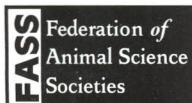


Journal of Dairy Science®

Official Publication of the American Dairy Science Association®



ELSEVIER



Volume 93, Number 7

July 2010

ISSN: 0022-0302

CONTENTS

INTERPRETIVE SUMMARIES	vi
NEWS AND ANNOUNCEMENTS	xi
DAIRY FOODS:	
Effect of sodium hexametaphosphate concentration and cooking time on the physicochemical properties of pasteurized process cheese N. Shirashoji, J. J. Jaeggi, and J. A. Lucey	2827
Extracellular secretion in <i>Bacillus subtilis</i> of a cytoplasmic thermostable β -galactosidase from <i>Geobacillus stearothermophilus</i> Y. Xia, J. Zhao, H. Chen, X. Liu, Y. Wang, F. Tian, H. P. Zhang, H. Zhang, and W. Chen	2838
Ultraviolet-absorbing compounds in milk are related to forage polyphenols J. M. Besle, D. Viala, B. Martin, P. Pradel, B. Meunier, J. L. Berdagué, D. Fraisse, J. L. Lamaison, and J. B. Coulon.....	2846
Composition and distribution of fatty acids in triglycerides from goat infant formulas with milk fat C. G. Prosser, V. I. Svetashev, M. V. Vyssotski, and D. J. Lowry	2857
Milk quality as affected by feeding regimens in a country with climatic variation M. K. Larsen, J. H. Nielsen, G. Butler, C. Leifert, T. Slots, G. H. Kristiansen, and A. H. Gustafsson	2863
Effect of exopolysaccharide-producing strains of <i>Streptococcus thermophilus</i> on technological attributes of fat-free lassi P. V. Behare, R. Singh, S. K. Tomar, R. Nagpal, M. Kumar, and D. Mohania.....	2874
Molecular identification of naturally occurring bacteriocinogenic and bacteriocinogenic-like lactic acid bacteria in raw milk and soft cheese M. B. T. Ortolani, P. M. Moraes, L. M. Perin, G. N. Viçosa, K. G. Carvalho, A. Silva Júnior, and L. A. Nero	2880
Influence of whipping temperature on the whipping properties and rheological characteristics of whipped cream K. Ihara, K. Habara, Y. Ozaki, K. Nakamura, H. Ochi, H. Saito, H. Asaoka, M. Uozumi, N. Ichihashi, and K. Iwatsuki	2887
Proteolysis, lipolysis, volatile compounds, texture, and flavor of Hispánico cheese made using frozen ewe milk curds pressed for different times A. Picon, P. Gaya, E. Fernández-García, A. Rivas-Cañedo, M. Ávila, and M. Nuñez	2896
Inhibitory effect of α_{S1} - and α_{S2} -casein hydrolysates on angiotensin I-converting enzyme in human endothelial cells in vitro, rat aortic tissue ex vivo, and renovascular hypertensive rats in vivo D. Rousseau-Ralliard, F. Goirand, S. Tardivel, A. Lucas, F. Algaron, D. Mollé, V. Robert, D. Auchère, J.-F. Boudier, J.-L. Gaillard, V. Monnet, J. Tauzin, and A. Grynberg	2906
Technical note: Comparing calibration methods for determination of protein in goat milk by ultraviolet spectroscopy E. O. Rukke, E. F. Olsen, T. Devold, G. Vegarud, and T. Isaksson	2922

PHYSIOLOGY AND MANAGEMENT:

- Association between uterine disease and indicators of neutrophil and systemic energy status in lactating Holstein cows
K. N. Galvão, M. J. B. F. Flaminio, S. B. Brittin, R. Sper, M. Fraga, L. Caixeta, A. Ricci, C. L. Guard, W. R. Butler, and R. O. Gilbert 2926
- Disruption of cell junctions induces apoptosis and reduces synthetic activity in lactating goat mammary gland
H. Ben Chedly, M. Boutinaud, P. Bernier-Dodier, P.-G. Marnet, and P. Lacasse 2938
- Noninvasive detection of hepatic lipidosis in dairy cows with calibrated ultrasonographic image analysis
A. Starke, A. Haudum, G. Weijers, K. Herzog, P. Wohlsein, M. Beyerbach, C. L. de Korte, J. M. Thijssen, and J. Rehage 2952
- Diagnosing intramammary infections: Evaluating expert opinions on the definition of intramammary infection using conjoint analysis
S. Andersen, I. R. Dohoo, R. Olde Riekerink, H. Stryhn, and Mastitis Research Workers' Conference 2966
- Effect of reducing the period of follicle dominance in a timed artificial insemination protocol on reproduction of dairy cows
J. E. P. Santos, C. D. Narciso, F. Rivera, W. W. Thatcher, and R. C. Chebel 2976
- Effect of nonclinical *Staphylococcus aureus* or coagulase-negative staphylococci intramammary infection during the first month of lactation on somatic cell count and milk yield in heifers
M.-È. Paradis, É. Bouchard, D. T. Scholl, F. Miglior, and J.-P. Roy 2989
- Dairy farmer attitudes and empathy toward animals are associated with animal welfare indicators
C. Kielland, E. Skjerve, O. Østerås, and A. J. Zanella 2998
- Differences in milk production, glucose metabolism, and carcass composition of 2 Charolais × Holstein F₂ families derived from reciprocal paternal and maternal grandsire crosses
H. M. Hammon, C. C. Metges, A. Schulz, P. Junghans, J. Steinhoff, F. Schneider, R. Pfuhl, R. M. Bruckmaier, R. Weikard, and C. Kühn 3007
- Assessing ovulation detection performance in commercial dairy herds using progesterone concentrations from limited numbers of strategically collected milk samples
J. M. Morton and P. C. Wynn 3019
- Colostrogenesis: Mass transfer of immunoglobulin G₁ into colostrum
C. R. Baumrucker, A. M. Burkett, A. L. Magliaro-Macrina, and C. D. Dechow 3031
- Effect of analgesia during hoof trimming on gait, weight distribution, and activity of dairy cattle
N. Chapinal, A. M. de Passillé, J. Rushen, and S. A. Wagner 3039
- Effects of intravenous glucose infusion and nutritional balance on serum concentrations of nonesterified fatty acids, glucose, insulin, and progesterone in nonlactating dairy cows
F. V. R. Vieira, C. N. Lopes, B. I. Cappellozza, A. B. Scarpa, R. F. Cooke, and J. L. M. Vasconcelos 3047
- Pharmacokinetics and milk penetration of difloxacin after a long-acting formulation for subcutaneous administration to lactating goats
P. Marín, E. Escudero, E. Fernández-Varón, M. J. Ramírez, and C. M. Cárcelos 3056
- Short communication:* Ketone body concentration in milk determined by Fourier transform infrared spectroscopy: Value for the detection of hyperketonemia in dairy cows
A. T. M. van Knegsel, S. G. A. van der Drift, M. Horneman, A. P. W. de Roos, B. Kemp, and E. A. M. Graat 3065
- Short communication:* Risk of severe heel erosion increased with parity and stage of lactation in freestall-housed dairy cows
N. Chapinal, L. G. Baird, L. C. Pinheiro Machado, M. A. G. von Keyserlingk, and D. M. Weary 3070

<i>Technical note: A simple model to estimate changes in dietary composition of strip-grazed cattle during progressive pasture defoliations</i>	
A. J. Romera, P. Gregorini, and P. C. Beukes	3074

NUTRITION, FEEDING, AND CALVES:

Effects of pair versus single housing on performance and behavior of dairy calves before and after weaning from milk	
A. De Paula Vieira, M. A. G. von Keyserlingk, and D. M. Weary	3079
Prepartum dietary management of energy intake affects postpartum intake and lactation performance by primiparous and multiparous Holstein cows	
N. A. Janovick and J. K. Drackley	3086
Effects of vitamin E supplementation on and the association of body condition score with changes in peroxidative biomarkers and antioxidants around calving in dairy heifers	
P. Dobbelaar, R. J. Bouwstra, R. M. A. Goselink, R. Jorritsma, J. J. G. C. van den Borne, and E. H. J. M. Jansen	3103
Regulation of protein synthesis in mammary glands of lactating dairy cows by starch and amino acids	
A. G. Rius, J. A. D. R. N. Appuhamy, J. Cyriac, D. Kirovski, O. Becvar, J. Escobar, M. L. McGilliard, B. J. Bequette, R. M. Akers, and M. D. Hanigan.....	3114
Effects of a molasses-coated cottonseed product on diet digestibility, performance, and milk fatty acid profile of lactating dairy cattle	
C. R. Mullins and B. J. Bradford	3128
Natural populations of lactic acid bacteria isolated from vegetable residues and silage fermentation	
J. Yang, Y. Cao, Y. Cai, and F. Terada.....	3136
Milk composition, milk fatty acid profile, digestion, and ruminal fermentation in dairy cows fed whole flaxseed and calcium salts of flaxseed oil	
C. Côrtes, D. C. da Silva-Kazama, R. Kazama, N. Gagnon, C. Benchaar, G. T. D. Santos, L. M. Zeoula, and H. V. Petit.....	3146
Effect of dietary crude protein modification on ammonia and nitrous oxide concentration on a tie-stall dairy barn floor	
H. Arriaga, G. Salcedo, L. Martínez-Suller, S. Calsamiglia, and P. Merino	3158
Utilization of nitrogen in cows consuming wet distillers grains with solubles in alfalfa and corn silage-based dairy rations	
A. M. Gehman and P. J. Kononoff	3166
Performance and amino acid utilization of early lactation dairy cows fed regular or reduced-fat dried distillers grains with solubles	
K. Mjoun, K. F. Kalscheur, A. R. Hippen, and D. J. Schingoethe.....	3176
Performance of high-yielding dairy cows supplemented with fat or concentrate under hot and humid climates	
U. Moallem, G. Altmark, H. Lehrer, and A. Arieli	3192
Quantifying ruminal digestion of organic matter and neutral detergent fiber using the omasal sampling technique in cattle—A meta-analysis	
P. Huhtanen, S. Ahvenjärvi, G. A. Broderick, S. M. Reynal, and K. J. Shingfield.....	3203
Quantifying ruminal nitrogen metabolism using the omasal sampling technique in cattle—A meta-analysis	
G. A. Broderick, P. Huhtanen, S. Ahvenjärvi, S. M. Reynal, and K. J. Shingfield.....	3216
Effects of partially replacing barley silage or barley grain with dried distillers grains with solubles on rumen fermentation and milk production of lactating dairy cows	
S. Z. Zhang, G. B. Penner, W. Z. Yang, and M. Oba.....	3231

Effects of feeding alfalfa hay on chewing, rumen pH, and milk fat concentration of dairy cows fed wheat dried distillers grains with solubles as a partial substitute for barley silage S. Z. Zhang, G. B. Penner, M. Abdelqader, and M. Oba	3243
The effect of harvesting strategy of grass silage on digestion and nutrient supply in dairy cows K. Kuoppala, M. Rinne, S. Ahvenjärvi, J. Nousiainen, and P. Huhtanen	3253
Changes in production and mammary metabolism of dairy cows in response to essential and nonessential amino acid infusions L. Doepel and H. Lapierre	3264
Changes in the rumen bacterial community in response to sunflower oil and fish oil supplements in the diet of dairy sheep A. Belenguer, P. G. Toral, P. Frutos, and G. Hervás.....	3275
<i>Technical note:</i> Use of accelerometers to describe gait patterns in dairy calves A. M. de Passillé, M. B. Jensen, N. Chapinal, and J. Rushen	3287

GENETICS AND BREEDING:

Monitoring inbreeding trends and inbreeding depression for economically important traits of Holstein cattle in Iran M. Rokouei, R. Vaez Torshizi, M. Moradi Shahrababak, M. Sargolzaei, and A. C. Sørensen	3294
Economic weights for major milk constituents of Manchega dairy ewes M. Ramón, A. Legarra, E. Ugarte, J. J. Garde, and M. D. Pérez-Guzmán	3303
Genome-wide scan to detect quantitative trait loci for milk urea nitrogen in Dutch Holstein-Friesian cows A. C. Bouwman, G. C. B. Schopen, H. Bovenhuis, M. H. P. W. Visker, and J. A. M. van Arendonk	3310
Implications of avoiding overlap between training and testing data sets when evaluating genomic predictions of genetic merit P. R. Amer and G. Banos	3320
A validated genome-wide association study in 2 dairy cattle breeds for milk production and fertility traits using variable length haplotypes J. E. Pryce, S. Bolormaa, A. J. Chamberlain, P. J. Bowman, K. Savin, M. E. Goddard, and B. J. Hayes.....	3331
<i>Short communication:</i> Influence of composite casein genotypes on additive genetic variation of milk production traits and coagulation properties in Holstein-Friesian cows M. Penasa, M. Cassandro, D. Pretto, M. De Marchi, A. Comin, S. Chessa, R. Dal Zotto, and G. Bittante.....	3346

OUR INDUSTRY TODAY:

Identifying cost-minimizing strategies for guaranteeing target dairy income over feed cost via use of the Livestock Gross Margin dairy insurance program M. Valvekar, V. E Cabrera, and B. W Gould	3350
Somatic cell count assessment at the quarter or cow milking level H. Mollenhorst, P. P. J. van der Tol, and H. Hogeveen	3358
Excellence in teaching for promotion and tenure in animal and dairy sciences at doctoral/research universities: A faculty perspective M. A. Wattiaux, J. A. Moore, R. R. Rastani, and P. M. Crump.....	3365
Effects of spontaneous heating on estimates of total digestible nutrients for alfalfa-orchardgrass hays packaged in large round bales W. K. Coblenz and P. C. Hoffman	3377

The influence of strain of Holstein-Friesian cow and feeding system on greenhouse gas emissions from pastoral dairy farms

D. O'Brien, L. Shalloo, C. Grainger, F. Buckley, B. Horan, and M. Wallace..... 3390

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*. Open access (OA) publication is available upon payment of a \$1750 (ADSA member) or \$3500 (nonmember) OA fee in lieu of standard page charges.

Future Annual Meetings

2010–July 11–15, Denver, CO

2011–July 11–14, New Orleans, LA