

# Journal of Dairy Science

May 1986

Volume 69, Number 5

## CONTENTS

NEWS AND EVENTS ..... 5

### GENERAL INTEREST:

Administrative Information ..... 4  
Memorial—Gus Bohstedt ..... 1476

### DAIRY FOODS RESEARCH PAPERS:

Relationships Between Milk Protein Polymorphisms and Cheese  
Yielding Capacity.  
A. S. Marziali and K. F. Ng-Kwai-Hang ..... 1193

Microencapsulation of Cell-Free Extracts to Demonstrate the  
Feasibility of Heterogeneous Enzyme Systems and Cofactor  
Recycling for Development of Flavor in Cheese.  
S. D. Braun and N. F. Olson ..... 1202

Regulating Flavor Compound Synthesis and Cofactor Recycling  
in Heterogeneous Enzymatic Reactions by Mixtures of  
Bacterial Cell-Free Extracts.  
S. D. Braun and N. F. Olson ..... 1209

Evaluating Acetaldehyde Synthesis from L-[<sup>14</sup>C(U)] Threonine by  
*Streptococcus thermophilus* and *Lactobacillus bulgaricus*.  
D. W. Wilkins, R. H. Schmidt, R. B. Shireman, K. L. Smith,  
and J. J. Jezeski ..... 1219

Acceptance of Frozen Desserts Made with Concentrated, Decolorized,  
Deionized Hydrolyzed Whey Permeate.  
T. M. Rexroat and R. L. Bradley, Jr. .... 1225

Ineffective Cleaning of Polysulfone Ultrafiltration Membrane  
Systems and Corrosion by Bisulfite Used as a Sanitizer.  
K. E. Smith and R. L. Bradley, Jr. .... 1232

### DAIRY FOODS TECHNICAL NOTES:

Quantitative Changes in Oligosaccharides During Fermentation  
and Storage of Yogurt Inoculated Simultaneously with Starter  
Culture and  $\beta$ -Galactosidase Preparation.  
T. Toba, K. Arihara, and S. Adachi ..... 1241

Analysis of Thiamine in Milk by Gas Chromatography and the  
Nitrogen-Phosphorus Detector.  
R. E. Echols,<sup>†</sup>R. H. Miller, and W. Foster ..... 1246

### PRODUCTION RESEARCH PAPERS:

Effect of Endotoxin on Mammary Secretion of Lactating Cows.  
F. W. Lengemann and M. Pitzrick ..... 1250

Changes in Bovine Milk Secretion Following Intramammary Infusions of Concanavalin A, Oyster Glycogen, or Water. L. K. Fox, L. L. Timms, and L. H. Schultz . . . . .	1259
Autoregulation of Alimentary and Hepatic Ketogenesis in Sheep. R. N. Heitmann and J. M. Fernandez. . . . .	1270
Eating and Resting Salivation in Early Lactation Dairy Cows. K. K. Cassida and M. R. Stokes . . . . .	1282
Ruminal Fermentation In Vivo as Influenced by Long-Chain Fatty Acids. W. Chalupa, B. Vecchiarelli, A. E. Elser, D. S. Kronfeld, D. Sklan, and D. L. Palmquist . . . . .	1293
Comparative Feed Efficiency of Holstein and Jersey Cows. R. W. Blake, A. A. Custodio, and W. H. Howard . . . . .	1302
Composition and Digestibility of Alfalfa and Orchardgrass Hemicellulose Monosaccharides by Holstein Steers. C. L. Wedig, E. H. Jaster, and K. J. Moore . . . . .	1309
Alfalfa and Orchardgrass Silages Treated with Formaldehyde and Formic Acid or Anhydrous Ammonia for Heifers. B. P. Glenn and D. R. Waldo . . . . .	1317
Comparison of Low Alkaloid Tall Fescues and Orchardgrass for Lactating Jersey Cows. H. D. Baxter, J. R. Owen, R. C. Buckner, R. W. Hemken, M. R. Siegel, L. P. Bush, and M. J. Montgomery . . . . .	1329
Influence of Formaldehyde-Treated Soybean Meal on Milk Production. R. G. Lundquist, D. E. Otterby, and J. G. Linn . . . . .	1337
Evaluation of Urea and Dried Whey in Diets of Cows During Early Lactation. D. P. Casper and D. J. Schingoethe . . . . .	1346
Influence of Pecan Shells and Hulls as a Roughage Source on Milk Production, Rumen Fermentation, and Digestion of Ruminants. R. G. Ramirez, H. E. Kiesling, M. L. Galyean, and D. D. Miller. . . . .	1355
Response by Dairy Cows to Hay Supplement with Early Spring Grazing or to Delay in Turning to Pasture. D. H. Rearte, E. M. Kesler, and G. L. Hargrove . . . . .	1366
Influence of Low Linoleic and Linolenic Acids in Milk Replacer on Calf Performance and Lipids in Blood Plasma, Heart, and Liver. K. J. Jenkins and J.K.G. Kramer. . . . .	1374
Morphological Alterations of Small Intestinal Epithelium of Calves Caused by Feeding Soybean Protein. A. G. Silva, J. T. Huber, T. H. Herdt, R. Holland, R. M. Degregorio, and T. P. Mullaney. . . . .	1387
Estimation of Variances in Animal Model and Reduced Animal Model for Single Traits and Single Records. C. R. Henderson . . . . .	1394
Evaluation of Merit of a Corrective Mating Program for Holstein Cattle. P. J. Berger, W. A. Dishman, and A. E. Freeman . . . . .	1403

**PRODUCTION TECHNICAL NOTES:**

Use of a Combination of Propylene Glycol and Niacin for Subclinical Ketosis.  
G. J. Ruegsegger and L. H. Schultz . . . . . 1411

Supplemental Niacin for Lactating Cows During Summer Feeding.  
L. D. Muller, A. J. Heinrichs, J. B. Cooper, and Y. H. Atkin. . . . . 1416

Effect of Prepartum Selenium Treatment on Uterine Involution in the Dairy Cow.  
J. H. Harrison, D. D. Hancock, N. St. Pierre, H. R. Conrad, and W. R. Harvey . . . . . 1421

Use of Laboratory Mice to Study Genetic Relationships Among Milk Yield and Number of Somatic Cells.  
G. V. Kokkalis, W. E. Vinson, and R. M. Akers . . . . . 1426

**OUR INDUSTRY TODAY:**

Linear Programming in the Allocation of Milk Resources for Cheese Making.  
G. L. Kerrigan and J. P. Norback . . . . . 1432

Three Times a Day Milking: Effects on Milk Production, Reproductive Efficiency, and Udder Health.  
D. B. Allen, E. J. DePeters, and R. C. Laben . . . . . 1441

**SYMPOSIUM: IMPACTS ON THE CONSUMPTION OF DAIRY PRODUCTS**

Review of Current and Future Consumption Trends for Milk and Dairy Products.  
R. E. Jacobson . . . . . 1447

Effects of Milk Solids Content on Consumption of Milk.  
R. D. Boynton . . . . . 1454

Effect of Imitation or Filled Dairy Products.  
T. F. Graf . . . . . 1462

Impact of Advertising on Consumption.  
W. F. McDonald . . . . . 1470

**ASSOCIATION AFFAIRS:**

Memorial—Gus Bohstedt. . . . . 1476

**NOTICE: Page Charges for Publication**

The page charge per printed page is \$50 for members and \$100 for nonmembers for papers published in *Journal of Dairy Science* for papers submitted for publication after July 1, 1985.

In cases where only the authors' personal funds are available for payment, and where such payment would be a hardship, authors may request — prior to publication — a page charge waiver from the Executive Secretary, 309 W. Clark Street, Champaign, IL 61820. Authors who apply for page charge waiver may not order reprints.