

Journal of Dairy Science

January 2011

Volume 94, Number 1

CONTENTS

INTERPRETIVE SUMMARIES	v
NEWS AND ANNOUNCEMENTS	xiii
DAIRY FOODS:	
Toward the integration of expert knowledge and instrumental data to control food processes: Application to Camembert-type cheese ripening M. Sicard, N. Perrot, M.-N. Leclercq-Perlat, C. Baudrit, and G. Corrieu	1
Characterization of high-milk-protein powders upon rehydration under various salt concentrations R. Hussain, C. Gaiani, L. Aberkane, and J. Scher	14
Fat composition of organic and conventional retail milk in northeast England G. Butler, S. Stergiadis, C. Seal, M. Eyre, and C. Leifert	24
The effect of sodium chloride substitution with potassium chloride on texture profile and microstructure of Halloumi cheese M. M. Ayyash, F. Sherkat, P. Francis, R. P. W. Williams, and N. P. Shah	37
X-ray microtomography to study the microstructure of cream cheese-type products J. Laverse, M. Mastromatteo, P. Frisullo, and M. A. Del Nobile	43
Effect of glycation on sodium caseinate-stabilized emulsions obtained by ultrasound M. Corzo-Martínez, A. C. Soria, M. Villamiel, A. Olano, F. M. Harte, and F. J. Moreno	51
Survey of the fatty acid composition of retail milk in the United States including regional and seasonal variations A. M. O'Donnell-Megaro, D. M. Barbano, and D. E. Bauman	59
The effect of bovine milk lactoferrin on human breast cancer cell lines D. C. Duarte, A. Nicolau, J. A. Teixeira, and L. R. Rodrigues	66
Expression of nisin genes in cheese—A quantitative real-time polymerase chain reaction approach A. Trmčić, C. Monnet, I. Rogelj, and B. Bogovič Matijašić	77
PHYSIOLOGY AND MANAGEMENT:	
Heat stress abatement during the dry period influences metabolic gene expression and improves immune status in the transition period of dairy cows B. C. do Amaral, E. E. Connor, S. Tao, M. J. Hayen, J. W. Bubolz, and G. E. Dahl	86
Restless behavior increases over time, but not with compressibility of the flooring surface, during forced standing at the feed bunk N. Krebs, S. L. Berry, and C. B. Tucker	97
A retrospective study on the association between different lengths of the dry period and subclinical mastitis, milk yield, reproductive performance, and culling in Chilean dairy cows P. Pinedo, C. Risco, and P. Melendez	106
Characteristics of prolonged luteal phase identified by milk progesterone concentrations and its effects on reproductive performance in Holstein cows R. M. S. B. K. Ranasinghe, T. Nakao, K. Yamada, K. Koike, A. Hayashi, and C. M. B. Dematawewa	116
Mastitis diagnostics: Quantitative PCR for <i>Staphylococcus aureus</i> genotype B in bulk tank milk R. Boss, J. Naskova, A. Steiner, and H. U. Graber	128

Antimicrobial activity of bovine β -lactoglobulin against mastitis-causing bacteria L. Chaneton, J. M. Pérez Sáez, and L. E. Bussmann	138
Efficacy of carprofen on conception rates in lactating dairy cows after subcutaneous or intrauterine administration at the time of breeding W. Heuwieser, M. Iwersen, and L. Goetze.....	146
Anaphylatoxin C5a-induced toll-like receptor 4 signaling in bovine neutrophils M. G. H. Stevens, M. Van Poucke, L. J. Peelman, P. Rainard, B. De Spiegeleer, C. Rogiers, G. R. Van de Walle, L. Duchateau, and C. Burvenich	152
Selenomethionine increases proliferation and reduces apoptosis in bovine mammary epithelial cells under oxidative stress S. G. Miranda, N. G. Purdie, V. R. Osborne, B. L. Coomber, and J. P. Cant	165
Cow-specific treatment of clinical mastitis: An economic approach W. Steeneveld, T. van Werven, H. W. Barkema, and H. Hogeveen	174
Effects of differential supplementation of fatty acids during the peripartum and breeding periods of Holstein cows: I. Uterine and metabolic responses, reproduction, and lactation F. T. Silvestre, T. S. M. Carvalho, N. Francisco, J. E. P. Santos, C. R. Staples, T. C. Jenkins, and W. W. Thatcher.....	189
Alternative programs to presynchronize estrous cycles in dairy cattle before a timed artificial insemination program J. S. Stevenson	205
Potential role of adenosine monophosphate-activated protein kinase in regulation of energy metabolism in dairy goat mammary epithelial cells N. Zhang, Q. Z. Li, X. J. Gao, and H. B. Yan.....	218
Effects of postbreeding gonadotropin treatments on conception rates of lactating dairy cows subjected to timed artificial insemination or embryo transfer in a tropical environment J. L. M. Vasconcelos, O. G. Sá Filho, P. L. T. Justolin, P. Morelli, F. L. Aragon, M. B. Veras, and S. Soriano.....	223
Process audits versus product quality monitoring of bulk milk A. G. J. Velthuis and M. A. P. M. van Asseldonk.....	235
Diagnosing intramammary infections: Evaluation of definitions based on a single milk sample I. R. Dohoo, J. Smith, S. Andersen, D. F. Kelton, S. Godden, and Mastitis Research Workers' Conference	250
Selenium levels in cows fed pasture and concentrates or a total mixed ration and supplemented with selenized yeast to produce milk with supra-nutritional selenium concentrations C. R. Stockdale, P. M. Shields, A. McKenna, G. P. Walker, F. R. Dunshea, and P. T. Doyle	262
Dairy cattle prefer shade over sprinklers: Effects on behavior and physiology K. E. Schütz, A. R. Rogers, N. R. Cox, J. R. Webster, and C. B. Tucker.....	273
Determination of ceftiofur derivatives in serum, endometrial tissue, and lochia in puerperal dairy cows after subcutaneous administration of ceftiofur crystalline free acid T. S. Witte, M. Iwersen, T. Kaufmann, P. Scherpenisse, A. A. Bergwerff, and W. Heuwieser	284
Metagenomic analysis of the uterine bacterial microbiota in healthy and metritis postpartum dairy cows T. M. A. Santos, R. O. Gilbert, and R. C. Bicalho	291
Somatotropic axis and concentrate supplementation in grazing dairy cows of genetically diverse origin T. M. Grala, M. C. Lucy, C. V. C. Phyn, A. J. Sheahan, J. M. Lee, and J. R. Roche.....	303
<i>Short communication:</i> Effects of <i>trans</i> fatty acids on markers of inflammation in bovine mammary epithelial cells P. Rezamand and M. A. McGuire.....	316

NUTRITION, FEEDING, AND CALVES:

Milk urea concentration as an indicator of ammonia emission from dairy cow barn under restricted grazing	321
G. van Duinkerken, M. C. J. Smits, G. André, L. B. J. Šebek, and J. Dijkstra	321
A prospective study of calf factors affecting first-lactation and lifetime milk production and age of cows when removed from the herd	326
A. J. Heinrichs and B. S. Heinrichs	326
Effect of early feed type exposure on diet selection behavior of dairy calves	342
E. K. Miller-Cushon and T. J. DeVries.....	342
Population structure of rumen <i>Escherichia coli</i> associated with subacute ruminal acidosis (SARA) in dairy cattle	351
E. Khafipour, J. C. Plaizier, P. C. Aikman, and D. O. Krause	351
Differential expression of genes in adipose tissue of first-lactation dairy cattle	361
J. M. Sumner-Thomson, J. L. Vierck, and J. P. McNamara	361
Exclusion of dietary sodium bicarbonate from a wheat-based diet: Effects on milk production and ruminal fermentation	370
L. Doepel and A. Hayirli.....	370
Effect of wheat middlings-based total mixed ration on milk production and composition responses of lactating dairy ewes	376
V. Tufarelli and V. Laudadio	376
Effects of lauric and myristic acids on ruminal fermentation, production, and milk fatty acid composition in lactating dairy cows	382
A. N. Hristov, C. Lee, T. Cassidy, M. Long, K. Heyler, B. Corl, and R. Forster	382
Interactions of monensin with dietary fat and carbohydrate components on ruminal fermentation and production responses by dairy cows	396
B. Mathew, M. L. Eastridge, E. R. Oelker, J. L. Firkins, and S. K. R. Karnati.....	396
Sodium dodecyl sulfate reduces bacterial contamination in goat colostrum without negative effects on immune passive transfer in goat kids	410
A. Morales-delaNuez, I. Moreno-Indias, D. Sánchez-Macías, J. Capote, M. C. Juste, N. Castro, L. E. Hernández-Castellano, and A. Argüello	410
Effect of rumen-undegradable protein supplementation and fresh forage composition on nitrogen utilization of dairy ewes	416
C. Mikolayunas, D. L. Thomas, L. E. Armentano, and Y. M. Berger.....	416
<i>Technical note:</i> Evaluation of a system for monitoring rumination in heifers and calves	
O. Burfeind, K. Schirrmann, M. A. G. von Keyserlingk, D. M. Veira, D. M. Weary, and W. Heuwieser	426

GENETICS AND BREEDING:

Effect of enlarging the reference population with (un)genotyped animals on the accuracy of genomic selection in dairy cattle	431
M. Pszczola, H. A. Mulder, and M. P. L. Calus	431
Lactation curve models for estimating gene effects over a timeline	442
E. M. Strucken, D. J. de Koning, S. A. Rahmatalla, and G. A. Brockmann	442
A Bayesian threshold-linear model evaluation of perinatal mortality, dystocia, birth weight, and gestation length in a Holstein herd	450
J. M. Johanson, P. J. Berger, S. Tsuruta, and I. Misztal.....	450
Estimation of genetic parameters for measures of calf survival in a population of Holstein heifer calves from a heifer-raising facility in New York State	461
L. Henderson, F. Miglior, A. Sewalem, D. Kelton, A. Robinson, and K. E. Leslie	461

Genetic analysis of mastitis data with different models D. Hinrichs, J. Bennewitz, E. Stamer, W. Junge, E. Kalm, and G. Thaller.....	471
Genome-wide association study for calving traits in Danish and Swedish Holstein cattle G. Sahana, B. Guldbrandtsen, and M. S. Lund	479
Genetic effects of heat stress on milk yield of Thai Holstein crossbreds W. Boonkum, I. Misztal, M. Duangjinda, V. Pattarajinda, S. Tumwasorn, and J. Sanpote.....	487
A comparison of dairy cattle breeding designs that use genomic selection M. Lillehammer, T. H. E. Meuwissen, and A. K. Sonesson.....	493
<i>Short communication:</i> Jersey × Holstein crossbreds compared with pure Holsteins for production, mastitis, and body measurements during the first 3 lactations B. J. Heins, L. B. Hansen, A. J. Seykora, A. R. Hazel, D. G. Johnson, and J. G. Linn	501
<i>Short communication:</i> Interaction of energy balance, feed efficiency, early lactation health events, and fertility in first-lactation Holstein, Jersey, and reciprocal F ₁ crossbred cows K. M. Olson, B. G. Cassell, M. D. Hanigan, and R. E. Pearson	507
<i>Short communication:</i> Genetic parameters of milking temperament and milking speed in Canadian Holsteins A. Sewalem, F. Miglior, and G. J. Kistemaker	512

OUR INDUSTRY TODAY:

The impact of land fragmentation on milk production J. del Corral, J. A. Perez, and D. Roibas	517
Viable cell yield from active dry yeast products and effects of storage temperature and diluent on yeast cell viability M. L. Sullivan and B. J. Bradford	526
Errata	532