

Department of Animal Science, UC Davis

HIGHLIGHTS

A PUBLICATION FOR OUR ALUMNI AND FRIENDS

Summer/Fall 2001

Chair's Message, Gary B. Anderson, Chair



Our world has changed since Highlights was last published. We worry more about our safety and the safety of people close to us. We worry about our mail, our food and other daily rituals previously taken for granted. But we also show more compassion than seemed possible toward people whom we have never met, people who live at the other side of our country. We live with renewed appreciation for what we have.

This issue of Highlights is published with appreciation for our Animal Science alumni and friends. We want to tell you about the good fortunes of our faculty, staff and students who have been honored for superior achievements. We want you to know about some of the activities of our undergraduate students, the work of our dairy and livestock show teams and the fully student-run "first annual" Aggie Classic jackpot show. We thank the contributors who funded our purchase of a new stock trailer for outreach, teaching and student activities. We celebrate our good fortune in having had faculty like Professor Emeritus Lee Baldwin make our department their own and in receiving monetary gifts that will advance our teaching, research and outreach missions. Finally, we want you to look with us to the future as we make plans to replace some of our antiquated animal facilities.

We hope that you enjoy this update on the people and the activities in your department. On behalf of the entire Department of Animal Science, I wish you good health and safety. If ever there is something we can do for you, please do not hesitate to contact me (telephone: 530-752-1682; e-mail: gbanderson@ucdavis.edu).

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Professor R. Lee Baldwin Retires



Professor R. Lee Baldwin retired in April after 39 years as a professor, researcher and mentor in the Department of Animal Science. His contributions to his students, the department, the university and society are boundless. "I do not know of another individual in the world who has contributed as much as Lee Baldwin to our knowledge of ruminant biology, physiology and nutrition over the span of the last 30 years," said his colleague Marvin Bryant, professor emeritus at the University of Illinois. Gary Anderson, professor and chair of the department, said of him, "Professor Baldwin is one of those rare individuals whose contributions to education, science and society continue to accelerate in value. His service to the animal sciences emerges from his role as an educator and mentor, a research scientist and a servant of the dairy and livestock industries and consuming public." These are among the reasons Lee was elected to the

prestigious National Academy of Sciences in 1993 and chosen by the American Society of Dairy Science to receive its Borden and Feed Manufacturers' Awards.

Joining the faculty in Animal Science at UC Davis in 1963, for over three decades Dr. Baldwin taught two courses that had an unquestioned impact on the dairy and livestock industries: Biology of Lactation and Nutritional Energetics. Biology of Lactation integrated the biochemical, genetic, nutritional, physiological and structural components of mammary development and the initiation and maintenance of lactation, the chemical composition of milk and limits to animal performance and productivity. He emphasized the integration of the basic, disciplinary sciences in addressing real-world problems confronted by scientists and producers. This course alone led many students from around the world to choose nutrition as their own field of research and teaching.

In Nutritional Energetics, too, Dr. Baldwin's goal was to integrate disciplinary knowledge with a quantification of problems of metabolism, and he managed to find a way to present the mathematics necessary for scientific insight without scaring off the typical biology student with tedium and abstraction. Through humor and a command of the subject, he taught his students how to persevere through advanced mathematics and achieve a quantitative understanding of animal metabolism. Through these two courses, Dr. Baldwin trained a generation of nutritionists and faculty around the world, people who are carrying his legacy into the future as messengers and investigators themselves.

Dr. Baldwin's research spanned a number of disciplines including nutrition, biochemistry, physical chemistry and microbiology and demonstrated his remarkable ability to integrate research information from divergent fields of study to find solutions to complex problems. This ability led him to develop dynamic simulation models to predict animal growth and lactation. Lee was one of the first people in the field of animal science to use modeling techniques to quantify and predict animal performance and is recognized as a national and international authority on the modeling of animal systems. Lee developed

Molly, a computer model describing lactation performance. In contrast to most models used in the field, Lees model is dynamic rather than static, thereby enabling analysis of differing responses to varying dietary inputs over time. His models are currently used at universities around the world to identify areas in which more information is needed to improve our understanding of the biology of growth and lactation. For the past few years, Lee has been working on a user-friendly version of the model so it can be used in classroom teaching and in the field by nutritionists, allied industry personnel and dairy producers. It is possible to use Molly to predict how dietary changes can affect the lactational performance of dairy cows as well as predict the excretion of nutrients, which in the future may help dairy producers devise environmentally friendly feeding management strategies.

Professor Baldwin has been a mentor for nutrition and biochemistry research to many faculty members in Animal Science. He served as major professor to some 40 Ph.D. students and about 65 Masters degree candidates, many of whom have become successful scientists and teachers at universities and research institutions. At his retirement party on August 22, a number of former students commented on how Lee taught them not only how to conduct scientific studies and publish their work but also to “think like a scientist.” They also fondly remember the 7 a.m. lab discussions on various scientific topics or timely concerns, coffee cups in hand. Professor Baldwin was a model university citizen. In addition to his service on a host of committees, he was department chair from 1978 to 1981. He held the Sesnon Chair in Animal Science from 1992 to 2000. His service to society is particularly noteworthy—locally, nationally and internationally. He was a major contributor to an influential document, Contributions of Animal Agriculture to Meeting Global Human Food Demand, published by the Council on Agriculture Science and Technology. After he was elected to the National Academy of Sciences in 1993, his service increased dramatically as he participated as a member of numerous national and international committees and workgroups. Lee has always been a prolific writer of top-level research; his relatively recent book, Modeling Ruminant Digestion and Metabolism, may be the most important, as it encapsulates his entire research career. In it he refines his mathematical models of liver and mammary gland function, adipose tissue metabolism and digestion in ruminants as they relate to growth and lactation.

We wish Lee the best in his retirement, and we thank him for his many contributions to the department and for his friendship.

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Plans for New Facilities Move Forward

The Department of Animal Science has taken efforts toward approval and support to replace three of its animal facilities to the next phase of the planning process. Proposals to build a Nutrient Processing Center, an Agricultural Exposition Center and a new Dairy Teaching, Research and Outreach Center were submitted for approval to the dean of the College of Agricultural and Environmental Sciences. The first two proposals have received the dean's approval and currently are under campus wide review. The proposal to build a new dairy facility is a large and complex project and is still under review by the dean.

The Nutrient Processing Center will replace the current Feed Mill, built in 1959, which lacks capacity and capabilities for some new and important research and outreach opportunities. The proposed site for the new facility is near the existing Feed Mill. The Agricultural Exposition Center, a covered, all-weather facility for using animals in teaching and outreach, is proposed to be built at the site of the arena adjacent to the Horse Barn. The new dairy facility will allow teaching, research and outreach appropriate for the large scale of California's dairy industry. The site for the new dairy is still under discussion.

The department's planning efforts toward new animal facilities are being conducted in conjunction with the Animal Science Development Board, a group of alumni and friends who support the department's academic missions. Al Medvitz, rancher from Rio Vista, chairs this board.

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McOmie Trust Funds Come to Animal Science

The Department of Animal Science will receive a major gift from the estate of Lorenzo and Judith McOmie. Mr. and Mrs. McOmie raised sheep in Solano County for 25 years, during which time they worked with Glenn Spurlock, Animal Science Cooperative Extension Specialist, and later with Professor Eric Bradford. In 1976 the McOmies established a trust from sale of their ranch. In addition to supporting the McOmies throughout the rest of their lives, the trust provided that upon their death half of the funds would go to UC Davis, to be shared equally by the Department of Animal Science and Department of Agronomy and Range Science. Lorenzo McOmie, who was preceded in death by his wife, passed away in January of this year. The current value of the gift to UC Davis is estimated to be \$9.7 million; Animal Science will use its half of that to establish an endowment. Income from the endowment will be used to support special departmental projects. Departmental faculty have suggested that high priority for use of funds from the McOmie Endowment will be support of graduate education, animal facilities development, new research initiatives, outreach activities, collaborative research with other departments and support of visiting scientists. The Department of Animal Science will partner with the Department of Agronomy and Range Science and the office of the Dean of the College of Agricultural and Environmental Science to recognize the generosity of the McOmie family once the gift becomes available to the university.

Dairy Gift Received

A gift of \$20,000 to support dairy research in the Department of Animal Science has been received from the estate of the late Albert DeFrietas. Mr. DeFrietas was a dairyman in the Helmar area. Dairy researchers in the department recommended that the funds be deposited in an endowment account for later use in support of construction of a new Dairy Teaching, Research and Outreach Center.

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New Faces in the Department



We are pleased to welcome **Gary Crawford** as the department's new chief administrative officer. Gary came aboard at the end of April. He has more than 25 years of managerial and leadership experience with the U.S. Air Force, where, as a Colonel, he was chief of the Logistics Division at Travis Air Force Base. He holds B.S. and M.A. degrees in public administration and brings to the position a strong background in financial analysis and personnel management. Gary administers the extensive business affairs of the department, managing the financial, personnel and physical resources as well as general administration. Because of the variety and scale of operations in the department, his activities include comprehensive planning, innovation and creative approaches to complex and unusual administrative problems. Gary and his wife Jay have two sons and two daughters and a granddaughter, Ashley, "the joy of our eyes."

Cynthia Stillwell joined the business office staff to do purchasing in mid-May, replacing Joyce Max. Raised in Winters, Cynthia left home after high school but returned to Winters with her husband Carl to raise their two boys, Jerrod and Brandon. She came to our department from Central Storehouse, where she worked for a year and a half. She has over 10 years in customer service. Cynthia enjoys reading, watching a good movie and outdoor activities. Her husband has a race car, and they can be found at the races during the season.



Rachel Messer has also joined the business office, assisting with purchasing, after several months as a temporary employee. Originally from Hot Springs, Arkansas, she moved to California in 1994 after completing her B.S. in education at the University of Central Arkansas. She currently lives in Davis with her partner of four years, Kristine Olsen. She enjoys cycling, camping and hiking and her cats Sage and Simon.



Sharlie Cunningham joined the department as a senior animal technician, working as the dairy assistant. Sharlie started as a student assistant at the department's feed lot, graduated in June from the Animal Science and Management program and became a full time employee in mid-April. Besides covering for milkers on vacation, she does animal work (breeding, treatments) as well as maintenance and repair, which may include welding, milking machine repair and construction. She lives in Vacaville.

New Show Team Trailer Purchased

NEW SHOW TEAM TRAILER PURCHASED

The Department of Animal Science recently took delivery of a 17-foot aluminum stock trailer as well as a "topper," a pick-up canopy for small animal transport. Six departmental student show teams and staff and faculty will use the new equipment to transport animals to shows and industry events. The trailer is an aluminum Alum-Line trailer, capable of being double decked to haul sheep, swine and goats or cattle and horses when single decked. It has a loading chute for the top deck, roof rack for hauling hay and supplies, and rubber-matted floor. It can safely transport everything from feeder pigs to draft horses. Purchase of the trailer was made possible through generous donations by the following friends and alumni of the department.

Animal Science Memorial Fund
College of Agricultural and Environmental Sciences
T. S. and K. D. Glide Foundation
Old UC Davis Hog Barn Equipment Sale
Bardson Ranch
Edwin D. Witter Jr.
Les Oesterreich
Stephen and Helen Percy
Gordon and Karen Rasmussen
Larry Slade



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Department Hosts Meetings



Mike Payne and Deanne Meyer met with Christine Todd-Whitman, Administrator of the US Environmental Protection Agency, in September when they and a few others gathered to discuss the California Dairy Quality Assurance Program. This voluntary, producer-driven program is designed to educate producers about environmental compliance for dairy operations.

The 12th North American Colloquium for Animal Cytogenetics and Gene Mapping was held at UC Davis July 15 to 19, organized by Mary Delany, Lee Millon (Veterinary Genetics Lab) and Jim Murray. The colloquium featured 23 oral presentations and eight posters, viewed by 50 participants from the US, Canada, Switzerland and France.

The 2001 annual meeting of the International Society of Applied Ethology (ISAE) was held August 4 to 8 on the Davis campus. The ISAE represents the world's largest organization of professional animal behaviorists, who study the application of the principles of animal behavior to improve the management and well-being of captive wild and domestic animals. Professor Joy Mench chaired the organizing committee, assisted by Sue Heekin. With over 250 oral and poster presentations, this was the largest meeting ever held by the Society.

Departmental faculty Anita Oberbauer, Elizabeth Maza, Jim Murray and Gary Anderson helped organize the 2001 Conference on Transgenic Animals in Agriculture held at Lake Tahoe September 10 to 13. The biennial conference attracted 150 scientists from around the world. The focus of the conference was the future application of new genetic engineering and cloning to enhance animal agriculture.

Animal Science Horse Auction and Stallions

This year's Animal Science Horse Auction in June brought in some good prices for some nice horses. The highest selling horse (\$2600) was UCD Caper's Spirit, a 1999 American Quarter Horse gelding sired by Gay Caper and out of Serendipity Time. The second highest seller (\$2150) was a 1986 Quarter Horse broodmare and riding horse. About 150 people attended the sale and took home a total of 14 horses: seven yearlings, a mare and foal, two ponies and four riding horses. Next year's annual sale will include four young mules sired by our standing giant jack, Action Jackson.

One of Action Jackson's daughters, a four-year-old molly mule named Windes Actions Savannah, raced on the county fair circuit this summer and won five of her six outings and placed third in the other one. For more information on breeding outside mares to Animal Science stallions or to Action Jackson, call Brent Brown, 530-754-4156 or e-mail him at bsbrown@ucdavis.edu .

Faculty and Students Win Awards

At the July meetings of the Federation of Animal Science Societies in Indianapolis, several department members were recognized. Professor Emeritus Bill Garrett was named a Fellow in the American Society of Animal Science for his life-long contributions to animal agriculture. The Poultry Science Association (PSA) presented Professor **Kirk Klasing** with the 2001 American Feed Industry Association Award, a \$1,500 award recognizing his research on nutrition and the immune response of poultry and for work on broiler production without antibiotics and growth promoters. Cooperative Extension Specialist **Ralph Ernst** received the Golden Cup Award from USDA for his outstanding voluntary contributions to USDA poultry programs. Dr. Ernst served on the National Waste Management Symposium Planning Committee, on a committee that developed the National Poultry Infobase, on planning committees for extension workshops and many others. **Elizabeth Koutsos** won the PSA's Graduate Student Presentation Award in the nutrition section for her presentation, "Effect of an immune response on carotenoid partitioning." Liz is a graduate student in Kirk Klasing's lab and in the nutrition graduate group. She won the same award last year.

Professor **Bernie May** was selected by the Consortium for Women and Research Advisory Board to receive their 2000-2001 Outstanding Mentor Award. Nominated by his students and colleagues for promoting research by women at UC Davis and for having a positive impact and influence on their research and teaching careers, he received \$1,000 to use for research. Dr. May's research focuses primarily on the genetics of threatened and endangered species, such as sturgeon, suckers, tui chub, trout, salmon, blue whales, marmots, goshawks, desert plants and Asian catfish. He also works on the selective improvement of aquaculturally important species, such as white sturgeon, tilapia, and rainbow trout.

Pam Nieberg, Animal Science Staff Research Associate, was honored at a Davis City Council meeting on June 20 by receiving an Environmental Achievement Recognition Award for her many contributions to local environmental quality.

The UC Division of Agriculture and Natural Resources Genetic Resources Conservation Program and College of Agricultural and Environmental Sciences recently recognized **Dr. Jacqueline M. Pisenti**, new manager of the department's avian facilities, for her untiring work and commitment to conserve critical avian genetic stocks at UC Davis, develop an inventory of North American Avian Genetic Resources and develop a national plan for conservation of avian genetic resources.

Kelly McCaughey, M.S. researcher with Professor **Ed DePeters**, received the Alex Kutches Scholarship from the California Chapter of the American Registry of Professional Animal Scientists. This \$1,000 award recognizes her research activities. Animal Science students **Liz Koutsos** and **Ben Renquist** also received scholarships from this organization.

Several departmental students majoring in Avian Sciences received awards at the Pacific Egg and Poultry Association (PePa) in Monterey, California, in May. PePa is a trade association representing poultry producers and allied industries in the 11 Western states, Hawaii and western Canada. Students from UC Davis received \$13,250 in scholarships, including the following: **Dan Ryan**, **Kristina Hood**,

Tanya Abraham, Craig Blackmore, Brook Humphrey, Liz Koutsos and Brigid McCrea. The UC Davis Avian Science Club won the award for the best club scrapbook, and **Craig Blackmore** was recognized with the Student Merit Award for the Outstanding Poultry Student at UC Davis. Their advisor, CE Specialist **Francine Bradley**, was elected to the PePa Board of Directors and will be the sole academic representative on the board.

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Show Teams

UC Davis' livestock show teams, sponsored by the Department of Animal Science, are student initiated, with facility managers supervising their activities. The main incentives and rewards are the experience that students gain working with animals and each other while enhancing UC Davis' public image. Students on the teams learn to evaluate animals to determine which are of show quality, fit the animals prior to the show, washing and body clipping them, set up the animals in their pens at the show and care for them for the duration. Besides showing the animals in their classes, they set up displays to promote the animals, the department and university to the public and spend time answering questions from the public.

Beef Show Team

Beef cattle have been raised and exhibited at UC Davis since the early days of The Farm. Students used to take their animals by train as far away as Chicago. Now, almost 100 years later, the beef show team is again alive and active.

This year the beef show team exhibited cattle at the county fairs in Amador, Nevada and Yolo counties. Their animals won Champion Angus Bull and Reserve Champion Angus Heifer at the Nevada County Fair and Reserve Champion Angus Bull and Reserve Champion Angus Heifer at the Yolo County Fair. At the Yolo fair, one of the very pregnant heifers delivered a healthy heifer calf only 30 yards from the midway and in the midst of excited fair goers. The team hopes the calf, named Zipper, will follow in her dam's show team footsteps.



Champion and Reserve Champion Angus entries were shown by beef team members **Tara Turner** (left) and **Devon Jones** at the Nevada County Fair this summer.

Members of this year's Beef Show Team were Devon Jones and Tara Turner. Others who assisted at the Yolo County fair were Kristen Burton, Katrina Inchauspe and Judy Etcheverria. Dan Kominek, beef facility manager, advises the team.

Dairy Show Team

Gina DeFazio and Victoria O'Nion, student herd managers at the Animal Science dairy, along with Deniece Williams and Elisa Noble, are the energy behind the dairy show team. Doug Gisi, dairy facility manager, oversees the team's activities. In preparation for the summer fairs, they worked hard getting animals ready for showing, clipping and washing them and halter breaking the young stock.

The four women took six dairy heifers and cows to four shows this summer, spending about five days at each site. At the California State Fair in Sacramento, their educational display of breeds included a Milking Shorthorn, Holstein, Guernsey, Jersey and Brown Swiss, all good examples of working dairy animals. They took the top herdmanship awards at three fairs, where they were judged on the cleanliness of their area, care of the animals, public communication skills and their educational display. They handed out to fair visitors various donated materials from the California Milk Advisory Board-buttons, stickers, pamphlets and recipes.

In addition, the Guernsey heifer won Junior Champion at the Sonoma County Fair in Santa Rosa, and, at the Yolo County Fair in Woodland, a Shorthorn heifer took Junior Champion and a Holstein the Senior Grand Champion. They also showed at the Alameda County Fair in Pleasanton.

As Gina said, "It was really fun to represent UC Davis in these fairs. We had fun working together and with the public."

The Goat Show Team

The goat show team shows Boer meat goats and various breeds of dairy goats. This year, the six student team members-Elaine Ferrell, Erika Scharfen, Maureen Hyman, Tracy Dolan, Jolene Berg and Kathy Purcell-attended two county fairs, three goat club shows and the California State Fair, taking ten Grand Champion awards and seven Reserve Grand Champions with seven different goats, mostly Toggenbergs and Alpines. Jan Carlson, goat facility manager, advised the team.



Goat team members (left to right) Erika Sharfen, Maureen Hyman and Elaine Ferrell took awards with their dairy goats at shows this summer. These three recorded grade does, two Alpines and a Toggenberg, won second place for Best Three Females at the California State Fair in Sacramento

At the California State Fair, the team garnered first place in herdsmanship for the dairy goat show and second place in herdsmanship for the Boer goats. They won the Best Educational Display award for both dairy and Boer goat shows.

The California State Fair in Sacramento features one of the most competitive open dairy goat shows in the world. Owners of the six Supreme Champion does at this year's State Fair have donated top breeding animals to the Animal Science goat program at UC Davis over the past year-Charles and Joan Dean Rowe of Capay, Allyson and Kristi Bozzo from Galt, Lauren Acton and Jeanne White of Molalla, Oregon, and Karen Senn of Redding. The department is grateful to these and other producers from the

West Coast who have generously donated animals, frozen semen and money to this program.

Animal Science Majors Increase

Major	Graduates, June 2001	New Enrollment, Fall 2001	Total Enrollment, Fall 2001
Animal Biology	6	57	162
Animal Science and Management	24	16	78
Animal Science	48	162	592
Avian Sciences	4	11	28

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Alumnus Notes

George Rendell, B.S. 1955, Animal Husbandry, was honored on October 19 at the College of Agricultural and Environmental Sciences' annual College Celebration. One of ten 2001 Award of Distinction recipients, Mr. Rendell is a retired UC Cooperative Extension 4-H farm advisor and administrator. In 1970, he initiated the UC Master Gardener Program, a statewide and national model.

Jack Thomas, 1948, Animal Husbandry, received the Cal Aggie Alumni Association Career Award at a dinner on October 6. Thomas runs a diversified farming operation in Bakersfield. As an undergraduate student, he lived and worked at the beef facility.

Aggie Spring Classic

The first annual Aggie Spring Classic was held May 19, 2001, in Dixon at the Solano County fairgrounds. Hosted by the UC Davis Young Cattlemen's Association (YCA) and Nutrena Feeds and co-sponsored by many individuals and companies with an interest in youth livestock activities, the event included a show of lambs, swine, beef heifers and steers. The show attracted approximately 300 exhibitors between 9 and 21 years of age from all parts of California. Monetary prizes were awarded to winners, the funds coming from entry fees. Champion and Reserve Champion Awards from generous sponsors included banners, T-shirts, show boxes, belt buckles and cash awards.

Members of UC Davis' YCA, Block & Bridle, Alpha Gamma Rho and Sigma Alpha and staff and faculty from the Animal Science Department helped to run and organize the show but did not compete. Sarah Nesler, 2000-2001 UC Davis YCA Vice President and 2001 Aggie Spring Classic Chair, said, "We hope this event helped to encourage youth to consider UC Davis for their college education. We look forward to seeing many new faces participate and help with the second annual Aggie Spring Classic next year." Next year's chair is Jed Asmus, M.S. student in Animal Science.

Retirements

Reid Borgwardt, staff research associate, retired at the end of August. A graduate of UC Davis with a B.S. in Engineering and M.S. in Agricultural Engineering, Reid worked on campus for Agricultural Engineering and Chemical Engineering and as a Scuba instructor before coming to Animal Science to work for Professor Ed Price in 1988. He assisted Dr. Price with animal behavior studies by working on experimental design, animal observations, data analysis and computer modeling. He is now busy with many projects on the family ranch near Healdsburg where he and his wife Eileen O'Farrell plan to build a new house and move within the next few years.

Raymond Peng retired on July 31. He had been a staff research associate with Professor Kirk Klasing since 1985, studying molecular biology and cytokines (products of macrophages) and other immunocells

and their receptors. During the past five years he also worked part time with Professors Anita Oberbauer and Chris Calvert. Before coming to work for Dr. Klasing, Raymond worked for nine years in the Department of Hematology and Oncology in the UC Davis Medical School for Dr. Malcolm MacKenzie. Raymond is planning to manage some rental properties and spend more time listening to classical music, reading and hiking in California and Washington. He and his wife Christina enjoy doing community work such as hiking trail maintenance for the national park service.
