

THE JACKRABBIT DAIRY REVIEW

Winter 2005-2006

Dairy Science Department, DM 109, South Dakota State University, Brookings, SD 57007

Dairy Science Department Faculty

Vikram Mistry, *Professor and Head*
Robert Baer, *Professor*
Howard Bonnemann, *Instructor/Dairy Plant Manager*
Alvaro Garcia, *Associate Professor/Extension
Dairy Specialist*
Ashraf Hassan, *Assistant Professor*
David Henning, *Associate Professor/Alfred Chair
in Cheese Chemistry and Technology*
Arnold Hippen, *Associate Professor*
Kenneth Kalscheur, *Assistant Professor*
Rajinder Nauth, *Adjunct Professor*
John Parsons, *Professor and Head Emeritus*
Darrel Rennich, *Lecturer/Manager, Dairy Research
& Training Facility*
David Schingoethe, *Distinguished Professor*
Marie Yeung, *Assistant Professor*

Staff

Jill Anderson, *Research Assistant*
Sameh Awad, *Visiting Scientist*
Ananya Biswas, *Microbiologist, State Dairy Lab*
Valerie Denison, *Secretary*
Kevin Gross, *Assistant Manager, Dairy Research &
Training Facility*
Margaret Jensen, *Word Processor*
Gary Kirkham, *Ag Foreperson/Lead Feed*
Pete Linke, *Ag Foreman/Transition/Fresh and Sick
Cows/Calf Care*
Kim Ludens, *Secretary*
Sachinkumar Magdum, *Dairy Plant Superintendent*
Jayne Raabe, *Senior Secretary*
Jeff Smith, *Ag Research Technician - Maintenance*

Graduate Students

Dairy Production

Malek Abdelqader
*Mini Bharathan
Daryl Kleinschmit
Peter Linke
*Kamal Mjoun
Gaolebale Mpapho
*Rosemary Nyoka
Benjamin Pamp
Arun Sasikala
Milton Thomas

Dairy Manufacturing

Panna Agrawal
Yachai Amornkul
Sumita Chanda
*Akimoto Ichinomiya
*Nirupama Nigam
Himanshu Somni

*New students in 2005

MESSAGE FROM THE DEPARTMENT HEAD

Greetings from Brookings! We look back at 2005 with a sense of accomplishment. Our undergraduate student count in fall '05 was 69 that included students from South Dakota (33), Minnesota (19), Iowa (10), Nebraska and Wisconsin (2 each), California and North Dakota (1 each), and Venezuela (1). We currently have 33 Production, 29 Manufacturing and 7 Double majors. Given the outstanding job market and career opportunities in Dairy Science, we can and should continue to grow. Continued generosity of alums and supporters through scholarships makes our task of attracting students easier. Thanks to this generosity, in 2005 we awarded \$46,950 to Dairy Science students. In 2005 7 undergraduate and 5 graduate students completed their degrees. Our student placement program continues to be aggressive. We mailed resumes of students to approximately 330 organizations around the country. Fifteen companies visited the department to interview students. In addition, numerous other prospective employment contacts occurred throughout the year for permanent positions as well as internships. All graduating students but one were employed prior to graduation. Recruiting efforts for attracting new students to Dairy Science include personal contacts, participation in various fairs, K-12 programs, and high school visits. Our graduate program was active with approximately 20 students, all of whom were supported by external grants secured by Dairy Science faculty. These external funds are vital for sustenance of research programs. External funds have also provided much needed support for other programs such as products and cattle judging, recruiting, and facilities upgrade. Our faculty are to be commended for their focused efforts to secure these funds and maintaining most productive and top-quality teaching, research, and extension programs and milk production and processing facilities. The Dairy Plant renovation project has received generous industry support which has provided tremendous impetus to the project. These supporters have eloquently affirmed the importance of the project to our programs and for the future of the dairy industry. They generously provided their expertise in developing plans for the new plant and are already assisting us in further fundraising efforts. Faculty were active with organizations such as the Central Plains Dairy Expo, and Professional Dairy Heifers Growers Association. Collaboration with the Brown Swiss Association has led to the development of new Brown Swiss dairy products that are now available at the Dairy Store. The coming year is critical for the department. In April 2006, the department will undergo a comprehensive Institutional and CSREES (USDA) review. This review is conducted every 5 to 7 years and will allow us to identify strengths and weaknesses and develop future plans. These and many other events reported in this news letter made 2005 an enjoyable year. Thank you for your continued support, best wishes for 2006 and keep in touch.

Vikram Mistry

DAIRY PLANT RENOVATION UPDATE

The Dairy Plant renovation project has taken on a new phase through the formation of the Jackrabbit Dairy Council whose purpose is to help with the renovation of the Dairy Plant and in Dairy Science program development. We currently have commitments from Davisco Foods International, SA Education Foundation of Milbank, SDSU, Valley Queen Cheese Factory, and Wells Dairy. These organizations are actively involved in recruiting additional partners. In early fall our partners played a key role in developing preliminary plans for the new Dairy Plant for presentation to the SD Board of Regents. In the coming months the partners will jointly continue working on the plans. To date we have raised approximately \$1.75 million and will require a total of over \$3 million to complete the project. If your organization would like to be a part of this exciting project, please contact Dr. Vikram Mistry or any of the existing Jackrabbit Dairy Council members for details.

NEW FACULTY AND STAFF

Jill Anderson is Research Assistant in the department since fall 2005. She received her B.S. in Animal Science from the University of Delaware and M.S. in Dairy Science from SDSU. In her new position she will assist with dairy cattle nutrition research and departmental lab management.



Anderson



Biswas

Ananya Biswas joined the department as Microbiologist for the State Dairy Lab beginning September 2005. Ananya holds B. Tech. and M.S. degrees in Dairy Science/Chemistry from West Bengal University of Animal and Fishery Sciences, Calcutta, India and M.S., in Food and Biomaterials Processing from SDSU. He will be responsible for quality control analysis at the State Dairy Lab, including microbiological and chemical analysis.



Smith



Yeung

Jeff Smith joined the Dairy Research and Training Facility in November as Ag Research Technician-Maintenance. He is responsible for daily maintenance at the dairy farm.



Linke

Dr. Marie Yeung began her appointment as Assistant Professor in Dairy Science on 1st July 2005. She holds a Ph.D in Food Science from Cornell University, M.S. in Dairy Science from California Polytechnic State University, San Luis Obispo, and a B.Sc. in Biology from the Chinese University of Hong Kong. Prior to joining South Dakota State University, Dr. Yeung was a Post Doctoral researcher in the Department of Microbiology and Immunology in the College of Veterinary Medicine at Cornell. Dr. Yeung's expertise is in dairy microbiology, food safety, and foodborne pathogens. She will teach Dairy Microbiology, Food Microbiology, part of Dairy Product Processing II, and Lab Techniques in Dairy Science.

Pete Linke joined the Dairy Research and Training Facility as Ag Foreman. He is responsible for transition, fresh and sick cows and calf care. Pete is also pursuing a MS in Dairy Science.

UNDERGRADUATE STUDENTS

Dairy Production

Peter Beck. Princeton, MN
Angela Bengtson. Kandiyohi, MN
Andrew Doll. New Salem, ND
Melissa Euerle. Litchfield, MN
Daniel Fritsche. New Ulm MN
Derek Griebel. Paullina, IA
*Brandon Hallberg. Kandiyohi, MN
*Jenna Heck. Beardsley, MN
Natalie Herbert. Rock Rapids, SD
Christopher Hulstein. Edgerton, MN
*Sara Hunt. Ashton, IA
Bradley Korver. Alton, IA
*Timothy Korver. Alton, IA
Kristin Kuhl. Salem, SD
Gerben (Gary) Landman. White, SD
Michael Lax. Sleepy Eye, MN
Dale Miller. Bruce, SD
Justin Morehouse. Andover, SD
*Craig Niemann. Clear Lake, SD
Theodore Norling. Beresford, SD
Thomas Norling. Beresford, SD
Brittany Nussbaum. Garretson, SD
William Reyes. Salida, CA
Heather Rollefson. Sibley, IA
Garrett Schmidt. Melrose, WI

*Graisson Schmidt. Melrose, WI
*Eric Schultz. Rollingstone, MN
Janora Smith. Merrill, IA
Ryan Tollefsrud. Murdock, MN
Steven Vandyke. Elkton, SD
*Bradley Vansanten. Luverne, MN
Brian Walters. Arlington, MN
Kaia Wilson. Ocheyedan IA
*Abigail Wirt. Lewiston, MN
Rebecca Wirt. Lewiston, MN

Dairy Manufacturing

*Kinsey Antonsen. Platte, SD
Tori Boomgaarden. Pipestone, MN
*Jared Denoble. Hills, MN
Richard Derouchey. Mitchell, SD
Garrett Doucette. Little Falls, MN
Kari Gorsuch. Arlington, SD
Donovan Halajian. Milbank, SD
Roy Hauschildt. Lake Norden, SD
Derek Griesse. Harrisburg, SD
Travis Holscher. Twin Brooks, SD
Jean Hughes. Alcester, SD
Laura Kennedy. Beresford, SD
Jonah King. Volga, SD
Jake Krekelberg. Le Sueur, MN

Todd Lippert. Royalton, MN
*Sam Metzger. Alford, IA
Sarah Morrison. Florence, SD
Alex Musson. Le Mars, IA
*Chad Niehus. Le Mars, IA
Jason Nissen. Bushnell, SD
Stephen Plucker. Chancellor, SD
Betsy Raasch. Sioux Falls, SD
*Mike Schmit. Howard, SD
David Stenberg. Rapid City, SD
Thomas (T.J.) Swartos. Volga, SD
Francisco Torres. Caracas, Venezuela
Wendy Weber. Sioux Falls, SD

Dairy Prod/Manuf Double Majors

*Kimberly Allen. Page, NE
*Jessica Berg. Baltic, SD
Jenna Mueller. Big Stone City, SD
*Alex Ode. Brandon, SD
*John Temme. Wayne, NE
Derek Shumaker. Canistota, SD
*Ashley Vostad. Volga, SD

**New students in 2005*

2004 GRADUATES

Congratulations to the following 2004 Dairy Science graduates. We wish them well in their careers.

B.S. Manufacturing

Annie Milbrandt, Lab Technician, Wells Dairy, Le Mars, IA
 Dan Ramlo, Management trainee, Leprino Foods, Fort Morgan, CO
 Amber Sperlich, Associate Management Trainee, Sunny Fresh Foods, Monticello, MN
 Jean Hughes, Wichita Falls, TX

B.S. Production

Justin Morehouse, Home Farm, Andover, IA
 Ted Norling, Home Farm, Beresford, SD.
 Kaia Wilson, Wegs Blue and White Dairy, Bigelow, IA

M.S.

Jill Anderson (Ladd), Dairy Production, Research Assistant, Dairy Science Department, SDSU
 Joby Cyriac, Dairy Production, Graduate School, Virginia Polytechnic and State University, Blacksburg, VA
 Greg Golombeski, Dairy Production, Graduate School, University of Minnesota, St. Paul, MN
 Nirav Pandya, Dairy Manufacturing, Plant Manager, University of Nebraska Dairy Plant, Lincoln, NE
 Mandeep Patel, Dairy Manufacturing, Food Scientist, Kemps Dairy, Rochester, MN
 Prem Thakur, Dairy Manufacturing, Management Trainee, Kemps Dairy, Cederburg, WI

JUDGING ACTIVITIES

Dairy Cattle & Production

Dairy Science students participated in two Dairy Challenge contests; The Midwest Regional Intercollegiate Challenge at Northeast Iowa Community College and the National Challenge at Penn State University. At the Midwest Challenge, Kaia Wilson, Dairy Production major, was among individuals selected as a Platinum performer, the contest's highest distinction. At the National Challenge the SDSU team (Kaia Wilson, Kristin Kuhl, Justin Morehouse, and Steven Van Dyke) received a Gold placing. The teams were coached by Dr. Arnold Hippen and Darrel Rennich. SDSU will host the 2006 Midwest Regional Challenge in January.

The SDSU teams coached by Darrel Rennich competed at the Accelerated Dairy Cattle Judging Contest in Viroqua, WI, at the National Collegiate Dairy Cattle Judging Contest in Madison, WI, and at the North American International Livestock Exposition in Louisville, KY. The team for Kentucky consisted of Garrett Schmidt, Brad Korver, Heather Rollefson, and Brittany Nussbaum. The team placed thirteenth out of eighteen team, placing fifth in Ayrshires and eighth in Brown Swiss.



Dairy Products

The Dairy Products Judging Team won the Midwest Regional Dairy Products Evaluation Contest. The team took 1st place in the "All Products" category to win the contest. Team members were Richard DeRouchey, Don Halajian, Jason Nissen, and Nirupama Nigam. Nissen placed first in the contest. Nirupama Nigam placed first in the graduate student contest. The SDSU team placed first among 17 teams in

"All Products" at the National Collegiate Dairy Products Judging Contest. Richard DeRouchey placed 1st overall. Donovan Halajian placed eleventh overall, Jason Nissen was twelfth overall and Nirupama Nigam placed second overall among graduate students. Coach, Dr. Bob Baer also received the Aurelia and George Weigold Coach of the Year Award. For placing first overall as a team, the SDSU team also won the Shirley Seas Memorial Scholarship. As the top judge in the nation, Richard DeRouchey received the Robert Rosenbaum Award and lifetime membership in the National Dairy Shrine. In addition, he has been invited to participate in the Quality Chek'd Dairies, Inc. annual Conference in St. Louis and the World Cheese Contest of the Wisconsin Cheesemakers Association in Madison, WI in 2006.

PROFESSIONAL ACTIVITIES OF FACULTY

Faculty and students together presented over 50 papers including refereed publications in scientific journals, abstracts, presentations, book chapters, extension publications, thesis or dissertations and several extension presentations. All publications are listed at <http://dairysci.sdstate.edu> under *Department Information > Publications*.

Howard Bonnemann served as secretary/treasurer of the South Dakota Dairy Association. He conducted several dairy products judging clinics for South Dakota high schools.

Dr. Alvaro Garcia was an invited speaker by U.S. Commodities in Aguascalientes, Mexico at a conference hosted by Forrajera de Ganaderos (FOGASA), a large dairy cooperative. Dr. Garcia's talk focused on Dried Distillers Grains and the benefits and utilization of

DDG in formulation relative to their feeding values in comparison to other competing feed ingredients. As Chair of the National Dairy Calf and Heifer Conference of the Professional Dairy Heifer Growers Association 2005 annual conference, Dr. Garcia played a key role in program planning for the conference, which was held in Sioux Falls. Dr. Garcia chaired the 2005 Midwest ASAS/ADSA Dairy Extension Committee.

Dr. Ashraf Hassan was the vice chair of the Great Plains sub-section of the Institute of Food Technologists.

Dr. Dave Henning served as a judge for student affiliate division quiz bowl, and a judge for student affiliate outstanding student and advisor. He is the executive secretary for the North Central Cheese Industries Association.

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PROFESSIONAL ACTIVITIES OF FACULTY *(continued)*

Dr. Arnold Hippen was chair of Undergraduate Student Paper Competition (Midwest ADSA), vice-chair of the Physiology Committee (National ASAS), secretary for the NC-1009 Regional Research Project, and chair of Institutional Animal Care and Use Committee of SDSU.

Dr. Kenneth Kalscheur was a member of the ruminant nutrition committee for Midwest ADSA and an award committee for ADSA. He was invited to South Korea by the U.S. Grains Council to present seminars on the Nutritional Value and Recommendations for Feeding dried distiller's grains to Dairy Cattle. He presented this seminar at the International Symposium on Feed Development and Utilization for Environment Friendly Livestock and Poultry Production, Korea Feed Ingredients Association, in Seoul to Korean feed industry personnel. He was also an invited speaker at the 9th Annual Symposium of the Distillers Grains Technology Council in Louisville, KY. His presentation was entitled Impact of feeding distillers grains on milk fat, protein, and yield.

Dr. Vikram Mistry was an invited speaker at the 2005 Cultured Dairy Products Conference in Minneapolis, MN. His presentation was entitled New Research for Lowfat Fermented Dairy Products. He is the US editor for the French Journal of Dairy Science, *Le Lait* and is on the advisory board of NCCIA. He was a member of two awards committees for the ADSA.

Darrel Rennich served as a board member for the Central Plains Dairy Expo and the President of SD Holstein Association.

Dr. Dave Schingoethe is an Editor of Journal of Dairy Science (ADSA) and completed his term as Past President of the Federation of Animal Science Societies.

NEW FUNDS FOR SUPPORTING RESEARCH AND OTHER PROGRAMS

Dr. Bob Baer: \$2500 from the International Association of Food Industry Suppliers to support the products judging team. (2005).
Drs. David Galipeau, Ashraf Hassan, Michael Ropp, Xiuging Wang, Brian Logue, Jihong Cole-Dai: Acquisition of a scanning electron microscope. \$252,000. National Science Foundation. August 2005 - July 2006.

Drs. Ashraf Hassan, Vikram Mistry. Improvement of the texture and functionality of reduced fat Process cheese. \$89,224. MN-SD Dairy Foods Research Center. Jan. 2005 - Dec 2006.

Drs. Arnold Hippen, Alvaro Garcia, Kenneth Kalscheur: Comfort and hygiene of dairy cows lying on organic vs. inorganic bedding materials. \$22,542. Ag Lime Sales Inc. November 2005 - November 2006.

Drs. Arnold Hippen, David Schingoethe, Kenneth Kalscheur: Glycerol, a coproduct of biodiesel production as a feed supplement to dairy cows. \$15,000. South Dakota Soybean Research and Promotion Board. July 2005 - June 2006.

Drs. Arnold Hippen, David Schingoethe, Kenneth Kalscheur: Glycerol, a coproduct of biodiesel production: Effects on rumen fermentation and metabolism when fed to dairy cows. \$6,000. IFFCO. July 2005 - June 2007.

Drs. Kenneth Kalscheur, Alvaro Garcia, Arnold Hippen, David Schingoethe: Preserving characteristics and digestibility of wet distillers grains with and without the addition of Silo-King. \$7,069. Agri-King. August 2005 - August 2006.

Drs. Kenneth Kalscheur, Arnold Hippen, David Schingoethe: Impact of increasing distillers grains on phosphorus utilization and excretion in dairy cows. \$27,750. South Dakota Corn Utilization Council. July 2005 - June 2006.

Drs. Trey Patterson, Kent Tjardes, Robert Thaler, Alvaro Garcia, Cody Wright: Corn distillers grains as a strategy to improve the nutritional status of livestock. \$4,000. South Dakota Corn Utilization Council. July 2005 - June 2006.

Dr. Vikram Mistry: 2005 Summer High School Internship Program. North Central Cheese Industries Association and College of Agriculture and Biological Sciences. \$4,000 (June - August 2005).

Darrel Rennich: \$2000 from various sources to support the cattle judging team. (2005).

Drs. David Schingoethe, Arnold Hippen, Kenneth Kalscheur: Feeding value of corn distillers solubles and distillers grains with or without solubles for lactating dairy cows. \$33,925. South Dakota Corn Utilization Council. July 2005 - June 2006.

OTHER ON-GOING OR COMPLETED RESEARCH PROJECTS – 2005

Dr. Robert Baer: Improving the nutritional quality and texture of frozen desserts. \$20,000. Wells Dairy, Inc. Aug. 2004 - Feb. 2006.

Dr. Ashraf Hassan: Expanding the use of whey in food and increase in food safety. \$30,000. USDA-FAS, US-Egypt joint board on scientific and technological cooperation. Sept. 2004 - Aug. 2006; Isolation and purification of exopolysaccharides from lactic cultures. \$6,000. Royal Veterinary and Agricultural University, Denmark. Sept. 2004 - June. 2006; \$5000. SDSU Research Support Fund. Apr. 2004 - Apr. 2005.

Joan Hegerfeld (Family Youth Development/4-H), **Dr. David Henning**, Padmanaban Krishnan (Nutrition, Food Science and Hospitality), and Rhoda Burrows (Horticulture, Forestry, Landscape and Parks): Study of the reduction of foodborne risks associated with direct marketed foods in South Dakota. \$500,000. CSREES/USDA. (Nov. 2003 - Nov. 2006).

Dr. Arnold Hippen: Periparturient supplementation of dairy cow diets with propionate and/or fat. \$20,000. Pestell. April 2003 - April 2006.

Drs. Arnold Hippen, Kenneth Kalscheur, and Dave Schingoethe: Study new uses of distillers grain products in dairy cattle feeding. \$167,000. USDA-ARS. April 2002 - April 2006; Evaluation of slow release urea fed in combination with highly fermented sugars in diets of lactating dairy cattle. \$35,354. Mid-West Ag Enterprises. Dec. 2003 - Dec. 2005.

Drs. Arnold Hippen and Kenneth Kalscheur: Study of the feeding of Amaize as a preventative for digestive and metabolic disturbances

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New Funds (continued)

during transition period in dairy cattle. \$15,000. Alltech. Sept. 2003 - Sept. 2005.

Dr. Kenneth Kalscheur: Improving intake and performance of dairy cows fed wet distillers grains preserved with CakeGuard. \$12,111. Alltech. July 2004 - Dec. 2005; Replacement of forage in dairy cow diets with distillers grain. \$27,750. South Dakota Corn Utilization Council. July 2004 - July 2005.

Dr. Vikram Mistry: Development of a new buttermilk ingredient. \$140,082. Kraft Foods. Dec. 2002 - Dec. 2005; Process cheese from

membrane concentrated/fractionated milk. \$52,888. MN-SD Dairy Foods Research Center Jan. 2004 - Dec. 2005.

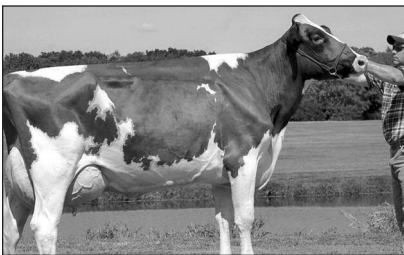
Dr. Dave Schingoethe: Distillers grains in dairy cattle diets. \$24,000. Griffith Faculty Research Award, SDSU College of ABS. July 2004 - July 2006; Evaluation of improved dried distillers grains with solubles for dairy cattle. \$40,683. Dakota Gold Research Foundation. Dec. 2003 - Dec. 2007; Evaluation of feeding yeast extract to lactating cows during warm weather. \$30,000. Diamond V Mills, Inc. Apr. 2002 - Feb. 2006.

DAIRY CLUB

The officers this year for the Dairy Club are: Janora Smith, President; Heather Rollefson, Vice President; Peter Beck, Secretary; Brad Korver, Treasurer; Abbie Wirt and Ashley Vostad, Historians; Miranda Bye and John Temme, Activities Coordinators. Advisors are Howard Bonnemann, Dr. David Henning, Dr. Arnold Hippen, and Darrel Rennich. In spring, Club members traveled to California for a tour of the dairy industry of California and hosted the ADSA Midwest student affiliate conference. Approximately 500 students traveled to Brookings to attend the conference. The Club helped conduct a Dairy Camp for k-12 students in June and attended the World Dairy Expo in Madison, WI in October. Club members showed cattle from the SDSU Dairy Research and Training Facility at the SD State Fair with impressive results. Once again, Club members helped host the 2005 All Breeds Sale on the SDSU campus and sold cheese boxes in fall.



DAIRY RESEARCH AND TRAINING FACILITY UPDATE



The DRTF has approximately 120 certified and registered milking cows and a total of 300 animals. This includes approximately 50 Brown Swiss. The Holstein Association USA recognized two of our Holsteins among the top 10,000 cows in the US as well as several others for top placing in fat, protein and milk production. The rolling herd average reached

record production of 25,000 pounds this year. New flooring was installed at the parlor as well as new milk meters that will help with the collection of data for research and management purposes. Personnel changes at the facility include the appointment of two Ag Research Technicians.

SEND A COW TO COLLEGE



The "Send a Cow to College" program with the Brown Swiss Breeders Association started in 1994. Through this program we have maintained a herd of approximately 50 Brown Swiss cows at the DRTF. In 2005, the dairy farm and plant jointly embarked on a project for the production of exclusive Brown Swiss cheese, butter and ice cream. These products

were supplied at the annual Brown Swiss convention in Beloit, WI and are also available at the Dairy Store. Brown Swiss cheese and butter were entered in the dairy products contest at the 2005 World Dairy Expo. Future research work involving Brown Swiss is planned.

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SCHOLARSHIPS

Thanks to the generosity of many alumni and industry our students continue to be supported through scholarships. This support is critical to the program and for the future of the dairy industry. At the spring 2005 banquet, \$46,950 was awarded in scholarships and awards. The 2005 scholarships were as follows:

John Anderson Memorial	\$1000
Associated Milk Producers, Inc.	\$1000
Ross Baker Memorial	\$700
Emery Bartle Memorial	\$2500
Dairy Club (2 @ \$250 each)	\$500
Dairy Farmers of America	\$400
Danisco (2 @ \$1,000 each)	\$2000
Davisco Foods Int'l, Inc.	\$750
Dean Foods - Land O'Lakes	\$1000
Derdall	\$500
Gilbert T. & Olga Gilbertson Memorial	\$725
Clyde Helsper Memorial	\$400
Land O'Lakes-Region 65	\$500
Kemps Foods	\$1500
James Marvel Memorial	\$600
Kirk Mears Memorial	\$1300
North Central Cheese Industries Association (2 @ \$1500, 1 @ \$1200)	\$4200
Nordica Licensing Inc.	\$500
H. C. Olson	\$800
T. M. Olson	\$1000
Alfred Hermann Rishoi (2 @ \$1000 each)	\$2000
Ralph Rogers Memorial	\$400

Saputo Cheese	\$1000
Joe E. Schuch (2 @ \$1000 each)	\$2000
Shirley Seas Memorial	\$700
SD State Dairy Association (2 @ \$1000 each)	\$2000
Valley Queen Cheese Factory	\$2500
Joseph Van Treeck	\$1000
Wells Family Foundation	\$1000

Awards	
D. F. Breazeale Memorial	\$375
Dairy Judging Manufacturing	\$150
Dairy Judging Production	\$150
Forbes Leadership	\$300
Graber-Ford	\$125
Alfred Tobkin Memorial (4 @ \$150 each)	\$600
Howard Voelker Memorial (4 @ \$150 each)	\$600
Dairy Challenge Award (4 @ \$100 each)	\$400
Dairy Challenge Award	\$100

Incoming Students Scholarships	
Dairy Science Faculty (1 @ \$800, 1 @ \$600)	\$1400
William & Marge Kallemeyn & Sons (2 @ \$1000 each)	\$2000
Midwest Dairy Assn/SD Division (3 @ \$750)	\$2250
SD Dairy Fieldmen's Association (5 @ \$500)	\$2500
Clyde G. Helsper Dairy Fieldmen's	\$500
Valley Queen Cheese Factory	\$1000
Royal and Helen Donor in Dairy Prod.	\$600

DAIRY PLANT UPDATE

The Dairy Plant continues to eagerly wait for the completion of the renovation project. At the request of South Dakota Made Stores of Bristol the ice cream distribution project was terminated after approximately one year of operation. Five commercial organizations used our facilities for small-scale trials in various processing activities. The plant continues to be a key

component of the Dairy Manufacturing Field Experience class. Scott Schelske (B.S.'73), State Inspector, conducted plant inspection sessions with this class. This session included a hands-on inspection tour of a commercial plant. In addition to the plant superintendent, approximately 15 students work part-time in the plant and dairy store every week.

YEARS OF SERVICE

Arnold Appelt, Lab Evaluation Officer, State Dairy Lab, 30 years of service; **Dr. Dave Henning**, Associate Professor and Alfred Chair, 15 years of service.

STUDENT ACCOMPLISHMENTS

All Dairy Science Students, recorded outstanding effort, organization and professionalism in hosting the 2005 Midwest Regional ADSA-SAD conference in Brookings.

Peter Beck, sophomore Dairy Production major, was selected as an AgBio Ambassador. As an Ambassador, Peter is promoting the College of Agriculture and Biological Sciences at SDSU to prospective students.

Richard DeRouchey, sophomore Dairy Manufacturing major placed 1st overall in the dairy foods judging contest at the National Collegiate Dairy Products Judging Contest in Chicago, IL. He was also a member of the winning SDSU team.

Garret Doucette, junior Dairy Manufacturing major, was elected as a standing vice president at the State Postsecondary Agricultural Students Organization Conference. At the same conference, Garret

STUDENT ACCOMPLISHMENTS *(continued)*

also won Employment Interview and Ag Mechanics contests and he was a recipient of the B. J. Stoesser Award.

Melissa Euerle, sophomore Dairy Production student from Litchfield, MN who was crowned the 2004 Princess Kay had a two-and-a-half-foot butter sculpture of her head created for her at the Minnesota State Fair.

Dan Fritsche was selected as the 2005 National Outstanding Guernsey Youth at the American Guernsey Association (AGA) convention. In addition, he placed 4th in the Guernsey Gold production contest, he received the \$500 Lawrence Colebank Award and an AGA Lifetime Membership. As a finalist he also received a Lifetime membership in the Dairy Shrine.

Jeff DeFrain who completed his Ph.D. in 2004, received a dairy research award at the annual meeting of the Midwestern Section of

the American Dairy Science Association in Des Moines, IA. At the National ADSA meeting in Cincinnati, OH he received the Richard M. Hoyt Award. Both awards were in recognition of his outstanding research work as a Ph.D. candidate in Dairy Science. Dr. Arnold Hippen was Jeff’s advisor. Jeff is currently employed at Hubbard Feed in Wahpeton, ND.

Brittany Nussbaum, sophomore Dairy Production major was elected as the South Dakota President of the State Postsecondary Agricultural Students Organization Conference. She also won a “Speakers for Agriculture” – IMPROMPTU contest at the conference. In summer 2005, Brittany spent two weeks studying agriculture in the Netherlands and Germany. Brittany was awarded a \$5,000 scholarship by the Joe Foss Institute for the Patriot Club essay contest.

OUTREACH

K-12 Students

Dairy Science faculty designed and conducted several programs this year for educating K-12 and other students about opportunities in Dairy Science as a college major and permanent career:

Sioux Falls Ag Day

The Dairy Science Department was represented by Dr. Bob Baer at the 2nd Sioux Falls Ag. Day at the Washington Pavilion. The fine art of judging and appreciating dairy products and the science behind taste tests were demonstrated. This was an opportunity to showcase Dairy Science activities to school students.

Dairy Camp

The dairy camp was a three-day program on the SDSU campus with an over-night stay and was hosted by the Dairy Club in June. There were over 22 participants from 8 to 18 years old from local schools. Participating students made their own butter and were given tours of the dairy science facilities as well as an area farm. They received instruction in dairy cattle evaluation and participated in many other fun activities.

Earning-Learning Summer Program

For the third year the North Central Cheese Industries Association and the College of Agriculture and Biological Sciences sponsored an internship program for high school juniors. Two participants were selected by an application and interview process for this 10-week program during the summer. One student was from the Brookings High School and another from Fairmont High School in North Dakota. The

students worked with Dairy Science faculty at the dairy plant, dairy research and training facility, and on research projects in the labs. The hands-on program involved all aspects of plant work including product manufacture, as well as farm work. During the final week of the program tours of commercial dairy farms and dairy processing



and research & development facilities in South Dakota, Iowa and Minnesota were arranged to provide a practical perspective on Dairy Science. In 2006 the program will be modified and will be conducted for two selected students as a year-long freshman mentorship. Details can be found on the department web-site.

SDSU-FIS Success Academy

The department sponsored a visit for the SDSU-FIS (Flandreau Indian School) Success Academy. The purpose of the visit was to provide visiting students from FIS perspectives on Dairy Science and career opportunities available for dairy graduates. Twelve students participated and manufacture ice cream and toured the dairy plant.

Extension

Meetings and Workshops: Aside from local extension workshops, Extension also participated in regional and international activities such as the MN Nutrition Conference & technical Symposium, Livestock Nutrition Training Session for Land O’Lakes Field Staff (Lincoln, NE), and Feeding Distillers Grains to Dairy Cattle (Agua Calientes, Mexico).

Dairy Profitability Team: Appointed by SDSU Administration and the Dairy Science Department this group of CES Specialists conducts non-formal on-farm teaching sessions for dairy producers and CES Educators.

Training Courses for Hispanics: Training workshops to obtain hygienic milk were offered to dairy workers. A special Dairy Spanish class "Spanish for Animal Scientists" was also offered to students in fall '05. Dairy Science extension also participated in several South Dakota dairy tours organized by the Department of Agriculture for prospective dairy producers.

Dairy Science at World Dairy Expo: The Dairy Science Department and the South Dakota Department of Agriculture jointly displayed a booth at the World Dairy Expo in Madison, WI in October. The booth highlighted the dairy development efforts and dairy education and research activities and opportunities in South Dakota. Many interested people and alums stopped by to learn about the South Dakota dairy industry and education and to say hello.

ALUMNI ACTIVITIES

Dairy Science alumni continue to make impressive impacts in their careers. Listed here is a sampling.

Troy Amman, B.S.'90 was elected President of North Central Cheese Industries Association.

Daryl Berg, B.S.'90 is plant manager for Sunny Fresh Foods, Mason City, IA. Sunny Fresh Foods was selected in 2005 to receive the prestigious Malcolm Baldrige National Quality Award and is the only food company to receive this award twice.

Bob Roberts, M.S.'86, Professor of Food Science at Pennsylvania State University was elected as a Board Member of the American Dairy Science Association.

Tim Czmowski, B.S.'85 is currently Cheese Technologist at CPS Scherping Systems and was named as a judge for the US and World Cheese Contests.

Larry Bell, M.S.'75 and **Randy Brandsma**, M.S.'92 were inventors on a patent that was assigned to Schreiber Foods. The patent was awarded for a method for fractionating and separating a cheese using heat and mixing the cheese to separate into three phases.

Dan Duitscher, B.S.'89 resigned as Manager at Hiland Dairy Foods in Kansas to return to the family farm, Dutchland Dairy, in Rolfe IA.

John C. Gross, B.S.'54 was honored with the 2005 Distinguished Alumni Award for Outstanding Professional Achievement. The 44th annual Distinguished Alumni Awards Dinner and Program was held on Friday, 21st October in honor of John and seven other Distinguished Alums.

Darryl Hadsell, B.S.'85, M.S.'87 is Associate Professor of Pediatrics and Molecular and Cellular Biology at the Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX.

Judges for the 2005 World Dairy Expo Championship Dairy Product Contest in Madison, WI: Cheese: **Julie (Halbersma) Stellpflug**, B.S.'84; Yogurt: **Don Tribby**, B.S.'83.

Lyle Kruse, B.S.'78 is General Manager for Minnesota Select Sires in St. Cloud.

Lloyd Metzger, B.S.'92, M.S.'94, Assistant Professor of Food Science at the University of Minnesota was the recipient of the ADSA Foundation Scholar Award at the annual meeting of ADSA in Cincinnati, OH.

Keith Murfield, B.S.'75, is CEO of United Dairymen of Arizona. He traveled to Havana, Cuba to negotiate a \$22 million deal for nonfat dry milk with Cuba on behalf of Dairy America.

Doug Post, B.S.'94 and his wife Ginger were featured in Dairy Star. The Posts own and operate Sipka Holsteins near Volga, SD.

Officials for the 2005 Collegiate Dairy Products Evaluation Contest, Chicago, IL: Cheddar cheese: **Virgil Metzger** (Lead judge), B.S.'69, M.S.'71,

Tim Czmowski, B.S.'95, **Rich Holtquist**, B.S.'83; Ice cream: **Matt Wolkow**, B.S.'93, M.S.'95; **Mandeep Patel**, M.S.'05; Milk: **Keith Johnson**, B.S.'97;

Mayur Acharya, Ph.D.'03; Yogurt: **Don Tribby**, B.S.'83; Lead computer tabulator: **Jennifer Fieber**, B.S.'98.

Todd Stahl, B.S.'91, is President and Director of Operations for Hematech, Transova Joint Venture and is featured in the "You Can Go Anywhere From Here" commercial of SDSU.

Gene Stegeman, B.S.'89, M.S.'91 is appointed as the LEO for the South Dakota State Dairy Lab in Brookings.

Phil Wirth, B.S.'89, is Sales Manager, Dairy Equipment, Genex Farm Systems/ Cooperative Resources Int. Shawano WI.

Jonathan Ydstie, M.S.'97, moved to the Midwest Dairy Institute in Milbank where he is the Dairy Farm Manager.

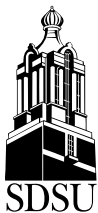
Jeng-Jung Yee, M.S.'76, is Senior Research Scientist at Schreiber Foods in Green Bay, WI and initiated a generous new scholarship for Dairy Science students at SDSU.

Mark your calendar

• The 2006 scholarship banquet is at the newly remodeled SDSU Student Union on 3rd April at 6 pm.

SDSU will celebrate its 125th Anniversary in 2006. The kick-off Birthday Party will be on February 21, 2006 from 4 – 6 p.m. in the Volstorff Ballroom. To mark this event, the Dairy Science department will release a new ice cream flavor.

Job opportunities for alums and students are listed on our web site under Careers. These are updated regularly. Please contact us for details if you are interested in a listed position.



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