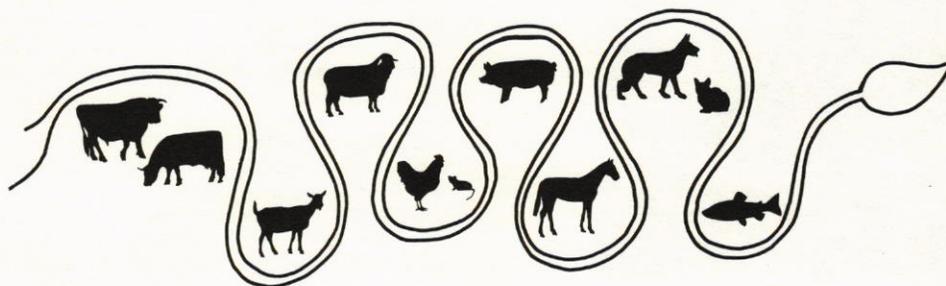


TALES AND TRAILS



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Volume 1, Number 2

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Dear Friends,

As you will see in this issue of *Tales and Trails*, the Department of Animal Science is involved in a wide array of activities, including efforts in aquaculture at the Davis campus and the Bodega Bay Marine Laboratory on the Pacific Coast north of San Francisco. The department is also fortunate to have excellent computer facilities to serve faculty, students, and staff in research.

Department faculty and staff members and extension specialists are involved in many community, state, and national activities in addition to their dedicated service to the university. The department is likewise fortunate to have emeriti professors who continue to make substantial contributions to our teaching and research programs. Many emeriti also serve on graduate student committees.

Currently there are five visiting lecturers and scholars in the department from the United States and foreign countries. This continuing exchange of information on research, teaching, and education philosophy mutually benefits the department and its visitors.

Finally, among our alumni are individuals who are leaders in their professions and communities.

If you have suggestions for stories or personalities to include in future issues, please contact our editor, Suzanne Jones, or me.

Sincerely,

R.W. Touchberry, Chair
Department of Animal Science



Dr. Perry Cupps

Cupps' career path led to UC Davis

When Dr. Perry Cupps joined the animal science faculty at Davis in 1947, he came through a circuitous route. A housing shortage in Michigan and a fire in a flour mill in Washington were indirectly responsible.

In 1946, having completed his Ph.D. at Cornell University, Cupps had taken a job as an assistant professor in the physiology department at Michigan State University. But due to a shortage in housing, he was forced to leave.

He took a job as a research chemist in the feed production department of a flour mill in Tacoma, Washington, where he worked until it caught fire and burned down in 1947. After receiving a letter from a friend mentioning an opening at Davis, Cupps applied for the position. He was hired as an assistant professor in animal husbandry to work primarily with horses.

Cupps grew up on a farm near Granby, Missouri. His family raised poultry, swine, and dairy cattle, along with corn, wheat, oats, and forage crops. His parents, Anna and John Emmory Cupps, had six children.

He graduated from Granby High School in 1935, where he took vocational agriculture, was active in FFA, and played basketball.

"One day while I was working in the field, my vocational agriculture teacher brought a professor from the University of Missouri to interview me," says Cupps. The professor offered him a job at the university for 25 cents an hour - \$15 a month. Cupps was assigned to a general work force in the dairy husbandry department. The first semester he was there, he hauled gravel and filled in corrals.

But Cupps wasn't destined for a life of manual labor. He enrolled with a major in dairy husbandry, and studied under Dr. C. W. Turner and Dr. W. R. Graham. When he was close to completing his undergraduate degree, Graham encouraged him to continue his studies.

Cupps was offered a teaching assistantship and began graduate work at Cornell in 1939. He completed his Ph.D. in animal breeding under Dr. S. A. Asdell. The degree at that time was in animal breeding, a combination of physiology and genetics.

When Pearl Harbor was bombed in 1941, the president of Cornell called a meeting for students and told them the best way they could serve their country was to stay right where they were. "He said, 'When they need you, they will call you. Right now the facilities are not ready to train you,'" says Cupps.

Upon graduating in 1943, Cupps' training in physiology helped him get a commission in the navy as a medical specialist. He trained aviators for night vision work and how to use oxygen equipment. Afterwards, the situations in Michigan and Washington helped bring him to Davis.

When Dr. George Hart became Dean of the Veterinary School, Cupps was assigned to teach animal breeding. For several years, he taught it as a combined course in physiology and elementary population genetics. Due to the increase in subject matter in both fields, the course was split. The two new courses were physiology of reproduction and animal genetics. Cupps continued to teach the physiology of reproduction.

While Cupps started out working with digestion processes in the horse, he soon switched to dairy cattle, and started researching low fertility in the inbred strains of the campus dairy cattle herd.

Subsequently, Cupps started a major project on the fertility problem in repeat breeder cows. These are cows that cycle normally but do not conceive. He concluded that there was a problem in the uterus in which the uterine glands became occluded, setting up a local inflammation deleterious to the developing embryo.

About the time publications on embryo transfer were beginning to appear in England, the dean of the College of Agriculture requested suggestions for new research projects. Cupps suggested embryo transfer. Dr. Gary Anderson was hired shortly thereafter to do embryo transfer research for the animal science department. With Dr. Anderson and Dr. Martin Drost, Cupps worked on the production of twins in beef cows.

Cupps received a fellowship to study at the Norwegian Veterinary School in Oslo from 1961-62. "I was interested in going to study with Dr. Garn in Oslo because our preliminary data with low fertility in the inbred strain in cattle showed some abnormalities in the adrenal gland," says Cupps. "Garn had seen some similar abnormalities in cattle in Scandinavia."

From 1964-67, Cupps was awarded a sizable NIH grant to determine the adrenal profiles of animals with low fertility. "We found that in the inbred Jersey strain, these animals had a very low production of cortisol and sex steroid hormones," says Cupps.

Cupps was cited for outstanding service by the California Beef Cattle Improvement Association in 1975, and was awarded the WSASAS Distinguished Service Award in 1978.

Of the years he has spent with the animal science department, Cupps says he considers it a real privilege to have known the people on the faculty when he first came, such as Carrol Howell, Elmer Hughes, and professors Cole, Gregory, Goss, and Guilbert. "They were familiar with California agriculture and helped a great deal in orienting us to the types of agriculture practiced here as opposed to the types we grew up with in the Midwest," he says.

Cupps married his wife, Rayanne DeChenne, in Seattle in 1944. They have five children. The oldest is Carolyn LoBue, an M.D. in obstetrics and gynecology. Thomas Cupps is an M.D. who works as an assistant professor at Georgetown University in Washington, D.C. John Cupps is self-employed in Sacramento, and Christina Cupps is an internist in a hospital connected with the University of Toronto. Brian Cupps works for Genentech, a biotechnology laboratory, in San Francisco.



Dr. Don Bath

Bath finds Extension work rewarding

Donald Bath calls being an extension specialist "probably one of the most rewarding and interesting jobs anyone could ever have." He points to the contact with farm advisors and agricultural people, and the ability to travel as reasons he enjoys his work.

"The opportunity for travel within and outside the state allows one to become broadly cognizant of many aspects of agriculture," says Bath. Besides travelling within California, he has lectured in many other states and foreign countries including Morocco, Egypt, England, Australia, Japan and Korea.

Yet another reason he finds his position rewarding is the freedom he has to develop programs and carry them out. "When I was first hired," he says, "the only orders the director of cooperative extension, George Alcorn, gave me were, 'We will provide you with a car, an office, and the state of California. It's up to you to develop a successful program in dairy cattle nutrition.' After 21 years on the job, those are still the only direct orders I've ever received from the cooperative extension administration."

Don is a native of Santa Rosa. His father, George, a UCD graduate, taught vocational agriculture at Santa Rosa High School, and was later a UC livestock farm advisor in Kings and Sonoma counties. He also had a small dairy farm with Jersey cows, where Don got his start in the dairy industry.

In high school, Bath was student body president, and played on the football, basketball and baseball teams. Under Coach Wes Jamison, he was a member of the Santa Rosa High School livestock judging team that won the FFA State Championship in 1947, and later was the Gold Medal Team at the National FFA Contest in Kansas City.

While he was a student at UC Davis, Bath was assistant herdsman for the sheep barn, and was on the livestock and dairy cattle judging teams which competed at the Cow Palace in San Francisco.

Bath graduated from UC Davis in 1954 with a B.S. in animal husbandry. After serving in the army, he returned to Davis for a master's degree. He worked for a short time as an assistant farm advisor in Monterey County before returning to Santa Rosa, his hometown, to teach vocational agriculture.

He taught at Santa Rosa High School for four years, where he coached the dairy cattle judging team which won the state and national FFA competition in 1957. In 1960, he returned to UCD to complete a Ph.D. in nutrition, and joined extension as a dairy nutritionist in 1963.

Bath's work with computerized feeding and management models for dairy cattle has been one of the most important projects he has been involved with. Among other UCD faculty who worked on the project have been the late Dr. Jerry Dean of the agricultural economics department and the late Dr. Magnar Ronning, former animal science department chairman. These programs have been implemented in all California county cooperative extension offices, and have been provided to extension personnel in 12 western states.

Another research project Bath is currently working on concerns predicting the feeding value of dietary roughages such as alfalfa. Cooperating with Bath are professors William Garrett and Edward DePeters of the animal science department Vern Marble and Tag Demment of agronomy, and Dr. C. Speth of the University of Nevada.

The project re-evaluates the different alfalfa hay analysis procedures used in several western states and compares the quality of hays grown at differing elevations in all western states. Results will form the basis of improved systems of evaluating alfalfa hay for nutritonal and economic value.

Bath says extension is important to animal science "because it's the arm of the university that takes basic and applied research and implements it for the good of the agricultural industry, and for the benefit of all consumers, either through lower cost or better quality." Extension is also responsible for identifying researchable problems at the farm level, and cooperating with basic and applied researchers in solving them.

Bath was recently named vice president/president

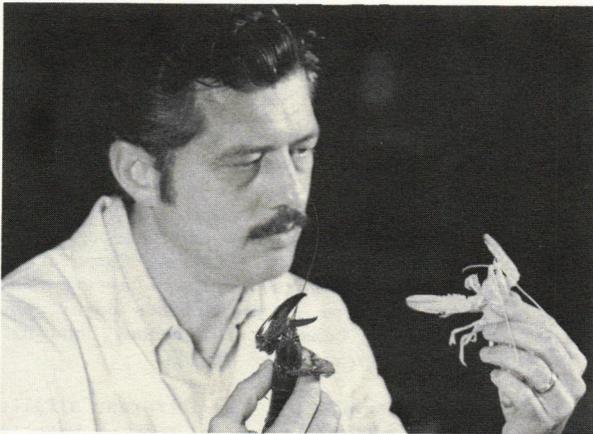
elect of the American Dairy Science Association. He will serve a three-year term of office, becoming president next year and past-president the following year. He has also served on the ADSA board of directors and as secretary, vice chairman, and chairman. In 1982, he was honored with the De Laval Dairy Extension Award, the highest ADSA award given to extension specialists.

As liaison officer for the California Milk Advisory Board, Bath was the link between the University of California and the board from 1974-81. The program provides funds for research in dairy science, which have dwindled in recent years. As a result of his efforts, close to a million dollars has been donated to the University of California for dairy research.

Bath was a member of the National Academy of Sciences-Natural Research Council committee which revised the national standard for nutrient requirements for dairy cattle in 1978. He is co-author of the textbook, "Dairy Cattle: Principles, Practices, Problems, Profits," which is in its third edition.

His sabbatical leaves outside California have taken Bath to Cornell University and the University of Florida in Gainesville.

Bath met his wife, Gloria, in high school. They were married in 1954, and have two sons. Bob Bath graduated from Cal Poly with a degree in business administration. He manages his uncle's restaurant in Kansas City. The Baths' son Dan attended UC Santa Barbara, where he received a degree in English. He will graduate from the McGeorge School of Law in June, and has accepted a position with a law firm in L.A.



Dr. Doug Conklin examines lobsters

Fisheries joins the Aquaculture Program

The Aquaculture Program recently expanded to include the fisheries segment of the fisheries and wildlife biology department. Fisheries has traditionally dealt with the biology, natural environment, exploitation, and management of wild aquatic organisms, while aquaculture traditionally focused on the production of those organisms in artificial culture systems. Despite these differences, the two fields have much overlap.

Aquaculture and Fisheries Program Director Roger Garrett sees joining the two fields as a recognition of their similarities. Garrett explains the purpose of the merger as bringing together faculty members from many departments who have interests in carrying on aquaculture and fisheries-related research.

According to Garrett, "The basic purpose of the program is to try to identify research problem areas that need attention to encourage the development of commercial aquaculture and the enhancement of sports fisheries."

Garrett says the union of fisheries and aquaculture should give a better identity to both programs and create a stronger unit. He says it should eliminate confusion outside the university in people who have concerns which affect both groups. It should also enhance opportunities to attract funding to the program.

"I think it will be a strong position for putting together interdisciplinary research projects," says Garrett. "Having the two groups combined allows us a lot more flexibility in the kinds of problems we can address. There will also be a chance for the research of individuals to be reviewed by a greater spectrum of people, and that should enhance the quality of the research."

Garrett points to California's large coastline, inland waters, good climate, long warm seasons, and range from fresh to sea water as ideal for aquaculture. "The variety of species that can be cultured here is larger than other places," he says. "Also, we have a large demand for fresh fish so it doesn't have to be put into the less profitable packing market. The availability of a ready market allows marketing of aquaculture products at a profit."

Garrett says that aquaculture also has the potential for a more efficient conversion of feed into meat, and that fish is a good food source because it is low in fats. He notes that much of the fish currently consumed in the United States is imported, and that demand is pushing the supply, if not exceeding it.

The deteriorating wild supply of fish in California, and competition between commercial and sports fishermen are currently major aquaculture and fisheries concerns. Garrett suggests that one way of increasing the wild supply and alleviating the competition is to provide both a larger portion of commercially cultivated fish for food and to cultivate fish for sports fisheries.

"Wild waters have a finite amount of capability to produce food," he cautions, "and we're pushing that capability now. There's no way to expand it, because it's limited by photosynthesis and the nutrient load. If we want to increase the supply of aquatic animals, we're going to have to create a more intense culture system that's confined and controlled."

According to Garrett, the combined Aquaculture and Fisheries Program provides a focus that should draw even more attention to UCD. "It should increase student demand for the program," he says. "The more active the research program we have, the better exposure our students get to the real world of aquaculture and fisheries. Their education becomes more relevant and less bookish. It is

recognized as a very scientifically based program, and we expect that will continue."

Garrett acknowledges the contribution made by members of the animal science faculty to the program. Animal science faculty members in the program include endocrinologist Ernest Chang, reproductive biologist Wallis Clark Jr., nutritionist Douglas Conklin, physiologist and ecologist Serge Doroshov, breeding and genetics specialist Graham Gall, geneticist Dennis Hedgecock, and finfish nutritionist Silas Hung.



Purchasing Assistant Loi Dossa

Second time around even better for Dossa

Purchasing Assistant Loi Dossa must think there's something special about the animal science department. In the 14 years she's worked at UC Davis, she's worked for animal science twice.

"I like the people, dealing with people, and I'm comfortable with the subject matter," says Dossa of her position in the business office. "I feel at home here. I've known everyone for so many years."

Loi first came to work for the university in the 1950s when her husband, Norm Dossa, was a student in animal science. Norm had been recruited by UCD football and track coaches to play halfback and run track.

Loi worked for agricultural economics before joining animal science in 1957. She worked until her first son was born the following year.

When she returned, she worked for the Memorial Union Conference Administration for three years, planning meetings and conferences and assisting the conference coordinator.

She worked for the department of food science and technology for three years before joining Mathews Real Estate Development & Construction. She was bookkeeper and office manager for Mathews for 10 years. Her job there also involved her in construction development, real estate, and interior design. She was personal secretary for

the Mathews family and even helped run Gallery of Reflections, the family-owned art gallery.

In 1980, Dossa rejoined the animal science department. She began working in the business office the following year. In her present position, she is in charge of all departmental purchasing and accounts payable.

Dossa was born and grew up in Sonora, the county seat of Tuolumne County. "My parents, Babe and Marie Shell, came from two pioneer families in Sonora," says Dossa. Her family raised cattle and sheep, and, not surprisingly, Loi's favorite pastime was riding and showing horses.

After graduating from Sonora High School, Loi attended San Jose State, where she was a business administration major.

She and her husband Norm grew up together. They were married in 1954, while Norm was serving in the army. During the year he was stationed in Belvoir, Virginia, Loi worked for the department of the navy in nearby Washington, D.C.

The Dossas returned to Davis after Norm was discharged. He is currently a research specialist at the Campbell Soup Research Station, where he manages the research farm and works with growers and test plot fields.

Loi and Norm have two sons and a daughter. Mike is an architect in San Jose. Their son Dan is an engineering student at Cal Poly. Amy is a junior in high school, and is on the swim team.

The Dossas have a ranch in the Sierra Foothills near Sonora where they plan to retire and raise a few cattle.

They have actively supported the Davis High School and Aquadart swim teams for 14 years, and are members of the Cal Aggie Football Boosters Club and the Alumni Association.

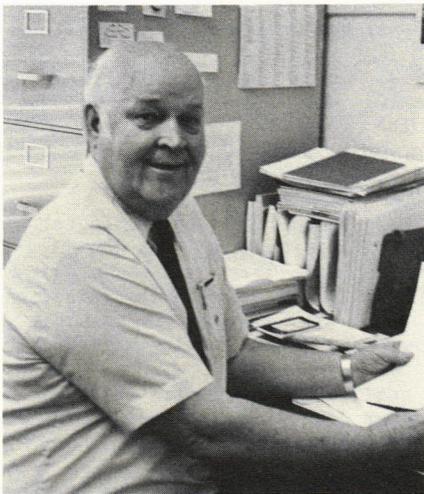
Heitman has seen Davis change

Although animal science professor Hubert Heitman was born and grew up in Berkeley, he has liked animals since he was young. "My greatest interest in agriculture came from spending summers on my friend's ranch near Turlock," says Heitman. "He used to say, 'If you go to the university and get a degree in agriculture and come back, I'll hire you.'"

Heitman's parents were from Colusa County. During the depression, they bought a ranch themselves and raised Jersey cows. Hubert spent his high school and college summers there.

Heitman began his undergraduate studies at Berkeley. After the first three semesters, he transferred to Davis. The campus was very different then than it is now.

"The quad was here, but the trees were very small - it had been an alfalfa field," says Heitman. "The judging pavilion was up on the corner where the chemistry building is now. The dairy barn was where the silo is, and the beef barn is now the architects and engineer's building."



Dr. Hubert Heitman

According to Heitman, the animal science building (now Hart Hall) was 'built to order' for the faculty. The rooms were arranged in suites, and professors had their choice of an office with an adjoining lab. That's why some rooms now used as offices have sinks and gas outlets.

"When I came here, biochemistry and nutrition were taught by Harold Goss, genetics was taught by Paul Gregory, and physiology by Harold Cole," says Heitman. "At that time, there were no nutrition, physiology, or genetics departments. If anyone wanted to take those subjects, they took them through the animal science department."

Davis was small when Heitman was a student. He remembers the friendly spirit predominant on campus and in the community. "If you'd pass anyone on the street, whether you'd ever seen them or not, you said hello," he says. "I remember when I came back after the war, it was still that way."

Other things have changed radically at UC Davis since Heitman was an undergraduate - there was only one female student in his animal science class in those days.

Heitman became interested in nutrition at Davis through coursework in animal science 199, working with Dr. Elmer Hughes with swine. "I didn't necessarily have an interest in swine when I went to graduate school," says Heitman. "The problem I was assigned to work on involved rats, but it was with swine rations. At that stage of the development of universities, you were trained in general nutrition."

Heitman earned his master's degree and Ph.D. in nutrition from the University of Missouri. After completing his graduate studies, he entered the army. He served as a nutrition officer in the southeastern United States and the Surgeon General's Office in Washington, D.C. As the war started to wind down, universities were beginning to look for new faculty members.

"I was in the unusual position of never having to apply for a job," says Heitman. "The people at the University of Missouri would give your name out when anyone would write and say they had job openings. Without ever lifting a pen, I had 30-40 job offers."

One offer was from UCD working with swine, and Heitman took it. "I came in to work with professor Hughes to take over his work when he retired," says Heitman. William Weir was brought in to work with sheep, and Perry Cupps was brought in to work with horses.

"When the department was smaller," says Heitman, "you had to be a little bit more general than you do now, especially when your basic assignment was to work with a species." During the first part of Heitman's career, he worked on the utilization of byproduct feeds. He also became interested in the effects of the environment on swine.

Heitman worked cooperatively with the USDA when the environmental research was first started. "We've worked with all kinds of the effects of the environment," he says, "temperature, humidity, air ions, space, different types of flooring, and the number of pigs in pens. We also did some work on effect of temperature on nutrition requirements."

In 1963, Heitman was named by the California Pork Producers as Swine Man of the Year. He has also been cited twice by the Davis Teachers' Association for outstanding service to high school students.

"I think being a faculty member at our university is a very gratifying experience," says Heitman. "The opportunity to work with college-age students gives you the chance to stay younger, especially when they're the caliber of students we have at UCD. They keep you on your toes. It has also been a wonderful opportunity to associate with the faculty members we have had through the years."

Heitman first became chair of the animal science department in 1963. Beginning in 1971, he spent time at academic affairs dealing with merit increases, promotions, affirmative action, leaves of absence, and sabbaticals. He took over again as chair from 1981-82.

For 15 years, Heitman was also the chancellor's representative to athletics. He attended National Collegiate Athletic Association meetings, women's athletic organization meetings, and had to certify athletes' eligibility. Nationally, he has served on many committees and has been vice president of the NCAA. He was chair of the committee that recommended establishing the Cal Aggie Athletic Hall of Fame.

Heitman cites one of his big accomplishments in athletics as getting Davis women's programs into the intercollegiate athletic programs and the All-Cal program. "It was all-men's at the time," he says, "and it was very rough to get women's sports accepted."

Heitman met his wife, Helen, while he was an undergraduate and she was teaching geography in junior high school. They were married a year after he began graduate school in Missouri.

They have had two sons, the oldest (now deceased) graduated from the UCD animal science department and earned a Ph.D. at the University of Alberta, Canada. The Heitman's youngest son is an attorney in Newport Beach, California. The Heitmans have four grandchildren.



Administrative Assistant Pat Owen

Owen likes UCD, Cooperative Extension

Although cooperative extension administrative assistant Pat Owen spent most of her life in the Bay Area, she says she likes Davis, and working for UCD.

"I'm impressed with the scope and the way the university has grown," says Owen. "It's continually growing and changing according to educational demands. I had always understood that UCD was agriculturally-oriented. While it's still that, it has broadened into other areas, as well."

Owen joined cooperative extension in 1975. She is office coordinator and handles administrative and personnel work for eight specialists and six full-time staff members.

A native Californian, Owen was born in San Francisco, and grew up in Marin County. Her father, William Mibach, worked for the business office of the Southern Pacific Rail Road until he went into the poultry business for himself.

Owen went to Tamalpais High School, where she took a combination of college prep and business courses. "Education meant a lot to my parents," she says.

Pat and her husband, Herbert Owen, both lived in Tamalpais Valley in Marin County. When Herbert was on leave from the navy in 1944, he and Pat both attended a party for service personnel from the area. They were married two years later.

The Owens moved to El Dorado County in 1968, where Herbert worked in the fire service. In 1975 he decided to return to his original trade, refrigeration, and came to Davis to interview for a university position. He and Pat have worked for UCD since then.

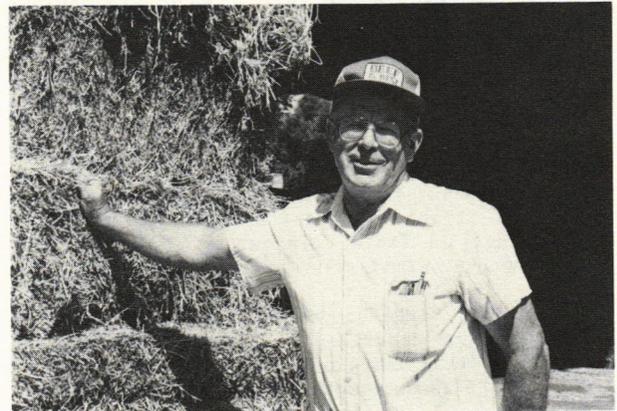
"Everybody at the university is very friendly and helpful," says Pat, "which is kind of unusual for a big school. They still have that feeling of being 'one.'"

"I like working for cooperative extension because they have a direct impact on the general

public through the farm advisors," she says. "Animal science is in such a crucial position with today's economy. Working with the specialists and farm advisors, you have an immediate feel for what's going on out there in the field."

The Owens have two daughters. The oldest, Kathy, is married to Bob Glass, who has an insurance agency in Marin County. They have two sons, Michael, 13, and Brian, 11. Kathy teaches preschool, and is studying for a master's degree in education.

Their youngest daughter, Barbara, is married to Ray McDole. They have one son, Joseph, age 13. The McDoles both work for UCD. Ray is in charge of computerized equipment maintenance, and Barbara works for the physical plant.



Specialist Roy Hull

Hull Continues family traditions

You might say that Roy Hull is an "old hand" at working with cattle. Born and raised in Humboldt County, Roy grew up on his family's diversified ranch.

The Hull family has a long tradition in ranching. Their ancestors came West on the Oregon Trail. "One of my great-grandfathers was a wagon master," says Hull. "All the women were school teachers, so they knew how to read and write."

The family settled in Oregon in 1848, and came to California in 1852. They first lived in Colusa County, then migrated to Humboldt County because malaria was so bad in the valley. "At the time before the levees were built," says Hull, "California was one big swamp."

The Hulls left Humboldt County in 1944 and moved their cattle to Glenn County. World War II was still in progress, and Roy was ready to enlist in the navy, but before he could serve, the war ended. He began his studies at UC Davis in 1945.

UCD was quite a bit smaller in those days than it is now. Says Hull, "There were only 500 students in the whole school then." By end of his first semester, two of Roy's brothers had returned from the war. The oldest enlisted in the army, and shortly thereafter, Roy contacted the draft board and told them to draft him.

While Roy was in the army for the next year and a half, his education was postponed. But the Hull family continued to be well represented at UCD. "When my father died when I was eight," he says, "my mother said, 'At least all my kids are going to get an education.'" Since 1936 there has always been a member of the Hull family attending UCD.

Roy's oldest brother was in the two-year program in animal science at UCD, and another brother got a B.S. in animal science. His third brother began animal science studies before joining the navy during the war. His oldest sister was studying home economics here when the campus was shut down in World War II, and all the students were transferred to Berkeley.

When Hull returned to UCD in 1947, student enrollment had doubled. He graduated in 1951, and two weeks before graduation, the animal science department hired him.

"I was supposed to go to Imperial Valley as a herdsman," says Hull. "But Dr. Hughes told me his ranch foreman had quit, so I stayed. I worked for three department chairmen that year, Hughes, Guilbert and Cole. During that time, they changed my job title and requested that I go on to school, so I did. I got my master's degree in 1962. I started out as field foreman, and have been in charge of the animal science farm ever since."

Hull is in charge of providing services for the animal science department. "I make sure all the barns have their feed, and that they are kept up," he says. "I used to work with Ken Wagnon and when he retired, I assumed responsibility for the Sierra Field Station hands. In the day-to-day operations and problems at the facilities, they contact me. All of our livestock and feed purchases also come under me."

Hull oversees the farm crew, which has six full-time staff members. The crew takes care of barn maintenance, the movement of feed, and cleaning. He also oversees the agricultural services crew which farms the 500 acres of animal science land.

In 1961, when the feedmill was donated to the university, Hull participated in its design. "We supply all of the experimental rations and feedstuffs for the Sierra Field Station, the feedlot, and all the barns," he says.

In addition to his managerial duties, Hull is also involved with research. "When I received the specialist title, I started work on grazing management studies, especially with irrigated pasture," he says. "I still do that, along with research in range management. During the last few years I have been working on the management of replacement beef heifers. I have always worked in conjunction with the agronomy department, and do some feedlot work with Dr. Garrett."

Hull has taught the animal science 49 classes in beef cattle and sheep management for about ten years now. He describes them as very elementary hands-on courses for people who haven't had any experience with certain species of livestock.

Hull met his wife, Patsy, when she was attending Sac State and he was going to college here. They were married in 1951. Says Hull, "Our wedding picture shows two or three people who went on to

become deans who were 'just friends' at the time. We have five children, four daughters and a son."

Nancy, the Hulls' oldest daughter, majored in home economics at UCD and is married to another animal science graduate, Richard Barnes. They live in Siskiyou County on a cattle ranch and have two children. John Hull graduated with a B.S. in range science from UCD. He is married and runs animal trials for Syntex in Palo Alto on the Stanford campus. The Hulls' daughter Sharon graduated from UCD a year ago with a degree in agricultural management. She was recently married, and is a business manager for Moller Corporation in Davis. Julie Hull is currently a junior at UCD majoring in design, and the youngest Hull, Bonnie, attends Emerson Jr. High.



The PDP 11/73 computer

Department Computer Center offers range of services

Chances are, if you're an animal science student or faculty member, at some time you have used or will use the animal science computer.

The center, located in the basement of Hart Hall, is the main locus for animal science users. There are computer terminals, numbering 12 in all, throughout the building, along with approximately 15 individually owned micro computers, some of which interface with the main computer. The number of micros and the amount of interfacing will increase during the next few years.

The present animal science computer is a DEC PDP 11/73 model. According to Senior Programmer Mike Bowers, it is one of the most popular mini scientific computers. By the time animal science moves into the new Food and Agriculture Building, however, the department will have obtained a new computer.

One of the possibilities for the new machine is a VAX (virtual architecture), which is suitable for analyzing data, computer modeling, statistics, and word processing. Bowers describes the VAX as having greater capacity and more speed of calculation than the present animal science computer. "One advantage of a VAX is that it has a compatibility mode and most of the current programs can be transferred with little or no conversion problems," he says.

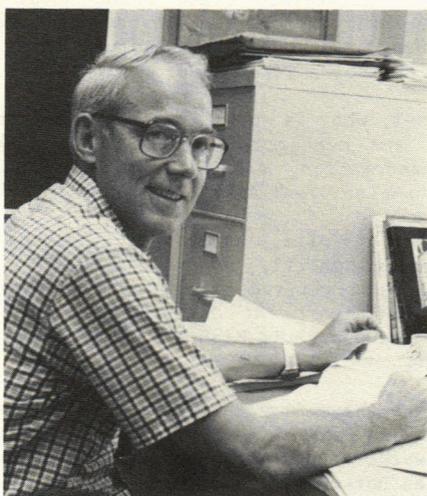
Bowers has also been involved with making the various micro computers in the department

communicate with the mini computer. "From what I understand," says Bowers, "this department has quite good computer facilities compared to other departments, both micros and the mini computer. A VAX should serve as a center point in the computer network. With a VAX, it wouldn't matter whether the program or data is on one of the micros or on the larger machine."

It is anticipated that the VAX and the interfacing micros will be an integral part of the department for all activity.

The animal science computer currently has about 100 "accounts" for access to the computer, approximately 50-60 of which are used regularly. At present, about seven faculty members in the department utilize the computer in their research.

Some of the advantages of the departmental computer are that it is more convenient than other computer facilities on campus, and much less expensive to use. Along with Bowers, Assistant Programmers Sandra Kristensen, Kurt Finley, and Ken Rowberry help with programming, and training computer users.



Dr. Dale Van Vleck

Van Vleck visits from Cornell

Dr. Dale Van Vleck, who is visiting UC Davis on sabbatical from Cornell, sees many similarities between the two universities.

"I think basically they're two very good schools," he says. "That's the real tie. They're both very strong in animal science. The caliber of students here is very similar to that at Cornell - extremely good. We probably have the best students of any colleges of agriculture in the country."

Van Vleck grew up in Nebraska and earned a B.S. and M.S. from the University of Nebraska at Lincoln. After serving two years in the army, he went on to Cornell for graduate work, where he studied animal breeding with Dr. C. R. Henderson.

At Cornell Van Vleck teaches quantitative animal genetics, research techniques in animal breeding, advanced dairy management, the animal science senior seminar, a seminar on genetics of the

horse, and lectures in the horse production course.

Of Ithaca, New York, where Cornell is located, Van Vleck says, "It's in the Finger Lakes region, and very scenic. The campus overlooks a 40-mile long lake and is surrounded by rivers and waterfalls."

He likes Davis, too. "The town is just remarkable in how easy it is to get from one place to another," he says. One of the things he noticed first about Davis was how nicely kept the city is.

According to Van Vleck, the Cornell animal science department is similar in many senses to UCD's. "It's roughly the same size in terms of faculty," he says, adding that most animal science programs don't have as many faculty in any one discipline as Cornell and UCD.

One difference he sees between the two schools is the number of students who frequent the animal science building. "Our classes are in the building where we have offices. Some students are there 8-10 hours a day. When you throw people together, they're bound to interact."

Here at UCD, Van Vleck is teaching animal genetics 107, an intermediate course on population and quantitative genetics.

"It's a real challenge because it's a required course," he says. "We'd like to set up a discussion seminar with animal breeding grad students and staff soon. It's an ideal way to find out what grad students and faculty are doing in terms of specific projects."

"One thing we're doing in the course is testing the book, 'Genetics for the Animal Sciences' that I and John Pollak (a former animal science faculty member), and Liz Oltenacu wrote," says Van Vleck. "It's the first time I've really tested it. It will be sent to the publisher when I get back."

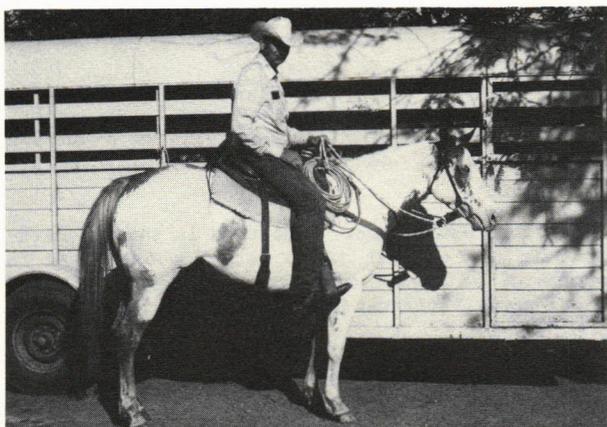
Van Vleck has taught several UCD animal science department members, including Tom Famula and Luis Iniguez. He and Dr. Bradford shared an office when Bradford was on sabbatical at Cornell some years ago.

Dr. Van Vleck will be on sabbatical leave until late July. He and his wife Dee have a son, John, who is a junior at Cornell studying business management. They also have a daughter, Elizabeth, who is a ballet dancer. She has danced with the Capital Ballet in Washington, and the Ithaca Ballet Company, among others. She is also attending school part time, studying social work.

Working with animals Neel's vocation, avocation

When feedlot manager Bill Neel was growing up on a ranch in Southern Arizona, he already knew he wanted to work with animals for a living. "I started riding colts and roping when I was a kid," says Neel, "and participated in rodeos."

Bill is the son of Walter Neel and Lota Neel Bird. His father worked in the Cochise County assessor's office and raised cattle and horses.



Feedlot Manager Bill Neel

Bill graduated from Bisbee High School, and is a W.W. II navy veteran who spent 17 months on Saipan.

Neel worked at several Colorado ranches before coming to California. He ran cattle for Bigson Ranch in Sacramento County and Walkin' A Ranch in Placer County, and handled studs and cattle in Lincoln.

Neel took pre-vet courses at Sierra College and Sacramento City College in California, and attended the University of Arizona for a year.

In 1963, he began working for the UC Davis anatomy department. There he helped with an emphysema study on horses, which have lungs the closest to a human's of any animal. The study included the first EKG of a horse in motion ever taken.

The following year, Neel transferred to his present job as herdsman at the feedlot off Hutchison Drive. He is responsible for the care, health and handling of cattle, hogs and sheep for nutritional trials.

Neel oversees the vaccination, branding, medical treatment and record keeping of all the animals at the feedlot. He implements the research protocol drawn up by animal science faculty members.

"Technology and knowledge in the animal industry is so much greater now than it was 20 or 30 years ago," says Neel. "They're doing things today they'd never have realized were possible in the past, like molecular research. An animal scientist used to have to be a jack of all trades. Most professors work on a narrower range now."

"For a long time you could carry all your data in your shirt pocket," he says. "Now they're putting it all on computers."

Today much research is conducted on smaller animals before large animals are utilized. Neel attributes this to the higher costs of maintaining large animals, and the time it takes to raise a generation of a large versus small animals.

"Take cloning and splicing genes," he says. "They started out with small animals, then moved up to larger ones."

Neel says he likes the livestock business. He

raises horses and cattle at home. "It's a way of life," he says.

The Neel family has been involved with working, raising and showing horses for years. "A horse has to have athletic ability to be good," he says. "We have mares and studs we raised scattered from Florida to Canada to the Eastern Seaboard."

"The kids were all into livestock, horses, and 4-H," says Neel. "I helped manage 4-H horse shows and was on the Cal Expo Steering Committee. Both our boys studied animal science at Cal Poly."

Neel has been a director of the American Paint Horse Association, and has been on the APHA Executive Board for four years. "I have had several national and reserve champions, and quite a few state winners," he says.

He has shown horses at national shows in Oklahoma City, Denver, Kansas City, Tulsa, and Albuquerque.

"We had the 1971 Reserve National Champion Halter Horse in Tulsa," he says. "My daughter Nancy was California State Paint Horse Hipoint Youth in 1973. My son Tom won the title two years in a row, and won the National Championship Working Cow Horse in Albuquerque in 1978."

Tom Neel, who is now cutting and snafflebit trainer and member of the California Rein Cow Horse Association, also had the National Paint Horse Champion Break Away Calf Roper in 1973.

Bill met his wife, Jeanette, in Arizona. They were married shortly before moving to Colorado. Jeanette, now retired, taught physical education and coached sports at Davis High School for 23 years. She was Davis High's first female athletic director.

The Neels have five children. Walter and his wife Pamela and daughter live in Porterville. Walter works for Walco, a veterinary supply house, and shoes horses.

Their daughter Barbara Scott lives in Coos Bay, Oregon. She is a CPA, and has one son.

Tom and his wife Lorna live in Windsor, and train cutting and snafflebit horses. In 1984, Tom tied for 9th-10th at the Reno Snafflebit Futurity and was selected "Rookie of the Year."

Their daughter Marilyn Hunter is an internal auditor for Farmer's Savings of Davis. Her husband works with computers at Sutter Hospital. They have a 7-year-old daughter.

The Neel's daughter Nancy Garton attended UCD before becoming operations manager at First Northern Bank of Dixon in Davis. Her husband, Mick, works for the Solano Water district. They have one daughter.

French scholar visits UC Davis

Philip Ruer, a visiting scholar from France, joined the aquaculture program in September. He will work with aquaculture's Dr. Serge Doroshov and Dr. Joseph Cech of the department of fisheries

and wildlife biology until July. Ruer's research concerns sturgeon metabolism and some of the factors that may influence it.

Ruer is from the Nord-Picardie region of France, which borders Belgium. He lived in the town of Valenciennes until the age of 18, when he went to Lille to prepare for university studies. There he studied at a school for the sciences for several years, before continuing on to Paris to earn an animal science degree from the Institut National Agronomique.

Says Ruer, "I specialized in aquaculture because it was a relatively new and attractive field being investigated."



Visiting scholar Philip Ruer

After completing his studies, Ruer worked for a year as an agricultural consultant and spent two years in Tunisia working for the United Nations Food and Agriculture Organization. Upon returning to France, he learned he could come to the United States with a joint grant from the French government and the Elf Petroleum Company, and voilà.

Ruer's wife, Veronique, is a chemist and is presently working in the UC Davis enology department.

Of the U.S., Ruer says, "It's very different from Europe, but it's nice. I like it."

Alumnus Tom Sawyer says degree carries "clout"

Alumnus Tom Sawyer says he knew exactly what he wanted to do after graduating from UC Davis with a B.S. in animal science in 1956.

The Sawyer farm in the San Joaquin Valley has been in the family since it was started by Tom's grandfather about 1880. So it was only natural that after receiving his degree, Sawyer joined the family business.

Sawyer runs a dairy with 28 employees and 1000 registered Holsteins, 550 of which are used for milking. Sawyer says the fact that he raises all his own replacement cattle and that they are all

registered Holsteins makes his dairy a little different from most others in California.

"We like to work with cattle that really have identities," he says. "To me that is one of the real appeals of working in this industry."

Sawyer says his education has prepared him well for his line of work. "I can say that having a degree from UC Davis has a lot of clout in the outside world," he says. "I know that wherever I go, people notice it. UCD has a great reputation."

The training Sawyer received in animal science augmented the experience he gained growing up on a farm. "I already knew a lot of the practical things," he says, "and could concentrate on the scientific aspects of animal husbandry."

And science has continued to play a major role in Sawyer's work at the dairy. He was one of the first dairymen in the country to make extensive use of a computer in running his business. Starting in 1976, Sawyer had the first computer terminal on a dairy that interfaced with a mainframe computer.

Because the dairy industry is very intensively managed, Sawyer says computers can be a tremendous asset.

"To do a really top job managing a dairy, we keep track of a lot of information on our cows," he says. "We have a registered herd of purebred cattle, and in addition to selling milk, we are interested in selling livestock. All of these items make the dairy and livestock industries ideal to be managed by computers because they allow us to deal with a lot of information."

The Sawyer dairy utilizes a computerized records processing center in Utah which was the first to pioneer an on-line feature allowing dairymen to phone in information to a mainframe computer. Data such as breeding dates and calving and health information can be accessed 24 hours a day for management purposes.

Sawyer's next step in upgrading the system was to install a terminal with a dedicated phone line directly connecting his dairy to the computer in Utah, reducing telephone costs. "This allows us to bypass the mail," says Sawyer of the phone-in system, "which can sometimes take a week. With



Alumnus Tom Sawyer

the computer, as soon as the information is processed, I can have it."

Last May, Sawyer purchased an IBM PCXT 370 computer for the dairy, one of the largest versions of the IBM PC. It is used as an in-house computer supplementing the mainframe system.

Sawyer says the computerization of his dairy is a tremendous time saver. "It's like having an additional employee," he says. "I couldn't get along without it. The computer even allows me to do work ahead of time. It has some amazing capabilities."

Secretary of Agriculture John Block selected Sawyer to serve on the 36-member National Dairy Promotion and Research Board. The board administers about 80 million dollars annually to promote dairy products and do nutrition research and education.

Sawyer recently returned from a board meeting in Washington, D.C., where he attended an inaugural celebration ball also attended by Senator and Elizabeth Dole and Secretary Block.

Sawyer credits Dr. Perry Cupps and Dr. Robert Laben as being two of his biggest inspirations while he was a student at UCD.

"Cupps taught physiology of reproduction, which is still one of our biggest problem areas on the dairy," says Sawyer. "And I started artificial breeding while I was at Davis. Being able to do it for my own herd has been one of the most valuable things I learned. Laben taught advanced milk production, dealing with all phases of dairy management, breeding, and record keeping. They influenced me a lot and still do. I see them whenever I can.

"I can say that the days I spent in Davis were the happiest days of my life," adds Sawyer, who met his wife, Linda Gordon Sawyer, at UCD.

The Sawyers have four children, all boys: Wesley, Bruce, Christopher, and Michael. Michael is a music major at Berklee College in Boston. Wesley works for Crocker Bank in San Francisco. Bruce is married, and is working for the Stanislaus County school system in the printing department. Christopher recently graduated with a degree in dairy science from Cal Poly San Luis Obispo. He is currently assistant herdsman on the Sawyer dairy.

Extension unites academics and agriculture for Berry

Animal science Specialist Steven Berry got his first exposure to extension work several years ago when he was an extension staff research associate. He calls the four years of experience he gained there invaluable.

"For me extension is where I really like to be," he says. "I like the work because there's an academic atmosphere, and especially enjoy being the liaison between the farmer and the researcher. I like agricultural people and appreciate working with them."

Berry describes the work he does for extension



Dr. Steve Berry immunizing sheep

as taking scientifically accepted techniques and getting people to adopt them in practice. "To me it's a real critical job," he says. He says he also likes extension work because it takes him into the field. "The more I get out and see the ranchers and how they do things, the better idea I have of how to do my job and how I can help them."

As a specialist in reproduction management, Berry looks for factors in reproduction programs that adversely affect reproductive efficiency.

"We are trying to convince people that it's economically efficient and in their best interest to use the technology we have to improve these things," he says. "In dairy cows, these are generally factors that affect estrus detection and conception rate."

In addition to dairy cattle, Berry also works with other livestock species. He's currently involved with some special applications of reproductive management, like the use of progesterone sponges in sheep to synchronize estrus.

Berry's work also concerns some basic economic analyses of management techniques. One of the most recent developments he has been involved with is a computer program that will do "decision analysis."

Such a program may be helpful in determining the most economic way to treat disease in animals. "We set up a management or control program that branches off at decision nodes," explains Berry. "Data includes what the program costs to administer, the cost per animal, together with what we know about the disease."

Berry grew up in Torrance, in Southern California. After serving in the army, he became interested in animals and transferred to UC Davis as an undergraduate. He received his B.S. in animal science in 1973.

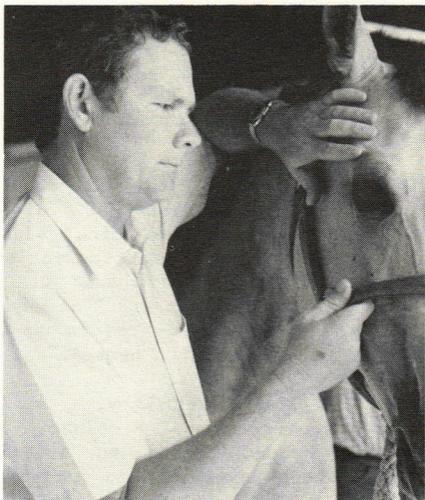
While working for animal science extension, Berry was applying for veterinary school. He received a doctorate in veterinary medicine from UCD in 1981. "My whole interest in going to vet school was in food animal production," says Berry. He has also nearly completed a master's degree in

preventive veterinary medicine.

Before joining extension, Berry gained additional practical experience by working as an intern for a large dairy in Chino Valley. There he did obstetrical and emergency work, sick cow calls, surgery, and a little reproductive herd work. During his second year with the dairy, one of the partners developed a practice in another state, so Berry took over most of his Chino clients.

"I went to Chino to get a lot of experience in a short period of time," says Berry. "My real interest was more in extension work. I first heard of the job I have now before it was rewritten to emphasize management practices in reproductive efficiency rather than physiology. When the job was rewritten, I applied." Berry joined the extension staff in January of 1984.

Berry met his wife, Janis, while he was attending vet school, and they were married in 1979. They have a son, Connor, who is two years old.



Dr. Warren Evans

Photo by Janice Sheldon

Evans has made horses his life

The West has played a major role in shaping Dr. Warren Evans' life. He grew up on a commercial cattle ranch in Edna, Texas, halfway between Houston and Corpus Christi. Evans' grandfather started the ranch, and his father, Calvin C. Evans, has run it ever since.

The house Evans was born and raised in was built during the days when homesteaders had to protect themselves from Indian raids. "It actually had four secret rooms in it, because they had to have a place to hide," he says.

Evans quite naturally grew up in the saddle. "From the time I was a little tyke until the time I left, I worked on a horse all the time," he says. He adds that he always maintains a business relationship with horses.

After graduating from Edna High School, Evans attended Texas A & M University for a year before going to Colorado. He worked there for a few years before enrolling at Colorado State University for a degree in animal husbandry.

Evans came to UC Davis for graduate studies in physiology in 1964. His major professor in animal science was Dr. Jim Boda, and he also worked closely with Dr. Milt Smith.

While Evans was a graduate student, he was roping steers at national rodeos several times a week. "I guess the dean of the college knew about my horse activities," he says. In 1968, he was asked to teach environmental physiology and horse production for the animal science department.

Evans describes the horse production course, animal science 115, as "Everything about a horse a person needs to know to go into a production situation." Topics typically covered have been conformation and unsoundness, behavior, gaits, disease programs, parasites and parasite control, nutrition, reproduction, and raising the young foal.

After the amount of material published on environmental physiology began to mushroom, Evans reached an agreement with the department chair to teach only horse production courses.

"My philosophy in terms of teaching is, I want to get as much information to as many different types of people as I can about horses," says Evans. In addition to formal classroom teaching, he helped set up a horse farm management intern program.

Evans has also been extensively involved in teaching University Extension courses. He has led courses on reproduction, nutrition, and a hands-on course for farm managers. In addition, he has taught mountain horsepacking, and has taken groups to Morocco and the Soviet Union.

"Russian Arabian horses have been extremely popular in the United States and have been selling for very, very high prices," he says. During the U.S.S.R. trip, the group toured horse farms and visited Soviet race tracks.

Afterward, Evans toured the continent, where he examined horses as a consultant for prospective buyers. "That year I was lucky enough to see the top two-year-olds run in Russia, France, England, Poland and the United States," he says.

On his trip to Morocco last summer, Evans and his group rode across the country from Meknes to Fez. "We went back into the mountain villages where there are just horse or donkey trails," he says. "We got a chance to see the nomadic Berber sheep herders."

In addition to teaching, Evans has written many articles for popular horse magazines. His two textbooks, "Horses," and "The Horse" are sold internationally.

He has also been involved in many cooperative extension-type activities, such as working with the California Livestock Symposium and the Russian Arabian Breeder's Association.

The primary emphasis of Evans' research has been control of the estrous cycle in the mare. "Dr. Hughes, Dr. Stabenfeldt and I worked very closely together for a number of years," he says. "We published what I would call today the classic paper in reproduction of the mare."

Evans says his current research is at the cellular level. "We're taking a look at hormone receptors and how they change, and the interaction of hormones and how they control receptors."

He has also performed some embryo transfer work, and hopes to do more in the future, along with infertility in stallions, using techniques that have been adopted for humans.

Since 1981, Evans has been associate dean of the animal sciences at UCD, including the departments of animal science, avian sciences, wildlife and fisheries biology, and the aquaculture and fisheries program. In this capacity, he has been responsible for academic personnel matters, teaching programs, and budgetary concerns.

Evans and his wife, Benita, have a son, Scott, who is a junior at Woodland High School. Benita works at the University Medical Center in Sacramento.

In July, Evans will be leaving UCD to join the faculty at Texas A & M University. Although he is looking forward to being part of a larger equine program, he says he really hates to leave Davis. "The university has been very, very kind to me over the years, and I've got so many friends here on campus, which really makes it tough to leave."

He says the move will also give him the chance to be closer to home, and get back into the commercial cattle business. But he plans to return to this area on a regular basis.

"I'm changing location, but that doesn't stop a lot of my activities," he says. "I'll be back in California giving clinics and seminars for University Extension. I'll continue to interact with many people here in many different ways."

In the fall, Evans will be back at UCD to coordinate a conference on the Genetic Engineering of Animals September 9-12. "It's going to be a fairly large international symposium," he says. "We've got people coming from all over the world, and there are several international speakers as well. We're going to have live demonstrations of embryo splitting, blastocyst injections, and real time computer-assisted image processing."

Department hosts visiting lecturers from Cornell

The UC Davis animal science department has been blessed with visiting lecturers from Cornell recently. In addition to Dr. Dale Van Vleck, Dr. James Fadel and Dr. Nigel Firth have taught courses spring quarter.

Fadel has taught nutrition 122, ruminant physiology and nutrition, and animal science 128, linear programming in agriculture. Of the latter course he says, "I try to show students how to use linear programming as a tool in agriculture, to let them know there are methods available as management tools to maximize profits or minimize costs, or a combination of both."

This is not the first time Dr. Fadel has been in Davis. He received a master's degree from the UCD animal science department in 1975. He received



Visiting lecturers Fadel and Firth (right)

his doctorate from Cornell in 1984, and spent part of the year as a visiting fellow at the Swedish University of Agricultural Sciences in Uppsala, Sweden.

Fadel's appreciation for teaching has jumped "a thousand fold" since he began teaching. "You have to put in a lot of time and energy to teach different courses," he says. He adds that he is grateful for the support and assistance he has received from many people in the animal science department while he has been here.

Dr. Firth has taught nutrition 110 at UCD this quarter, which he describes as "a beginning nutrition course with a biochemical slant." In addition to lecturing on human nutrition, Firth teaches the nutrition of farm and wild animals. "I mention ruminants quite a bit," he says. "They have some interesting differences in how they eat and handle food compared with humans."

Firth is originally from Orkney, a small group of islands off the coast of Scotland. He first came to the United States to attend Purdue University. After receiving his master's degree there in 1965, he returned to Scotland. In 1979, he came back to the U.S. to study at Cornell, where he received his Ph.D. last year.

According to Firth, Scotland is about the same size and population as the state of Indiana. Geographically, it's not very similar to Indiana, however. "There's very little flat land in Scotland," he says. "It's pretty hilly. Most of the people live in the central belt that runs from Glasgow down to Aberdeen, and most of the industry is in that high population area. Much of the agriculture is found outside that main area."

Animal science caps and polo shirts

Animal science caps and polo shirts are now available. The shirts are light blue with a pocket and logo. The price is \$17, which covers shipping within the U.S. Men's sizes are S, M, L, and XL.

Caps are one-size, navy and white with logo for \$6.

Send orders c/o the Animal Science Advising Office, 177 Hart Hall, Department of Animal Science, University of California, Davis 95616.

The Backpage

Staff Service Awards

The 1985 Special Performance Award recipients in Animal Science are Art Kaseman and Bob Scadden (Feedmill)

10 years of service: Will Borgeson (Bodega), Loi Dossa and Ann Mohr (Business Office), Renee Rosemark (Bodega)

15 years of service: Charles Rowe (Dairy), Ambrosio (Junior) Reyes (Small Animal Colony)

20 years of service: Gary Watson (Physiology Lab)

Job Announcements

The Cooperative League of the USA (CLUSA) is seeking a livestock adviser to work in Indonesia. Requirements: 2 years overseas experience in a developing country, minimum B.S./B.A. in animal science or related area for dairy or beef, some training experience would be useful. There is no language requirement. Interested and qualified persons should call Susie Jones in Washington, D.C. at (202) 872-0550 (9:30 a.m.-6 p.m., local time).

Kelly Waser at the Work Learn & Career Planning & Placement Center has some background information on CLUSA, and other development organizations. Waser can be contacted at 205 South Hall, or by calling (916) 752-2861.

Student Awards

ASAS AWARDS: Giselle Chan, Jo May Chow, Stanley Cliff, Sarah Davis, Edwin Fisher, Sara Ford, Diane Harris, Pamela Hullinger, Randall Mead (AS&M), Phillip Miller, Chris Moore, David Nixon, Laura Reynolds, Charles Roudebush

TOM MEAD DAIRY AWARD AND DAIRY SHRINE STUDENT RECOGNITION: Judith Mello

CHANCELLOR'S AMBASSADORS PROGRAM FOR 1985: Gordon Miller

LEADERSHIP RECOGNITION PROGRAM FOR OUTSTANDING SENIORS: Melinda Balint, Phillip Miller, Natasha Orloff, Richard Rohrbach, Charles Roudebush, Lisa Struckmeyer (AS&M), Christine Wyman (AS&M)

CARL GARRISON AWARD: Pamela Hullinger, Randall Mead (AS&M)

DEPARTMENTAL CITATIONS FOR OUTSTANDING PERFORMANCE FOR UNDERGRADUATES: Sarah Davis, Sara Ford, Chris Moore, Natasha Orloff, Laura Reynolds, Charles Roudebush

CALIFORNIA CATTLEMEN'S ACHIEVEMENT AWARD: Cymantha Beall (AS&M), Sarah Davis, David Nixon, Eric Rhoads, Tom Wood

BLOCK AND BRIDLE: Natasha Orloff, Anne Vizzolini

Upcoming Events

The American Dairy Science Association meets at the University of Illinois at Champaign-Urbana on June 9-12. Next year's meeting will be held on the UC Davis campus June 23-26.

The American Society of Animal Science meets at the University of Georgia, Athens, Aug. 11-15.

The Western Section of the American Society of Animal Science meets at the University of Idaho in Moscow, Idaho on July 17-19.

The UCD College of Agricultural and Environmental Sciences, the Department of Animal Science, the Aquaculture and Fisheries Program, and the California Sea Grant College Program announce the Second International Symposium on Genetics in Aquaculture June 23-28 on the Davis campus.

The aim of the symposium is to provide a forum for the exchange of scientific information on all aspects of the genetics of aquatic organisms. Goals are to identify the present status of the knowledge of genetics in the artificial production of aquatic organisms, and to stimulate discussion of future potential.

The registration fees for the symposium are \$185 general; \$90 students; and \$70 spouse/guest. Registration forms can be obtained by contacting Dr. Graham Gall, Second Symposium, Department of Animal Science, University of California, Davis, CA 95616; (916) 752-1257; TWX 910-531-0785.

Checks or money orders must be made payable to: REGENTS, UNIVERSITY OF CALIFORNIA. Registration forms and fees should be sent to Carolyn Norlyn, Campus Events Office, UC Davis, Davis, CA 95616. No registration refunds after June 7.

The UCD College of Agricultural and Environmental Sciences and Associate Dean of Animal Sciences Dr. Warren Evans will sponsor a conference on the Genetic Engineering of Animals: an Agricultural Perspective, Sept. 9-12 on the Davis campus.

The conference will unite leading international scientists specializing in bioengineering techniques. The current status of animal bioengineering and the potential of new genetic technologies relating to animal agriculture will be discussed.

The general registration fee is \$150 if received before July 30; \$175 if received after July 30. The student registration fee is \$75 if received before July 30; \$100 if received after July 30.

Registration forms can be obtained by contacting the Campus Events and Information Office. Checks or money orders must be made payable to: REGENTS, UNIVERSITY OF CALIFORNIA. Registration forms and fees should be sent to Carolyn Norlyn, Campus Events Office, University of California, Davis, CA 95616. No registration refunds after Aug. 1.

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