

J. W. Schroeder, Associate Professor and Extension Dairy Specialist

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Degrees:

Ph.D.1999 - North Dakota State University, Fargo, ND. **Dissertation:** Compensatory nutrition regulation of β -casein gene expression in HC11 mammary epithelial cells.

M.S.1978 - Colorado State University, Fort Collins, CO. **Thesis:** Beef quality and composition: feeding regimen and post mortem handling techniques.

B.S.1975 - North Dakota State University, Fargo, ND. **Animal Sciences**

Professional Experience:

2006 to present - Associate Professor, Animal Sciences, NDSU, Fargo, ND

2000 to 2006 - Assistant Professor, Animal & Range Sciences, NDSU, Fargo, ND

1992 to present - Extension Dairy Specialist, NDSU, Fargo, ND

1991 to 1992 - Assistant to the Director, NDSU Extension Service, Fargo, ND

1981 to 1991 - Bottineau County Extension Agent, Chair, Bottineau, ND

1978 to 1980 - Ward County Extension Agent, Minot, ND

1977 to 1978 - Graduate Research Assistant B Colorado State University, Ft. Collins, CO

1976 to 1976 - Oliver County Extension Agent, Center, ND

1975 to 1976 - Assistant Pembina County Extension Agent, Cavalier, ND

Educational Emphasis:

DAIReXNET Community of Practice. A committee member of the team to develop a website as a part of a national dairy extension network. An educational interactive website located at www.extension.org.

Dairy farm family advisory teams facilitated through the development of the North Dakota Dairy Diagnostic Advisory Team Program.

Dairy Cow College. Week-long educational circuit for all dairy producers in conjunction with the Midwest Dairy Association and county Extension staff. Since 1994

Maintain educational web site of timely information to include research reports, FAQ -frequently asked questions, news, and links to other dairy-related sites. 1996-present.

Annual North Dakota Dairy Convention. Plan educational program, present timely topics of significance to the dairy industry, and NDSU research reports. Since 1993.

State Dairy Show manager. Exhibition event for North Dakota-owned purebred dairy cattle. Since 1992.

Committees:**National**

eXtension Institutional Team: DAIReXNET Community of Practice (CoP)

Midwest Branch - American Dairy Science Association:

- Extension Program Planning Committee, 2007-2008, member, Chair

- Extension Program Planning Committee, 2005-2008.

Regional

Midwest Dairy Association - Dairy Council, ex-officio member and advisor.

Heart of America DHIA, Dairy Records Management, ex-officio member.

Managing and Marketing High Quality Holstein Beef:- An originating committee member

State

North Dakota Dairy Coalition, advisor, committee chair, and member

North Dakota Dairy Products Promotion Commission, ex-officio

Milk Producers Association of North Dakota, advisor

North Dakota State Dairy Show Association, advisor and show manager

University and College

University Senate - Executive Committee representative for the College of Agriculture, Foods Sciences and Natural Resources. (2008)

University Senate representative for the College of Agriculture, Foods Sciences and Natural Resources

NDSU Extension Service representative on University Assessment Committee

Department

Dairy Research Committee, Animal Sciences standing committee, chair

Technology Transfer Committee, member

Nutrition Laboratory Committee, member

Reviewer:

Dairy Farmers of Canada. PESEC project evaluation and grant proposal.
 American Dairy Science Association, Journal of Dairy Science publications.
 Dairy Handbook Revision Committee, MWPS-7, Dairy Freestall Housing and Equipment, Seventh Edition.
 Midwest Planning Service. 2000-2001.

Society Memberships:

American Dairy Science Association, Savoy IL.
 Feed Analysis Consortium, Inc., Savoy IL
 Federation of Animal Science Societies, Savoy IL.
 Professional Dairy Heifer Growers Association, Savoy IL.
 Epsilon Sigma Phi - Dakota Chapter, North Dakota

Awards:

Larson/Yaggie Excellence in Research, Early Career **Nominee** – NDSU Agriculture Faculty. 2007.
 Larson/Yaggie Excellence in Research, Early Career **Nominee** – NDSU Agriculture Faculty, 2006.
 Milk Producers Association of North Dakota, Inc. - Milky Way Award for meritorious service. 2004.
 AGSCO Excellence Award, Senior Career. Faculty/Staff **Nominee** –, NDSU. April 2001.
 2000 Program Excellence, NDSU Extension Service - Individual or Small Committee. 2001.
 AGSCO Excellence Award, Senior Career. Faculty/Staff **Nominee** –, NDSU. April 2000.
 Milk Producers of North Dakota Inc. - Merit Award for dairy industry support. 2000.
 Honorary Chapter Farmer Award. State FFA Honor Degree for contributions to North Dakota. 1998.

Publications: Summary (Author or Co-Author)

Scientific Journals, primary and second author – 8	Extension Bulletins – 31
Scientific Journals, supporting author – 1	Fact Sheets – 15
Scientific Journal Abstracts, primary author – 19	Informational Circulars – 15
Scientific Journal Abstracts, supporting author – 14	Proceedings / Summaries – 19
Proceedings – 8	Popular Press and Periodicals – 25
Technical Reports and Market Development – 14	Users Guide / Workbook – 2
Extension Journal Articles – 1	Video – 1

Recent Publications (2003-2008):

Scientific Journals:

Bedgar, S.E., J.W. Schroeder, M.L. Bauer, and W.L. Keller. 2008. Intake, duodenal flow, and ruminal biohydrogenation of fatty acids. *J. Dairy Sci. (In author review)*.

Schroeder, J.W., M.L. Bauer, and S.A. Soto-Navarro. 2005. Rumen undegradable protein and fresh versus stored wet corn gluten feed in the diets of lactating dairy cows. *Prof. Anim. Sci.* 21:254-262.

Chichlowski, M.W., J.W. Schroeder, C.S. Park, W.L. Keller, and D.E. Schimek. 2005. Altering the fatty acid profile in milk fat by including canola seed in the diet of dairy cattle. *J. Dairy Sci.* 88 3084-3094.

Schroeder, J.W. 2003. Optimizing the level of wet corn gluten feed in the diet of lactating dairy cows. *J. Dairy Sci.* 86:844-851. Schroeder, J.W., Keller, W.L., and C.S. Park. 2002. Glucose restriction and refeeding regimen alters proliferation and differentiation of HC11 mammary cells. *J. In Vitro Cell. Dev. Biol. - Anim.* 38:135-136.

Scientific Journal Abstracts

Bork, N.R., G.P. Lardy, J.W. Schroeder, K.A. Vonnahme, P.M. Fricke, K.B. Koch, M.L. Bauer, and K.G. Odde. 2008. Reproductive Performance of Cows Fed Rolled Flaxseed on Two Commercial Dairies. *J. Dairy Sci. (submitted)*.

Bork, N.R., G.P. Lardy, J.W. Schroeder, K.A. Vonnahme, P.M. Fricke, K.B. Koch, K.G. Odde, R.D. Shaver, and S.J. Bertics. 2008. Evaluation of Milk Components, Fatty Acid Profile, and Production of Cows Fed Rolled Flaxseed on Two Commercial Dairies. *J. Dairy Sci.* 90 (Suppl. 1) (*accepted*).

Nester, P.L., J.W. Schroeder, K.A. Vonnahme, M.L. Bauer, W.L. Keller, D. E. Schimek. 2007. Altering milk production and composition of early lactation dairy cows fed flax seed. *J. Dairy Sci. (Abstr.)*.

Galbreath, C.W., M.R. O'Neil, J.D. Kirsch, J.W. Schroeder, K.G. Odde, G.P. Lardy, K.A. Vonnahme. 2006. Effect of feeding flax or linseed meal on progesterone clearance rate in ovariectomized ewes. *J. Anim. Sci.* Vol. 84, Suppl. 1. Abst. 582.

- Bedgar, S.E., J.W. Schroeder, M.L. Bauer, and W.L. Keller. 2005. Intake, duodenal flow, and ruminal biohydrogenation of fatty acids in Holstein steers fed canola supplemented dairy lactation diets. *J. Dairy Sci.* 88 (Suppl. 1):179.
- Bedgar, S.E., J.W. Schroeder, M.L. Bauer, and W.L. Keller. 2005. Fatty acid changes in the digestive tract of Holstein steers fed canola supplemented dairy lactation diets. *J. Dairy Sci.* 88:1923.
- Bedgar, S.E., J.W. Schroeder, M.W. Chichlowski, M.L. Bauer, and S.A. Soto-Navarro. 2004. Ruminal characteristics and rate, site, and extent of digestion of dairy diets supplemented with canola fed to Holstein steers. *J. Dairy Sci.* 87(Suppl. 1):215.
- Chichlowski, M.W., J.W. Schroeder, S.E. Bedgar, C.S. Park, W.L. Keller, and D.E. Schimek. 2004. Fatty acid profile, composition, and production of milk from dairy cows fed canola seed. *J. Dairy Sci.* 87(Suppl. 2):68.
- Chichlowski, M., J.W. Schroeder, C.S. Park, W.L. Keller, and D.E. Schimek. 2003. Effects of ground canola on milk fat composition and milk yield of lactating dairy cattle. *J. Dairy Sci.* 86 (Suppl. 1):339.
- Carlson, D.B., M.S. Laubach, W.L. Keller, J.W. Schroeder, J.H. Herbein, and C.S. Park. 2002. Effect of sunflower seed inclusion on conjugated linoleic acid concentrations in milk fat of Holstein Cows. *J. Dairy Sci.* 85(Suppl. 1):196.
- Carlson, D.B., M.S. Laubach, D.E. Schimek, W.L. Keller, J.W. Schroeder, and C.S. Park. 2002. Body condition replenishment during the dry period and its effects on metabolic status and lactation of dairy cows. *J. Dairy Sci.* 85(Suppl. 1):276.

Technical Reports

- Schroeder, J.W. 2007. Embryo Bank Phase – Adding Value to Beef Production Systems with Dairy Embryo Transfer. Final report to SBARE Project #03-18.
- Schroeder, J.W. 2005. Effects of ground canola on milk fat composition and milk yield of lactating dairy cattle, and Fatty acid changes in the digestive tract of Holstein steers fed canola supplemented dairy lactation diets. Combined final report to SBARE.
- Schroeder, J.W. 2004. Enhancing North Dakota's dairy industry: Moving Forward with Dairy Diagnostic Teams - Phase III. Final report to North Dakota Agricultural Products Utilization Commission, Bismarck, North Dakota.
- Schroeder, J.W. 2003. Results from a Dairy Task Force Survey. For the North Dakota Dairy Coalition, Survey #1. Released December 2003.

Feasibility and Market Development

- LeePart, R. and J.W. Schroeder. 2007. Market Analysis for Post-harvest Demand of North Dakota Dairy Products: Objective 2 – Inquiry into the Nature of the North Dakota Dairy Industry and the drafting of a Business Hypothesis for its future. Funded by the North Dakota Dairy Promotion Commission.
- Eide, W.D. and J.W. Schroeder. 2007. Market Analysis for Post-harvest Demand of North Dakota Dairy Products: Objective 1 - Document North Dakota dairy production and processing logistics, area of service and procurement of milk. Funded by the North Dakota Dairy Promotion Commission.
- Eide, W.D., G.P. Lardy, and J.W. Schroeder. 2007. Central Dakota Dairy: A 5,000-cow dairy cattle operation with methane digestion. (In preparation)

Extension Bulletins:

- Nester, P.N., N.R. Bork, D.B. Carlson, and J.W. Schroeder. 2008. Management Options in Maximizing Dry Cow Performance. Circular (In print).
- N.R. Bork, Nester, P.N., D.B. Carlson, and J.W. Schroeder. 2008. Strategies for Gresh Cow Management. Circular (In review).
- Schroeder, J.W. 2005. Common weights and measures for the farm. NDSU Extension Service Circular AS-1282.
- Schroeder, J.W. 2004. Use of Minerals in Dairy Cattle: What they are and why they are important. NDSU Extension Service Circular AS-1257.
- Schroeder, J.W. 2004. Quality Forage - Forage Nutrition for Ruminants. NDSU Extension Service Circular AS-1250 (revised).
- Schroeder, J.W. 2004. Quality Forage - Interpreting Composition and Determining Market Value. NDSU Extension Service Circular AS-1251.
- Schroeder, J.W. 2004. Quality Forage - Haylage and Other Fermented Forages. NDSU Extension Service Circular AS-1252.

- Schroeder, J.W. 2004. Quality Forage - Corn Silage Management. 2004. NDSU Extension Service Circular AS-1253.
- Schroeder, J.W. 2004. Quality Forage - Silage Fermentation and Preservation. NDSU Extension Service Circular AS-1254.
- Schroeder, J.W. 2004. Quality Forage - Storage, Sampling and Measuring. NDSU Extension Service Circular AS-1255.
- Schroeder, J.W. 2004. Quality Forage - Stressed Damaged Crops. NDSU Extension Service Circular AS-1256.
- Schroeder, J.W. 2003. Distillers grains for dairy cattle. NDSU Extension Service Circular AS-1241.

Funded Research and Extension Grants

Investigator and co-investigator career grants:

Extension: **\$1,073,521** plus Research: **\$768,721** = Total: **\$1,842,242**

Recently Funded Research:**Extension**

- 2007-2007 Market Analysis for Post-harvest Demand of North Dakota Dairy Products, North Dakota Dairy Promotion Commission and Midwest Dairy Association, \$25,000, 100%
- 2004-2005 North Dakota Dairy Diagnostic Program, Cass Clay Creameries, Inc. \$15,000, 100%.
- 2004 North Dakota Dairy Coalition - Dairy Recruitment ND Ag Products Utilization Commission \$65,000, 100%.

Research

- 2007-2009 Altering fatty acids in bovine milk fat using flaxseed in the diets of high producing dairy cattle Continuation [8244], ND State Board of Ag Research and Extension - Agricultural Research Fund (Year two of two). \$21,000, 100%.
- 2006-2009 Effects of Flax Feeding on Reproduction, Health and Production in Postpartum Dairy Cows. North Dakota Oilseeds Council and Ameri-Flax. \$80,575, 33%.
- 2005-2006 Characterizing certain new byproducts for dairy diets. Private contract. \$32,000, 100%.
- 2005-2006 Radio Frequency Identification tags for Livestock - Dairy. Alien Technology. \$ Pending.
- 2006 Testing for Gluten in Dairy Products: Is Barley Gluten Transferred in milk, Celiac Sprue Assoc. (CSA) and Food Allergy Research & Resource Program, University of Nebraska- Lincoln (FARRP). \$200, 100%.
- 2004-2006 On-farm culturing and treatment protocol for mastitis. National Mastitis Council and Fort Dodge Co. \$34,998, 10%.
- 2004-2005 Altering fatty acids in bovine milk fat using flaxseed in the diets of high producing dairy cattle [8244r] ND State Board of Ag Research and Extension - Agricultural Research Fund (Year one of two) \$21,000, 85%.
- 2003-2005 Altering conjugated linoleic acid in bovine milk fat for nutraceutical application using oilseed in feeding high producing dairy cattle [8244] ND State Board of Ag Research and Extension - Agricultural Research Fund (Two Years). \$42,293, 85%.
- 2003-2004 Embryo Bank Phase - Adding Value to Beef Production Systems with Dairy Embryo Transfer [8263] ND State Board of Ag Research and Extension - Agricultural Research Fund. \$15,343, 90%.
- 2003-2004 Dietary of canola seeds for production of an anti-cancer agent, in milk [5220]. North Central Region Canola Research Council \$13,609, 5%.
- 2003-2004 Dietary supplementation of canola seeds [4770] USDA-CSREES \$8,521, 5%.

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