

# THE JACKRABBIT DAIRY REVIEW

Winter 2003-2004

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

## Dairy Science Department Faculty

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

## Staff

Arnold Appelt, *Director, State Dairy Lab*  
Tim Bauer, *Ag Research Technician*  
Valerie Denison, *Secretary*  
Don Hofland, *Ag Research Technician*  
Margaret Jensen, *Word Processor*  
Sheri Kahnke, *Research Assistant II*  
Gary Kirkham, *Ag Foreperson-Lead Feed*  
Kim Ludens, *Secretary*  
Sachinkumar Magdum, *Dairy Plant Superintendent*  
Jayne Raabe, *Senior Secretary*  
Patrick Solsaa, *Ag Research Mgr./Specialist*  
Jacob Walz, *Ag Foreperson-Herd Health*

## Graduate Students

Dairy Manufacturing	Dairy Production
Sumita Chanda	Joby Cyriac
Seema Das	Jeff DeFrain
Sheri Kahnke	Greg Golombeski
Nirav Pandya	Daryl Kleinschmit
Mandeep Patel	Jill Ladd
Prem Thakur	Gaolebale Mpapho

## MESSAGE FROM THE DEPARTMENT HEAD

Greetings! 2003 was an excellent year for Dairy Science at SDSU. This newsletter describes many of our activities during the year. For the first time in almost ten years our undergraduate student count exceeded 60. We now have 22 manufacturing, 34 production and 6 double major students. We will continue efforts at attracting more students to the major to help fill the outstanding job market for dairy majors. In 2003 12 companies visited the department to interview students for job opportunities. This and the very strong scholarship support from alumni, industry and friends form the cornerstone for the healthy Dairy Science program at SDSU.

Our faculty members have been very active on campus and at national and international venues. Their recognition has helped attract excellent graduate students to the department. Our students had an active and productive year through academic excellence and the Dairy Club. The department was represented by faculty and students at the Midwest ADSA conference, Des Moines, IA; the Dairy Challenge contest, East Lansing, MI; the Quality Chek'd Conference, Denver, CO; the ADSA annual conference, Phoenix, AZ; The Institute of Food Technologists annual meeting, Chicago, IL; Dakota Fest, Mitchell; South Dakota State Fair, Huron; the World Dairy Expo, Madison, WI; World Food Expo, Chicago, IL; The North American International Livestock Exposition contest, Louisville, KY; Midwest Food Processors Conference, Rosemont, IL, and many other professional venues.

I truly appreciate the continuing support of alumni and friends. We will be seeking you out once again as we continue to raise funds for the much-needed renovation of the dairy plant. I would also like to solicit your help in spreading the word about Dairy Science as a college major to prospective students. Our long range goal is to continue to be leaders in dairy education, research and service.

Please keep in touch and inform us of your achievements. Best wishes to you for 2004.

Vikram Mistry

## DAIRY PLANT RENOVATION UPDATE

For the past 40 years the dairy processing plant has served as a training facility for numerous students who have now become leaders in the dairy industry. Our strength lies in the unique blend of dairy production and manufacturing in a single program. To further strengthen this program we have embarked on a project to renovate and remodel the plant. The new state-of-the-art facilities will train students for the industry of the present and the future. The project includes three parts. One part is a 3,200 square feet addition to the east of the current building to house new processing equipment and cold storage facilities. The second part is a complete renovation of the utilities infrastructure and

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flooring in the existing plant and addition of new processing equipment. The third component is a 650 square feet addition to the dairy sales bar that includes a solarium. This renovated facility will provide opportunities to recruit new students into the program, attract outstanding faculty, and offer expanded interactions with the dairy industry. It will ensure that we will continue to be a leader in dairy education, research and service

and supply well trained graduates to the dairy industry of the future.

Our task is to raise \$3,000,000 to complete the project. Through generous support of some organizations and individuals we are approximately a third of the way through. We still have a long way to go and your commitment through personal support or through your organizations will be appreciated. Please contact Dr. Vikram Mistry for details.

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## NEW FACULTY AND STAFF

**Jose Dornellas** completed his Ph.D. in Food Technology at University Campinas in Brazil and joined the Dairy Science department in April as a Post-Doctorate researcher with Dr. Vikram Mistry. He is working in research projects involving ingredient development.



Dornellas



Hassan



Magdum



Walz

**Ashraf Hassan** joined the department as Assistant Professor in Dairy Manufacturing in July. He will teach Technical Control of Dairy Products I, parts of Dairy Product Processing I and II and a portion of Laboratory Techniques in Dairy Science. He will also conduct research in the area of cheese and fermented milks. He has a Ph.D. in Food Science from the University of Georgia and Minia University in Egypt. He has published numerous papers in the area of yogurt texture, exopolysaccharide-producing cultures and applications of microscopy to study dairy products. He has purchased a fluorescence microscope to conduct research in dairy product structure analysis.

**Sachin Magdum** is the new Dairy Plant Superintendent since April. He holds a B.E. degree in Mechanical Engineering from India and a M.S. in Industrial Engineering from SDSU. He worked at the SDSU dairy plant for two years prior to assuming the Plant

Superintendent position and fills the position formerly occupied by Garrett Meyer.

**Jacob Walz** completed his B.S. in General Agriculture at SDSU and is now the Ag Foreperson, herd health at the Dairy Training and Research Facility since June. Jake fills the position of Dan Vander Plaats, who resigned in the spring.

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**Dr. John and Penny Parsons** continue to enjoy retirement in Oakland, Arkansas, and have opened a store "Sister Creek Creations" to sell handcrafted furniture and gifts. They have visited Brookings on several occasions.

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## NEW GRADUATE STUDENTS

Joby Cyriac (Kottayam, India), M.S., Dairy Production. Advisor Dr Kenneth Kalscheur.

Greg Golombeski (Morristown, MN), M.S., Dairy Production. Advisor Dr Kenneth Kalscheur.

Daryl Kleinschmit (Hardington, NE), Ph.D., Dairy Production. Advisor Dr Dave Schingoethe.

Jill Ladd (Wilmington, DE), M.S., Dairy Production. Advisor Dr Dave Schingoethe.

Gaolebale Mpapho (Francistown, Botswana), Ph.D., Dairy Production. Advisor Dr Arnold Hippen.

Nirav Pandya (Vadodara, India), M.S., Dairy Manufacturing. Advisor Dr Rajiv Dave.

Mandeep Patel (Vadodara, India), M.S., Dairy Manufacturing. Advisor Dr Bob Baer.

Prem Thakur (Patna, India), M.S., Dairy Manufacturing. Advisor Dr Rajiv Dave.

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## NEW UNDERGRADUATE STUDENTS

### Transfer

Heidi Brandt (New Salem, ND), Dairy Production

Nick Currence (Brookings), Dairy Manufacturing

Derek Griebel (Paullina, IA), Dairy Prod/ Manuf

Andrew Holland (Montrose), Dairy Manufacturing

Jean Hughes (Alcester), Dairy Manufacturing

Nicole Ihrke (St. Charles, MN), Dairy Production

Aaron J alas (Primghar, IA), Dairy Production

Todd Lippert (Royalton, MN), Dairy Manufacturing

Nicholas Miley (Goodwin), Dairy Production

Alex Musson (LeMars, IA), Dairy Manufacturing

Brian Walters (Arlington, MN), Dairy Production

### Freshman

Garrett Doucette (Little Falls, MN), Dairy Manufacturing

Lindsey Feldhaus (Huron), Dairy Production

Kari Gorsuch (Arlington), Dairy Prod/Manuf

Travis Holscher (Twin Brooks), Dairy Manufacturing

Bradley Korver (Alton, IA), Dairy Production

Jenna Mueller (Big Stone City), Dairy Prod/ Manuf

Thomas Norling (Beresford), Dairy Production

Betsy Raasch (Sioux Falls), Dairy Manufacturing

Brandon Sahr (Bricelyn, MN), Dairy Manufacturing

Janora Smith (Merrill, IA), Dairy Production

Ryan Tollefsrud (Murdock, MN), Dairy Production

## 2003 GRADUATES

Congratulations to the following 2003 Dairy Science graduates. We wish them well in their careers.

Amer AbuGhazaleh, Ph.D. Dairy Production. Post-Doctorate Researcher, Clemson University, SC.  
Mayur Acharya, Ph.D. Dairy Manufacturing. Research Scientist, Wells Dairy, Le Mars, IA.  
Arlo Brower, B.S. Dairy Production/Manufacturing. Sunny Fresh, Monticello, MN.  
Ann Harvey, B.S. Dairy Production. Home Farm, Ree Heights, SD.  
Jana Johnson, M.S. Dairy Manufacturing. Scientist, Schrieber Foods, Logan, UT.  
Nitin Joshi, Ph.D. Dairy Manufacturing. Research Scientist, Campbell Soup, Camden, NJ.  
Caini Liu, Ph.D. Biological Sciences. Post-Doctorate, Ohio State University, Wooster, OH.

Nicholas Loeschke, B.S. Dairy Manufacturing. Graduate School, Communications, SDSU.

Stacy Mueller, B.S. Dairy Production/Manufacturing. North Star Processing, Litchfield, MN.  
Sithara Nair, M.S. Dairy Manufacturing. Food Technologist, Schwans, Marshall, MN.  
Rajesh Parmar, M.S. Dairy Manufacturing. Naturally Iowa, Clarinda, IA.  
Shishir Ranjan, M.S. Dairy Manufacturing. MGP Ingredients, Atchison, KS.  
Gaurav Singhal, M.S. Dairy Manufacturing. Marigold Kemps, Rochester, MN.  
Charity Skogrand, B.S. Dairy Production.  
Lance Whitlock, Ph.D. Dairy Production. AgriKing, Fulton, IL.

## JUDGING ACTIVITIES



detailed information about a working dairy, including production and farm-management data. They were expected to conduct a thorough analysis and present recommendations to a panel of judges. The SDSU students placed in the gold category out of 24 teams. Our students also competed in three cattle judging contests in the fall, including a regional contest in Viroqua, WI, the intercollegiate contest at the World Dairy Expo in Madison, WI and at the North American International Livestock Exposition contest in Louisville, KY. The team, consisting of Heidi Brandt, Kristin Kuhl, Anna Alexander and Barret Olson placed 14th overall in the Viroqua contest, 21st at the Expo. The Louisville team placed 7th overall and included Darin Zoellner, Tony Galgowski, Brian Walters, and Ted Norling.

## Dairy Products

The Dairy Products Judging Team coached by Dr Bob Baer and including Dallas Vaughn, Jake Hammerly, Amber Sperlich, Jean Hughes, Annie Milbrandt and Ananya Biswas (Ag Engineering graduate student) placed first in the Midwest regional contest in Glenview, IL. Annie Milbrandt placed 3rd overall in the contest. At the national contest in Chicago the team (Dallas, Jake, Annie and Ananya) placed third overall out of 18 teams. Ananya Biswas placed first overall among graduate students. Annie received the Joe Larson merit award that "honors the undergraduate student that best upholds the ideals of the contest."

## Dairy Cattle

Dairy Science students were involved in four dairy cattle related judging activities. In February, a team of five students, Ann Harvey, Karissa Nielsen, Charity Skogrand, Rindy Harkness, and Mark Qual, coached by Darrel Rennich and Dr. Arnold Hippen, competed in the North American Intercollegiate Dairy Challenge contest in East Lansing, MI. This was a first-time experience for our students and faculty. Students were presented



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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 2003 banquet, \$44,350 was awarded in scholarships and awards. The 2003 scholarships were as follows:

Donor	Amount
John Anderson Memorial	\$500
Associated Milk Producers, Inc.	\$1000
Ross Baker Memorial	\$700
Emery Bartle Memorial	\$2500
Dairy Club	\$500
Dairy Farmers of America	\$400
Danisco	\$1000
Davisco Foods Int'l, Inc.	\$750
Dean Foods-Land O'Lakes	\$1000
Chuck Derald	\$500
Gilbert T. & Olga Gilbertson Memorial	\$700
Clyde Helsper Memorial	\$400
Land O'Lakes-Region 65	\$800
Marigold Foods	\$1500
James Marvel Memorial	\$600
Kirk Mears Memorial	\$600
North Central Cheese Industries Assn. (2 @ \$1500, 1 @ \$1200)	\$4200
H. C. Olson	\$1000
T. M. Olson	\$1000
Rhodia, Inc.	\$500
Alfred Hermann Rishoi	\$2000
Ralph Rogers Memorial	\$400
Saputo Cheese	\$1000
Joe E. Schuch (2 @ \$1000)	\$2000
Shirley Seas Memorial	\$700
Sinton Dairy Foods	\$500
SD State Dairy Assn. (2 @ \$1000)	\$2000
Valley Queen Cheese Factory	\$2500

Joseph Van Treeck	\$1000
Wells Family Foundation	\$1000

### Freshmen Scholarships

Dairy Science Faculty	\$800
William & Marge Kallemeyn & Sons	\$1000
Midwest Dairy Assn/SD Division (2 @ \$750)	\$1500
SD Dairy Fieldmen's Assn. (5 @ \$500)	\$2500
Clyde G. Helsper Dairy Fieldmen's	\$500
SDSU Alumni/Valley Queen Cheese Employees Freshman	\$1000
Valley Queen Cheese Factory	\$1000
Royal and Helen Donor in Dairy Prod.	\$500

### Awards

Donor	Amount
D. F. Breazeale Memorial	\$375
Dairy Judging Manufacturing	\$150
Dairy Judging Production	\$150
Forbes Leadership	\$300
Graber-Ford	\$125
Alfred Tobkin Memorial	\$750
Howard Voelker Memorial	\$450

In addition to these scholarships, Dairy Science students won six of the 20 scholarships awarded by the National Dairy Promotion and Research Board in nation-wide competition. \$1500 scholarships were awarded to Amber Sperlich, Darin Zoellner, Cheryl Kampmann, Annie Milbrandt and Shannon Sellner. Karissa Nielsen received the \$2500 James H. Loper award. Only one award is presented nationally each year.

Mark your calendar: The 2004 scholarship banquet will be at the Performing Arts Center on the SDSU campus on 5th April at 6 pm.

## PROFESSIONAL ACTIVITIES OF FACULTY

Dairy Science faculty were involved in numerous professional activities in the region and around the country. Faculty and students together presented over 21 papers and published numerous papers in scientific journals.

Dr Bob Baer and top dairy products judge of 2002, junior Anna Alexander, were invited to participate in the 2003 Quality Checkd Dairies, Inc., annual spring management conference in Denver, CO.

Dr Rajiv Dave was a member of the graduate student paper presentation contest judging committee, secretary of the dairy foods division council of the American Dairy Science Association (ADSA), and chair of the IFT - Great Plains Subsection.

Dr Dave Henning was Board of Directors, co-chair of membership committee, Chair dairy foods nominating committee, judge for student affiliate division quiz bowl, judge for student affiliate outstanding student and advisor, member Internal affairs

committee, member of Milk Industry Foundation teaching award in dairy manufacturing of ADSA. He is the executive secretary for the North Central Cheese Industries Association (NCCIA).

Dr Arnold Hippen was Chair of Alltech graduate student paper award, judge for student affiliate division quiz bowl (ADSA) and member of ruminant nutrition and forages committee (Midwest ADSA).

Dr Ken Kalscheur was a member of undergraduate student competition paper committee (Midwest ADSA).

Dr Vikram Mistry was a member of the International relations committee and Chair of National Milk Producers Federation Richard M. Hoyt award of ADSA. He is the US editor for the French Journal of Dairy Science, Le Lait and is on the advisory board of NCCIA.

Dr Dave Schingoethe was past president of ADSA and Editor of Journal of Dairy Science (ADSA) and is now president of the Federation of American Animal Science Societies.

### Promotions and Awards

Dr Rajiv Dave was promoted to Associate Professor effective July 1. Dr Dave has been with the department since July 1999 and teaches Food Microbiology, Dairy Microbiology and a part of Dairy Product Processing II. His research is in acid whey applications and Mozzarella cheese functionality. He will spend 4 months in Korea at the Chungnam National University as an exchange professor during spring 2004. Dr. Dave was initiated into the research honor society, Sigma Xi.

Dr Alvaro Garcia was presented a Certificate of Merit at the Annual Extension Conference in Brookings for his outstanding contributions in Dairy Extension.

Dr Vikram Mistry was initiated into the Honor Society of Phi Kappa Phi in recognition of his research and teaching and was awarded the F.O. Butler Research Award of SDSU at the December commencement in recognition of his outstanding cheese and dairy products research.

Dr Dave Schingoethe was named Distinguished Professor in Dairy Science at SDSU to recognize his outstanding scholarship, teaching and service records during his 33-year career at SDSU. He also received the Land O' Lakes award at the national ADSA conference in Phoenix for his outstanding research contributions in dairy cattle nutrition.

### New Funds for Supporting Research and Other Programs

Dr Bob Baer received \$2500 from the International Association of Food Industry Suppliers to support the products judging team.

Dr Rajiv Dave received \$2200 from Dairy Management, Inc. to commercialize acid whey products in yogurt.

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) received \$500,000 from CSREES/USDA to study the reduction of foodborne risks associated with direct marketed foods in South Dakota.

Dr Arnold Hippen received \$15,000 from Alltech for a one year grant to study the feeding of Amaize as a preventative for digestive and metabolic disturbances during transition period in dairy cattle.

Dr Arnold Hippen and Darrel Rennich, received \$17,249 in the form of flooring for the dairy barn from Animat, Inc., with matching funds from the Ag Experiment Station to evaluate the impact of rubber flooring on cow comfort.

Dr Ken Kalscheur received \$4,910 from the SDSU Research Support Fund to conduct a project on nitrogen and phosphorus excretion from dairy heifers fed diets increasing in concentrations of corn distillers grains.

Drs Ken Kalscheur, Arnold Hippen, and Dave Schingoethe received \$28,400 from the South Dakota Oilseeds Council to

study the improvements of milk fat composition by feeding oilseeds to dairy cows.

Dr Vikram Mistry, received \$5,000 from the North Central Cheese Industries Association to support a new Summer Earning-Learning Experience in Dairy Science for high school students. Read more about the program later in this issue. Dr. Mistry is also the recipient of a USDA-NRI equipment grant for the purchase of a microfiltration unit. The grant of \$31,568 is matched by the Ag Experiment Station for a total of \$63,136. The microfiltration unit will be used to conduct research on applications of microfiltration in dairy processing.

Drs Vikram Mistry and Bob Baer received \$2500 from Schreiber Foods to support the Dairy Products Judging Team.

Darrel Rennich received \$925 from various sources to support the cattle judging team.

Dr Dave Schingoethe received \$40,683 from Dakota Gold Research Foundation to evaluate improved dried distillers grains with solubles for dairy cattle.

### Other On-going or Completed Research Projects – 2003

Dr Rajiv Dave. Use of acid whey in fermented dairy products. \$65,000, MN-SD Dairy Foods Research Center; Understanding the role of starter cultures in Mozzarella cheese functionality. \$77,000, MN-SD Dairy Foods Research Center.

Dr Arnold Hippen. Wet corn distiller's grains as an alternative to dried distillers grains in dairy cow diets. \$30,000, SD Corn Utilization Council; Glycerol as a feed supplement to dairy cows for prevention of fatty liver and ketosis. \$12,000, West Central Soy; Periparturient supplementation of dairy cow diets with propionate and/or fat. \$20,000, Pestell; Aerobic stability and fermentation losses from corn silages treated with a commercially available and experimental inoculants. \$9,400, Medipharm USA.

Drs Arnold Hippen, Ken Kalscheur and Dave Schingoethe received \$167,000 from the USDA-ARS to study new uses of distillers grain products in dairy cattle feeding.

Dr Ken Kalscheur. Feeding distillers grains to dairy cattle. \$6,000, SD Ag Producer Ventures.

Dr Vikram Mistry. Development of a new buttermilk ingredient. \$140,082, Kraft Foods; Flavor optimization of process cheese using concentrated milks for base cheese manufacture. \$125,530, MN-SD Dairy Foods Research Center; Reduction of salt whey waste during cheese manufacture. \$81,200, MN-SD Dairy Foods Research Center.

Dr Vikram Mistry, Dr. Bonny Specker (Martin Endowed Human Nutrition Program), and Dr. Matt Vukovich (Health, Physical Ed Recreation). Effect of process cheese with and without vitamin D3 on vitamin D status, Parathyroid hormone, and bone turnover in the elderly. \$51,099, National Dairy Council.

Dr K. Muthukumarappan (Ag Engineering) and Dr Rajiv Dave. Understanding the effect of calcium on functional and structural properties of Mozzarella cheese. \$76,980, USDA-NRI.

Dr Dave Schingoethe. Evaluation of feeding yeast extract to lactating cows during warm weather. \$30,000, Diamond V Mills, Inc

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## YEARS OF SERVICE

Arnie Appelt, Director of the State Dairy Lab, was recognized for 30 years of service.

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## STUDENT ACCOMPLISHMENTS

2003 was an excellent year for Dairy Science undergraduate students with an outstanding record of accomplishments at the campus, regional and national levels. You can read about judging activities elsewhere in this newsletter.

Ann Harvey received the undergraduate research presentation award at the Midwestern ADSA in Des Moines, IA.

Nitin Joshi, Ph.D. graduate student received the Minnesota IFT graduate scholarship award. He also received the Research Paper Award of the SDSU chapter of Sigma Xi.

Pete Linke was selected as a Joseph F. Nelson undergraduate research mentor to study various delivery methods of glycerol to dairy cows for providing gluconeogenic precursors to the liver under the mentorship of Dr Arnold Hippen (\$3,000).

Karissa Nielsen was selected as a Joseph F. Nelson undergraduate mentor for conducting research under the mentorship of Dr. Dave Henning and initiated into the Honor Society of Phi Kappa Phi for her outstanding academic record. Karissa also participated in the STTAR (Students in Technology Transfer and

Research) Program of EPSCoR (Experimental Program to Stimulate Competitive Research) during the summer of 2003. She was sponsored by Dairilean, Incorporated.

Karissa Nielsen and Charity Skogrand each were selected to receive the first Griffith Undergraduate research awards of the SDSU College of Agriculture and Biological Sciences. The award each consists of \$500 cash and \$2000 research funds. Dr. Dave Henning is Karissa's mentor for her research project that involves the development of a value-added liquid product from concentrated milks. Dr. Hippen is Charity's mentor to focus on the difference in immunoglobulin absorption in calves.

Ashley Vonk was Member-at-Large, midwest branch of student affiliate division of ADSA.

Darin Zoellner received the Genevieve Christian undergraduate award of ADSA at the annual conference in Phoenix in June. This award recognizes academic and leadership excellence among Dairy Science students nationally.

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## DAIRY RESEARCH AND TRAINING FACILITY UPDATE

The DRTF has approximately 160 milking cows and a total of 300 animals. The rolling herd average reached record production of 24,500 pounds this year. The 2-million gallon lagoon was dredged and emptied for the first time since the new barn was opened for milking in 1993. We continue to look at effective manure management systems including manure separation systems and anaerobic digestion for the future. Through a collaborative project with Animat, new flooring was installed in the milking parlor, alley and two pens to study cow comfort. After the study is completed the floor will remain in the barn.



## DAIRY CLUB

The officers this year for the dairy club are: Darin Zoellner, President; Kristi Stalberger, Vice President; Kristin Kuhl, Secretary; Annie Milbrandt, Treasurer; Shannon Sellner and Justin Morehouse, Historians; Ted Norling and Ashley Vonk, Activities Coordinators. Advisors are Howard Bonnemann, Dr.

David Henning, Dr. Arnold Hippen and Darrel Rennich.

The dairy club had an active year. They attended the ADSA Midwest student affiliate conference in Ames, IA in February. Club members helped host the 2003 All Breeds Sale on the SDSU campus and sold Christmas cheese boxes in fall.

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## DECEASED

Mrs. Ann Baker, scholarship supporter. Dr. Ross Baker was Professor in Dairy Science from 1950 to 1982.

Mr. William Kallemeyn, dairy plant superintendent 1943-1946, scholarship supporter.

Karen Tieszen, B.S.'88, employed with Land O'Lakes, Sioux Falls, SD and Gillette Dairy, Rapid City, SD, passed away after a long battle with cancer.

OUTREACH

K-12 Students

As dairy educators one of our functions is to reach out to K-12 students to educate them about the Dairy Science college major and future careers. Dairy Science faculty designed and conducted three such programs this year:

**Kids Workshop:** This was a hands-on after-school activity for 17 4th and 5th graders. The program, conducted by Dr Bob Baer and Sheri Kahnke, provided opportunities for the children to learn about dairy products, make cheese, ice cream and butter and learn how to taste dairy products. Three one-and-a-half hour sessions were conducted in the Dairy Micro building.

**Dairy Camp:** The dairy camp was a two-day program on the SDSU campus with an over-night stay. Darrel Rennich and Dairy Club students organized this program in May for Elementary, Middle and High School students. There were 34 participants. The participating students were given tours of the dairy science facilities and received instruction in dairy cattle evaluation. The hands-on program was conducted at the SDSU Dairy Training and Research Facility.



**Earning-Learning Summer Program:** Through a generous grant from the North Central Cheese Industries Association an internship program for high school juniors was developed. Four participants were selected by an application and interview process for this 10-week program during the summer. Three students from the Brookings High School and one from Florence High School worked in 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 Dr Mistry and the students traveled about a thousand miles touring commercial dairy farms and dairy processing facilities in South Dakota, Iowa and Minnesota and visiting alums to observe career options in Dairy Science.

Extension

**Cheese Workshop:** Dr. Raj Nauth, Adjunct Professor in Dairy Science, and Dr. Vikram Mistry conducted an IFT-sponsored workshop on cheese technology in Sioux Falls in May.

Approximately 15 people participated in this two-day workshop that included instruction in cheese making and a tour of the Land O' Lakes Mozzarella cheese plant in Volga.

**Hoof Care:** A training session for dairy producers about hoof care conducted jointly in November by Heart of America DHIA, dairy industry, and with SDSU Cooperative Extension Service and the SDSU Dairy Science Department. Topics covered included hoof care physiology, locomotion scoring and micro-mineral nutrition, rations and feeds, PocketDairy & PCDART, hoof disorders and treatments.

**Milk Quality:** A milk quality workshop was conducted by Dr Garcia in collaboration with industry to help producers develop programs to improve milk quality on the farm.

**Ultrasound Workshop:** Dr. Garcia joined efforts with E.I. Medical of Colorado to conduct a workshop on the benefits of using ultrasound on dairy farms. There were 40 participants.

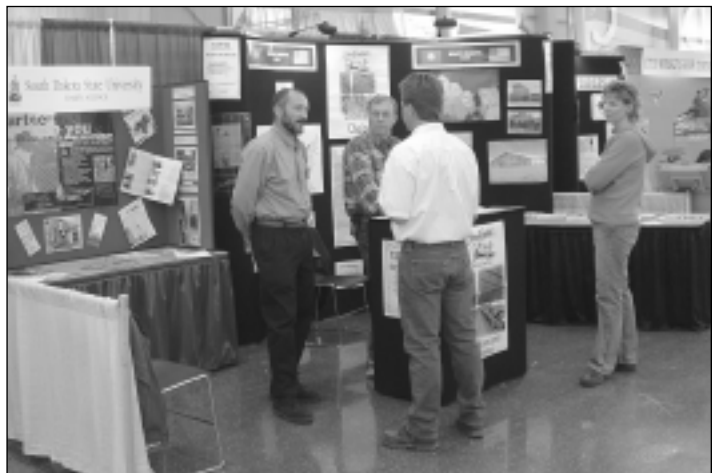
**Collaborative Workshops:** Dairy Science faculty collaborated with the Midwest Dairy Institute in Milbank to offer training to dairy producers on dairy forage management, dairy profitability, and troubleshooting feeding management.

**Calf and Heifer Raising Workshop** was conducted by Dr Garcia and Land O'Lakes Farmland Feeds.

**North Central Dairy Calf and Heifer Tour** was jointly arranged by Dairy Extension to tour 4 dairies along I-29.

Dairy Science extension also participated in several **South Dakota dairy tours** organized by the Department of Agriculture for prospective dairy producers from Europe.

**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 booths 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.



We have begun a new spring seminar series in Dairy Science. During spring 2003, the speakers included dairy science faculty, students, Secretary Gabriel of the SD Department of Ag., Dean Cholick, the Midwest Dairy Institute, and others. If you are in the area on Tuesdays at 4 pm in the spring do join in.

## ALUMNI ACTIVITIES

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

Dr Amer AbuGhazaleh, M.S.'00, Ph.D.'02, Post-doctoral fellow, Clemson University, Department of Animal and Veterinary Science, Clemson, South Carolina.

Kirk Baldwin, M.S.'85, Quality Assurance Manager, Valley Queen Cheese Factory, Milbank, SD. Kirk coached the dairy products judging team from Milbank High School that won the judging contest at the national FFA convention in Louisville.

Daryl Berg, B.S.'90, Plant Manager, Sunny Fresh, Mason, City, IA.

Dr Randy Brandsma, M.S.'92, Research Scientist at Schrieber Foods, Greenbay, WI, was a coinventor on a patent issued by the US Patent and Trademark Office for a microfiltration process of skim milk. He conducted this work while working on his Ph.D at Cornell University.

Dr David Casper, M.S.'85, Ph.D.'89, Director of Nutrition, Agri-King, Inc., Fulton, IL.

Tim Czmowski, B.S.'85, vice president, Valley Queen Cheese Factory, Milbank, SD.

Dr James Drackley, B.S.'81, M.S.'85, Professor of Animal Sciences and Nutritional Sciences, University of Illinois, Champaign, IL.

Rich Ellefson, B.S.'79, M.S.'82, Vice President of Quality Assurance/Food Technology, Wells Dairy, Le Mars, IA.

Gene Enneking, B.S.'90 completed his term as president of North Central Cheese Industries Association. Gene was succeeded by Doug Anderson, B.S.'90, plant manager of First District Association, Litchfield, MN.

Susan Hawkins, B.S.'93, Quality Management, Nestle, CA and on assignment in Switzerland.

Darwin Kurtenbach, B.S.'72, Dairy Program Administrator, South Dakota Department of Agriculture, Pierre, SD.

Dr Henry Lardy, B.S.'35, Professor Emeritus at the University of Wisconsin in Biochemistry delivered the 2003 Lardy Lecture that has been set up by the Chemistry Department in his honor.

Lucas Lentsch, B.S.'96, President, DairyCareers.Com, Veblen, SD.  
Dr Harouna Maiga, Ph.D.'94, Associate Professor of Animal Science, University of Minnesota, Crookston, MN.

Dr Lloyd Metzger, B.S.'92, M.S.'94, is the Acting Director of the MN-SD Dairy Foods Research Center and Assistant Professor in Food Science at the University of Minnesota in St Paul.

Virgil Metzger, B.S.'69, M.S.'71, Program Manager, Kraft Foods, Inc. Technology Center, Glenview, IL.

Roger Nordvedt, B.S., '77, Transportation Manager, Land O'Lakes.  
Jarrod Otta, B.S.'89, Plant Manager, Dean Foods/Land O'Lakes, Sioux Falls, SD.

Tracey Renelt, B.S.'89, Kingsbury County Extension Educator/Livestock, SDSU Cooperative Extension Service.

Shawn (Stoley) Schlueter, M.S.'95, Quality Assurance Director, All American Foods, Janesville, MN.

Dr Tilahun Salhu, M.S.'80, Ph.D.'83, Director of the American Institute for Goat Research at Langston University, Langston, OK.

Roger Scheibe, B.S.'75, Ag/Dairy Development Specialist, SD Department of Agriculture, Pierre, SD.

Tom Schuch, B.S.'97, Quality Assurance Manager, Wells Dairy, Le Mars, IA.

Dr Nagendra Shah, M.S.'85, currently Professor at Victoria University in Australia, received the Rhodia International Award of ADSA.

Gene Stegeman, B.S.'89, M.S.'91, Agriculture Program Specialist, South Dakota Department of Agriculture, Pierre, SD.

Polly VanderWal, B.S.'95, Quality Assurance Manager, Davisco Foods International, Lake Norden, SD.

Walt Wojse, B.S.'65, M.S.'67, was chosen to run the Cooperatives Working Together (CWT) program in Washington, D.C.

Matt Wolkow, B.S.'93, M.S.'95, Director of Research and Development, Wells Dairy, Le Mars, IA.

We would like to hear about your activities. Please contact us via e-mail: [vikram\\_mistry@sdstate.edu](mailto:vikram_mistry@sdstate.edu) and tell us what you are doing.



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