Canadian Society of Animal Science Annual Meeting
Detailed Program

**** Oral Presentation Number and Poster Presentation Number are indicated before title of abstract in each section**

Table of Contents

Canadian Society of Animal Science Annual Meeting
Guelph 2008 Program

Monday, August 11		
07:30 – 09:30	Registration – Rozanski Hall Concourse	
08:15 – 10:30	Kennedy Conference on Quantitative Genetics and Animal Genetics Rozanski 103	
10:30 – 11:00	BREAK	
11:00 – 11:45	Kennedy Conference on Quantitative Genetics and Animal Genetics *(continued)* Rozanski 103	
11:45 – 13:15	KENNEDY LUNCHEON – University Club, University Centre	
13:15 – 15:15	Kennedy Conference on Quantitative Genetics and Animal Genetics *(continued)* Rozanski 103	
15:15 – 15:30	BREAK	
15:30 – 16:45	Kennedy Conference on Quantitative Genetics and Animal Genetics *(continued)* Rozanski 103	
19:00 – 21:00	Registration – Rozanski Hall Concourse	
19:00 – 22:00	OPENING RECEPTION – Rozanski Hall Concourse Cash bar, Hors d'oeuvres	
20:00 – 20:15	Welcome	
Tuesday, August 12		
07:00 – 09:00	Registration – Rozanski Hall Concourse	
07:30 – 08:30	Poster Setup – Rozanski Hall Concourse	
08:00 – 10:00	Breeding and Genetics Oral Presentations Rozanski 103	Ruminant Nutrition & Metabolism Oral Presentations Rozanski 102
10:00 – 10:30	BREAK	
10:30 – 12:00	Breeding and Genetics Oral Presentations *(continued)* Rozanski 103	Ruminant Nutrition & Metabolism Oral Presentations *(continued)* Rozanski 102
12:00 – 13:00	LUNCH – (included with registration) Centre Six, University Centre	
13:00 – 14:00	Poster Session – Rozanski Hall Concourse • Breeding and Genetics • Ruminant Nutrition & Metabolism • Meat Science • Graduate Student Poster Competition (Display Only)	
14:00 – 15:40	Omics in Animal Science Symposium Rozanski 103	
15:40 – 16:00	BREAK	
16:00 – 17:30	Omics in Animal Science Symposium *(continued)* Rozanski 103	
17:30 – 21:30	BARBEQUE – Creelman Hall Cash bar 17:30 Dinner 18:30	

Wednesday, August 13		
07:30 – 08:30	Registration – Rozanski Hall Concourse	
07:30 – 08:30	Poster Setup – Rozanski Hall Concourse	
08:00 – 10:30	Graduate Competition Oral Competition Rozanski 103	
10:30 – 11:00	BREAK	
11:00 – 12:30	Physiology/Endocrinology Oral Presentations Rozanski 103	Monogastric Nutrition & Metabolism Oral Presentations Rozanski 102
12:30 – 13:30	LUNCH – (included with registration) Boxed Lunch, Rozanski Hall Concourse	
12:40 – 13:30	CSAS Annual General Meeting Rozanski 103	
13:30 – 14:30	Poster Session – Rozanski Hall Concourse • Physiology/Endocrinology • Monogastric Nutrition & Metabolism • Animal Behaviour, Welfare & Management • Graduate Student Poster Competition	
14:30 – 15:50	Current Issues in Equine Management Symposium Rozanski 103	
15:50 – 16:10	BREAK	
16:10 – 17:30	Current Issues in Equine Management Symposium *(continued)* Rozanski 103	
18:00 – 21:00	CLOSING BANQUET & AWARDS – Creelman Hall Cash bar 18:00 Dinner 19:00	
21:00 – 24:00	Dance	
Thursday, August 14		
07:30 – 08:30	Registration – Rozanski Hall Concourse	
08:00 – 09:30	Animal Behaviour, Welfare and Management Oral Presentations Rozanski 103	
09:30 – 10:00	BREAK	
10:00 – 13:00	Integrating Animal Behaviour With Other Animal Science Disciplines Symposium Rozanski 103	
13:00 – 14:00	LUNCH – (included with registration) Rozanski Hall Concourse	
14:00	Meeting Concludes	

Monday, August 11, 2008
Location: Rozanski 103 University of Guelph
Time: 08:15 to 16:45

Kennedy Conference on Quantitative Genetics and Animal Breeding

Moderator: L.R. Schaeffer
University of Guelph

Sym = Symposium Paper
BGO = Breeding and Genetics Oral Presentation

08:15	Introduction and Welcome
08:30	Sym1: **Animal breeding – meeting the needs of our society.** van Arendonk, J.A.M.*, Bijma, P., Bovenhuis, H.
09:30	Sym2: **Challenges and opportunities in variance component estimation for animal breeding.** Thallman, R.M.* *Henderson Lectureship Speaker*[1]
10:30	BREAK
11:00	BGO1: **Accuracy of predicting breeding values and genetic risk of disease using a genome-wide approach.** Daetwyler, H.D.*, Villanueva, B., Woolliams, J.A.
11:15	BGO2: **A method to detect breakdown of marker effect due to recombination.** Kinghorn, B.P.
11:30	BGO3: **Application of social effects in a pig breeding program.** Bergsma, R.*, Knol, E.F., Duijvesteijn, N., Bijma, P.
11:45	LUNCH BREAK
13:15	Sym3: **Nonparametric and machine learning procedures for genome-enabled prediction of genetic value for quantitative traits.** Gianola, D.*
14:15	Sym4: **Integration of molecular and quantitative genetics for livestock improvement.** Dekkers, J.C.M.*, Habier, D., Toosi, A., Ibanez-Escriche, N., Fernando, R.L.
15:15	BREAK
15:30	BGO4: **Effect of number of markers and phenotyped animals on reliabilities of genomic breeding values.** van der Linde, C., Schrooten, C.*, de Roos, A.P.W.

15:45 Sym5: **Evolutionary history of cattle based on genomics.** Goddard, M.E.*, Hayes, B.J., MacEachern, S., Macleod I.
Raithby Memorial Lecturer[2]

[1]*Henderson Lectureship*
The Charles R. Henderson Lectureship in Statistics and Animal Breeding is to acknowledge accomplishments of scientists who have made significant contributions to animal breeding, genetics and bioinformatics. Dr. Henderson enjoyed the give and take of discussions with colleagues at conferences and believed strongly in the value of such exchanges. The Lectureship was established by Cornell University and the Department of Animal Science.

[2]*Raithby Memorial Lecture*
George Raithby graduated from the Ontario Agricultural College in 1922 and later became head of the Department of Animal Husbandry from 1954 to 1965. He had a significant influence on the beef, swine and dairy industries. The OAC Alumni Foundation established the George Raithby Memorial Lecture to support education and research in agriculture.

Tuesday, August 12, 2008
Location: Rozanski 103 University of Guelph
Time: 08:00 to 12:00

Breeding and Genetics Oral Presentations

Moderator: J.W. Wilton
University of Guelph

BGO = Breeding and Genetics Oral Presentation

08:00 BGO5: **Extent and pattern of linkage disequilibrium in North American Holstein cattle evaluated using a 50k SNP panel.** Sargolzaei, M.*, Schenkel, F.S.

08:15 BGO6: **Whole genome association analysis for mapping QTL affecting economically important traits in North American Holstein cattle.** Wang, Z.*, Sargolzaei, M., Kolbehdari, D., Plastow, G., Moore, S., Schenkel, F.S.

08:30 BGO7: **Comparison of linkage disequilibrium decay between a multi-breed beef herd and purebred Angus, Piedmontese and Holstein cattle.** Kelly, M.J.*, Sargolzaei, M., Schenkel, F.S., Wang, Z., Stothard, P., Moore, S.S., Miller, S.P.

08:45 BGO8: **Effect of information source on estimates of SNP substitution effects.** Vander Voort, G.E.*, Kelly, M.J., Miller, S.P.

09:00 BGO9: **A deterministic procedure for defining the SNP phase in large pedigrees.** Jafarikia, M.*, Sullivan, B., Maignel, L., Mathur, P.K.

09:15 BGO10: **The impact of QTL fixation on genome-wide inbreeding.** Liu, A.Y.H.*, Woolliams, J.A.

09:30 BGO11: **On the importance of QC measures in microarray analyses.** Gondro, C.*, van der Werf, J.H.J.

09:45 BGO12: **Phenotypic analysis of inbreeding depression for traits measured in Canadian dairy cattle breeds**. Miglior, F.*, Van Doormaal, B.J., Kistemaker, G.

10:00 BREAK

10:30 BGO13: **Genetic and phenotypic relationships between multi-marker molecular breeding values for feed intake and feed efficiency with their component traits in beef cattle.** Nkrumah, J.D.*, Woodward, B.W., Basarab, J.A., Carstens, G.

10:45 BGO14: **Genetic and phenotypic parameter estimates for bodyweight at different ages in turkeys.** Wood, B.J.*

11:00 BGO15: **Selection for alternative market weights in sire and dam lines of pigs.** Quinton,V.M.*, Wilton, J.W.

11:15 BGO16: **Interbeef: beef international genetic evaluation.** Forabosco, F., Palucci, V.*, Fikse, F.

11:30 BGO17: **Genetic parameters for weight and length of Atlantic cod at two life stages.** Tosh, J.J.*, Garber, A.F., Trippel, E.A., Robinson, J.A.B.

11:45 BGO18: **Heritability of natural infection of black mink by Aleutian mink disease virus.** Farid, A.*, Fatehi, J.

Tuesday, August 12, 2008
Location: Rozanski 102 University of Guelph
Time: 08:00 to 11:45

Ruminant Nutrition and Metabolism Oral Presentations

Moderator: K.C. Swanson
University of Guelph

RO = Ruminant Nutrition and Metabolism Oral Presentation

08:00 RO1: **Impact of weaning age on cow-calf performance and yearling carcass traits.** Berthiaume, R.*, Mandell, I.B., Faucitano, L., Miller, S.P., Lafrenière, C.

08:15 RO2: **Effect of nutritional regimen on growth performance, beef tenderness, collagen content, and calpain activity.** McGregor, E.M.*, Campbell, C.P., Mandell, I.B.

08:30 RO3: **Rumen protozoa can produce CLA from linoleic acid.** Or-Rashid, M.M.*, AlZahal, O., McBride, B.W.

08:45 RO4: **Partial replacement of dietary starch with sucrose tended to increase ruminal pH of Holstein cows in early lactation.** Penner, G.B., Oba, M.*

09:00 RO5: **Real-time PCR quantification of rumen bacteria, and ciliated protozoa during grain-induced subacute ruminal acidosis (SARA).** Li, S.*, Khafipour, E., Plaizier, J.C., Krause, D.O.

09:15 RO6: **Impact of nutritionally induced metabolic acidosis on mRNA expression of components of the ubiquitin-mediated proteolytic pathway, cathepsins B and L, caspase-3 and m-calpain in ruminants.** Greenwood, S.L.*, Odongo, N.E., AlZahal, O., Matthews, J.C., McBride, B.W.

09:30 RO7: **Long-term metabolic and immune responses of dairy cows fed rolled barley grain treated with lactic acid.** Ametaj, B.N.*, Dunn, S.M.

09:45 RO8: **Estimating greenhouse gas emissions from a beef pasture system in southern Manitoba using measurements and a systems-based model.** Stewart, A.A.*, Wilson, C.H., Ominski, K.H., Tremorin, D., Tenuta, M., Wittenberg, K.M., Janzen, H.H.

10:00 BREAK

10:30 RO9: **Nitrogen partitioning study with dairy cows fed red clover silage: unaccounted losses.** Brito, A.F., Dewhurst, R.J., Berthiaume, R.*

10:45 RO10: **Effect of incorporating alfalfa and fertiliser on the carrying capacity and steer performance on meadow brome grass pastures.** Block, H.C., Scott, S.L.*, Robins, C.D., McCaughey, W.P.

11:00 RO11: **Effect of incorporating alfalfa and/or fertiliser into grass pastures on energy use efficiency of beef production systems.** Khakbazan, M., Scott, S.L.*, Block, H.C., Robins, C.D., McCaughey, W.P.

11:15 RO12: **Evaluation of feedlot backgrounding rations formulated using co-products of biofuel production.** McKinnon, J.J., Walker, A.M.*

11:30 RO13: **Effect of dried distillers grains from wheat on feed digestibility and growth performance of feedlot cattle**. Gibb, D.J.*, Hao, X., McAllister, T.A.

Tuesday, August 12, 2008
Location: Rozanski Concourse University of Guelph
Time: 08:00 to 17:30 – Display Only; 13:00 to 14:00 – Presenter Available

Poster Presentations

BGP = Breeding and Genetics Poster
RP = Ruminant Nutrition and Metabolism Poster
MP = Meat Science Poster

Breeding and Genetics

BGP1: **QMSim - Whole genome simulation software for mimicking livestock populations.** Schenkel, F.S.*, Sargolzaei, M.

BGP2: **Mapping quantitative trait loci by using haplotype blocks in granddaughter design families.** Jafarikia, M.*, Robinson, J.A.B., Schaeffer, L.R., Sargolzaei, M.

BGP3: **Estimating breeding values using segments of chromosomes determined by lowest score criteria based on dense SNP data.** Lu, D.T.*, Kelly, M.J., Sargolzaei, M., Miller, S.P.

BGP4: **F2 QTL mapping for prepulse inhibition in mice.** Torkamanzehi, A.*, Boksa, P., Deguzzman, R., Joober, R.

BGP5: **Inbreeding and selection response for genome-wide selection vs. traditional selection.** Stachowicz, K.*, Sargolzaei, M., Wilton, J.W., Schenkel, F.S.

BGP6: **Development of an equation to determine residual feed intake in first parity beef cows.** Case, L.*, Kelly, M.J., Miller, S.P.

BGP7: **Effect of high milk production in beef cattle on subsequent fertility.** Glover, P.*, Miller, S.P., Kelly, M.J.

BGP8: **Multiple trait models for genetic evaluation of lamb growth and ewe reproductive traits.** Schaeffer, L.R., Wilton, J.W.*, Tosh, J.J.

BGP9: **Direct and maternal genetic effects estimation of number of lambs weaned in Kurdi sheep breed of Iran.** Heydarpour, M.*

Ruminant Nutrition and Metabolism

RP1: **An assessment of polyethylene beads as an indicator of mix uniformity in total mixed rations for dairy cattle.** van Vonderen, A.J., Anderson, D.M.*

RP2: **A study of calcium metabolism in sheep using a mathematical model**. Dias, R.S.*, Roque, A.P., Vitti, D.M.S.S., Kebreab, E., France, J.

RP3: **Plasma fatty acid profile of gestating ewes supplemented with docosahexaenoic acid.** Or-Rashid, M.M.*, Fisher, R., Karrow, N., AlZahal, O., McBride, B.W.

RP4: **Fatty acid profile of colostrum and milk of ewes supplemented with docosahexaenoic acid and the subsequent plasma fatty acid status of their lambs.** Or-Rashid, M.M.*, Fisher, R., Karrow, N., AlZahal, O., McBride, B.W.

RP5: **Transfer of flax lignans in the milk of dairy cows.** Petit, H.V., Gagnon, N., Côrtes, C., da Silva, D.C., Kazama, R., dos Santos, G.T., Zeoula, L.M., Benchaar, C.*

RP6: **Yield of fatty acids in milk of dairy cows fed increasing amounts of linseed oil.** Benchaar, C.*, Eugène, M., Côrtes, C., Chaves, A.V., Petit, H.V., McAllister, T.A., Iwaasa, A.D., Chouinard, P.Y.

RP7: **A randomized herd-level field study of dietary interactions with monensin on milk fat percentage in dairy cows.** Dubuc, J.*, DuTremblay, D., Brodeur, M., Duffield, T., Bagg, R., Dick, P., Baril, J., DesCôteaux, L.

RP8: **A statistical methodology for the analysis of continuous measurements of ruminal pH in dairy cattle**. AlZahal, O.*, Vander Voort, G., McBride, B.W.

RP9: **Impact of nutritionally induced metabolic acidosis and glutamine infusion on acid-base, plasma amino acid and plasma non-esterified fatty acids in sheep.** Odongo, N.E., Greenwood, S.L.*, Or-Rashid, M.M., Radford, D., AlZahal, O., Shoveller, A.K., Lindinger, M., Matthews, J.C., McBride, B.W.

RP10: **Impact of transition period on regulation of components of the ubiquitin-mediated proteolytic pathway in dairy cows.** Greenwood, S.L.*, Wright, T.C., McBride, B.W.

RP11: **Effects of alfalfa pellet and grain pellet induced subacute ruminal acidosis (SARA) on intakes of dry matter and water, and on milk production of dairy cows.** Gakhar, N.*, Li, S., Krause, D.O., Ominski, K., Plaizier, J.C.

RP12: **Replacement of barley grain with wheat dried distillers grains plus solubles may attenuate ruminal acidosis.** Sheane, W.*, Penner, G.B., Oba, M., Corbett, R.

RP13: **Morphologic adaptations of the rumen epithelium during subacute ruminal acidosis.** Steele, M.A.*, Hook, S.E., Alzahal, O., Croom, W.J., McBride, B.W.

RP14: **Feeding rolled barley treated with lactic acid modulated volatile fatty acids in the rumen fluid of dairy cows.** Ametaj, B.N.*, Yang, W.Z., Dunn, S.M.

RP15: **Diurnal metabolic and immune responses of dairy cows to feeding of rolled barley treated with lactic acid.** Dunn, S.M., Ametaj, B.N.*

RP16: **Milk composition in dairy cows fed rolled barley grain treated with lactic acid.** Ametaj, B.N.*, Dunn, S.M.

RP17: **Effect of incorporating alfalfa and fertiliser into meadow brome grass pastures on forage quality.** Block, H.C., Scott, S.L.*, Robins, C.D., McCaughey, W.P.

RP18: **Effect of incorporating alfalfa and/or fertiliser into grass pastures on net income of beef production systems.** Khakbazan, M., Scott, S.L.*, Block, H.C., Robins, C.D., McCaughey, W.P.

RP19: **Nutrient availability of four Crop Development Centre barley varieties for ruminants in comparison with two normal varieties (AC Metacalfe, MeLeod)**. Liu, N.*, Yu, P., McKinnon, J.J., Christensen, D.A.

RP20: **Using advanced synchrotron radiation based bioanalytical technique (SRFTIRM) to study inherent structures of six barley varieties within cellular and subcellular dimensions.** Liu, N.*, Yu, P., McKinnon, J.J., Christensen, D.A.

RP21: **Effects of source of canola protein on ruminal fermentation and nutrient flow in beef heifers.** Gozho, G.N.*. McKinnon, J.J., Christensen, D.A., Racz, V., Mutsvangwa, T.

RP22: **Variation of gas production and fermentation with varying barley sources and processing in batch culture.** Yang, W.Z.*, McAllister, T.A., Oba, M., Gibb, D.

RP23: **Effects of moisture and a saponin-based surfactant during barley processing on growth performance and carcass quality of feedlot steers and on in vitro ruminal fermentation.** Wang, Y.*, Greer, D., McAllister, T.A.

RP24: **Effects of processed lignin on in vitro ruminal fermentation and on growth performance, carcass traits and fecal shedding of *Escherichia coli* by feedlot lambs.** Wang, Y.*, Marx, T., Lora, J., McAllister, T.A.

RP25: **The relation between in vitro gas production by rumen fungi and protozoa and low fat sunflower meal treated with sodium hydroxide or formaldehyde**. Mohammadabadi, T., Rafiei, A., Danesh Mesgaran, M., Heravi Moussavi, A.R.*

RP26: ***In vitro* gas production of high fat sunflower meal treated with sodium hydroxide or formaldehyde by rumen fungi and protozoa.** Mohammadabadi, T., Danesh Mesgaran, M., Heravi Moussavi, A.R.*, Nasiri, M.R., Rafiei, A.

Meat Science

MP1: **Phenotypic correlations of fatty acid composition among subcutaneous, intermuscular and intramuscular fat tissues in beef cattle.** Aldai, N., Dugan, M., Osoro, K., Wang, Z., Crews, D., Li, C.*

MP2: **Fatty acid composition of Western Canadian beef: 1. Backfat.** Aldai, N., Dugan, M.E.R., Rolland, D.C.*, Kramer, J.K.G.

MP3: **Effects of feeding level, dietary protein level and gender on pig growth performance and meat quality.** McEwen, P.L.*, Mandell, I.B., de Lange, C.F.M., Purslow, P.P.

MP4: **Effect of growth rate and diet on collagen characteristics and tenderness of *Semitendinosus* and *Longissimus dorsi* muscles.** Archile, A.*, Mandell, I.B., Purslow, P.P.

MP5: **Regulation of CYP17A1 activity and its potential implications on the development of boar taint.** Billen, M.J.*, Squires, E.J.

Tuesday, August 12, 2008
Location: Rozanski 103 University of Guelph
Time: 14:00 to 17:30

Omics in Animal Science Symposium

Moderator: E.J. Squires
University of Guelph

Sym = Symposium Paper

14:00	Sym6: **Omics - it's potential and pitfalls.** Golovan, S.P.*
14:20	Sym7: **Omics of lactation**. Cant, J.P.*, Burgos, S.A., Cao, H., Doelman, J., Purdie, N.G.
15:00	Sym8: **"Omics" of cattle growth and aging.** Matthews, J.C.*, Liao, S.F., Brown, K.R., Burris, W.R., Boling, J.A.
15:40	BREAK
16:00	Sym9: **Omics of gut function.** Mulder, I.*, Schmidt, B., Aminov, R., Gill, P., Stokes, C., Bailey, M., Lewis, M., Kelly, D.
16:40	Sym10: **Altering the genome for improvement of animal infection resistance.** Cheung, Q.C.K., Turner, P.V., Song, C., Wu, D., Cai, H.Y., MacInnes, J.I., Li, J.*

Wednesday, August 13, 2008
Location: Rozanski 103 University of Guelph
Time: 08:00 to 10:30

Graduate Competition Oral Presentations

Moderator: C.F.M. de Lange
University of Guelph

OC = Graduate Oral Competition

08:00 OC1: **Long-term monensin supplementation does not significantly affect quantity or diversity of methanogens in the rumen of lactating dairy cattle.** Hook, S.E.*, Northwood, K.S., Wright, A.D.G., McBride, B.W.

08:15 OC2: **Use of quantitative and conventional PCR to assess the biodegradation of bovine tissues including specified risk material in compost.** Xu, W.*, Reuter, T., Xu, Y., Alexander, T.W., Stanford, K., McAllister, T.A.

08:30 OC3: **Effects of hot boning and moisture enhancement on meat quality and taste panel evaluation of cull cow beef.** Pivotto, L.M.*, Mandell, I.B., Campbell, C.P.

08:45 OC4: **Effects of vehicle type on transport losses, blood stress indicators and pork quality in pigs.** Correa, J.A.*, Gonyou, H., Widowski, T., Bergeron, R., Lewis, N., Crowe, T., Torrey, S., Tamminga, E., Faucitano, L.

09:00 OC5: **Genetic analysis of dairy calf heath traits and survival.** Henderson, L.*, Miglior, F., Kelton, D., Robinson, J.A.B., Sewalem, A., Leslie, K.

09:15 OC6: **Improving feed efficiency in beef cattle: does it matter whether we select on dry matter intake or residual feed intake.** Aboismail, M.*, Kelly, M.J., Quinton, M., Wilton, J.W., Miller, S.P.

09:30 OC7: **Pleitropic effects of polymorphisms associated with residual feed intake in growing beef cattle**. Mujibi, F.D.N.*, Sherman E.L., Nkrumah, D.J., Crews Jr., D.H., Moore, S.S.

09:45 OC8: **The effect of inclusion of crop residues as a winter feed source in haylage based rations on performance of pregnant beef cows.** Wood, K.M.*, Kelly, M.J., Miller, S.P., Mandell, I.B., Swanson, K.C.

10:00 OC9: **Development of alternate markers for sub acute ruminal acidosis (SARA).** Gakhar, N.*, Li, S., Krause, D.O., Ominski, K., Plaizier, J.C.

10:15 OC10: **Impact of immune system stimulation and sulfur amino acid intake on urinary sulfur excretion and whole body nitrogen to sulfur balance ratio in pigs.** Rakhshandeh, A.*, Karrow, N.A., Miller, S.P., de Lange, C.F.M.

Wednesday, August 13, 2008
Location: Rozanski 103 University of Guelph
Time: 11:00 to 12:30

Physiology/Endocrinology Oral Presentations

Moderator: J.S. Walton
University of Guelph

PEO = Physiology/Endocrinology Oral Presentation

11:00 PEO1: **Geographic linkage of lineage types and differences in virulence characteristics within shared lineages of *Escherichia coli* O157:H7 from cattle and clinical isolates from Alberta.** Sharma, R.*, Stanford, K., Louie, M., Munns, K., McAllister, T.

11:15 PEO2: **Testing the immune stimulatory oligonucleotides in chicken blood.** Duvanov, S.*, Sharif, S., Bedecarrats, G., Golovan, S.

11:30 PEO3: **Maternal multi-vitamin supplementation in rats alters expression of hypothalamic glucosensing and lipid-sensing involved genes in the offspring.** Duan, J.*, Szeto, I.M.Y., Huot, P.S., Reza-Lopez, S., Payne, M., Anderson, G.H.

11:45 PEO4: **Shiga toxin 2 from enterohemorrhagic *Escherichia coli* O157:H7 enhances colonization in the intestine of cattle.** Baines, D.*, Pang, A., McAllister, T.

12:00 PEO5: **Effect of PRID® administered 5 to 11 days post-insemination on serum progesterone concentrations in lactating dairy cows.** Scott, S.J.*, Walsh, R.B., LeBlanc, S.J., Woodward, J., Walton, J.S., Leslie, K.E.

12:15 PEO6: **Relationships between residual feed intake and fertility in heifers.** Basarab, J.A.*, Colazo, M.G., Ambrose, D.J., Novak, S., Robertson, K., McCartney, D., Baron, V.S.

Wednesday, August 13, 2008
Location: Rozanski 102 University of Guelph
Time: 11:00 to 12:30

Monogastric Nutrition and Metabolism Oral Presentations

Moderator: C.M. Nyachoti
University of Manitoba

MGO = Monogastric Nutrition and Metabolism Oral Presentation

11:00 MGO1: **Contributions of hormonal factors to the mammalian target of rapamycin (mTOR)-mediated and mTOR-independent postnatal decreases in skeletal muscle protein synthesis.** Yang, X.*, Liu, L., Yang, S.X., Du, M., France, J., Fan, M.Z.

11:15 MGO2: **Effects of supplemental phospholipids in diets on growth performances and nutrient intakes of broilers.** Mu Y.Y.*, Wang Y., Srinongkote, S.

11:30 MGO3: **Effect of phytase supplementation on greenhouse gas emissions from manure application**. Yitbarek, A.*, Tenuta, M., Nyachoti, C.M., France, J., Kebreab, E.

11:45 MGO4: **Effects of feeding blends of grains naturally contaminated with *Fusarium* mycotoxins on brain aminergic neurochemistry of turkeys.** Girish, C.K.*, MacDonald, E.J., Scheinin, M., Smith, T.K.

12:00 MGO5: **Growth performance and gut development characteristics of newly-weaned pigs fed lactic acid in combination with other acids.** Zhu, C.L.*, Niven, S., Cazemier, A., de Lange, C.F.M.

12:15 MGO6: **Effect of phytase supplementation on the precaecal digestibility of crude protein, amino acids and phosphorus from cowpea (*Vignia unguiculata*) in broilers.** Iyayi, E.A.*, Kluth, H., Rodehutscord, M.

Tuesday, August 12, 2008
Wednesday, August 13, 2008
Location: Rozanski Concourse University of Guelph
Time: 08:00 to 17:30 – Display Only
Wednesday, August 13, 2008 13:30 to 14:30 – Presenter Available

Graduate Competition Poster Presentations

PC = Graduate Poster Competition

PC1: **Characterization of rumen papillae gene expression during metabolic acidosis.** Steele, M.A.*, Doelman, J., Greenwood, S.L., Cant, J.P., McBride, B.W.

PC2: **Effect of increasing dietary corn silage inclusion on visceral organ mass and ATP synthase and Na+/K+-ATPase protein expression in steers.** Wang, Y.J.*, Wood, K., Martin, L., Holligan, S., Kelly, N., McBride, B.W., Fan, M.Z., Swanson, K.C.

PC3: **Identification of the osteopontin transcript during the early phases of intramammary infection caused by Escherichia coli and Staphylococcus aureus using subtractive suppressive hybridization.** Alain, K.*, Lessard, M., Karrow, N., Mallard, B., Bissonnette, N.

PC4: **Association of single nucleotide polymorphisms in the interleukin-12 receptor β-2 gene with Johne's disease and production traits in dairy cattle.** Skelding, A.*, Sharma, B.S., Verschoor, C., Pant, S.D., Schenkel, F., Boermans, H., Karrow, N.

PC5: **Detection of prolactin receptor protein in chicken bursa during embryogenesis and post-hatch period.** Pizzey, H.*, Bédécarrats, G.Y.

PC6: **Selection of sex-specific aptamer probes to sperm.** Colley, A.J.*, Buhr, M.M., Golovan, S.P.

PC7: **Single nucleotide polymorphisms (SNPs) in bovine IL-10, IL-10 receptor, and TGF-β, and their association with milk somatic cell score and susceptibility to *Mycobacterium avium paratuberculosis* (MAP) infection.** Verschoor, C.P.*, Pant, S.D., Sharma, B.S., Schenkel, F., Karrow, N.A.

PC8: **Infrared images of distinct body locations have different relationships with residual feed intake in beef bulls.** Montanholi, Y.R.*, Swanson, K.C., Schenkel, F.S., Caldwell T.R., Miller, S.P.

PC9: **Prediction of residual feed intake in beef heifers by infrared thermography.** Colyn, J.J.*, Schaefer, A.L., Basarab, J.A., Okine, E.K., Liu, T., Robertson, K.L., Scott, S.L.

PC10: **Post-mortem pH decline of breast muscle from broilers and three non commercial strains of chicken**. Currie, R.M.*, Rathgeber, B.M., Doncaster, K.L., Silversides, F.G.

PC11: **Effects of on-farm handling treatments and temperament on pork quality.** Brown, J.A.*, Mandell, I., Dewey, C., deLange, C., Purslow, P., Robinson, J.A.B., Squires, J., Widowski, T.

PC12: **Binding of androstenone to the anion exchange resin cholestyramine: implications for the control of boar taint.** Jen, K.Y.*, Squires, E.J.

PC13: **Assessment of genetic diversity in Canadian dairy cattle breeds using pedigree data.** Melka, M.G.*, Stachowicz, K., Sargolzaei, M., Schenkel, F.S.

PC14: **Identification of single nucleotide polymorphisms in bovine peptidoglycan recognition protein 1 and their association with inflammatory disease resistance in Canadian dairy cattle.** Pant, S.D.*, Verschoor, C.P., Schenkel, F.S., Sharma, B.S., Karrow, N.A.

PC15: **Correlated response to selection in five residual feed intake phenotypes.** Lowerison, M.W.*, Kelly, M., Miller, S.P., Wilton, J.W., Kemp, R.A.

PC16: **Variation in antibody and cell-mediated immune responses between Canadian Holsteins and Norwegian-Red crossbred first calf heifers.** Cartwright, S.*, Burnside, E.B., Karrow, N.A., Schaeffer, L.R., Mallard, B.A.

PC17: **Greener cattle: the effect of climate change on beef cattle breeding and production.** Mujibi, F.D.N.*, Moore, S.S., Crews Jr., D.H.

PC18: **Effect of oscillating dietary protein concentrations on nitrogen metabolism and microbial protein synthesis in growing lambs.** Kiran, D., Mutsvangwa, T.*

PC19: **The use of by-products in corn silage-based diets for growing heifers: live performance and rumen condition.** Mazzenga, A.*, Gibb, D.J., Holtshausen, L., Beauchemin, K.A., Schwartzkopf-Genswein, K.S., Gozzi, G., McAllister, T.A.

PC20: **Effect of phytic acid on ileal digestibility and endogenous losses of amino acids in piglets.** Woyengo, T.A.*, Cowieson, A.J., Adeola, O., Nyachoti C.M.

PC21: **Plasma prolactin and insulin concentrations in lactating sows following venous infusion of isoleucine, leucine, lysine, threonine, and valine.** de Ridder, K.A.G.*, de Lange, C.F.M., Farmer, C., Shoveller, A.K., Luimes. P.H.

PC22: **High dietary potassium levels appear to limit co-products usage in grower-finisher pig diets.** Guimaraes, J.*, Zhu, C.L., de Lange, C.F.M.

PC23: **Lysine requirement of weanling pigs fed a wheat-barley based diet.** Borgesa, G.*, Payne, R.L., Nyachoti, C.M.

Wednesday, August 13, 2008
Location: Rozanski Concourse University of Guelph
Time: 08:00 to 17:30 – Display Only; 13:30 to 14:30 – Presenter Available

Poster Presentations

PEP = Physiology/Endocrinology Poster
MGP = Monogastric Nutrition and Metabolism Poster
BWP = Animal Behaviour, Welfare and Management Poster

Physiology/Endocrinology

PEP1: **Method development for collection and SDS-PAGE of uterine fluid proteins in laying hens.** Rathgeber, B.M.*, McLaughlin, T., Kaur, R., Doncaster, K.L.

PEP2: **Expression of genes involved in fatty acid metabolism in response to dietary omega-3 fatty supplementation in the lactating sow.** MacInnis, C.E., Prithiviraj, K., Glover, K.E.*

PEP3: **Analysis of *Sus scrofa* liver proteome with isotope tagging for relative and absolute quantification (iTRAQ).** Golovan, S.P.*, Hakimov, H.A., Verschoor, C., Schenkel, F., Elsik, C., Wright, T., Walters, S., Gadish, M., Chiu, D.K.Y., Forsberg, C.W.

PEP4: ***In vitro* translation of bovine mammary hexokinase I.** Kim, J.*, Cant, J.P.

PEP5: **Effect of diets containing soybean meal or canola meal on anaerobic fungal population in rumen using quantitative competitive PCR.** Nassiry, M.R., Heravi Moussavi, A.*, Sekhavati, M.H., Hosseini, F., Farajollahi, H.

PEP6: **Assessment of the health status of newborn dairy replacement and veal calves.** Waalderbos, K.*, Leslie, K., Duffield, T., DeVries, T., McBride, B.

PEP7: **Determining optimal lengths of calving intervals of dairy cows.** van Veen, A.G., Plaizier, J.C.*

PEP8: **Analysis of productive life in Iranian Holstein dairy cows.** Heravi Moussavi, A.*, Danesh Mesgaran, M., Noorbakhsh, R.

PEP9: **Characteristics of lactation function of Iranian buffalo ecotypes, using Wood's gamma function.** Mirzaei, H.R.*, Rahmaninia, J., Farhangfar, H.

PEP10: **Non-genetic factors affecting somatic cell count, milk urea content, test-day milk yield and protein percent in dairy cattle of the Czech Republic.** Oudah, E.Z.M.*

PEP11: **Association of Toll-like receptor 4 polymorphisms with Johne's disease.** Sharma, B.S.*, Pant, S.D., Verschoor, C., Schenkel, F., Karrow, N.A.

PEP12: **The effect of ruminal protozoa on ruminal populations and shedding patterns of *Escherichia coli* O157:H7 using sheep as a model.** Stephens, T.P.*, Stanford, K., McAllister, T.A.

PEP13: **The small intestinal alkaline phosphatase (IAP) digestive capacity is reduced due to a down regulation of its mRNA abundance in piglets with bowel inflammation.** Lackeyram, D.*, Archbold, T., Yang, C., Mine, Y., Fan, M.Z.

PEP14: **Early-weaning reduces the digestive activity of intestinal alkaline phosphatase by down regulating its expression in the small intestine.** Lackeyram, D.*, Fan, M.Z.

PEP15: **TLRs expression profiling within the spleens of *Clostridium perfringens*-infected broilers fed antibiotic-medicated and non-medicated diets.** Lu, Y.*, Sarson, A.J., Gong, J., Yu, H., Kang, Z., Zhou, H., Zhu, W.-Y., Han, Y.

PEP16: **Response of ileal bacterial microbiota in broiler chickens to *Clostridium perfringens* infection.** Feng, Y.*, Gong, J., Yu, H., Jin, Y., Zhu, J., Zhang, M., Zhao, L., Han, Y.

PEP17: **Use of *Caenorhabditis elegans* as an animal model to evaluate *Lactobacillus* isolates for the use as probiotics to control *Salmonella typhimurium.*** Wang, C.*, Yu, H., Hawke, A., Pacan, J.C., Niu, Z., Gong, J., Sabour, P.

PEP18: **Changes in intestinal morphology in broiler breeder pullets fed *Fusarium* mycotoxin-contaminated diets in the absence or presence of a coccidial challenge.** Girgis, G.N.*, Smith, T.K., Barta, J.R.

PEP19: **Ovarian follicular dynamics, LH profile, and progesterone concentrations in dairy heifers following "Ovsynch" ovulation synchronization protocol.** AAli, M.A.*

Monogastric Nutrition and Metabolism

MGP1: **Effect of rare earth elements on mitogen-induced proliferation of splenocytes of Wistar rats.** He, M.L.*, Yang, W.Z., Mir, P.S., McAllister, T.A.

MGP2: **Effect of dietary supplementation with rare earth elements on growth performance and glucose tolerance in Wistar rats.** He, M.L.*, Yang, W.Z., McAllister, T.A.

MGP3: **Impact of immune system stimulation and sulfur amino acid intake on amino acid composition of selected tissues in pigs.** Rakhshandeh, A.*, Htoo, J., de Lange, C.F.M.

MGP4: **Increasing liquid feed temperature does not improve growth performance of newly-weaned pigs.** Zhu, C.L.*, de Lange, C.F.M.

MGP5: **Propionic acid and whey permeate to improve the nutritional value of stored high-moisture corn for swine liquid feeding.** Niven, S.J., Zhu, C.L.*, de Lange, C.F.M.

MGP6 : **Evaluation of crab meal as a potential feed ingredient for broiler chickens.** Anderson, D.M.*, MacIsaac, J.L., Leier, M.

MGP7: **Nutritive evaluation of hulless oats for swine.** Rigaux, L.*, Woyengo, T.A., Nyachoti, C.M.

MGP8: **The effects of distillers dried grains with solubles inclusion level and gender on pig growth performance, feed intake and carcass composition.** McEwen, P.L.*

MGP9: **Optimum isoleucine to lysine ratio in a barley and wheat based pig starter diet.** Zhu, C.L.*, Htoo, J.K., de Lange, C.F.M.

MGP10: **Effects of microbial phytase on tissues and bone phosphorus content in growing-finishing pigs.** Dias, R.S.*, Moreira, J.A., Lopez, S., Vitti, D.M.S.S., Kebreab, E., France, J.

MGP11: **Environmental sustainability of liquid hog manure application to grasslands**. Wilson, C.H.*, Ominski, K.H., Wittenberg, K.M., Tenuta, M., Flaten, D., Krause, D.

MGP12: **It pays to fine-tune feeding programs for individual growing-finishing pig units.** Zhu, C.L*, vander Voort, G., Squire, J., Rheaume, J., de Lange, C.F.M.

Animal Behaviour, Welfare and Management

BWP1: **Egg yolk and albumin corticosterone and excreta corticoid metabolite concentrations as non-invasive markers of stress in laying hens.** Cook, N.J.*, Renema, R., Wilkinson, C., Schaefer, A., Church, J.

BWP2: **Pain mitigation during branding, castration and dehorning of beef cattle.** Bergen, R.D.*, Schwartzkopf-Genswein, K.S.

BWP3: **The use of infrared thermography in the identification of false negative calves for bovine respiratory disease**. Schaefer, A.L., Bench, C., Colyn, J.*, Chabot, B., Liu, T., Holt-Klimek, L., Marchand, S., Lepage, P., Froehlich, D., Cook, N., Basarab, J., Okine, E.

BWP4: **Bench marking of current transport practices for feeder and fat cattle in Alberta.** Schwartzkopf-Genswein, K.S.*, Gonzalez, L., Bryan, M., Silasi, R., Paranhos da Costa, M., Huertas, S., Brown, F.

BWP5: **Allowing feedlot steers to self select concentrate to forage ratio has no negative effects on performance**. Schwartzkopf-Genswein, K.S.*, Veira, D.M., von Keyserlingk, M.A.G.

BWP6: **Comparison of methods for preparing feed intake records for analysis of average daily intake from an automated feed intake monitoring system.** Kelly, M.J., Lu, D.T.*, Miller, S.P.

BWP7: **Microbiological evaluation of poultry house wall materials and industrial cleaning agents**. Rathgeber, B.M.*, Doncaster, K.L., Ronalds, C.M., Budgell, K.L., Anderson, D.M.

BWP8: **Effects of alfalfa pellet- and grain pellet-induced subacute ruminal acidosis (SARA) on feeding behavior of dairy cows.** Li, S.*, Gakhar, N., Krause, D.O., Plaizier, J.C.

BWP9: **Relationship between feeding behaviour and feed efficiency in composite steers fed low and high energy-dense diets.** Durunna, O.N.*, Mujibi, F.D.N., Moore, S.S., Wang, Z.

Wednesday, August 13, 2008
Location: Rozanski 103 University of Guelph
Time: 14:30 to 17:30

Current Issues in Equine Management Symposium

Moderator: L. Viel
University of Guelph

Sym = Symposium Paper

14:30	Sym11: **Equine reproduction - problems in the field.** Colquhoun, J.K.*
15:10	Sym12: **Cartilage development and regeneration in the horse.** Watts, A.*
15:50	BREAK
16:10	Sym13: **Mycotoxins in equine nutrition.** Smith, T.K.*
16:50	Sym14: **Nutrition for optimum performance.** Lawrence, L.M.*

Thursday, August 14, 2008
Location: Rozanski 103 University of Guelph
Time: 08:00 to 09:30

Animal Behaviour, Welfare and Management Oral Presentations

Moderator: T.M. Widowski
University of Guelph

BWO = Animal Behaviour, Welfare and Management Oral Presentation

08:00 BWO1: **Pain mitigation during band castration of beef calves and its effects on performance, feeding behavior, E. coli, and salivary cortisol.** Gonzalez, L.A.*, Schwartzkopf-Genswein, K.S., Caulkett, N.A., Janzen, E., McAllister, T.A., Schaefer, A.L., Haley, D.M., Stookey, J.S., Hendrick, S.

08:15 BWO2: **Innervation and condition of mature boar tusks at slaughter.** Bovey, K.*, Lawlis, P., DeLay, J., Widowski, T.

08:30 BWO3: **Core body temperatures of market swine transported to slaughter.** Tamminga, E.*, Bergeron, R., Correa, J., Crowe, T., Dewey, C., Faucitano, L., Gonyou, H., Lewis, N., Torrey, S., Widowski, T.

08:45 BWO4: **The effect of transportation dynamics on cattle welfare and beef quality.** Warren, L.*, Mandell, I., Widowski, T., Bateman, K.

09:00 BWO5: **Eye white percentage as a predictor of temperament in beef cattle.** Core, S., Miller, S., Widowski, T., Mason, G., Caldwell, T., Quinton, M.

09:15 BWO6: **Methods used in Ontario to wean foals and determination of breeder perception in terms of foal management and weaning.** Gooding, M., Merkies, K.*

Thursday, August 14, 2008
Location: Rozanski 103 University of Guelph
Time: 10:00 to 13:00

Integrating Animal Behaviour With Other Animal Science Disciplines Symposium

Moderator: R. Bergeron
University of Guelph

Sym = Symposium Paper

10:00	Sym15: **Behaviour-based grazing management for animal well-being, ecosystem diversity and enterprise adaptability.** Provenza, F.*
10:40	Sym16: **Genetic selection and behaviour.** Muir, W.M.*
11:20	Sym17: **The effects of early experience and stress on survivorship.** Mason, G.J.*
12:00	Sym18: **Housing and social behaviour in pigs.** Gonyou, H.W.*

Effect of diets containing soybean meal or canola meal on anaerobic fungal population in rumen using quantitative competitive PCR. Nassiry, M.R., Heravi Moussavi, A.*, Sekhavati, M.H., Hosseini, F., Farajollahi, H. Department of Animal Science and Excellence Center for Animal Science, Ferdowsi University of Mashhad, Mashhad , Iran.

The aim of this study was to evaluate substitution of soybean meal with canola meal and measure its effects on rumen anaerobic fungal population in early lactation Iranian Holstein cows. From d 5 to 56 postpartum, cows were fed diets that were isoenergetic containing soybean meal (SBM; n=3) or canola meal (CM; n=3). Cows were housed in tie stalls and fed the total mixed ration two times a day to allow 5 to 10% orts (as-fed basis). Competitive PCR technique was used to evaluate quantitative difference of anaerobic fungal population within the rumen under the dietary groups. A universal PCR primer pair GAF (F): 5'-GAG GAA GTA AAA GTC GTT AAC AAG GTT TG-3' and GAF(R): 5'-GAA ATT CAC AAA GGG TAG GAT GAT TT-3' was used to amplify a specific region of 18S rDNA from anaerobic rumen fungal. Standard control DNA was constructed for use in the competitive PCR and was shown to amplify under the same reaction condition and with the same amplification efficiency as the target DNA. The relative intensities of PCR products were used to compare variety of fungal population under fed treatments. The signal intensity was quantified by ImageJ 1.29x and expressed in arbitrary units. The data was analyzed using the GLM procedure of SAS (2001) for a completely randomized design. The rumen fungal population was not impacted by diet but numerically was decreased in the CM compare with the SBM diet (34.79 and 35.12±1.87 arbitrary unit, respectively). The results of this study demonstrated that substituting soybean meal with canola meal in the early lactation cows had no apparent effect on the fungal population.

Key words: competitive PCR, rumen anaerobic fungal, canola meal