

# Publications Index

## Communications, Planning & Evaluation

### Emissions of Ammonia, Methane and Hydrogen Sulfide at Dairies

Dave Goorahoo, California State University, Fresno

Published abstracts:

Carstensen, G. , D. Goorahoo, C.F. Krauter, M. Beene and C. Vasili. 2003.

*Measurement of Ammonia and Methane Concentrations at Dairies using Tunable Diode Lasers. CSA Annual Meetings Abstract 2003 CD-ROM- Denver. CO.*



## Education

### California Dairy Quality Assurance Program

Mike Payne, UC Davis

Publications:

Moore, D. A. , J. H. Kirk, D. J. Klingborg, F. Garry, W. Wailes, J. Dalton, J. Busboom, R. W. Sams, M. Poe, M. Payne, J. Marchello, M. Looper, D. Falk, and T. Wright. Dairy Beef: Maximizing Quality and Profits—A Consistent Food Safety Message *J. Dairy Sci.* 2004 87: 183-190.



### CDQA Program Animal Welfare Module

Carolyn Stull, UC Davis

Publications:

A manuscript has been submitted to the *Journal of Dairy Science*, titled, "A Comparison of Three Animal Welfare Assessment Programs on California Dairies."



## Food Safety & Quality

### The Dairy Food Safety Laboratory

James S. Cullor, UC Davis

Publications:

Moeller R.B. Jr, B. Puschner, R.L. Walker, T. Rocke, F.D. Galey, J.S. Cullor, A.A. Ardans. Determination of the median toxic dose of type C botulinum toxin in lactating dairy cows. *J Vet Diagn Invest.* 2003 Nov;15(6):523-6.

Cenci-Goga, B.T., M. Karama, P.V. Rossitto, R.A. Morgante, J.S. Cullor. Enterotoxin production by *Staphylococcus aureus* isolated from mastitic cows. *J Food Prot.* 2003 Sep;66(9):1693-6.

Alluwaimi, A.M., C.M. Leutenegger, T.B. Farver, P.V. Rossitto, W.L. Smith, J.S. Cullor. The cytokine markers in *Staphylococcus aureus* mastitis of bovine mammary gland. *J Vet Med B Infect Dis Vet Public Health.* 2003 Apr;50(3):105-11.

Aradaib, I.E., W.L. Smith, B.I. Osburn, J.S. Cullor. A multiplex PCR for simultaneous detection and differentiation of North American serotypes of bluetongue and epizootic hemorrhagic disease viruses. *Comp Immunol Microbiol Infect Dis.* 2003 Mar;26(2):77-87.

Smith, W.L., K.L. McGarvey, J.S. Cullor. The use of spiral plating and microscopic colony counting for the rapid quantitation of *Mycobacterium paratuberculosis*. *Lett Appl Microbiol.* 2003;36(5):293-6.

Deluyker, H.A., P. Rossitto, S.N. Van Oye, S.T. Chester, and J.S. Cullor. Efficacy of Enviracor™, an *Escherichia coli* J-5 Mutant Strain Bacterin, in the Protection of Calves from Endotoxin Disease Caused by Subcutaneous Challenge with Endotoxins from *Escherichia coli*. Accepted by Vaccine 2003 with revisions.

Published abstracts:

Cenci Goga, B.T., P.V. Rossitto, F. Aloisio, D. Miraglia, A. Vizzani. *Enterococcus* Spp. and *Leuconostoc* Spp. in Italian-Style Salami Produced in the United States. ISCCOM 2002, Sardinia

Alluwaimi A.M., C.M. Leutenegger, T.B. Farvert, P.R. Rossitto, W.L. Smith, J.S. Cullor. The Cytokine markers in *Staphylococcus aureus* mastitis of bovine mammary gland. World Buiatrics Conference, Hannover Germany, 2002.

Patents/Inventions Disclosures:

Defensin Peptide Composition And Methods For Their Use: US Patent #5,242,902 (9-7-93)

Broad Spectrum Antimicrobial Compounds And Methods Of Use: US Patent #5,324,176 (6-28-94)

Novel Antimicrobial Peptides from Bovine Neutrophils, US Patent #5,459,235(10-17-95)

Antimicrobial Peptides from Bovine Neutrophils, US Patent #5,821,224 (10-13-98)



**Detection and Identification of Ruminant Contaminants in Feed via PCR of Mitochondria Cytochrome DNA**

James S. Cullor, UC Davis

Publications:

Sawyer, M., G. Rensen, W. Smith, M. Yee, A. Wong, B. Osburn, J. Cullor. Detection of Bovine DNA in Cattle Feeds via Fluorescent Polymerase Chain Reaction Overcoming RNA Inhibition. In Press, *Foodborne Pathogens and Disease*. June 2004.



**Certification of California Cattle Herds as Free of Johne’s Disease Using Bayesian Methods**

Ian Gardner, UC Davis

Publications:

Tavornpanich, S, I.A. Gardner, R.J. Anderson, S. Shin, et al. 2004. Evaluation of pooled fecal

culture for detection of *Mycobacterium avium* subsp. *Paratuberculosis* in large dairy herds. *American J. Vet. Res.* (in Press)



**Surveillance Models to Enhance Biodefense and Biosecurity Against Foot-and-Mouth Disease**

Mark Thurmond, UC Davis

Reports:

“Spatial distribution of foot-and-mouth disease in Pakistan modeled using cattle density estimates” submitted for publication.

“A sequential discriminant spatial model to assist in foot-and-mouth disease control and surveillance” submitted for publication.

An abstract “A modification of the scan statistic to evaluate space clustering for composite data, as illustrated using province-based data for foot-and-mouth disease in Iran” to be published in a special issue of the *Journal Preventive Veterinary Medicine* dedicated to advances in spatial techniques.




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**Manufacturing—Butter**

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**Dairy Milk Components Laboratory**

Edward J. DePeters, UC Davis

Graduate theses completed:

M.S. Thesis of Kelly M. McCaughey 2003, University of California, Davis. Kelly’s research involved establishing the methods to separate the triglyceride and phospholipid fractions in milk for fatty acid analysis.

Published abstracts:

Juchem, S.O., J.E.P. Santos, R. Chebel, R.L.A. Cerri, K.N. Galvao, E.J. DePeters, and D. Luchini. 2002. Effect of fat sources differing in fatty acid profile on lactational and reproductive performance of Holstein cows. *Journal of Dairy Science* 85 (Suppl. 1): 315.

## Publications Index

2003

Brownfield, J.J., E.J. DePeters, J.W. Pareas, and S.J. Taylor. 2003. Effects of method of lipid supplementation and physical form of forage on milk yield and fatty acid composition of milk fat. *Journal of Dairy Science* 86 (Suppl. 1): 222.

Ballou, M.A., E.J. DePeters, H. Perez-Monti, J.W. Pareas, and S.J. Taylor. 2003. Effects of saturation ratio of supplemental dietary fat on production performance of lactating Holstein cows in early lactation. *Journal of Dairy Science* 86 (Suppl. 1): 271.

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### Manufacturing—Cheese

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#### Determination of Regional Differences in Cheddar Cheese Flavor and Texture Development

MaryAnne Drake, North Carolina State University, Raleigh

Publications:

Singh, T., M.A. Drake and K.R. Cadwallader. 2003. Flavor of Cheddar Cheese: A Chemical and Sensory Perspective. *Compr. Rev. Food Sci.* 2:139-162.

Foegeding, E.A., J. Brown, M.A. Drake and C.R. Daubert. 2003. Sensory and mechanical aspects of cheese texture. *International Dairy J.* 13:585-591.

Rehman, S.U., N. Farkye and M.A. Drake. 2003. Effects of standardization of whole milk with dry milk protein concentrate on the yield and ripening of reduced-fat Cheddar cheese. *J. Dairy Science.* 86:1608-1615.

Rehman, S.U., N. Farkye and M.A. Drake. 2003. Reduced-fat Cheddar cheese from a mixture of cream and liquid milk protein concentrate. *International Journal of Dairy Technology.* 56(2):94-98.

Published abstracts:

Carunchia-Whetstine, M.E., Y. Yoon and M.A. Drake. 2003. Identification of fecal/mothball flavor in Cheddar cheese. American Dairy Science Association meeting, Abstract 35, Phoenix, AZ, June 22-26.

Young, N. D., M. A. Drake, K. Lopetcharat, and M. R. McDaniel. 2003. Preference mapping of Cheddar cheeses with varying maturity levels. IFT Annual meeting, July 12-16, Chicago, IL. Abstract 90-6.

Drake, M.A., M.D. Keziah, P.D. Gerard, C.M. Delahunty, E.M. Sheehan, R.P. Turnbull, T.M. Dodds, 2003. Comparison of differences between lexicons for descriptive analysis of Cheddar cheese flavor in Ireland, New Zealand, and the United States. 5<sup>th</sup> Pangborn Sensory Science Symposium, July 20-24, Boston, MA. Abstract P139.

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### Manufacturing—Milk Powder

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#### Identification of Volatile Chemical Components for Sensory Flavors of Skim Milk Powder

MaryAnne Drake, North Carolina State University, Raleigh

Publications:

Drake, M.A. and G.V. Civille. Flavor Lexicons. 2003. *Compr. Rev. Food Sci.* 2(1):33-40.

Drake, M.A., Y. Karagul-Yuceer, K.R. Cadwallader, G.V. Civille and P.S. Tong. 2003. Determination of the sensory attributes of dried milk powders and dairy ingredients. *J. Sensory Stud.* 18:199-216.

Karagül-Yüceer, Y., M.A. Drake and K.R. Cadwallader. 2003. Evaluation of the Character Impact Odorants in Skim Milk Powder by Sensory Studies on Model Mixtures. *J. Sensory Stud.* In Press.

Karagul-Yuceer, Y.K., K. Vlahovich, M.A. Drake and K.R. Cadwallader. 2003. Characteristic Aroma Components of Rennet Casein. *J. Agric. Food Chem.* In Press.

Published abstracts:

Carunchia-Whetstine, M.E., M.A. Drake, Y. Karagul-Yuceer and Y.K. Avsar. 2003. Flavor stability of skim and whole milk powder.

Abstract 162 American Dairy Science Association meeting, Phoenix, AZ, June 22-26.

Carunchia Whetstine, M.E., Y. Karagul-Yuceer, J. D. Parker, M. A. Drake. 2003. Character impact aroma compounds in whole milk powder. IFT Annual meeting, July 12-16, Chicago, IL. Abstract 14A-5.

Drake, M.A. 2003. Flavor and flavor chemistry of milk powders. IFT Annual meeting, July 12-16, Chicago, IL. Abstract 52-3.



### Identification of Volatile Chemical Components Responsible for Sensory Flavors in Whole Milk Powder

MaryAnne Drake, North Carolina State University, Raleigh

Publications:

Drake, M.A., Y. Karagul-Yuceer, K.R. Cadwallader, G.V. Civille and P.S. Tong. 2003. Determination of the sensory attributes of dried milk powders and dairy ingredients. *J. Sensory Stud.* 18:199-216.

Karagul-Yuceer, Y.K., K. Vlahovich, M.A. Drake and K.R. Cadwallader. 2003. Characteristic Aroma Components of Rennet Casein. *J. Agric. Food Chem.* 51:6797-6801.

Karagül-Yüceer, Y., M. A. Drake and K. R. Cadwallader. 2003. Evaluation of the Character Impact Odorants in Skim Milk Powder by Sensory Studies on Model Mixtures. *J. Sensory Stud.* In Press.

Published abstracts:

Carunchia-Whetstine, M.E., M.A. Drake, Y. Karagul-Yuceer and Y.K. Avsar. 2003. Flavor stability of skim and whole milk powder. Abstract 162 American Dairy Science Association meeting, Phoenix, AZ, June 22-26.

Carunchia Whetstine, M.E., Y. Karagul-Yuceer, J. D. Parker, M. A. Drake. 2003. Character impact aroma compounds in whole milk powder. IFT Annual meeting, July 12-16, Chicago, IL. Abstract 14A-5.

Drake, M.A. 2003. Flavor and flavor chemistry of milk powders. IFT Annual meeting, July 12-16, Chicago, IL. Abstract 52-3.



## Manufacturing—Whey

### Milk Protein Film and Coating Application Lab

John M. Krochta, UC Davis

Publications:

Balagtas, J. V., F. M. Hutchinson, J. M. Krochta and D. A. Sumner. 2003. Anticipating market effect of new uses for whey and evaluating returns to research and development. *J. Dairy Science.* 86:1662-1672.

Cisneros-Zevallos, L. and J. M. Krochta. 2003. Whey protein coatings for fresh fruits and relative humidity effects. *J. Food Science.* 68(1): 176-181.

Cisneros-Zevallos, L. and J. M. Krochta. 2003. Dependence of coating thickness on viscosity of coating solution applied to fruits and vegetables by dipping method. *J. Food Science.* 68(2): 503-510.

Dangaran, K. L. and J. M. Krochta. 2003. Aqueous whey protein coatings for panned products. *The Manufacturing Confectioner.* 83(1):61-65.

Franssen, L. R. and J. M. Krochta. 2003. Edible coatings containing natural antimicrobials for processed foods. In *Natural Antimicrobials for the Minimal Processing of Foods.* (S. Roller, ed.) Woodhead Publishing Ltd., Cambridge, England.

Hong, S.-I. and J. M. Krochta. 2003. Oxygen barrier properties of whey protein isolate coatings on polypropylene films. *J. Food Science.* 68(1):224-228.

Krochta, J. M. 2003. Package permeability. In *Encyclopedia of Agricultural, Food and Biological Engineering.* (D. R. Heldman, ed.) Marcel Dekker Inc., New York.

## Publications Index

2003

Lin, S.-Y. and J. M. Krochta. 2003. Plasticizer effect on grease barrier and color properties of whey-protein coatings on paperboard. *J. Food Science*. 68(1): 229-233.

Sothornvit, R., C. W. Olsen, T. H. McHugh and J. M. Krochta. 2003. Formations conditions, water vapor permeability and solubility of compression-molded whey protein films. *J. Food Science*. 68(6): 1985-1989.

Graduate theses completed:

Hutchinson, F. M. 2002. Moisture Barrier Properties of Whey Protein Isolate-Lipid Composite Films and Coatings. University of California, Davis, M.S. Theses.

Published abstracts:

Following abstracts published in 2003 IFT Annual Meeting Book of Abstracts

Dangaran, K. L. and J. M. Krochta. Sucrose Crystallization in Native and Denatured Whey Protein Isolate Films.

Lin, S. Y. and J. M. Krochta. Peanut Surface Energy Modification for Improvement of Whey Protein Coating Adhesion.

Hong, S. I. and J. M. Krochta. Oxygen-Barrier Performance of Whey-Protein-Coated Plastic Films.

Sothornvit, R. and J. M. Krochta. Glycerol Effect on Compression-Molded Whey Protein Film Properties.

The following patent application submitted:

“Methods and Formulations for Providing Gloss Coatings to Foods and for Protecting Nuts from Rancidity”



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### **Nutrition and Health**

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#### **The Molecular Basis of Milk's Health Value**

Bruce German, UC Davis

Publications:

Mensink, R., A. Aro, E.D. Hond, J.B. German, B.A. Griffin, H-U ter Meer, M. Mutanen, and W. Stahl. Diet-Related Cardiovascular Disease. *Eur. J. Nutrition* . 2003 Mar;42 Suppl 1:16-27

Ward, R.E. and J.B. German. Zoonutrients and Health Food Technology March 2003, Volume 56, No.3: 30-36

German, J.B., M.A. Roberts and S.M. Watkins. Genomics and Metabolomics as Markers for the Interaction of Diet and Health: Lessons from Lipids. *J. Nutrition*. 2003. Jun;133(6 Suppl 1):2078S-2083S

German, J.B., C.J. Dillard and R.E. Ward, Milk: A model for nutrition in the 21<sup>st</sup> century. *Australian Journal of Dairy Technology*. 2003. August Volume 58 2 72-77.

German, J.B.. Implications of Genomics for Food and Health. *Australian Journal of Dairy Technology*. 2003. August Volume 58 2 38-44.

Turini, M.E., J.J. Boza, N. Gueissaz, D. Moennoz, F. Montigon, J. Vuichoud, G. Gremaud, E. Pouteau, C. Piguet, I. Perrin, C. Verguet, P.A. Finot, J.B. German. Short-term dietary conjugated linoleic acid supplementation does not enhance the recovery of immunodepleted dexamethasone-treated rats *Eur. J. Nutr.* 2003. Jun;42(3):171-9

German J.B. Roberts M.A. and Watkins S.M. Personal Metabolomics as a Next Generation Nutritional Assessment. *J. Nutr.* 133: 2003

Boyle-Roden E, German JB, Wood BJ. The production of lipids alternately labelled with carbon-13 *Biomol Eng.* 2003 Jul;20(4-6):285-9

German J.B. and Watzke H.J. Personalizing Foods for Health and Delight Food Technology (in review) 2004

Ward RE, German JB. Understanding Milk's Bioactive Components: A Goal for the Genomics Toolbox *J Nutr.* 2004 Apr;134(4):962S-7S



#### **Engineering Probiotic Microorganisms**

David Mills, UC Davis

Graduate thesis completed:

Frazier, C. Analysis and applications of the lactococcal group II intron, Ll.ltrB. 2003

