

# Journal of Dairy Science

August 2007

Volume 90, Number 8

## CONTENTS

<b>INTERPRETIVE SUMMARIES.....</b>	<b>5</b>
<b>GENERAL INTEREST:</b>	
Administrative Information .....	11
<b>NEWS AND ANNOUNCEMENTS.....</b>	<b>12</b>
<b>LETTER TO THE EDITOR:</b>	
<i>Letter to the Editor: The Effects of Force-Feeding Sick Dairy Calves: A     Comment on Quigley et al. (2006)</i> <b>F. Borderas, M. A. G. von Keyserlingk, D. M. Weary, J. Rushen, A. M. de Passillé,     and M. E. Van Amburgh.....</b>	<b>3567</b>
<i>Letter to the Editor: A Response to the Comments of Borderas     et al. (2007)</i> <b>J. D. Quigley, T. A. Wolfe, and T. H. Elsasser.....</b>	<b>3569</b>
<b>DAIRY FOODS:</b>	
In Vitro Assessment of the Gastrointestinal Transit Tolerance of Taxonomic Reference Strains from Human Origin and Probiotic Product Isolates of <i>Bifidobacterium</i> <b>L. Masco, C. Crockaert, K. Van Hoorde, J. Swings, and G. Huys .....</b>	<b>3572</b>
<i>Short Communication: Quantification of the Transmission     of Microorganisms to Milk via Dirt Attached to the Exterior of Teats</i> <b>M. M. M. Vissers, F. Driehuis, M. C. Te Giffel, P. De Jong, and J. M. G. Lankveld .....</b>	<b>3579</b>
Safety Assessment of the Human Milk-Isolated Probiotic <i>Lactobacillus     salivarius</i> CECT5713 <b>F. Lara-Villoslada, S. Sierra, M. P. Díaz-Ropero, M. Olivares, and J. Xaus.....</b>	<b>3583</b>
Prevalence of <i>Mycobacterium avium</i> Subspecies <i>paratuberculosis</i> in Swiss Raw Milk Cheeses Collected at the Retail Level <b>R. Stephan, S. Schumacher, T. Tasara, and I. R. Grant .....</b>	<b>3590</b>
Application of Fourier Transform Infrared Spectroscopy for Monitoring Short-Chain Free Fatty Acids in Swiss Cheese <b>N. Koca, L. E. Rodriguez-Saona, W. J. Harper, and V. B. Alvarez.....</b>	<b>3596</b>
Reduced Fat Process Cheese Made from Young Reduced Fat Cheddar Cheese Manufactured with Exopolysaccharide-Producing Cultures <b>A. N. Hassan, S. Awad, and V. V. Mistry .....</b>	<b>3604</b>
Infrared Spectroscopy Technique for the Nondestructive Measurement of Fat Content in Milk Powder <b>D. Wu, S. Feng, and Y. He .....</b>	<b>3613</b>
Lactose Crystallization Delay in Model Infant Foods Made With Lactose, $\beta$ -Lactoglobulin, and Starch <b>A. Nasirpour, V. Landillon, B. Cuq, J. Scher, S. Banon, and S. Desobry.....</b>	<b>3620</b>
Volatile Compounds, Odor, and Aroma of La Serena Cheese High- Pressure Treated at Two Different Stages of Ripening <b>J. L. Arqués, S. Garde, E. Fernández-García, P. Gaya, and M. Nuñez .....</b>	<b>3627</b>

## PHYSIOLOGY AND MANAGEMENT:

- Supplementation of *RRR*- $\alpha$ -Tocopheryl Acetate to Periparturient Dairy Cows in Commercial Herds with High Mastitis Incidence  
**K. Persson Waller, C. Hallén Sandgren, U. Emanuelson, and S. K. Jensen**.....3640
- Effect of Softer Flooring in Tie Stalls on Resting Behavior and Leg Injuries of Lactating Cows  
**J. Rushen, D. Haley, and A. M. de Passillé** .....3647
- Herd Management Practices and Their Association with Bulk Tank Somatic Cell Count on United States Dairy Operations  
**J. R. Wenz, S. M. Jensen, J. E. Lombard, B. A. Wagner, and R. P. Dinsmore** .....3652
- Prepartum 2,4-Thiazolidinedione Alters Metabolic Dynamics and Dry Matter Intake of Dairy Cows  
**K. L. Smith, S. E. Stebulis, M. R. Waldron, and T. R. Overton** .....3660
- Sprinklers and Shade Cool Cows and Reduce Insect-Avoidance Behavior in Pasture-Based Dairy Systems  
**P. E. Kendall, G. A. Verkerk, J. R. Webster, and C. B. Tucker** .....3671
- Genetic Diversity of Mastitis-Associated *Klebsiella pneumoniae* in Dairy Cows  
**G. G. Paulin-Curlee, R. S. Singer, S. Sreevatsan, R. Isaacson, J. Reneau, D. Foster, and R. Bey**.....3681
- Comparison of Stress Zones in Finite Element Models of Deformed Bovine Claw Capsules  
**C. Hinterhofer, V. Apprich, E. Polsterer, H. Haider, and C. Stanek** .....3690
- Economic and Phosphorus-Related Effects of Precision Feeding and Forage Management at a Farm Scale  
**L. T. Ghebremichael, P. E. Cerosaletti, T. L. Veith, C. A. Rotz, J. M. Hamlett, and W. J. Gburek**.....3700
- Dairy Cow Preferences for Soft or Hard Flooring when Standing or Walking  
**E. Telezhenko, L. Lidfors, and C. Bergsten**.....3716
- The Use of Nicotinic Acid to Induce Sustained Low Plasma Nonesterified Fatty Acids in Feed-Restricted Holstein Cows  
**J. A. A. Pires and R. R. Grummer**.....3725
- Somatic Cell Count During and Between Milkings  
**R. G. M. Olde Riekerink, H. W. Barkema, W. Veenstra, F. E. Berg, H. Stryhn, and R. N. Zadoks** .....3733
- Effect of Estrogen on Leptin and Expression of Leptin Receptor Transcripts in Prepubertal Dairy Heifers  
**S. R. Thorn, M. J. Meyer, M. E. Van Amburgh, and Y. R. Boisclair** .....3742
- Mammogenesis and Induced Lactation With or Without Reserpine in Nulliparous Dairy Goats  
**A. A. K. Salama, G. Caja, E. Albanell, S. Carné, R. Casals, and X. Such**.....3751
- Treatment of Acute Puerperal Metritis with Flunixin Meglumine in Addition to Antibiotic Treatment  
**M. Drillich, D. Voigt, D. Forderung, and W. Heuwieser** .....3758
- Cow, Farm, and Management Factors During the Dry Period that Determine the Rate of Clinical Mastitis After Calving  
**M. J. Green, A. J. Bradley, G. F. Medley, and W. J. Browne** .....3764

## NUTRITION, FEEDING, AND CALVES:

- A Mathematical Approach to Predicting Biological Values from Ruminal pH Measurements  
**O. AlZahal, E. Kebreab, J. France, and B. W. McBride**.....3777

Evaluating the Conjugated Linoleic Acid and <i>Trans</i> 18:1 Isomers in Milk Fat of Dairy Cows Fed Increasing Amounts of Sunflower Oil and a Constant Level of Fish Oil <b>C. Cruz-Hernandez, J. K. G. Kramer, J. J. Kennelly, D. R. Glimm, B. M. Sorensen, E. K. Okine, L. A. Goonewardene, and R. J. Weselake</b> .....	3786
Relationships Among Body Condition Score, Body Weight, and Milk Production Variables in Pasture-Based Dairy Cows <b>J. R. Roche, J. M. Lee, K. A. Macdonald, and D. P. Berry</b> .....	3802
A Redefinition of the Representation of Mammary Cells and Enzyme Activities in a Lactating Dairy Cow Model <b>M. D. Hanigan, A. G. Rius, E. S. Kolver, and C. C. Palliser</b> .....	3816
Use of Flavored Drinking Water in Calves and Lactating Dairy Cattle <b>L. C. Thomas, T. C. Wright, A. Formusiak, J. P. Cant, and V. R. Osborne</b> .....	3831
Depression in Feed Intake by a Highly Fermentable Diet Is Related to Plasma Insulin Concentration and Insulin Response to Glucose Infusion <b>B. J. Bradford and M. S. Allen</b> .....	3838
Effects of Peripartum Propylene Glycol or Fats Differing in Fatty Acid Profiles on Feed Intake, Production, and Plasma Metabolites in Dairy Cows <b>U. Moallem, M. Katz, A. Arieli, and H. Lehrer</b> .....	3846
Passive Transfer of Immunoglobulin G and Preweaning Health in Holstein Calves Fed a Commercial Colostrum Replacer <b>H. Swan, S. Godden, R. Bey, S. Wells, J. Fetrow, and H. Chester-Jones</b> .....	3857
Effects of Feedborne <i>Fusarium</i> Mycotoxins on the Performance, Metabolism, and Immunity of Dairy Cows <b>S. N. Korosteleva, T. K. Smith, and H. J. Boermans</b> .....	3867
Effects of Fatty Acid Oxidation Products (Green Odor) on Rumen Bacterial Populations and Lipid Metabolism In Vitro <b>M. R. F. Lee, S. A. Huws, N. D. Scollan, and R. J. Dewhurst</b> .....	3874

#### **GENETICS AND BREEDING:**

Environmental Sensitivity of Milk Production in Extensive Environments: A Comparison of Simmental, Brown Swiss, and Tyrol Grey Using Random Regression Models <b>H. Bytyqi, J. Ødegård, H. Mehmeti, M. Vegara, and G. Klemetsdal</b> .....	3883
Genotype by Environment Interaction for Production Traits While Accounting for Heteroscedasticity <b>A. G. Fahey, M. M. Schutz, D. L. Lofgren, A. P. Schinckel, and T. S. Stewart</b> .....	3889
Heterogeneity of Genetic Parameters for Calving Difficulty in Holstein Heifers in Ireland <b>J. M. Hickey, M. G. Keane, D. A. Kenny, A. R. Cromie, P. R. Amer, and R. F. Veerkamp</b> .....	3900
Metabolic Regulation in Danish Bull Calves and the Relationship to the Fertility of Their Female Offspring <b>C. Hayhurst, M. K. Sørensen, M. D. Royal, and P. Løvendahl</b> .....	3909
Genetic Analysis of Male and Female Fertility After Artificial Insemination in Sheep: Comparison of Single-Trait and Joint Models <b>I. David, L. Bodin, G. Lagriffoul, C. Leymarie, E. Manfredi, and C. Robert-Granié</b> .....	3917
Modeling Extended Lactations of Holsteins <b>C. M. B. Dematawewa, R. E. Pearson, and P. M. VanRaden</b> .....	3924
Consistency of Maturity Rate for Milk Yield Across Countries and Generations <b>H. D. Norman, J. R. Wright, R. L. Powell, P. M. VanRaden, F. Miglior, and G. de Jong</b> .....	3937

Genetic Analysis of Traits Affecting the Success of Embryo Transfer  
in Dairy Cattle  
**S. König, F. Bosselmann, U. U. von Borstel, and H. Simianer**.....3945

*Short Communication: Composition of Milk Protein and Milk Fatty Acids  
Is Stable for Cows Differing in Genetic Merit for Milk Production*  
**G. Bobe, G. L. Lindberg, A. E. Freeman, and D. C. Beitz** .....3955

**OUR INDUSTRY TODAY:**

Organic Dairy Production Systems in Pennsylvania: A Case Study  
Evaluation  
**C. A. Rotz, G. H. Kamphuis, H. D. Karsten, and R. D. Weaver** .....3961

Efficacy of Nisin in Treatment of Clinical Mastitis in Lactating  
Dairy Cows  
**L. T. Cao, J. Q. Wu, F. Xie, S. H. Hu, and Y. Mo**.....3980

Milk Coagulation Ability of Five Dairy Cattle Breeds  
**M. De Marchi, R. Dal Zotto, M. Cassandro, and G. Bittante**.....3986

A Comparison of Three Strains of Holstein-Friesian Cows Grazed  
on Pasture: Growth, Development, and Puberty  
**K. A. Macdonald, L. R. McNaughton, G. A. Verkerk, J. W. Penno, L. J. Burton,  
D. P. Berry, P. J. S. Gore, J. A. S. Lancaster, and C. W. Holmes** .....3993

Erratum.....4004

**NOTICE: Page Charges for Publication**

The page charge per printed page is \$85 for professional members and \$140 for nonmembers for papers published in *Journal of Dairy Science*

**Future Annual Meetings**  
**2008–July 7–11, Indianapolis, IN**  
**2009–July 12–16, Montreal, Canada**  
**2010–July 11–15, Denver, CO**