <sup>6</sup>Westlock Vet, Westlock, <sup>7</sup>Vet Med, University of Calgary, Calgary, Canada
- P02-GS Age-dependent and site-specific effects on intestinal miRNA expression in young dairy calves**  
G. Liang<sup>1,\*</sup>, N. Malmuthuge<sup>1</sup>, P. Stothard<sup>1</sup>, P. Griebel<sup>2</sup>, L. Guan<sup>1</sup>, <sup>1</sup>Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, <sup>2</sup>Vaccine and Infectious Disease Organization, University of Saskatchewan, Saskatoon, Canada
- P03 Infrared thermography of groups of pigs detects thermal responses to vaccination**  
N. J. Cook<sup>1</sup>, C. Bench<sup>2,\*</sup>, A. Schaefer<sup>3</sup>, <sup>1</sup>Livestock Research and Innovation, Alberta Agriculture and Rural Development, Lacombe, <sup>2</sup>Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, <sup>3</sup>Research Branch, Agriculture and Agri-Food Canada, Lacombe, Canada
- P04 Comparison between a needle-free injection device (NFID) and a needle-syringe (NS) for vaccinating beef calves against infectious bovine rhinotracheitis (IBR) and Clostridium chauvoei**  
M. R. Rey<sup>1</sup>, J. Rodriguez-Lecompte<sup>2</sup>, M. Undi<sup>1,\*</sup>, T. Joseph<sup>3</sup>, J. Morrison<sup>4</sup>, A. Yitbarek<sup>1</sup>, K. Wittenberg<sup>1</sup>, R. Tremblay<sup>5</sup>, K. Ominski<sup>1</sup>, <sup>1</sup>Animal Science, University of Manitoba, Winnipeg, <sup>2</sup>Pathology and Microbiology, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, <sup>3</sup>Veterinary Diagnostic Services, MAFRI, <sup>4</sup>Biosystems Engineering, University of Manitoba, Winnipeg, <sup>5</sup>Boehringer Ingelheim, Burlington, Canada

- P05**      **Altered immune response in bovine paratuberculosis**  
P.-L. Dudemaine<sup>1,\*</sup>, G. Fecteau<sup>2</sup>, M. Lessard<sup>1</sup>, G. Côté<sup>3</sup>, O. Labrecque<sup>3</sup>,  
S. Buczinski<sup>2</sup>, E. Doré<sup>2</sup>, J.-P. Roy<sup>2</sup>, N. Bissonnette<sup>1</sup>, <sup>1</sup>Agriculture et  
Agroalimentaire Canada, Sherbrooke, <sup>2</sup>Faculté de médecine vétérinaire,  
Université de Montréal, <sup>3</sup>Ministère de l'Agriculture, Pêcheries  
et de l'Alimentation du Québec, St-Hyacinthe, Canada

## **BREEDING AND GENETICS**

- P06**      **Estimation Of Genetic Parameters For Ultrasound Measurement  
Traits And Carcass Traits In Hanwoo**  
S. H. Roh<sup>1,\*</sup>, C. Y. Kim<sup>1</sup>, J. H. Ro<sup>1</sup>, J. K. Park<sup>1</sup>, J. S. Shin<sup>1</sup>, J. H. Seo<sup>2</sup>, Y. H.  
Choy<sup>3</sup>, B. H. Park<sup>3</sup>, T. J. Choi<sup>3</sup>, S. H. Na<sup>3</sup>, J. G. Lee<sup>4</sup>, <sup>1</sup>Hanwoo Improve-  
ment Center, Seosan, <sup>2</sup>Livestock policy division, SaeJong, <sup>3</sup>National  
Institute of Animal Science, CheonAn, <sup>4</sup>GyeongSang National Univer-  
sity, JinJu, Republic of Korea
- P07**      **Genetic relationship between live animal ultrasound scanned traits  
and carcass traits in Korean native cattle (Hanwoo)**  
C. Lee<sup>1,\*</sup>, Y. Park<sup>1</sup>, H. Hwang<sup>1</sup>, Y. Choy<sup>2</sup>, T. Choi<sup>2</sup>, Y. Park<sup>3</sup>, J. Choi<sup>4</sup>, K.  
Jung<sup>4</sup>, J. Kim<sup>5</sup>, <sup>1</sup>Kangwon Livestock Research Institute, Hoengseong-  
gun, <sup>2</sup>National Institute of Animal Science, Cheonan, <sup>3</sup>Korea National  
college of agriculture and fisheries, Hwasung, <sup>4</sup>Chungbuk Livestock  
Research Institute, Cheongwongun, <sup>5</sup>College of Animal Life Sciences,  
Kangwon National University, Chuncheon, Republic of Korea
- P08**      **Comparison of genetic parameters from station test records or  
from commercial farm records for growth and carcass traits in  
Hanwoo (Korean beef cattle)**  
S. Na<sup>1,\*</sup>, T. Choi<sup>1</sup>, Y. Choy<sup>1</sup>, S. Roh<sup>2</sup>, C. Lee<sup>3</sup>, H. Kim<sup>4</sup>, Y. Koo<sup>5</sup>, <sup>1</sup>National  
Institute of Animal Science, Cheonan, <sup>2</sup>Hanwoo Improvement Center,  
Seosan, <sup>3</sup>Kangwon Livestock Research Institute, Hoengseonggun,  
<sup>4</sup>Korea Institute for Animal Products Quality Evaluation, Gunpo, <sup>5</sup>Ko-  
rea Animal Improvement Association, Seoul, Republic of Korea
- P09**      **Functional analyses of SNPs in the promoter regions of bovine genes**  
M. Vinsky<sup>1,\*</sup>, X. Zhu<sup>1,2</sup>, X. Zhang<sup>2</sup>, C. Li<sup>1,3</sup>, <sup>1</sup>Beef Genomics, Agriculture  
and Agri-Food Canada, Edmonton, Canada, <sup>2</sup>Animal Science College,  
South China Agricultural University, Guangzhou, China, <sup>3</sup>Department  
of Agricultural, Food and Nutritional Science, University of Alberta,  
Edmonton, Canada
- P10**      **Effects of niche-market genotypes on pig performance traits**  
H. Zhang<sup>1,2</sup>, J. L. Aalhus<sup>1</sup>, I. L. Larsen<sup>1</sup>, S. Nelson<sup>1</sup>, J. Ye<sup>2</sup>, M. Juárez<sup>1,\*</sup>,  
<sup>1</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, La-  
combe, Canada, <sup>2</sup>Department of Livestock Production, Inner Mongo-  
lia Agricultural University, Hohhot, China

- P11-GS Possible involvement of epigenetic modifying enzymes in the regulation of nutrient effect on bovine milk fat synthesis**  
R. Li<sup>1,2,\*</sup>, F. Beaudoin<sup>1</sup>, X. Zhao<sup>3</sup>, E. M. Ibeagha-Awemu<sup>1</sup>, <sup>1</sup>Dairy and Swine Research and Development Centre, Agriculture and Agri-Food Canada, Sherbrooke, Canada, <sup>2</sup>College of Animal Science and Technology, Northwest A&F University, Xi'an, China, <sup>3</sup>Animal Science, McGill University, Ste-Anne-De Bellevue, Canada
- P12-GS Estimation of growth pattern and gene expression analyses of Korean native steer (Hanwoo) using the genomic breeding value of Korea**  
C.-D. Jeong<sup>1,\*</sup>, L. L. Mamuad<sup>1</sup>, S.-H. Kim<sup>1</sup>, Y.-J. Choi<sup>1</sup>, A. P. Soriano<sup>1</sup>, K.-C. Nam<sup>1</sup>, J.-J. Kim<sup>2</sup>, S.-S. Lee<sup>1</sup>, <sup>1</sup>Animal Science and Technology, Suncheon National University, Suncheon, <sup>2</sup>School of Biotechnology, Yeungnam University, Gyeongbuk, Republic of Korea
- P13 Repeated measures of residual feed intake in growing beef bulls fed forage and grain-based diets**  
S. Thompson<sup>1,\*</sup>, T. Ullenboom<sup>1</sup>, G. Crow<sup>1</sup>, J. Basarab<sup>2</sup>, K. Wittenberg<sup>1</sup>, V. Baron<sup>3</sup>, C. Fitzsimmons<sup>4</sup>, K. Ominski<sup>1</sup>, <sup>1</sup>Department of Animal Science, University of Manitoba, Winnipeg, <sup>2</sup>Lacombe Research Centre, Alberta Agriculture and Rural Development, Lacombe, <sup>3</sup>Agriculture and Agri-Food Canada, <sup>4</sup>Department of Agricultural, Food, and Nutritional Science, University of Alberta, Edmonton, Canada

## **CARCASS QUALITY & CARCASS EVALUATION**

- P14 Energy partitioning in fat depots and the relationship between marbling score and whole carcass intramuscular fat relative to biological type and harvest age**  
N. P. Welegedara<sup>1,\*</sup>, E. K. Okine<sup>1</sup>, J. A. Basarab<sup>2</sup>, Z. Wang<sup>1</sup>, C. Li<sup>1</sup>, H. Bruce<sup>1</sup>, S. Markus<sup>2</sup>, J. Stewart-Smith<sup>3</sup>, J. Aalhus<sup>4</sup>, R. W. Seneviratne<sup>2</sup>, L. Goonewardene<sup>2</sup>, <sup>1</sup>Agricultural, Food and Nutritional Science, University of Alberta, <sup>2</sup>Alberta Agriculture and Rural Development, Edmonton, <sup>3</sup>BeefBooster Inc., Calgary, <sup>4</sup>Agriculture and Agri-Food Canada, Lacombe, Canada
- P15-GS Factors Affecting the Prediction of Saleable Meat Yield in Lamb Carcasses Using Electronic Probe Technology**  
C. Mikel<sup>\*</sup>, C. Campbell, B. McDougall, I. Mandell, Animal and Poultry Science, University of Guelph, Guelph, Canada
- P16 Potential of near infrared reflectance spectroscopy to predict fatty acid composition in subcutaneous fat from pigs fed reduced-oil corn dried distillers grains with solubles**  
N. Prieto<sup>1,\*</sup>, B. Uttaro<sup>2</sup>, C. Mapiye<sup>2</sup>, M. Dugan<sup>2</sup>, V. Zamora<sup>3</sup>, M. Young<sup>3</sup>, E. Beltranena<sup>4</sup>, <sup>1</sup>CSIC, Leon, Spain, <sup>2</sup>AAFC, Lacombe, <sup>3</sup>Gowans Feed Consulting, Wainwright, <sup>4</sup>Alberta Agriculture and Rural Development, Edmonton, Canada

## CONTEMPORARY & EMERGING ISSUES

- P17 Reliability and variability of 16S rRNA for microbial profiling of cattle feces**  
Y. Xu<sup>1,\*</sup>, E. Dugat-Bony<sup>1,2</sup>, K. Munns<sup>2</sup>, L. Selinger<sup>2</sup>, T. A. McAllister<sup>3</sup>, B. Selinger<sup>1</sup>, <sup>1</sup>Department of Biological Sciences, University of Lethbridge, <sup>2</sup>Agriculture and Agri-Food Canada, <sup>3</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada

## FOOD SAFETY

- P18 Characterization of selected lactic acid bacterial isolates for controlling Salmonella infection in broilers**  
J. Gong<sup>1,\*</sup>, X. Yang<sup>1</sup>, J. Brisbin<sup>2</sup>, Q. Wang<sup>2</sup>, F. Yin<sup>1</sup>, H. Yu<sup>1</sup>, S. Sharif<sup>2</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, <sup>2</sup>University of Guelph, Guelph, Canada
- P19 Rapid Determination of Total CLAs in Canadian Cheese by 1H NMR Spectroscopy**  
D. Prema<sup>\*</sup>, J. L. Pilfold, J. Krauchi, J. S. Church, K. K. Donkor and B. Cinel, Faculty of Science, Thompson Rivers University, Kamloops, British Columbia, Canada

## FOODS AND FOOD PRODUCTS

- P20 Enriching hamburger with PUFA biohydrogenation products by supplementing steers fed high forage diets with either flaxseed or sunflower seed: Effects of adipose tissue source on palatability and fatty acid composition**  
T. D. Turner<sup>1,\*</sup>, J. L. Aalhus<sup>1</sup>, C. Mapiye<sup>1</sup>, D. C. Rolland<sup>1</sup>, I. L. Larsen<sup>1</sup>, J. A. Basarab<sup>2</sup>, V. S. Baron<sup>1</sup>, T. A. McAllister<sup>3</sup>, H. C. Block<sup>4</sup>, B. Uttaro<sup>1</sup>, M. E. R. Dugan<sup>1</sup>, <sup>1</sup>Agriculture & Agri-Food Canada, <sup>2</sup>Alberta Agriculture and Rural Development, Lacombe, <sup>3</sup>Agriculture & Agri-Food Canada, Lethbridge, <sup>4</sup>Agriculture & Agri-Food Canada, Brandon, Canada

## FORAGES AND PASTURES

- P21 Withdrawn by author**
- P22 The ensilage dynamics and nutritive value of alfalfa silage produced using fibrolytic enzymes and a silage inoculant.**  
J. P. Lynch<sup>1,\*</sup>, L. Jin<sup>1</sup>, E. C. Lara<sup>2</sup>, J. Baah<sup>1</sup>, K. A. Beauchemin<sup>1</sup>, <sup>1</sup>AAFC, Lethbridge, Canada, <sup>2</sup>São Paulo State University, São Paulo, Brazil

## GROWTH AND DEVELOPMENT

- P23**      **Impact of maternal nutrition during gestation on fetal longissimus dorsi muscle transcriptome in beef cattle**  
F. Paradis<sup>1,2,\*</sup>, J. R. Grant<sup>1</sup>, K. M. Wood<sup>3</sup>, K. Swanson<sup>4</sup>, I. Mandell<sup>3</sup>, S. P. Miller<sup>3</sup>, B. McBride<sup>3</sup>, C. Fitzsimmons<sup>1,2</sup>, <sup>1</sup>Agricultural, Food, and Nutritional Science, University of Alberta, <sup>2</sup>Agriculture and Agri-Food Canada, Edmonton, AB, <sup>3</sup>Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, <sup>4</sup>Animal Science, North Dakota State University, Fargo, ND, United States
- P24**      **Non steady state thermal profiles used to rank RFI in cows**  
A. Schaefer<sup>1,\*</sup>, J. Basarab<sup>2</sup>, J. Colyn<sup>1</sup>, J. Webster<sup>3</sup>, M. Stewart<sup>3</sup>,  
<sup>1</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada,  
<sup>2</sup>Lacombe Research Centre, Alberta Agriculture, Lacombe, Canada,  
<sup>3</sup>Ruakura Research Centre, AgResearch, Hamilton, New Zealand
- P25**      **Investigating RFI and diet interactions on ADG, body weight, rib and back fat thickness in pregnant Angus heifers**  
C. Straathof<sup>1,\*</sup>, F. Paradis<sup>1,2</sup>, H. Block<sup>3</sup>, M. Colazo<sup>4</sup>, B. Yaremci<sup>4</sup>, C. Li<sup>1,2</sup>, H. Bruce<sup>1</sup>, C. Fitzsimmons<sup>1,2</sup>, <sup>1</sup>Agricultural, Food & Nutritional Science, University of Alberta, <sup>2</sup>Agriculture and Agri-Food Canada, Edmonton, Alberta, <sup>3</sup>Agriculture and Agri-Food Canada, Brandon, Manitoba, <sup>4</sup>Alberta Agriculture and Rural Development, Edmonton, Alberta, Canada
- P26**      **Modelling carcass dressing percentage in market weight pigs**  
H. R. Martínez-Ramírez<sup>1,\*</sup>, P. C. Morel<sup>2</sup>, C. F. de Lange<sup>1</sup>, <sup>1</sup>Animal and Poultry Science, University of Guelph, Guelph, Canada, <sup>2</sup>Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Palmerston North, New Zealand

## MEAT SCIENCE AND MUSCLE BIOLOGY

- P27**      **Influence of carcass chilling rate on quality characteristics of pork loin meat**  
D. A. Omana<sup>1,\*</sup>, E. Goddard<sup>2</sup>, G. Plastow<sup>1</sup>, Z. Pietrasik<sup>3</sup>, S. Anders<sup>2</sup>, S. Moore<sup>4</sup>, H. Bruce<sup>1</sup>, <sup>1</sup>Department of Agricultural, Food & Nutritional Science, <sup>2</sup>Department of Resource Economics and Environmental Sociology, University of Alberta, Edmonton, <sup>3</sup>Leduc Food Processing Centre, Alberta Agriculture and Rural Development, Leduc, Canada, <sup>4</sup>Queensland Alliance for Agriculture & Food Innovation, The University of Queensland, St Lucia, Australia

- P28**      **Composition of biohydrogenation intermediates in intramuscular fat of yearling steers fed forage-based diets with supplemental flaxseed or sunflower-seed**  
 C. Mapiye<sup>1,\*</sup>, T. D. Turner<sup>1</sup>, D. C. Rolland<sup>1</sup>, J. A. Basarab<sup>2</sup>, V. S. Baron<sup>1</sup>, T. A. McAllister<sup>3</sup>, H. C. Block<sup>4</sup>, B. Uttaro<sup>1</sup>, J. L. Aalhus<sup>1</sup>, M. E. R. Dugan<sup>1</sup>,  
<sup>1</sup>Agriculture and Agri-Food Canada, <sup>2</sup>Alberta Agriculture and Rural Development, Lacombe Research Centre, Lacombe, <sup>3</sup>Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, <sup>4</sup>Agriculture and Agri-Food Canada, Brandon Research Centre, Brandon, Canada
- P29**      **Beef production and quality of yearling steers fed high-forage diets with flaxseed or sunflower-seed**  
 C. Mapiye<sup>1,\*</sup>, T. D. Turner<sup>1</sup>, D. C. Rolland<sup>1</sup>, J. A. Basarab<sup>2</sup>, V. S. Baron<sup>1</sup>, T. A. McAllister<sup>3</sup>, H. C. Block<sup>4</sup>, B. Uttaro<sup>1</sup>, J. L. Aalhus<sup>1</sup>, M. E. R. Dugan<sup>1</sup>,  
<sup>1</sup>Agriculture and Agri-Food Canada, <sup>2</sup>Alberta Agriculture and Rural Development, Lacombe Research Centre, Lacombe, <sup>3</sup>Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, <sup>4</sup>Agriculture and Agri-Food Canada, Brandon Research Centre, Brandon, Canada
- P30**      **Effects of electrical stimulation and nitrite film packaging on colour stability of bison steaks and ground meat**  
 A. R. Rodas-González<sup>1,\*</sup>, O. López-Campos<sup>1</sup>, J. Galbraith<sup>2</sup>, B. Uttaro<sup>1</sup>, M. Juárez<sup>1</sup>, D. Siegel<sup>3</sup>, J. Aalhus<sup>1</sup>, <sup>1</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, <sup>2</sup>Alberta Agriculture, Livestock Business Development Branch, Government of Alberta, Camrose, Canada, <sup>3</sup>Division of Bemis, Curwood Inc, Wisconsin, United States
- P31**      **Effects of electrical stimulation on meat quality of Bison strip-loin steaks**  
 A. R. Rodas-González<sup>1,\*</sup>, O. López-Campos<sup>1</sup>, J. Galbraith<sup>2</sup>, B. Uttaro<sup>1</sup>, M. Juárez<sup>1</sup>, J. Aalhus<sup>1</sup>, <sup>1</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, <sup>2</sup>Livestock Business Development Branch, Alberta Agriculture, Camrose, Canada
- P32**      **Estimation of pork loin fatty acid composition from pigs fed reduced-oil corn dried distillers grains with solubles using near infrared reflectance spectroscopy and two sample treatments**  
 N. Prieto<sup>1,\*</sup>, B. Uttaro<sup>2</sup>, C. Mapiye<sup>2</sup>, M. Dugan<sup>2</sup>, V. Zamora<sup>3</sup>, M. Young<sup>3</sup>, E. Beltranena<sup>4</sup>, <sup>1</sup>CSIC, Leon, Spain, <sup>2</sup>AAFC, Lacombe, <sup>3</sup>Gowans Feed Consulting, Wainwright, <sup>4</sup>Alberta Agriculture and Rural Development, Edmonton, Canada
- P33**      **Canadian Atlantic salmon quality characteristics**  
 C. Ding<sup>1,2,\*</sup>, M. Juárez<sup>1</sup>, I. Larsen<sup>1</sup>, B. Swift<sup>3</sup>, S. Fukui<sup>4</sup>, P. McKenzie<sup>4</sup>, J. Ye<sup>2</sup>, J. Aalhus<sup>1</sup>, <sup>1</sup>Lacombe Research Centre, Agriculture & Agri-Food Canada, Lacombe, Canada, <sup>2</sup>Department of Livestock Production,



Inner Mongolia Agricultural University, Hohhot, China, <sup>3</sup>TRI-GEN Fish Improvement Ltd., Ponoka, <sup>4</sup>Mainstream Canada, Campbell River, Canada

- P34-GS Relationship between animal sex, production and carcass characteristics and the incidence of dark cutting beef**  
S. Mahmood<sup>1,\*</sup>, J. A. Basarab<sup>2</sup>, J. L. Aalhus<sup>3</sup>, G. Plastow<sup>1</sup>, H. L. Bruce<sup>1</sup>,  
<sup>1</sup>Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, <sup>2</sup>Alberta Agriculture and Rural Development, <sup>3</sup>Agriculture and Agri-Food Canada, Lacombe Research Centre, <sup>6</sup>000 C & E Trail, Lacombe, Canada
- P35 Modification of pyridinoline concentration in m. Gluteus medius with steer age at slaughter, breed cross and growth promotants**  
B. C. Roy<sup>1,\*</sup>, I. Girard<sup>2</sup>, J. L. Aalhus<sup>3</sup>, J. A. Basarab<sup>4</sup>, I. L. Larsen<sup>5</sup>, G. Sedgewick<sup>1</sup>, H. L. Bruce<sup>1</sup>, <sup>1</sup>Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, <sup>2</sup>Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, <sup>3</sup>Agriculture and Agri-Food Canada, Agriculture and Agri-Food Canada, <sup>4</sup>Alberta Agriculture and Rural Development, Alberta Agriculture and Rural Development, <sup>5</sup>Agriculture and Agri-Food Canada, Lacombe, Canada
- P36-GS Effect of Suckler Beef Production in British Columbia on Tenderness**  
I. Hartling\*, J. S. Church, C. R. Friedman, B. Cinel, and K. K. Donkor, Faculty of Science, Thompson Rivers University, Kamloops, British Columbia, Canada

## NONRUMINANT NUTRITION

- P37 Determination of the Efficacy of Feeding Yellow-Seeded Canola Products to Laying Hens**  
J. L. MacIsaac<sup>1</sup>, D. M. Anderson<sup>2,\*</sup>, R. Savary<sup>2</sup>, <sup>1</sup>Atlantic Poultry Research Institute, <sup>2</sup>Plant & Animal Sciences, Dalhousie University, Faculty of Agriculture, Truro, Canada
- P38 Apparent digestibility of gross energy, crude protein, crude fat and amino acids in camelina seed, mechanically extracted camelina meal and prepress solvent extracted camelina meal by Rainbow trout (*Oncorhynchus mykiss*)**  
D. Anderson\*, M. Fu, Animal Science, Dalhousie University, Faculty of Agriculture, Truro, Canada
- P39 Nutrient digestibility in different fish meals available in Atlantic Canada fed to Rainbow trout (*Oncorhynchus mykiss*)**  
D. Anderson\*, X. Li, Animal Science, Dalhousie University, Faculty of Agriculture, Truro, Canada

## PHYSIOLOGY & ENDOCRINOLOGY

- P40 Dietary adaptation of the gastrointestinal tract of calves involves changes in the mass of forestomach tissues and length of the small intestine**  
P. Gorka<sup>1,2</sup>, B. L. Schurmann<sup>2</sup>, M. E. Walpole<sup>2</sup>, G. B. Penner<sup>2,\*</sup>, <sup>1</sup>Animal Nutrition and Feed Management, University of Agriculture in Krakow, Krakow, Poland, <sup>2</sup>Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada

## PRODUCTION, MANAGEMENT & THE ENVIRONMENT

- P41-GS Use of Principal Component Analysis to investigate relationships between methane emissions and nutrient composition of diets of beef cattle**  
C. Escobar<sup>1,\*</sup>, K. Beauchemin<sup>2</sup>, M. Oba<sup>1</sup>, <sup>1</sup>University of Alberta, Edmonton, <sup>2</sup>Agriculture and Agri Food Canada, Lethbridge, Canada
- P42 Greenhouse gas emissions from dairying in Eastern Canada – Effects of varying dairy cow replacement rate**  
E. J. McGeough, S. M. Little, H. H. Janzen, T. A. McAllister, S. M. McGinn, K. A. Beauchemin\*, Agriculture and Agri-Food Canada, Lethbridge, Canada
- P43-GS Farm-based life cycle assessment of greenhouse gas emissions from beef cattle fed dried distillers' grains plus solubles**  
M. Hünenberg<sup>1,2,\*</sup>, S. Little<sup>1</sup>, K. Beauchemin<sup>1</sup>, S. McGinn<sup>1</sup>, O. Harstad<sup>3</sup>, E. Okine<sup>2</sup>, T. McAllister<sup>1</sup>, <sup>1</sup>Agriculture Agri-Food Canada, Lethbridge, <sup>2</sup>University of Alberta, Edmonton, Canada, <sup>3</sup>Norwegian University of Life Sciences, Ås, Norway

## RUMINANT NUTRITION AND MICROBIOLOGY

- P44 Effects of protein sources on growth performance of backgrounded steers**  
W. Yang<sup>1,\*</sup>, L. Xu<sup>1,2</sup>, C. Li<sup>3</sup>, K. Beauchemin<sup>1</sup>, <sup>1</sup>AAFC, Research Centre, Lethbridge, AB, Canada, <sup>2</sup>College of Food Science and Engineering, Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, <sup>3</sup>College of Animal Science and Technology, Inner Mongolia University for the Nationalities, Tongliao, Inner Mongolia, China
- P45 Effect of Substituting Oat Grain by Wheat-based Dried Distillers Grains with Solubles on Nutritional Profiles, Energy Values, Rumen Degradation Kinetics and Balance, and Metabolizable Protein Supply in Cattle**  
D. Damiran<sup>1</sup>, A. Jonker<sup>2</sup>, J. McKinnon<sup>1</sup>, T. McAllister<sup>3</sup>, D. Christensen<sup>1</sup>, M. Yari<sup>1</sup>, H. B. Lardner<sup>1,\*</sup>, P. Yu<sup>1</sup>, <sup>1</sup>Department of Animal and Poultry

Science, University of Saskatchewan, Saskatoon, Canada, <sup>2</sup>Grasslands Research Centre, Palmerston North, New Zealand, <sup>3</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada

- P46 Methane emissions in response to various Propionibacterium strains in beef heifers fed a high grain diet**  
D. Vyas<sup>1,\*</sup>, E. J. McGeough<sup>1</sup>, S. M. McGinn<sup>1</sup>, T. A. McAllister<sup>1</sup>, K. A. Beauchemin<sup>1</sup>, A. H. Smith<sup>2</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada, <sup>2</sup>Dupont Nutrition and Health, Waukesha, United States
- P47 Methane emissions in response to various Propionibacterium strains in beef heifers fed high forage diet**  
D. Vyas<sup>1,\*</sup>, E. J. McGeough<sup>1</sup>, S. M. McGinn<sup>1</sup>, T. A. McAllister<sup>1</sup>, A. H. Smith<sup>2</sup>, K. A. Beauchemin<sup>1</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada, <sup>2</sup>Dupont Nutrition and Health, Waukesha, United States
- P48 In vitro effects of echium oil and flaxseed oil on major rumen bacterial populations**  
L. Jin<sup>1,2,\*</sup>, M. He<sup>1</sup>, Y. Wang<sup>1</sup>, T. Alexander<sup>1</sup>, J. Kraft<sup>3</sup>, C. Li<sup>1</sup>, Y. Zhang<sup>2</sup>, T. McAllister<sup>1</sup>, <sup>1</sup>AAFC, Lethbridge, Canada, <sup>2</sup>Northeast Agricultural University, Harbin, China, <sup>3</sup>University of Vermont, Burlington, United States
- P49 Effect of reduced-fat dried distillers grains with solubles on rumen fermentation, intestinal flow of microbial nitrogen and nutrient digestibility in Holstein cows**  
E. Castillo-Lopez<sup>1,\*</sup>, P. Kononoff<sup>2</sup>, T. Klopfenstein<sup>2</sup>, <sup>1</sup>Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada, <sup>2</sup>Animal Science, University of Nebraska-Lincoln, Lincoln, United States
- P50 Differential effects of nitrogen sources including Optigen®II on in vitro rumen ammonia release**  
L. Jin<sup>1,\*</sup>, J. Kouazounde<sup>1</sup>, Y. Wang<sup>1</sup>, P. Groenewegen<sup>2</sup>, T. McAllister<sup>1</sup>, <sup>1</sup>AAFC, Lethbridge, <sup>2</sup>Alltech, Guelph, Canada
- P51 The effect of pregnancy on proteins relating to energy metabolism in mature beef cows.**  
K. M. Wood<sup>1,\*</sup>, C. J. Fitzsimmons<sup>2,3</sup>, S. P. Miller<sup>1</sup>, B. W. McBride<sup>1</sup>, K. C. Swanson<sup>4</sup>, <sup>1</sup>Department of Animal and Poultry Science, University of Guelph, Guelph, <sup>2</sup>Dept. of Agriculture, Food, and Nutritional Sciences, University of Alberta, <sup>3</sup>Agriculture and Agri-food Canada, Edmonton, Canada, <sup>4</sup>Dept of Animal Science, North Dakota State University, Fargo, United States

- P52**      **Effect of wheat vs barley and processing index on growth performance, eating behavior and carcass quality of finishing feedlot steers**  
M. He<sup>1,2</sup>, L. Jin<sup>1,\*</sup>, Y. Wang<sup>1</sup>, G. Penner<sup>2</sup>, T. A. McAllister<sup>1</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, Lethbridge, <sup>2</sup>University of Saskatchewan, Saskatoon, Canada
- P53**      **Effect of replacing barley grain with wheat on rumen fermentation in finishing beef cattle**  
M. He<sup>1,2</sup>, L. Jin<sup>2,\*</sup>, Y. Wang<sup>2</sup>, G. Penner<sup>1</sup>, T. A. McAllister<sup>2</sup>, <sup>1</sup>University of Saskatchewan, Saskatoon, <sup>2</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada
- P54**      **Fatty acids profile of goat meat fed diets with palm kernel cake derived from biodiesel production**  
R. L. Oliveira<sup>1,\*</sup>, R. D. X. Ribeiro<sup>1</sup>, A. N. Medeiros<sup>2</sup>, G. G. L. Araújo<sup>3</sup>, B. R. Correia<sup>4</sup>, R. L. Oliveira<sup>1</sup>, <sup>1</sup>Department of Animal Science, Federal University of Bahia, Salvador, <sup>2</sup>Department of Animal Science, Federal University of Paraíba, Areia, <sup>3</sup>Brazilian Agricultural Research Corporation of Tropical Semi arid (EMBRAPA), Petrolina, <sup>4</sup>Department of Animal Science, State University of Southwest Bahia, Itapetinga, Brazil
- P55-GS**    **Relationship of sorting behavior with chewing activity, rumen fermentation and milk production in lactating dairy cows fed diets differing in the dietary forage-to-concentrate ratio**  
X. Gao<sup>1,\*</sup>, M. Oba<sup>2</sup>, <sup>1</sup>AFNS, University of Alberta, Edmonton, <sup>2</sup>AFNS, University of Alberta, Edmonton, Canada
- P56**      **Feeding tannins to reduce ammonia emissions from feedlot cattle fed high protein finishing diets containing corn distillers grains**  
K. M. Koenig<sup>\*</sup>, S. M. McGinn, K. A. Beauchemin, Agriculture and Agri-Food Canada, Lethbridge, Canada
- P57**      **Analysis of probiotic bacteria to inhibit the respiratory pathogen Mannheimia haemolytica and adhere to bovine bronchial epithelial cells in vitro**  
S. Subramanian<sup>1,\*</sup>, T. A. McAllister<sup>1</sup>, J. Baah<sup>2</sup>, T. W. Alexander<sup>1</sup>, <sup>1</sup>Beef Physiology, <sup>2</sup>Ruminant Nutrition and Microbiology, Lethbridge Research Centre, Lethbridge, Canada
- P58**      **Interactions of cattle leptin genotype and dietary oilseeds and dried distiller's grain on fat accumulation, adipocyte size, and body fatty acid profile**  
M. He<sup>1</sup>, L. Jin<sup>1,\*</sup>, T. A. McAllister<sup>1</sup>, F. Marquess<sup>2</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, Lethbridge, <sup>2</sup>Quantum Genetix Canada Inc., Saskatoon, Canada

- P59-GS An optimal method for microbial total RNA isolation from rumen contents**  
F. Li\*, M. Zhou, X. Sun, L. Guan, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Canada
- P60-GS In-Vitro Efficacy of Bacteriophages T5, T4, T1 and O1 against E. coli O157:H7**  
H. Liu<sup>1,\*</sup>, Y. Niu<sup>2</sup>, J. Li<sup>1</sup>, K. Stanford<sup>2</sup>, T. A. McAllister<sup>3</sup>, <sup>1</sup>College of Animal Science, Inner Mongolia Agricultural University, Hohhot, China, <sup>2</sup>Alberta Agriculture and Rural Development, <sup>3</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada
- P61-GS Heat-Induced Changes in Chemical and Nutrient Profiles of Different Types of Cereal Grains: Comparison of Control vs. Dry Heating vs. Moist Heating**  
Y. Ying\*, D. A. Christensen, J. J. McKinnon, P. Yu, Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada
- P62 Alteration of Modeling Nutrient Supply of Different Types of Cereal Grains to Dairy Cattle through Different Heating Methods**  
Y. Ying\*, D. A. Christensen, J. J. McKinnon, P. Yu, Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada
- P63 Ensiling properties of whole crop barley and intercropped barley-oat-spring triticale**  
L. Jin\*, J. P. Lynch, L. Duniere, Y. Wang, J. Baah, K. A. Beauchemin, T. A. McAllister, AAFC, Lethbridge, Canada
- P64 Effect of inoculant containing L.buchneri on ensiling fermentation of whole barley crop**  
L. Jin\*, J. P. Lynch, L. Duniere, Y. Wang, J. Baah, K. A. Beauchemin, T. A. McAllister, AAFC, Lethbridge, Canada
- P65-GS Whole genome sequencing of Escherichia coli O157:H7 isolates from super-shedder and non-super-shedder cattle**  
K. Munns<sup>1,2,\*</sup>, Y. Xu<sup>2</sup>, K. Stanford<sup>3</sup>, L. B. Selinger<sup>2</sup>, T. A. McAllister<sup>1</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, <sup>2</sup>Department of Biological Sciences, University of Lethbridge, <sup>3</sup>Agriculture and Rural Development, Lethbridge, Canada
- P66 Replacement of dietary starch with strategically blended byproduct pellets for beef cattle**  
P. Gorka<sup>1,2</sup>, F. Joy<sup>1,\*</sup>, G. E. Chibisa<sup>1</sup>, G. B. Penner<sup>1</sup>, <sup>1</sup>Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada, <sup>2</sup>Animal Nutrition and Feed Management, University of Agriculture in Krakow, Krakow, Poland

- P67**      **Effects of feeding dry- or steam-rolled barley or corn in diets containing lactose on the performance of dairy cows**  
G. E. Chibisa<sup>1,\*</sup>, G. Penner<sup>1</sup>, P. Gorka<sup>2</sup>, T. Mutsvangwa<sup>1</sup>, R. Berthiaume<sup>3</sup>, <sup>1</sup>Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada, <sup>2</sup>Department of Animal Nutrition and Feed Management, University of Agriculture in Krakow, Krakow, Poland, <sup>3</sup>Valacta, Quebec City, Canada
- P68**      **Simultaneous Inhibition of E. coli O157:H7, O26:H11, O145:NM and Salmonella Using a Single Bacteriophage**  
Y. D. Niu<sup>1</sup>, H. Liu<sup>2,3</sup>, J. Li<sup>3</sup>, T. A. McAllister<sup>2</sup>, K. Stanford<sup>1,\*</sup>, <sup>1</sup>Alberta Agriculture and Rural Development, <sup>2</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada, <sup>3</sup>College of Animal Science, Inner Mongolia Agricultural University, Hohhot, China
- P69-GS**    **Accuracy of Predicting Feed Efficiency from the Starch Concentration in the Feces of Feedlot Cattle**  
L. J. Jancewicz<sup>1,2,\*</sup>, G. B. Penner<sup>1</sup>, M. L. Swift<sup>3</sup>, J. J. McKinnon<sup>1</sup>, K. A. Beauchemin<sup>2</sup>, T. A. McAllister<sup>4</sup>, <sup>1</sup>Animal and Poultry Science, University of Saskatchewan, Saskatoon, <sup>2</sup>Ruminant Nutrition, Agriculture and Agri-Foods Canada, Lethbridge, <sup>3</sup>Livestock Research Branch, Agriculture and Rural Development, Lacombe, <sup>4</sup>Ruminant Nutrition and Microbiology, Agriculture and Agri-Foods Canada, Lethbridge, Canada
- P70-GS**    **Apparent nutrient digestibility and rumen fermentation characteristics of finishing diets supplemented with canola meal derived from Brassica napus or Brassica juncea.**  
J. Nair<sup>1,\*</sup>, G. B. Penner<sup>1</sup>, P. Yu<sup>1</sup>, H. A. Lardner<sup>1,2</sup>, T. McAllister<sup>3</sup>, J. J. McKinnon<sup>1</sup>, <sup>1</sup>Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, <sup>2</sup>Western Beef Development Centre, Humboldt, SK, <sup>3</sup>Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada

# ORAL PRESENTATIONS

## GRADUATE STUDENT COMPETITION - ORAL (SESSION #2)

Chairs: Carolyn Fitzsimmons, University of Alberta, Edmonton and  
Leluo Guan, University of Alberta, Edmonton

Room: Summit

- 8:30 O10-GS Interaction Effects Of Chiller Temperatures, Electrical Stimulation And Ageing On Beef Quality**  
J. A. Puente<sup>1,\*</sup>, B. Uttaro<sup>2</sup>, S. Samanta<sup>3</sup>, J. Aalhus<sup>2</sup>, A. Elezzabi<sup>3</sup>, H. L. Bruce<sup>1</sup>, <sup>1</sup>Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, <sup>2</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, <sup>3</sup>Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Canada
- 8:45 O11-GS Does monitoring of animal welfare parameters through the supply chain predict pork meat quality variation?**  
L. M. Rocha<sup>1,2,\*</sup>, A. Velarde<sup>3</sup>, A. Dalmau<sup>3</sup>, L. Saucier<sup>2</sup>, L. Faucitano<sup>1</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, Sherbrooke, <sup>2</sup>Department of Animal Science , Université Laval, Québec, Canada, <sup>3</sup>IRTA, Monells Girona, Spain
- 9:00 O12-GS Validation of Rumination Collars for Beef Cattle**  
C. A. Goldhawk<sup>1,2,\*</sup>, K. S. Schwartzkopf-Genswein<sup>2</sup>, K. A. Beauchemin<sup>2</sup>, <sup>1</sup>Faculty of Veterinary Medicine, University of Calgary, Calgary, <sup>2</sup>Agriculture and AgriFood Canada, Lethbridge, Canada
- 9:15 O13-GS Agents of Bovine Respiratory Disease in North American Feedlots**  
C. Klima<sup>1,\*</sup>, R. Zaheer<sup>2</sup>, S. Hendrick<sup>1</sup>, T. W. Alexander<sup>2</sup>, T. A. McAllister<sup>2</sup>, <sup>1</sup>University of Saskatchewan, Saskatoon, <sup>2</sup>Agriculture Agri-Food Canada, Lethbridge, Canada
- 9:30 O14-GS Effects of an esterase-producing inoculant and chop-length on silage fermentation, ruminal fermentation, growth performance and carcass characteristics of finishing feedlot steers**  
W. Addah<sup>1,2,\*</sup>, J. Baah<sup>2</sup>, E. E. K. Okine<sup>1</sup>, T. A. McAllister<sup>2</sup>, <sup>1</sup>Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, <sup>2</sup>Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, Canada
- 9:45 O15-GS Dynamics of whole body nitrogen retention and blood urea nitrogen in young pigs challenged with bacterial lipopolysaccharide is not affected by diet complexity**  
M. Rudar<sup>\*</sup>, C. de Lange, Animal and Poultry Science, University of Guelph, Guelph, Canada

- 10:00**                      **Break**
- 10:15**            **O16-GS**    **Mechanisms of urea transport across the isolated ruminal epithelium in bison (*Bison bison*) and beef cattle (*Bos taurus*)**  
M. Walpole<sup>1,\*</sup>, P. Gorka<sup>1,2</sup>, M. Woodbury<sup>3</sup>, L. L. Guan<sup>4</sup>, G. Penner<sup>1</sup>, <sup>1</sup>Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada, <sup>2</sup>Department of Animal Nutrition and Feed Management, University of Agriculture in Krakow, Krakow, Poland, <sup>3</sup>Large Animal Clinical Sciences, University of Saskatchewan, Saskatoon, <sup>4</sup>Department of Animal Nutrition and Feed Management, University of Alberta, Edmonton, Canada
- 10:30**            **O17-GS**    **Genome wide association for human nose score of boar taint using single-snp analysis**  
Y. G. Tesfayonas<sup>1,2,\*</sup>, <sup>1</sup>Animal Breeding and Genomics Center, Wageningen University, Wageningen, Netherlands, <sup>2</sup>Animal Breeding and Genetics, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden
- 10:45**            **O18-GS**    **Genetic influence of host animals on fatty acid composition in beef cattle tissues**  
C. Ekin<sup>1,\*</sup>, L. Chen<sup>1</sup>, M. Vinsky<sup>1</sup>, Z. Wang<sup>1</sup>, P. Stothard<sup>1</sup>, E. Okine<sup>1</sup>, N. Aldai<sup>2</sup>, M. Dugan<sup>1</sup>, T. McAllister<sup>3</sup>, C. Li<sup>1</sup>, <sup>1</sup>Agriculture Food and Nutritional Science, University of Alberta, Edmonton, Canada, <sup>2</sup>Lascaray Research Centre, University of the Basque Country (UPV-EHU), Vitoria-Gasteiz, Spain, <sup>3</sup>Agriculture and Agri-Food Canada, Lethbridge, Canada
- 11:00**            **O19-GS**    **Bovine microRNAs: genomic organization and expression in subcutaneous adipose tissue**  
J. M. Romao<sup>1,\*</sup>, W. Jin<sup>1</sup>, M. He<sup>2</sup>, T. McAllister<sup>2</sup>, L. Guan<sup>1</sup>, <sup>1</sup>AFNS, University of Alberta, Edmonton, <sup>2</sup>Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, Canada
- 11:15**            **O20-GS**    **Predicting residual feed intake in beef bulls by measuring radiated heat loss through infrared thermography**  
S. Thompson<sup>1,\*</sup>, A. Schaefer<sup>2</sup>, G. Crow<sup>3</sup>, J. Basarab<sup>4</sup>, J. Colyn<sup>2</sup>, K. Wittenberg<sup>3</sup>, V. Baron<sup>5</sup>, C. Fitzsimmons<sup>6</sup>, K. Ominski<sup>1</sup>, <sup>1</sup>Department of Animal Science, University of Manitoba, Winnipeg, <sup>2</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, <sup>3</sup>Animal Science, University of Manitoba, Winnipeg, <sup>4</sup>Lacombe Research Centre, Alberta Agriculture and Rural Development, Lacombe, <sup>5</sup>Agriculture and Agri-Food Canada, <sup>6</sup>Department of Agricultural, Food, and Nutritional Science, University of Alberta, Edmonton, Canada



- 11:30 O21-GS Residual feed intake, enteric methane and carbon dioxide emissions in growing beef bulls**  
T. R. Ullenboom<sup>1,\*</sup>, G. H. Crow<sup>1</sup>, J. A. Basarab<sup>2</sup>, K. M. Wittenberg<sup>1</sup>, V. Baron<sup>3</sup>, K. H. Ominski<sup>1</sup>, <sup>1</sup>Department of Animal Science, University of Manitoba, Winnipeg, <sup>2</sup>Western Forage Beef Group, Alberta Agriculture, Food and Rural Development, <sup>3</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, Canada

## **GLOBAL MEAT MARKET**

**Chair: Brian Sullivan, Canadian Centre for Swine Improvement, Ottawa**

**Room: Castle Room**

*This session will be presented via video link between the AMSA (Auburn) and CMSA (Banff) meetings.*

- 9:00 The Roles that Sponsorships and Corporate Social Responsibility Play in Marketing and Public Relations**  
D. Pittman\*, Smithfield Foods
- 9:40 Drivers of Global Meat Demand and Price**  
K. Grier\*, George Morris Center
- 10:20 Meat Production by Tissue Engineering Methods**  
K. R. Jakab\*, Modern Meadow, Inc

## **ANIMAL HEALTH AND EMERGING ISSUES**

**Chair: Karen Schwartzkopf-Genswein, Agriculture and Agri-Food**

**Canada, Lethbridge**

**Room: Summit**

- 1:15 O22 Mucosal Vaccination: Using Bacillus Spores for Antigen Delivery**  
S. M. Cutting\*, School of Biological Sciences, Royal Holloway, University of London, Egham, UK.
- 1:45 O23 Welfare management practices to increase beef production and sustainability**  
K. S. Schwartzkopf-Genswein\*, Agriculture and Agri-Food Canada, Lethbridge, Canada
- 2:15 O24 Microbial Biodegradation Of Recalcitrant Beta-Sheet Rich Protein By Shifting Communities Of Bacteria And Fungi During Composting**  
T. Reuter<sup>1,\*</sup>, B. H. Gilroyed<sup>2</sup>, W. Xu<sup>3</sup>, T. A. McAllister<sup>4</sup>, K. Stanford<sup>1</sup>, <sup>1</sup>Livestock Research Branch, Government of Alberta, Lethbridge, <sup>2</sup>School of Environmental Sciences, University of Guelph, Ridgetown, Canada, <sup>3</sup>Department of Medicine, Karolinska Institute, Stockholm, Sweden,

<sup>4</sup>Ruminant Nutrition & Microbiology, Agriculture and Agri-Food Canada, Lethbridge, Canada

- 2:30 O25 Compost Temperatures Reduce Bacillus Endospore Viability**  
A. Harvey<sup>1,2,\*</sup>, T. Reuter<sup>3</sup>, B. Selinger<sup>2</sup>, A. Kingsley<sup>4</sup>, T. A. McAllister<sup>1</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, <sup>2</sup>University of Lethbridge, <sup>3</sup>Agriculture and Rural Development, <sup>4</sup>Animal Disease Research Institute, Lethbridge, Canada
- 2:45 O26 Boosting Molecular Assays To Detect Pathogenic Escherichia Coli In Cattle**  
C. C. Conrad<sup>1,\*</sup>, K. Stanford<sup>2</sup>, T. A. McAllister<sup>3</sup>, J. E. Thomas<sup>1</sup>, T. Reuter<sup>2</sup>, <sup>1</sup>Biological Sciences, University of Lethbridge, <sup>2</sup>Livestock Research Branch, Government of Alberta, <sup>3</sup>Ruminant Nutrition & Microbiology, Agriculture & Agri-Food Canada, Lethbridge, Canada

## NONRUMINANT NUTRITION

Chair: Tim Reuter, Alberta Agriculture and Rural Development, Lethbridge  
Room: Castle

- 3:15 O27 Egg Production and Quality of Laying Hens fed Leaf Composite Mix as Alternative Premix for Commercial Premix**  
M. Adegbenro<sup>1,\*</sup>, J. O. Agbede<sup>1</sup>, V. A. Aletor<sup>2</sup>, <sup>1</sup>Animal Production & Health, The Federal University of Technology, Akure, <sup>2</sup>Office of the Vice Chancellor, Elizade University, Ilara Mokin, Nigeria
- 3:30 O28 Effects of graded corn cob levels on physicochemical properties of digesta and the size of visceral organs in weaner pigs**  
A. Wate, S. P. Ndou<sup>\*</sup>, M. Chimonyo, Animal and Poultry Science, University of KwaZulu-Natal, Pietermaritzburg, South Africa
- 3:45 O29 Prediction of scaled feed intake in finishing pigs using physicochemical properties of bulky feeds**  
M. Chimonyo<sup>\*</sup>, S. P. Ndou, A. G. Bakare, Animal and Poultry Science, University of KwaZulu-Natal, Pietermaritzburg, South Africa
- 4:00 O30 The effects of crude glycerol dietary inclusion level on pig growth performance, carcass and meat quality**  
P. L. McEwen<sup>1,\*</sup>, C. F. M. de Lange<sup>1</sup>, I. B. Mandell<sup>1</sup>, K. de Ridder<sup>1</sup>, G. Simpson<sup>2</sup>, <sup>1</sup>University of Guelph, Guelph, <sup>2</sup>Hypor Inc., Regina, Canada

- 4:15 O31 Effects of butyrate glycerides on the lipid metabolism of broilers: a mechanistic study**  
 J. Gong<sup>1,\*</sup>, F. Yin<sup>1</sup>, X. Yang<sup>1</sup>, C. Yang<sup>1</sup>, H. Yu<sup>1</sup>, X. Shi<sup>2</sup>, Y. Hou<sup>3</sup>, Y. Yin<sup>4</sup>, S. Leeson<sup>5</sup>, K. de Lange<sup>5</sup>, <sup>1</sup>Agriculture and Agri-Food Canada, Guelph, <sup>2</sup>The UHN/MSH Gene Profiling Facility, Mount Sinai Hospital, Toronto, Canada, <sup>3</sup>Wuhan Polytechnic University, Wuhan, <sup>4</sup>Institute of Subtropical Agriculture, Chinese Academy of Sciences, Changsha, China, <sup>5</sup>University of Guelph, Guelph, Canada
- 4:30 O32 Whole body retention of 18:3n-3 and apparent conversion of 18:3n-3 to n-3 highly unsaturated fatty acids in pigs fed flaxseed or fish oil diets**  
 H. R. Martínez-Ramírez<sup>1,\*</sup>, J. K. Kramer<sup>2</sup>, C. F. de Lange<sup>1</sup>, <sup>1</sup>Animal and Poultry Science, University of Guelph, <sup>2</sup>Agriculture and Agri-Food Canada, Guelph, Canada, Guelph, Canada
- 4:45 O33 Influence of physicochemical properties of fibrous diets on behavioural reactions of individually housed pigs**  
 A. G. Bakare, P. S. Ndou, M. Chimonyo\*, Animal and Poultry Science, University of KwaZulu-Natal, Pietermaritzburg, South Africa

## RUMINANT PRODUCTION AND MANAGEMENT

**Chair: John Baah, Agriculture and Agri-Food Canada, Lethbridge**  
**Room: Summit**

- 3:15 O34 The Interaction Between Cow Nutrition and Neonatal Calf Health**  
 G.P. Lardy\* and G.L. Stokka, Department of Animal Sciences, North Dakota State University, Fargo, ND
- 3:45 O35 Adaptation and Recovery of the Ruminal Epithelium**  
 G. B. Penner<sup>1,\*</sup>, J. R. Aschenbach<sup>2</sup>, <sup>1</sup>Animal and Poultry Science, University of Saskatchewan, Saskatoon, Canada, <sup>2</sup>Veterinary Physiology, Free University of Berlin, Berlin, Germany
- 4:15 O36 Effect of rested grazing and alfalfa inclusion in brome-grass pastures on cow-calf productivity**  
 H. C. Block<sup>1,\*</sup>, O. N. Durunna<sup>1</sup>, C. D. Robins<sup>2</sup>, M. H. Entz<sup>3</sup>, M. Khakbazan<sup>1</sup>, S. L. Scott<sup>4</sup>, <sup>1</sup>Brandon Research Centre, Agriculture and Agri-Food Canada, <sup>2</sup>Manitoba 4H Council, Brandon, <sup>3</sup>Department of Plant Science, University of Manitoba, Winnipeg, <sup>4</sup>Alberta Livestock and Meat Agency, Edmonton, Canada

- 4:30 O37 Effect of harvest maturity and crop on forage yield and the productivity weaned beef calves strip-grazing annual swaths**  
H. C. Block<sup>1</sup>, C. L. Rosser<sup>2,\*</sup>, A. D. Beattie<sup>3</sup>, J. J. McKinnon<sup>2</sup>, H. A. Lardner<sup>2,4</sup>, G. B. Penner<sup>2</sup>, <sup>1</sup>Brandon Research Centre, Agriculture and Agri-Food Canada, Brandon, <sup>2</sup>Department of Animal and Poultry Science, <sup>3</sup>Department of Plant Science, University of Saskatchewan, Saskatoon, <sup>4</sup>Western Beef Development Centre, Humboldt, Canada
- 4:45 O38 Milk fatty acid profile of organic dairy farms in Ontario**  
A. Fredeen<sup>1,\*</sup>, A. Tucker<sup>2</sup>, L. Levison<sup>2</sup>, R. Bergeron<sup>2</sup>, P. Vahmani<sup>1</sup>, T. Devries<sup>2</sup>, <sup>1</sup>Plant and Animal Science, Dalhousie University, Truro, <sup>2</sup>Animal and Poultry Science, University of Guelph, Guelph, Canada

**Thursday, June 20, 2013**

**Oral Presentations & Workshop**

**FOOD SAFETY AND MEAT SCIENCE**

**Chair: Kim Stanford, Alberta Agriculture and Rural Development, Lethbridge  
Room: Summit**

- 8:00 O39 Improving food safety in the live animal**  
T. Callaway\*, Agricultural Research Service, USDA, College Station, United States
- 8:30 O40 Modern Technology: current and possible future applications in the pork industry**  
B. Uttaro\*, Agriculture and Agri-Food Canada, Lacombe Research Centre, Lacombe, Alberta, Canada
- 9:00 O41 Variable efficacy of a vaccine and direct-fed microbial for controlling Escherichia coli O157:H7 in feces and on hides of feedlot cattle**  
K. Stanford<sup>1,\*</sup>, S. Hannon<sup>2</sup>, C. W. Booker<sup>3</sup>, G. K. Jim<sup>2</sup>,  
<sup>1</sup>Alberta Agriculture and Rural Development, Lethbridge,  
<sup>2</sup>Feedlot Health Management Services Ltd, <sup>3</sup>Feedlothealth Management Services Ltd, Okotoks, Canada
- 9:15 O42 Effect Of Forms Of Feed On Performance And Carcass Characteristics Of Broiler Chickens**  
A. O. Onakomaiya\*, O. S. Akinola, Animal Production and Health, Federal University Of Agriculture, Abeokuta, Nigeria

**9:30 O43 Sensory qualities of pork from Large White and Wind-snyer gilts prepared by different cooking methods**  
J. Madzimore<sup>1,\*</sup>, M. Chimonyo<sup>2</sup>, V. Muchenje<sup>3</sup>, <sup>1</sup>Animal Production and Technology, Chinhoyi University of Technology, Chinhoyi, Zimbabwe, <sup>2</sup>Discipline of Animal and Poultry Science, University of KwaZulu-Natal, Pietermaritzburg, <sup>3</sup>Department of Livestock and Pasture Science, University of Fort Hare, Alice, South Africa

**9:45 Break**

**10:00 O44 The Phenomic Challenge – Integrating performance, carcass and meat quality data with genomics**  
J. Aalhus<sup>1,\*</sup>, J. Basarab<sup>2,3</sup>, I. Larsen<sup>1</sup>, O. López-Campos<sup>1,3</sup>, M. Dugan<sup>1</sup>, N. Prieto<sup>1,4</sup>, B. Uttaro<sup>1</sup>, A. Schaefer<sup>1</sup>, N. Cook<sup>5</sup>, G. Plastow<sup>3,4</sup>, C. Li<sup>1,3,4</sup>, C. Calkins<sup>6</sup>, M. Juárez<sup>1</sup>, <sup>1</sup>Lacombe Research Centre, Agriculture & Agri-Food Canada, <sup>2</sup>Livestock Research Branch, Alberta Agriculture & Rural Development, Lacombe, AB, <sup>3</sup>Livestock Gentec, <sup>4</sup>Department of Agricultural, Food & Nutritional Sciences, University of Alberta, Edmonton, AB, <sup>5</sup>Livestock Welfare Unit, Alberta Agriculture & Rural Development, Lacombe, AB, Canada, <sup>6</sup>Goldfinch Solutions LLC, Lincoln NE, United States

**10:30 O45 Extended storage reduces n-3 PUFA content in trimmed pork loins and bellies**  
H. R. Martínez-Ramírez<sup>1,\*</sup>, J. K. Kramer<sup>2</sup>, C. F. de Lange<sup>1</sup>, <sup>1</sup>Animal and Poultry Science, University of Guelph, <sup>2</sup>Agriculture and Agri-Food Canada, Guelph, Canada

## **BREEDING AND GENETICS**

**Chair: TBD**

**Room: Summit**

**10:45 O46 Improvement of tenderness in Canadian Beef through genomics**  
S. P. Miller<sup>1,2,3,\*</sup>, G. VanderVoort<sup>1</sup>, B. D. Lu<sup>1</sup>, I. B. Mandell<sup>4</sup>, J. E. Squires<sup>4</sup>, J. A. Basarab<sup>5</sup>, J. L. Aalhus<sup>6</sup>, C. Li<sup>6</sup>, P. Stothard<sup>2</sup>, Z. Wang<sup>2</sup>, G. S. Plastow<sup>2</sup>, S. S. Moore<sup>3</sup>, <sup>1</sup>Centre for the Genetic Improvement of Livestock, University of Guelph, Guelph, <sup>2</sup>Livestock Gentec, University of Alberta, Edmonton, Canada, <sup>3</sup>Centre for Animal Science, University of Queensland, Brisbane, Australia, <sup>4</sup>Animal and Poultry Science, University of Guelph, Guelph, <sup>5</sup>Lacombe Research Station, Alberta Agriculture and Rural Development, <sup>6</sup>Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, Canada

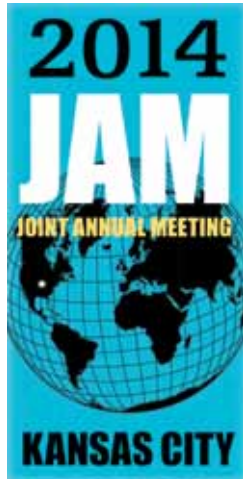
- 11:15 O47 Effects of within-litter birth weight variation of piglets on performance at three weeks of age and at weaning in a Large White x Landrace sow herd**  
T. J. Zindove<sup>1,\*</sup>, E. F. Dzomba<sup>2</sup>, A. T. Kanengoni<sup>3</sup>, M. Chimonyo<sup>1</sup>, <sup>1</sup>Animal and Poultry Science, <sup>2</sup>Genetics, University of KwaZulu-Natal, Pietermaritzburg, <sup>3</sup>Animal Production Institute, ARC, Irene, South Africa
- 11:30 O48 Preadjustment of Body Weight Growth and Ultrasound Body Tissue Development Traits and Genetic Parameters in Three Seedstock Pig Breed populations in Korea**  
Y. H. Choy<sup>1,\*</sup>, J. G. Choi<sup>1</sup>, Y. L. Choi<sup>1</sup>, A. Mahboob<sup>1</sup>, <sup>1</sup>Animal Breeding & Genetics, National Institute of Animal Science, Chonan, Republic of Korea
- 11:45 O49 Gene expression patterns in spleen of mink inoculated with the Aleutian mink disease virus**  
A. H. Farid<sup>1,\*</sup>, U. Basu<sup>2</sup>, <sup>1</sup>Plant and Animal Sciences, Dalhousie University, Truro, <sup>2</sup>Agriculture, Food and Nutrition- al Science, University of Alberta, Edmonton, Canada
- 12:00 O50 Genomic prediction for residual feed intake and carcass merit traits in Angus and Charolais beef cattle**  
C. Li<sup>1,2,\*</sup>, L. Chen<sup>2</sup>, M. Vinsky<sup>1</sup>, <sup>1</sup>Lacombe Research Center, Agriculture and Agri-Food Canada, <sup>2</sup>Department of AFNS, University of Alberta, Edmonton, Canada

## WORKSHOP & NSERC PRESENTATION

**Chair: Trevor Alexander, Agriculture and Agri-Food Canada, Lethbridge  
Room: Summit**

- 12:15 Session 1: DNA extraction and PCR methods.**  
T. Alexander\*, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada
- 12:45 Session 2: Next generation sequencing**  
R. Gruninger, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada
- 1:15 Session 3: NSERC program overview and applications**  
G. Sabourin\*, Natural Sciences and Engineering Research Council of Canada, Ottawa, ON, Canada





## **FUTURE MEETING:**

July 20-24, 2014

Kansas City, Missouri, USA

With ADSA® and ASAS

