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HORSES FIRST

Gluck Equine Research Center Celebrates 25 Years of Improving Equine Health and Welfare

By Rena Baer

Twenty-five years is a short lifetime, unless you are looking at it in horse years, which is a possibility when it comes to assessing the University of Kentucky's Maxwell H. Gluck Equine Research Center. But whether measured in human or horse years, the Gluck Center can be counted a success.

The fact that vaccines for six of the 10 most infectious equine diseases have been developed there is in itself a tremendous feat. Couple that with countless other advances in equine health, a close relationship with the community it serves, and a strong vision for the future, and it's hard to deny that within the walls of the tan behemoth of a building off Nicholasville Road is another good reason to call the Bluegrass the Horse Capital of the World.

A division of UK's Department of Veterinary Science within the College of Agriculture, the Gluck Center differs from other equine veterinary science programs in its complete dedication to research.

"The Gluck Center has attracted people who have made a career out of research — the most cutting-edge research," said

Ed Squires, executive director of the Gluck Equine Research Foundation, a 501c3 corporation responsible for securing funding and maintaining close ties with the horse industry to exchange information. "We are focused on getting research done and getting the information out there to the people who need it."

"We are a source of new knowledge that benefits the health and well-being of horses," added Mats Troedsson, director of the Gluck Center and chair of the Department of Veterinary Science. "Our mission is not that of a normal vet school."

Though the Gluck Center is celebrating its 25th anniversary this year, its history reaches back more than 100 years when UK's Department of Veterinary Science took a special interest in the Bluegrass' signature industry — Thoroughbreds. Much of its equine research focused upon reproduction, foal disease, and infertility. The course broadened in the 1950s and '60s as horses began to travel internationally for competition, coming into contact and sometimes contracting potentially lethal, and for the industry,

devastating equine infectious diseases.

These diseases posed a dire threat to the local Thoroughbred industry and became the impetus to build an equine research center. Members of the Thoroughbred industry got behind the project, heading the fund-raising effort. Elmendorf Farm's Maxwell H. Gluck and his wife, Muriel, generously donated \$3 million to kick off the effort in 1983 and successfully challenged the horse industry and the state to match the amount. Not only was the amount matched by the state and private donors, it was exceeded, and by 1986 more than \$18 million had been raised.

Today the Gluck Center has 24 full-time faculty members who concentrate on research in six primary areas: genetics and genomics, infectious disease and immunology, musculoskeletal science, parasitology, pharmacology/toxicology, and reproductive health. And as a resource for equine health, the Gluck Center serves not only Central Kentucky but also horse owners, researchers, and veterinarians all over the world. Its *Lloyd's Equine Disease Quarterly* goes to recipients in 90 countries and its monthly *Bluegrass Equine Digest* has 60,000 subscribers.

"We have a group of extremely talent-



Prominent owner/breeder Maxwell H. Gluck provided the impetus for the Gluck Center.

ed scientists producing information of the greatest importance, some of it immediately applicable and some of it the basis for scientists at other institutions to make advancements," said Troedsson, citing the Gluck Center's blueprint for sequencing the equine genome. "It originated here, and then became a worldwide effort to understand not only coat color and other positive traits, but also the genetic link to specific diseases.

"It has a lot of potential. If we understand the genetic basis of disease and its mechanisms, we can come up with better vaccines and treatments. It's opening up a new chapter in equine medicine."

The Gluck Center already has a long list of achievements in disease prevention and control that includes vaccines to protect against strangles, equine influenza, equine viral arteritis, herpes virus abortion in mares, and shaker foal syndrome. In addition, scientists there are responsible for:

- Developing diagnostic serological tests for contagious equine metritis (CEM), Tyzzer's disease, equine protozoal myeloencephalitis (EPM), and equine herpesvirus myeloencephalopathy, strangles, and equine viral arteritis;
- Developing enzyme-linked immunosorbent assay (ELISA) test for drug detection;
- Demonstrating the usefulness of artificial lights and progesterone/estradiol treatments for hastening the onset of the breeding season.

In addition, when an alarming number of late-term abortions and early fetal



Students get hands-on experience at UK's Agricultural Experiment Station.

deaths occurred in 2001 in the Bluegrass, the Gluck Center performed the definitive experiments that identified eastern tent caterpillars as the cause of what became known as Mare Reproductive Loss Syndrome.

Much of the research that goes on at the Gluck Center is dictated by the needs of the horse industry, said Squires. Research is currently being done on inflammation and fitness markers that will aid in the early detection of potential problems, which will be of big help to sport horse owners in keeping their horses more sound and cutting down on injuries.

“We rely on the industry to give us feedback regarding problems that need to be solved,” said Squires.

Other issues also on the front burner include providing scientific information and analysis of racing medications and injuries associated with racing and training, studying the increasing parasite resistance to worming medications, and looking at bacterial resistance to antibiotics, the so-called superbugs.

“We want to be a resource in tackling these problems,” said Squires.

The main conduit is the UK Gluck Equine Research Foundation, comprising 24 external board members from the horse industry nationwide — both veterinarians and horse people. The foundation provides advisement, advocacy, and an invaluable link to the feedback that helps determine the direction the Gluck Center’s research takes.

As in its early years, the Gluck Center still relies on a combination of support from state, federal, and private dollars and grants. Private dollars have come from local organizations such as the Grayson Jockey Club Research Foundation, Kentucky Thoroughbred Association, Kentucky Thoroughbred Owners and Breeders, Kentucky Association of Equine Practitioners, and many private individuals and horse farms. The Keeneland Association contributed \$1 million to help



Clockwise from top left, Drs. Ed Squires and Mats Troedsson, researcher Kirsten Scoggin, graduate student Chong Liu, PhD candidate Elisa Silva, and graduate student Allen Page

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— Ed Squires



build the Gluck Center and has funded an endowed chair position to support research in infectious diseases.

“Unlike human medicine, we have no recurrent source of funding,” said Troedsson. “We rely heavily on donations from the horse industry. It’s a never-ending fund-raising effort. We see that as an advantage because we need to be closely associated with the industry and listen to its needs.”

“We want the horse industry to feel some ownership of the Gluck Center,” he said. “They have earned it because of all of the support they give us.” 🐾