

Table of Contents

Session I. Issues Facing the Industry

The European Dairy Industry Post Supply Management <i>Kees Romijn</i>	5
GMOs – Food Saviour or the Devil in Disguise? <i>Margaret Smith</i>	21
Does Animal Agriculture Contribute to Antibiotic Resistance in Humans? Current Insights into Dairy Cattle and Their Role in Antibiotic Resistance <i>Tim McAllister</i>	37

Session II. Nutritional Management

Avoiding Silage Problems <i>Richard Muck</i>	57
Feeding the Fresh Cow: What is the Ideal Carbohydrate Mix? <i>Heather Dann</i>	71
The Relationship Between NDF Digestibility and Animal Performance <i>David Combs</i>	83
Something to Ruminant on...Why We Should Watch Cows Chew <i>Trevor DeVries</i>	99

Session III. Farming and Research

Student Research Presentation Competition	
<i>Caroline Corbett</i>	112
<i>Casey Jacobs</i>	113
<i>Jayden MacPherson</i>	114
<i>Basim Refat</i>	115
Dairy Farming Across Canada	
<i>Anton Borst, David Janssens, Dave Loewith</i>	119

Session IV. Animal Welfare and Consumers

Dairy Processor's Role in Promoting Animal Welfare	
<i>Warren Skippon</i>	123
Promoting Animal Welfare – An Industry Perspective	
<i>David Wiens</i>	131
Sharing Your Story: Strategies to Get the Truth About Dairying to Consumers	
<i>Julaine Treur</i>	137
Stakeholder Views, Including the Public, on Expectations for Dairy Cattle Welfare	
<i>Marina von Keyserlingk</i>	147

Session V. Reproduction-Nutrition Interactions

The Role of Glucose in Dairy Cattle Reproduction	
<i>Matthew Lucy</i>	161
Can Feeding Fats Improve Reproductive Performance in Dairy Cows?	
<i>Divakar Ambrose</i>	177
The Importance of BCS Management to Cow Welfare, Performance and Fertility	
<i>James Drackley</i>	195
Influence of Dietary Protein and Amino Acids on Reproduction in Dairy Cows	
<i>Peter Hansen</i>	209

Session VI. Innovation, Health and Welfare

Align Your Precision Dairy Robot System with Your Goals <i>Ben Smink</i>	219
Is Automated Calf Feeding Right for Your Farm? <i>Marcia Endres</i>	233
Past, Present and Future of Footbaths in Alberta <i>Karin Orsel</i>	245
What's New in Controlling Digital Dermatitis? <i>Dörte Döpfer</i>	255

Session VII. Transition Cow Management

Mechanisms Linking Postpartum Metabolism with Reproduction <i>Matthew Lucy</i>	259
What Can Be Learned From TMR Audits? <i>Tom Oelberg</i>	273
Diagnosing Trace Mineral Deficiencies and Excesses in Transition Dairy Cows <i>Brent Hoff</i>	287
Protein and Amino Acid Requirements of the Close-up Dry Cow <i>Robert Van Saun</i>	301

Poster Abstracts

- Ovarian Activity Preceding First Insemination Affects Fertility in Postpartum Dairy Cows
T.C. Bruinje, M. Gobikrushanth, C. Felton, D.J. Ambrose 317
- Effects of Estrous Expression, Body Condition, and Lameness on Ovulation Times of Holstein Dairy Cows
Tracy A. Burnett, Liam B. Polsky, Manveen Kaur and Ronaldo L.A. Cerri 318
- The in vitro Inhibitory Effect of Coagulase-negative staphylococci on Major Mastitis Pathogens
Domonique Carson, Larissa Condas, Diego Nobrega, Jeroen De Buck, Herman W. Barkema 319
- Modifications of the Heatsynch Protocol for Natural-service Breeding in Dairy Cows.
M.G. Colazo and P. R. Whittaker 320
- Economic Evaluation of Two Reproductive Management Strategies in Alberta Dairy Herds
M.G. Colazo, J.O. Giordano and V. E. Cabrera 321
- The Effect of Milk Allowance on Performance and Starter Intake of Dairy Calves
J. H. C. Costa, H.W. Neave, K. Rosenberger, M. A. G. von Keyserlingk and D. M. Weary 322
- A Collaborative Initiative for Laboratory Production of Cattle Embryos in Western Canada
Alysha Dance, Andres Arteaga, Clayton Elliott and Jacob Thundathil 323
- Genomics is Key to Decrease the Environmental Footprint of the Dairy Industry
Mary De Pauw, Ellen Goddard, Paul Stothard, Filippo Miglior 324
- Is Lactation More Persistent with Photoperiod Management?
S. Espinoza and M. Oba 325
- Can the Measurement of “Ano-Genital Distance” Predict Fertility of Dairy Cows?
M. Gobikrushanth, T.C. Bruinje, M.G. Colazo and D.J. Ambrose 326

Can Anti-Müllerian Hormone Concentration be Used as a Fertility Marker in Dairy Cows? <i>M. Gobikrushanth, P.A. Dutra, C.J.Felton, S.Srivastava, T.C. Bruinje, A. Ruiz, M.G. Colazo and D.J. Ambrose</i>	327
Endometritis Affected Fertility But Not Dry Matter Intake or Milk Yield in Dairy Cows <i>M. Gobikrushanth, R. Salehi, D.J. Ambrose and M.G. Colazo</i>	328
Value Added Pellet Products Based on Combination of New Co-Products from Bio-Fuel/Bio-Oil Processing, Low Grade of Legume Seeds/Screening, and Lignosulfonate Chemical Compound at Different Levels for Dairy Cows <i>Víctor Guevara, David A. Christensen, John J. McKinnon, Peiqiang Yu</i>	329
The Effects of Feeding a High- or Low-plane of Nutrition Pre-weaning on Growth and Starter Intake in Group-housed Calves. <i>J. Haisan, M. Oba, D. J. Ambrose and M. A. Steele</i>	330
Accuracy of a Cow-side Test for Quantification of Blood BHB and Glucose in Lactating Dairy Cows <i>I. López Helguera, A. Behrouzi, M. Gobikrushanth, B. Hoff and M.G. Colazo</i>	331
Novel Sensor Technology for Progesterone and Estradiol Detection in Milk Samples <i>Yaxin Jiang, Marcos G. Colazo and Michael J. Serpe</i>	332
Cow- and Herd-level Associations of Housing, Management, and Lameness with Productivity and Cow Behaviour in Automated Milking Systems <i>M. T. M. King, E. A. Pajor, S. J. LeBlanc, and T. J. DeVries</i>	333
Development of a Bovine Leukemia Virus Control Program <i>Alessa Kuczewski and Frank van der Meer</i>	334
The Effect of Intramammary Infection With Coagulase-negative Staphylococci on Udder Health, Production and Culling in Canadian Dairy Herds <i>G. Liu, J. De Buck, L. Condas, D. Nobrega, S. Dufour, S. De Vliegher, and H.W. Barkema</i>	335
Creating Immune Markers and Complementary Diagnostics for a <i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> (MAP) Vaccine Strain <i>Lucy Luo and Jeroen De Buck</i>	336
Feeding More Often Can Reduce the Severity of SARA and Increase Milk Fat Yield <i>K. Macmillan and M. Oba</i>	337

Enhancing Dairy Producers' Profitability Using Genomics <i>F. Malchiodi, J. P. Chesnais, A.-M. Christen, F. S. Schenkel and F. Miglior</i>	338
A Survey of Management Practices and Producers' Perceptions Regarding Manual and Computer-controlled Milk Feeding Systems for Dairy Calves <i>Catalina Medrano-Galarza, Jeff Rushen, Anne Marie de Passillé, Andria Jones-Bitton, Trevor DeVries, Stephen LeBlanc, and Derek Haley</i>	339
Inhibition of Intramammary Infection with Major Pathogens by Coagulase-Negative Staphylococci <i>Ana Paula Alves Monteiro, Domonique Carson, Jeroen De Buck, Herman W. Barkema</i>	340
Re-evaluation of Cow Comfort, Cow Longevity, and Lameness after Management Changes in Dairy Barns in Alberta <i>Emily Morabito, Herman Barkema, Ed Pajor, Laura Solano, and Karin Orsel</i>	341
A Nutritional Evaluation of Common Barley Varieties Grown for Silage by Beef and Dairy Producers in Western Canada <i>Jayakrishnan Nair, David Christensen, Peiqiang Yu, Aaron D. Beattie, Tim McAllister, Daalkhaijav Damiran, Natalie Preston, Leland Fuhr and John J. McKinnon</i>	342
Epidemiology of Causal Pathogens of Mastitis in Heifers in Canadian Dairy Herds <i>A. Naqvi, J. De Buck, J.-P. Roy, G.P. Keefe, T. DeVries, S. Dufour, and H.W. Barkema</i>	343
Primiparous and Multiparous Dairy Cows Differ in Feeding, Social, Exploratory and Lying Behavior During the Transition Period <i>H.W. Neave, J. Lomb, M. A. G. von Keyserlingk, A. Behnam-Shabahang, and D. M. Weary</i>	344
Evaluation of Whole-crop Barley Cultivars in Western Canada for in vitro Fiber Digestibility <i>M. Oba, W. Shi, V. S. Baron, and P. E. Juskiw</i>	345
Standardizing Infrared Thermography (IRT) and Micro-Behavioural Biometrics for Estrus Detection in Dairy Cows <i>H.J. Perez Marquez, D.J. Ambrose, A. Schaefer, C. Bench</i>	346
How Do Alberta Dairy Farmers See On-farm Johne's Disease Control? <i>Caroline Ritter, Jolanda Jansen, Keliesha Roth, John Kastelic, Cindy Adams and Herman Barkema</i>	347

Multiparous Cows Delivering a Male Calf Had Lower Dry Matter Intake During Transition Period <i>R. Salehi, M. G. Colazo, M. Oba, D. J. Ambrose</i>	348
Feeding a Diet Supplemented with Flaxseed Reduced Degenerated Embryos and Activated Genes Involved in Embryonic Cell Survival and Viability <i>R. Salehi, M. G. Colazo, S. Tsoi, A. Behrouzi, M. K. Dyck, M. Oba¹, D. J. Ambrose</i>	349
Cathelicidin-inducers Butyrate and Vitamin D Modulate the Inflammatory Response in Intestinal Cells Exposed to <i>Salmonella</i> spp. Virulent Factors <i>Chaitanya Shah, Ravi Holani, Qahir Haji, Eduardo Cobo</i>	350
Rest Behaviour as a Tool for Estrous Detection: Risk Factors for Poor Expression and Associations with Ovulation and Conception Risk <i>Silper, B.F., L.B. Polsky, A.M.L. Madureira, E.L. Drago Filho, J.L.M. Vasconcelos, R.L.A. Cerri</i>	351
Characterization of Bacterial Colonization in Large Intestine of Pre-weaned Dairy Calves Using Quantitative Real Time-PCR <i>Y. Song, N. Malmuthuge, M. A. Steele, L. L. Guan</i>	352
Evaluation and Validation of Estrus Activity Using Visual Observations, a Heat-mount Detector and an Electronic Activity Monitor in Dairy Heifers. <i>S. Srivastava, C.A. Felton, T.C. Bruinje, M. Gobikrushanth, D.J. Ambrose</i>	353
Flotation Therapy of Non-ambulatory Cows <i>J. Stojkov, D. M. Weary, and M. A. G. von Keyserlingk</i>	354
Impacts of Automatic Milking Systems on Canadian Producers' Perceptions of Dairy Cow Productivity, Health and Welfare <i>Christina Tse, Trevor DeVries, Jeff Rushen, Herman Barkema, Elsa Vasseur, Ed Pajor</i>	355
Lying Times of Lactating Cows on Dairy Farms With Automated Milking Systems and the Relation to Lameness, Leg Lesions, and Body Condition Score <i>R. Westin, A. Vaughan, A. M. de Passillé, T. J. DeVries, E. A. Pajor, D. Pellerin, J. M. Siegford, E. Vasseur, J. Rushen</i>	356
Amount and Type of Dietary Fatty Acids Affect Fatty Acid Composition of the Ruminal Epithelium and Short-chain Fatty Acid Absorption <i>Ana C. Verdugo and Gregory B. Penner</i>	357

Distribution of Coagulase-Negative Staphylococci from Milk and Extramammary Sites on Saskatchewan Dairies

Colleen E. Walpole, Herman W. Barkema, Jeroen De Buck, Janet E. Hill, and Christopher D. Luby..... 358