

Learning links students, horses and researchers in UMaine's new Equine Program

# EQUESTRIAN Emphasis

KIERA FINUCANE DROVE four and a half days from her New Mexico home to Maine to go to college, a cross-country trek that would have been shorter except that Louie had to come along.

"I didn't have any relatives in Maine and knew if I was going, Louie also had to make the move," says Finucane. "I've had him since he was 8."

Finucane planned her trip to the University of Maine using a "stable directory" so that her 13-year-old Arabian gelding could spend nights in barns along the route rather than in a trailer. She is among a small but growing number of students attracted to and involved in UMaine's Equine Program.

"It has had a big impact on my involvement in the university community," says Finucane, a double major in animal science and biology who will apply to veterinary school starting this October. "It has made UMaine a tremendous experience for me."

UMaine's horse program is built on a foundation of cutting-edge biomedical research, concern for animal welfare, and active involvement

of students and Maine's equestrian community. Two of the top researchers in equine reproduction and infertility — UMaine faculty members and veterinarians Dr. Robert Causey and Dr. Jim Weber — lead the program.

Students with interests in horses, including some like Finucane who board their mares at UMaine, work side by side with the researchers. They also participate in a barn cooperative at the J.F. Witter Teaching and Research Center near campus, where the focus is on a scientific approach to equine management. UMaine now offers an academic minor in equine studies, and a major concentration in equine business management, directed by associate professor Jim Leiby in the Department of Resource Economics and Policy.

UMaine's equine management cooperative is a student-managed facility, home to more than 30 boarded and donated horses. Students have nearly 10 miles of trails to ride near campus. In addition, they have formed an intercollegiate equestrian team and a drill team.



Photos by Monty Rand



Photo By LeeAnne Pooler

With support from Maine’s harness racing industry, some horses retired from the track are donated to the university, where the standard-breds are retrained for pleasure use. Students and professional trainers prepare retired racehorses, as well as foals, for new lives in the community.

“The value of our program is that anyone from any major can enroll in the minor in equine studies,” says Causey. “Horses cut across all disciplines, from biology and medicine to business and marketing, athletics and gymnastics, tourism, recreation and land use, education and social work.

“With the program, we also provide graduate education opportunities in both the biomedical and veterinary sciences. Most recently, we received a USDA grant to help develop a vaccine to control reproductive infections in horses.”

THE WITTER CENTER, part of the Maine Agricultural and Forest Experiment Station, is a 400-acre working farm near the Orono campus. Seven years ago, it underwent a transformation. What had been exclusively a research facility now includes a center for student-focused learning. In addition to research, animal science faculty and nearly 300 students of many academic disciplines are involved in classes at Witter, including several who participate in the farm’s management through the horse cooperative and UMADCOWS (UMaine Applied Dairy Cooperative of Working Students).

Today, the self-sustaining equine management cooperative is home to 16 horses donated to UMaine and up to 18 boarded by students.

Erin Emmans took the reins behind the university’s pacing mare Venus of Milo in a race in 2000 to benefit historic Cornish Trotting Park. Now a UMaine graduate, Emmans is in veterinary school at the University of Prince Edward Island. Venus is now retired and being retrained at the Witter Center.

Members of the co-op — both those boarding horses and those with an interest in equines — each undertake up to 20 hours of chores weekly, from 5:30 a.m.–10 p.m.

“Witter has an amazing group of dedicated people, all here for the common good of the animals,” says Finucane, who, like some of her peers, also became interested in Witter’s dairy herd, last year serving as student advisor for UMADCOWS. “You learn about dealing with people and getting everyone to work together. It’s a place where everybody knows your name — our own version of ‘Cheers.’”

As of March, four prospective students entering UMaine this fall had already filled out applications to be part of the co-op. Rarely a day goes by that Witter livestock manager Marcy Guillette doesn’t get at least one inquiry from a student hoping to participate.

“We have more students with more knowledge and interest in horses than ever before, including more

beginners and students for whom working with horses has been a life-long dream,” says Guillette.

“Several of our students are working at well-respected horse facilities in New England; others have continued to graduate or veterinary school.”

**Retired racehorses are put through two years of retraining for pleasure use. To date, six have been retrained and sold to good homes, with the proceeds helping to support UMaine’s Equine Program.**

With foals now born at the farm, the Equine Program is providing a comprehensive living laboratory and learning environment.



## Reproduction research



Dr. Jim Weber regularly involves students in his research projects.

**I**T MAY BE A COMPLIMENT when a physician tells a patient he is healthy as a horse, but for veterinarians and horse breeders, the old adage can belie the truth when it comes to equine reproduction.

Horses in captivity have one of the lowest reproduction rates of domestic livestock, with only about half of all bred mares delivering a foal. Despite advances in veterinary medicine, the foaling rate

has not changed in a quarter-century.

Infertility in horses can be the result of poor equine management and health, especially bacterial infections. Low foaling rates have both animal welfare and economic development implications.

At the University of Maine, veterinarians and faculty members Dr. Robert Causey and Dr. Jim Weber are involved in biomedical research that addresses issues related to equine reproduction and infertility. Their work, which benefits the animals and the horse-owning public, is integral to UMaine's Equine Program, with its emphasis on the science of equine management.

Through their research, Causey and Weber are exploring the causes of infertility in both stallions and mares, and investigating treatments that can help mares deliver healthy foals at the end of their 11-month pregnancies. Their focus is on the biology of reproduction, including why some mares are more susceptible to the most common cause of equine infertility — uterine infections. In research to better understand the struggle between host defenses and invading bacteria, Causey and Weber are looking at the effect of different intrauterine medications and the animal's immune response.

The bacterium *Streptococcus zooepidemicus*, the organism most commonly isolated in infected mares, shares attributes with the group A streptococci, the human pathogens that cause such illnesses as strep throat and rheumatic fever, as well as uterine infections. Advancements in the treatment and prevention of uterine infections in horses, part of the push to fill in important gaps in our knowledge of equine infertility, could have human health implications.

Work by Causey and Weber on the immune response of mares to bacteria-induced uterine infection, was presented at the Society for Theriogenology Conference in Vancouver, Canada, in 2001, and at the Eighth International Symposium on Equine Reproduction last year in Colorado.

In addition, Weber has spearheaded Maine's research in artificial insemination in horses. While his primary research focuses on bovine reproduction, Weber also works with Maine horse breeders and veterinarians in such areas as equine embryo transfer, in vitro fertilization, and semen freezing and preservation. Such assisted reproductive technology in horses and cows is particularly important when it comes to producing genetically superior animals.



Student horse trainer Sarah Marriner (above) helps to retrain the retired harness racing standardbreds, including one that was sold last year. She also is training a lipizzan-thoroughbred cross.

Sarah Guilmain (right) is among the UMaine equestrians who would benefit from an indoor, multi-purpose arena at the Witter Center. With an arena, horse training and exercise can continue in the winter. Such a facility is integral to the development of an undergraduate degree program in equine business management. Guilmain, a graduate student in animal and veterinary sciences, works with Dr. Jim Weber and a medical researcher at Eastern Maine Medical Center to study the effects of hypothyroidism during pregnancy on fetal nervous system development in mice.



**IN 1998, AN 18-YEAR-OLD** standardbred stallion named Pedrine became the first retired harness racehorse to be donated to the University of Maine. The donation was facilitated by the U.S. Trotting Association and the Standardbred Pleasure Horse Organization.

Standardbreds are considered intelligent, versatile, easy-going trotting horses. Until recently, the breed was thought to be limited largely to racing, so that horses that came off the track faced uncertain futures.

At UMaine, retired racehorses receive about two years of retraining for pleasure use. Whether the horses are trained in dressage, jumping or driving depends on the animal. To date, six retired racehorses have been retrained at UMaine and sold to good homes, with the proceeds returning to the program.

To support the teaching and research, retired racehorses donated to the university must be reproductively and physically sound mares, usually ages 3–10. Twice weekly, certified horse trainer Jan Hartwell comes to Witter to supervise the retraining program. Working closely with her is student trainer Sarah Marriner, a fourth-year resource economics major specializing in equine business management. Marriner, who started

riding at age 3, has learned from some of the best professional horse trainers in Maine. At Witter, she trains horses and mentors her peers.

The Maine Standardbred Breeders and Owners Association, and members of the Downeast Harness Horsemen's Association, offer internships. Students also work with UMaine alumna Valerie Grondin, who for the fifth season is training a university-owned horse at Bangor Raceway.

Grondin first worked with a 4-year-old standardbred named Venus of Milo that was donated in 1998 by the late Tom Kole, former executive director of the Maine Harness Racing Promotion Board. Prize money that Venus won in two seasons covered training costs and supported the UMaine Equine Program.

Venus is now in the retraining program at Witter. The university continues to have a presence at the track in the form of One Vine Lady, a standardbred purchased for the program in 2001 with the help of Maine's Harness Racing Board. As an ambassador for UMaine's Equine Program, One Vine Lady, like Venus before her, has quite a following.

"The support of the local equine industry has made this program possible," says Causey. "The donation of retired racehorses, the support of industry leaders, and the welcome for UMaine students at local equine facilities have given our students an array of choices as they include horses in their education."

*Margaret Nagle*