ISU College of Veterinary Medicine Celebrates 125th Anniversary
A bill founding a state agricultural college was signed by Iowa Governor Ralph P. Lowe on March 22, 1858. The charter was for an Iowa Agricultural College and Model Farm, which became the nation’s first land-grant institution when the General Assembly awarded it the state’s land-grant charter in 1864. The original bill included provisions for a Veterinary Division. President A. S. Welch reported in 1871 that “the seniors of the agricultural course will need a professor ... who will give lectures on comparative anatomy and physiology and veterinary science.” One year later, Dr. Hinrich Janssen Detmers, trained in Berlin and the Royal Veterinary College in Hannover, was appointed as the first professor of veterinary science at Iowa State (Detmers later became the founding dean of the veterinary school at Ohio State).

The college of veterinary medicine was founded in 1879. It was conceived by Dr. Milliken Stalker, a graduate in agriculture in 1873 (and a student of Detmers), who lectured in anatomy and clinics and enlisted the aid of the college physician, Dr. D. S. Fairchild, for histology, pathology and therapeutics. Stalker had attended the private New York College of Veterinary Surgeons and completed a degree from the Ontario Veterinary College.

Private schools dominated veterinary education in this era; all lacked students, as well as faculty, funds and facilities – and most disappeared within a few years. One of these was the Iowa Veterinary College, founded in Des Moines. Short-lived (1890-1899), it conferred the doctor of veterinary science on only 13 students.

The U.S. Veterinary Medical Association, organized in 1863, was more metropolitan than regional or national. Formed from only states on the eastern seaboard, the USVMA was marred by internal political bickering and provincial views of veterinary medicine. It was not until the 1877 USVMA meeting, held in the veterinary department of the University of Pennsylvania, that the association got to the business of education, establishing committees that defined a three-year term of six months each and a common examination for all graduates.

The First 15 Years: 1879-1884. Slowly, the concept of veterinary schools within public universities began to emerge, driven by a demand for better education. Four of the present schools opened in this period – Iowa State (1879) and Ohio State (1885) in the Midwest, and in the East, Pennsylvania (1884) and Cornell (1894).

In the military, Army General Orders of 1879 weeded out agriculturalist quacks by mandating that veterinary surgeons with the cavalry be graduates of an “established and reputable veterinary school” – an associated appropriation act provided for 14 veterinary surgeons. The rising importance of livestock as wealth, the heavy economic impact of infectious diseases, the rising competence of public veterinary schools and the literate voices of new public school faculty carried the force of the universities onto the national scene – all pushing the politized machine of the USVMA to speak and act more effectively on behalf of the real needs of veterinary medicine.

The semiannual meetings of the USVMA moved between New York and Boston, with no participation by or acknowledgement of changes west of the Appalachians. Within the USVMA there was the charge that “Professor Liautard evinces little interest in veterinary matters west of Philadelphia.” At the annual meeting in 1884 in Cincinnati, Dr. Detmers proposed, unsuccessfully, creation of a western branch of the USVMA. But change did come, through public demands for improvements in veterinary education.
By 1880, there was widespread criticism of the USVMA from the giants in the field – from James Law, Rush Shippen Huidekoper and even from Liautard – that the organization was not effective in bringing about the federal regulations needed to control infectious diseases of livestock. At the annual meeting, the territorial veterinarian of Wyoming was dismayed at the “apathy displayed by the Association at the last annual meeting, as well as the lack of interest of veterinarians, in regard to ... the necessity of wholesome sanitary laws and their enforcement ....”

Turn of the Century: Great Expansion. Individual states began to take the initiative in establishing effective animal health systems. In Iowa, the Office of the State Veterinary Surgeon was the first agency for control and eradication of livestock diseases. Created by the 20th General Assembly, the office was established in 1894 at Iowa State College with Dr. Stalker as its first executive. Iowa State was the first to establish a four-year curriculum (1903). Six new schools of veterinary medicine appeared: Washington State, 1899; Kansas State, 1905; Auburn, 1907; Colorado State, 1907; Michigan State, 1907; and Texas A&M, 1916. These six schools, along with the earlier four, dominated veterinary education in the United States for over 30 years, until several new schools appeared after World War II.

The Agricultural Depression Years: 1920-1935. The 1920s and ‘30s were sobering times for veterinarians – economic collapse and disappearance of the horse with the invention of the automobile and from the mechanization of agriculture. In the late 1920s, veterinary colleges had been faced with declining enrollments and insufficient graduates for meat inspection and public health. Practices, prosperous during the war, declined with the prices of livestock. This was the ‘Stange Era’ in education. Under Dr. Charles Stange, Iowa State was the first to require a four-year curriculum for the DVM degree (in 1903), a high school graduation for matriculation (1911), and one year of preveterinary college work (1931). Smithcors, in The American Veterinary Profession, stated that Dean Stange “had a greater influence on veterinary education in this country during the past two decades than did any other member of the profession.” Stange organized the first student chapter of AVMA and the first use of the new radio station at Iowa State to promote animal health issues. KSAC Radio at Kansas State, in 1924, was the first to have a regular program on veterinary medicine. In 1924, in his presidential address at the annual meeting of the AVMA, Dean Stange pressed for adoption of the statement of policy that pointed to a lack of recognition of the professional in controlling disease in food-producing animals: “... no country on earth is so safe for animal industry as is this continent, due very largely to the organization and efficiency of the veterinary profession ... these facts, however, have an economic and sociologic significance not generally understood.”

At the 1933 AVMA meeting in Chicago, Stange, with no small prescience, stated that “The influence of training on the future interest of the veterinarian is well illustrated by the difficulties in getting some members of our profession, who were educated primarily in diseases of the horse, to interest themselves in disease of cattle and swine ... the lack of interest in food hygiene in many sections is undoubtedly due very largely to the fact that the veterinarians as students received little or no instruction in this subject ...” The combination of loss of practice revenue associated with depression and lay encroachment let many editorialists, previously adamant that service to agriculture was the only legitimate objective of veterinary medicine, to restate their opinions. Reiterating the connection to medicine much earlier posed by James Law that: “… in some cases we were regarded as an agricultural science, when ... we are dealing with a medical science ...”

The Future: 2000-2015. Our future has shifted in many ways to public practice – homeland defense, food safety, public health, and environmental health. These disciplines involve all species of animals from aquaculture to agriculture. Success in education demands that we think creatively and independently from any force that suppresses regulation for the public good. It will depend on how well we educate in science – particularly in evidence-based problem solving – to meet the challenges of the 21st century veterinary medicine, not on how well we incorporate business into our curriculum.
To commemorate the college's 125th anniversary, each issue of The Gentle Doctor in 2004 will highlight a period in the college's history. This issue will showcase the first 50 years. Material for the article was obtained from History of Veterinary Medicine at Iowa State College, written in 1929 by Dr. C. H. Stange, dean of the veterinary college from 1909–1936.

A DATE WITH HISTORY
With its founding in 1879, Iowa State University's veterinary college became the first public one in the United States. Prior to that time, veterinarians were trained in private institutions that lacked consistent educational standards. Those early institutions ceased to exist by the 1920s, making Iowa State's veterinary college the oldest public veterinary college with the longest record of continuous operation in the United States.

EARLY PIONEERS
During the early years, the college's survival was often questionable. Each year, the college's administration waited with apprehension for the annual meeting of the board of trustees, who had warned faculty to keep their satchels packed. But, faculty and administrators persevered to create one of the leading veterinary educational institutions.

SIGNIFICANT EVENTS
Three events had an impact on the college during the first 50 years of its history. The first event was the hog cholera epizootic of 1913, which claimed 25 percent of the state's swine population at a cost of $30 million. The epizootic drew attention to the veterinary profession, particularly the state's veterinary college. Faculty members were asked to provide assistance to the state and many willingly gave up their summer to help.
Extension veterinarians were employed to educate swine producers and veterinarians on the use of the hog cholera vaccine.

World War I broke out in 1914 and brought with it veterinary work that involved food production and conservation. When the United States joined the Allies, the university was turned into a training camp, with a quarter of the veterinary staff joining the military. Interestingly, veterinary staff remaining at the college didn’t know to whom they were responsible, the acting university president or the chief military officer.

In 1918, the Spanish flu epidemic hit. The university was quarantined by the military and guards were posted at all entrances.

**FACILITIES**

The first veterinary buildings, the Veterinary Hospital and the Sanitary Building, were constructed in 1885 where the university’s Memorial Union now stands, at a cost of $10,800. The first floor of the Sanitary Building contained classrooms for veterinary instruction; the second floor included a laboratory and hospital for sick students. With those two buildings, it was the most complete veterinary school in the country. In 1912, construction of the Veterinary Quadrangle began, which cost $150,000. Unused materials from the buildings erected in 1912–1913 were used to construct a research laboratory, the first designed and built for veterinary research in Iowa. Clinical facilities were constructed in 1926, later expanded in 1938 with the completion of the Stange Memorial Clinic.

A 60-acre farm on South Beach Avenue in Ames was purchased in 1921 to be the veterinary investigation farm (now the Veterinary Medical Research Institute).

**CURRICULUM**

In 1908, there were 125 students enrolled in the four classes, only 65 percent of whom graduated. The veterinary faculty consisted of five men.

In those early years, anatomy was considered the most important area of veterinary medicine. The horse was the major animal studied. In 1882, the cost for a horse model was $1,000, quite a large sum considering the salary for a faculty member was $800 per year. Dissections were held at night from 7 to 10 p.m., Monday through Friday. Because fresh specimens were used, dissections were done in the fall during cold weather.
Prior to 1912, necropsies were done outdoors (as were most of the treatments of animals) near the old veterinary hospital that stood on the present site of the Memorial Union. Back then, the remains were buried along Lincoln Way, where they reappeared occasionally during excavations decades later.

The hospital clinic saw an expansion in caseload from 250 patients in 1887 to 1,204 patients in 1914. Until the expansion, the college offered free services, charging only for feed and care. Large animal owners were charged 60 cents per day per animal, and 25 cents per day was the charge for small animals. In 1915, the college established an ambulatory clinic.

ADMISSIONS
Entrance requirements in 1879 stipulated that a candidate must be at least 16 years of age, and must pass an examination in reading, orthography, geography, grammar and arithmetic. In 1911, the college became the first school in the United States to require a diploma from an accredited high school as a prerequisite for admission.

STUDENTS AND ALUMNI
A large percentage of veterinary students during the first 50 years had farm backgrounds. When students were asked why they wanted to pursue veterinary medicine, the two common reasons given were “a love of animals” and association with animals, and a liking for the work and a belief that there is a distinct need for veterinary services. Twenty percent of students changed from some other college discipline to veterinary medicine.

About 45 percent of students worked to pay a portion of their way through college, while 54 percent received some assistance from their parents. Over 40 percent borrowed money to defray part of their expenses. Not surprising, insufficient finances were reported by students to be one of their greatest difficulties in college.

After graduation, 62 percent of alumni went into general practice, the USDA employed 20 percent, and 18 percent went into academia.

A total of 594 veterinary degrees were awarded during the first 50 years.

1913: A lecture in a veterinary hospital classroom

1913
Iowa loses 25 percent of its swine population to hog cholera, loss estimated at $30 million

1914
A quarter of veterinary staff joins military service as WWI breaks out

1915
Veterinary college awards its first honorary degree to Marion Dorset, M.D.

1918
ISU campus quarantined by military when Spanish flu strikes
Including the College of Veterinary Medicine as a beneficiary in your estate plans is a good way to ensure the future success of our students and to thank the college for the impact it’s had in your life. Thanks to the thoughtful planning of many veterinary medicine alumni, friends and clients, the college has been able to offer scholarships to students, attract faculty through chairs and professorships and provide equipment when needed. The college works closely with the Iowa State University Foundation to provide a broad range of gifting methods that offer you maximum opportunities and have an impact on students, faculty and the college. Have you considered the following?

- Naming the College of Veterinary Medicine as a beneficiary in your will;
- Providing a gift of appreciated securities;
- Contributing to a charitable gift annuity from which you or a loved one will receive income for life;
- Establishing a charitable remainder trust in which you, or designated beneficiaries, receive income payments; or
- Designating the college as a beneficiary of an IRA or paid up life insurance.

To find out more about how to include the College of Veterinary Medicine in your charitable giving plans, contact Monica Porter at (515) 294-8562 or mgporter@iastate.edu.
The College of Veterinary Medicine’s campaign, “Creating the Future,” moved into high gear in November 2003, when the Board of Regents, State of Iowa, named the project as its number one priority. The $48 million campaign to renovate and modernize the college’s aging physical facilities is the largest fund-raising campaign in the college’s history.

The ambitious campaign includes a request for funding during the 2004 state legislative session. Like any of us who is asked to financially support a cause, legislators must be convinced that the cause is a worthy investment. “I can’t think of an investment the state of Iowa could make that would be a better use of its money than one that is so directly tied to a critical industry of the state,” said Andy Baumert, Iowa State’s associate director of government relations and legislative contact for the veterinary campaign.

Still, state legislators need to be convinced. And to convince them, the college’s leadership is seeking the help of Iowa veterinarians. “The most valuable thing that a veterinarian could do to move this project forward is to contact his or her local legislator,” Baumert said. “For any veterinarian who has never had any communications with a legislator and thinks that his or her contact doesn’t help, believe me, it absolutely does.”

“Iowa probably has the most constituent-friendly political system. Veterinarians should take advantage of the opportunity to develop a relationship with local legislators,” Baumert said.

According to Baumert, legislators want to understand the needs of their districts. Practitioners can help their legislators and, in turn, support the campaign by informing them that they will receive a request for funding to renovate and upgrade the college’s veterinary teaching hospital and diagnostic laboratory. Let the legislators know the importance of a modern diagnostic laboratory and upgraded teaching hospital to you as an Iowa veterinarian and to your clients.

Baumert says that veterinarians don’t need to provide the exact pieces of information,
because the legislator will call the ISU legislative contact to get the details. “The most important thing for a veterinarian to do is put this issue on their legislator’s radar screen,” Baumert added.

**Laying the Foundation**
Since November 2003, the college’s leadership has hosted several tours for state legislators. “Faculty and staff have done a great job in communicating some of the practical realities that they deal with daily, and how they work to overcome some of the deficiencies in the buildings in general,” Baumert said. “At this stage, the legislators who have been on the tours recognize the need for the upgrades. They understand that there are lots of disease vectors that get handled here. And they understand that we need good biosecurity.”

Strong support has come from the state’s veterinary medical associations. The Iowa VMA has identified members who are constituents of legislators serving on key state subcommittees, and has asked them to invite those legislators to tour the veterinary teaching hospital and diagnostic laboratory. Under the direction of IVMA executive director, Dr. Tom Johnson, the office followed up with members to monitor the response by legislators who were contacted. “The IVMA recognizes the need for a strong college of veterinary medicine in the state of Iowa,” Dr. Johnson said. “We also recognize the need for improvements in the physical plant of the college, and we’re eager to assist in the legislative process.”

In addition, the state’s regional veterinary organizations provide enthusiastic support for the modernization plan, said Dr. Norman Cheville, dean of the veterinary college.

**Building Grassroots Support**
The college leadership has met with livestock and poultry groups in Iowa to seek their support for the project. The commodity groups have passed resolutions that recognize the importance of the college’s facilities to the state’s agricultural industries, to protect the industry and provide a strong base of animal health expertise to keep Iowa economically viable.

“Recognition and support from farmers, livestock producers and other Iowa citizens is an important component of our plan,” Dr. Cheville said. “We’ve been pleased with the encouraging statements that have come forth from our meetings with those groups.”

**The Bottom Line**
Baumert said that the project is going to be an uphill battle because the state’s tax revenues have declined for the past three years. “That’s not a good sign for anybody going to the legislature to ask for dollars. We have to make the best case possible, at the earliest stage possible. The critical question will be where the legislature will find some money to fund the project.”

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**FOR MORE INFO**

For more information about the Creating the Future campaign, contact Monica G. Porter, Senior Director of Development, College of Veterinary Medicine, Iowa State University, at (515) 294-8562, or mgporter@iastate.edu

For more information about communicating with your state legislators, contact Dr. Norman Cheville, Dean, College of Veterinary Medicine, Iowa State University, at (515) 294-1250, or nchevill@iastate.edu

“Iowa probably has the most constituent-friendly political system. Veterinarians should take advantage of the opportunity to develop a relationship with local legislators,” Baumert said.
The Iowa State University College of Veterinary Medicine wishes to express its sympathy and condolences to the families and friends of the following alumni:

1930s

1940s

1950s

1960s
Randall H. Mertens ('60), Grimes, Iowa, died Jan. 6, 2004.

Dr. Chester Lee ('27) was inducted posthumously into the Iowa Turkey Hall of Fame during the ITF Turkey Day Convention on December 4, 2003. This year marked the fifth for the annual award given to recognize people who have made a substantial contribution to the Iowa turkey industry.

After graduating from Iowa State College with his veterinary degree, Dr. Lee was named house surgeon in the college's veterinary hospital. He became the director of the veterinary diagnostic laboratory in 1929 and, in 1933, was appointed assistant professor of research at the Veterinary Medical Research Institute. In 1945, he was the first extension poultry pathologist at the college, a position he held until retiring as professor of veterinary pathology and poultry science in 1974.

Practical Farmers Honor George Beran

Dr. George Beran, Iowa State University Distinguished Professor in the College of Veterinary Medicine, emeritus, received the 2004 Sustainable Agriculture Achievement Award from the Practical Farmers of Iowa. He received the award during the PFI annual conference in Des Moines, Iowa, on Jan. 10, 2004.

The award, established in 1989, is given annually to individuals whose work has advanced the cause of profitable, environmentally sound farming in Iowa.

Dr. Beran was one of the first at Iowa State University to understand the significance of livestock systems in sustainable agriculture. His work with PFI on antibiotic resistance provided new insight of the public health implications of animal stress. The PFI's investigations of natural controls for internal parasites have benefited from Dr. Beran's extensive archives of veterinary medicine, going back to the 1870s. Dr. Beran made numerous field trips to PFI farms to monitor on-farm research trials, to consult with producers and to bring other visitors to witness systems that he considers important for the future of agriculture.

Dr. Beran earned his veterinary degree from Iowa State in 1954 and a PhD in medical
gift opportunities in the college of...
Toombs Named Bacon Professor of Veterinary Medicine

Dr. James Toombs, professor and chair of veterinary clinical sciences at Iowa State University, has been named the first recipient of the Donn E. and Beth M. Bacon Professorship in Small Animal Medicine and Surgery.

The Bacon Professorship is the first professorship at the college specifically designated to enhance instruction related to companion animals. It is named for Dr. Donn Bacon (’40) who died in 1999.

“Dr. Toombs came to Iowa State with an outstanding national reputation in orthopedic surgery, and has added greatly to modern concepts of external fixation techniques for bone fractures,” said Dr. Norman Cheville, dean of veterinary medicine. “In a short time, he has proven adept at managing the academic program in veterinary clinical sciences, and is a worthy recipient of the Bacon Professorship.”

Toombs’ research focuses on surgical approaches, the evaluation of implant systems and external fixation techniques. Support from the Bacon Professorship will enable him to expand his research.

Prior to joining the Iowa State faculty in August 2003, Toombs was a professor of small animal orthopedics and neurosurgery at Purdue University.

Toombs received a master's degree in surgery from the University of Minnesota (1980), a veterinary degree from the University of Illinois (1976) and a bachelor's degree in general science from the University of Iowa (1972). He is a diplomate of the American College of Veterinary Surgeons.

Microbiology from the University of Kansas Medical School in 1959. He joined the Iowa State faculty in 1973, where he was a professor of veterinary preventive medicine. Dr. Beran retired in 1998. He is a diplomate of the American College of Veterinary Preventive Medicine, and a diplomate of the American College of Veterinary Microbiology.

Hall of Fame

Throughout his career, Dr. Lee worked with turkey growers. He also assisted practicing veterinarians with turkey disease problems. On numerous occasions, Dr. Lee substituted for local veterinarians so they could take a vacation. At the same time, he carried on a successful research program for many years. Dr. Lee was renowned for his no-nonsense approach to extension and research. He died in 1993.

Support pet owners who call the Pet Loss Hotline to deal with important decisions and challenging emotions relating to pet illness and death. Veterinary students staff the hotline. Expenses include telephone charges, postage, training, printing and advertising.

For more information about these and other gift opportunities, contact Monica Porter, senior director of development, at (515) 294-8562 or mgporter@iastate.edu.
Animal Behavior Expert Delivers Ramsey Lecture

Dr. Bonnie Beaver, nationally known expert on animal behavior, presented the Frank K. Ramsey Lecture on Jan. 28, 2004. Her topic was: “A jerk at the end of the leash.”

Speaking to a packed classroom, Dr. Beaver told students that animal behavior problems are the leading reason for pet loss due to euthanasia. She also said that people have different attachments and expectations of their animals. They also have expectations of their veterinarians. Those include: instant cures, and treatments that don’t cost much because veterinarians love animals so much, Dr. Beaver explained.

Dr. Beaver discussed current trends in veterinary medicine that are causing concern within the profession. She told students that it is important for them to know their clients and understand how people view animals.

Dr. Beaver is the president-elect of the AVMA and a professor in the department of small animal medicine and surgery at Texas A&M University. She is a charter diplomate of the American College of Veterinary Behaviorists and longtime champion of improving the bond between people and animals.

“We are honored to be recognized by the CDC as the only Specialty Center for Public Health Preparedness to focus specifically on veterinary medicine and zoonotic diseases,” said Dr. James Roth, director of the Center for Food Security and Public Health. “By integrating veterinary and human medical expertise, we can better serve the public health needs of the nation.”

The Frank K. Ramsey Lecture Series was established in 1977. It was named for veterinary pathologist, Frank K. Ramsey, who chaired the Department of Veterinary Pathology from 1957 to 1975 and taught for 34 years at the college. The lecture series brings scientists to the college to expand the students’ views of the global impact of veterinary medicine.
The CFSPH was founded in July 2002 with support from the CDC. The center focuses on awareness education on bioterrorism, zoonotic diseases and agroterrorism, and the formation of a Public Health Auxiliary Support Team for Emergency Response. The center also works to increase the number of veterinarians with master’s of public health degrees, and organizes scientific conferences related to zoonotic and agroterrorism issues.

The College of Veterinary Medicine will host the sixth annual Pet Pig Symposium on June 4–6, 2004. The symposium will cover a spectrum of issues at the forefront of pet pig management and health. Speakers from around the world will present on topics such as biosecurity, housing, behavior and nutrition. The symposium is open to veterinarians and pet pig owners.

For details, visit: http://www.vetmed.iastate.edu/petpigsymposium2004 or contact Mrs. Janean Berhow at (515) 294-3837 or jaberhow@iastate.edu.

**Anderson Receives WVC Award**

Amy Anderson (VM-3) is one of 31 recipients of the Western Veterinary Conference’s annual student scholarship program. The WVC awards scholarships of $2,500 each to a third-year veterinary student in all of the accredited U.S. and Canadian veterinary colleges. In addition, each scholarship recipient receives complimentary registration and a $1,000 stipend to attend the 2004 annual conference in Las Vegas.

“I feel honored to have received the Western Veterinary Conference scholarship,” Amy Anderson said. “I’m looking forward to meeting future colleagues in the veterinary profession, when I’m in Las Vegas. The scholarship is also a tremendous help with educational bills that are quickly adding up.”

Scholarship recipients are selected by the scholarship committees at each college on the criteria of leadership qualities and financial need.

**Breaking News**

At press time, the three finalists for the position of dean of the ISU College of Veterinary Medicine were announced. The names of the three candidates, and the dates for the on-campus visits follow:

- Dr. Eleanor Green: March 31-April 1
- Dr. Warwick Arden: April 6-7
- Dr. Jill McCutcheon: April 8-9

The successful candidate will succeed Dr. Norman Cheville, who will retire as veterinary medicine dean at the end of the academic year. The candidates’ C.V.s are posted on www.provost.iastate.edu/positions/dean_vm.html.
"Veterinarians use their experience, judgment and knowledge to evaluate equine lameness," said Dr. Troy Butt, Iowa State assistant professor of veterinary clinical sciences and board-certified large animal surgeon. And, to a large degree, veterinarians use visual observation, Dr. Butt added. Pinpointing the cause and assessing the degree of equine lameness are both clinical art and science.

Lameness is the leading cause of financial loss in the U.S. equine industry, costing the industry more than $700 million per year. Using force plate analysis to evaluate lameness, Dr. Butt hopes to change the ratio of art to science, to more science and less art.

"Researchers use force plate analysis to look at the differences in force patterns for specific orthopedic conditions in humans," Dr. Butt said. "Those researchers are finding that there are indeed certain force patterns, particularly in the lower leg. I’d like to see whether there are specific patterns for specific orthopedic problems in horses."

Force plate analysis is a noninvasive and objective research tool that measures three planes of force: vertical (up-and-down), craniocaudal (forward [propulsion] and backward [braking]), and mediolateral (side-to-side). It uses computer software and a computer to record the direction, duration and magnitude of force exerted by the horse's limb on a metal plate lined with sensors.

The force plate used at Iowa State’s College of Veterinary Medicine is the largest commercially available plate. It measures 3 feet in length and 1 1/2 feet wide. Unsuspecting faculty, staff and clients don’t notice it, and neither do the horses.

Located in one of the hallways in the college, the force plate is set level with the concrete floor, and the hallway is covered with indoor/outdoor carpeting. But, the setup is not the result of a recommendation made by a college beautification committee. The force plate is camouflaged for the horse. If the horse sees it, the animal won’t walk across it, Dr. Butt said. And hoof strikes are critical to the research.

During force plate analysis, a handler leads a horse over the force plate. As the horse approaches the force plate, a photocell starts the computer software system. When the horse strikes the plate, sensors measure, transmit and record the force exerted. “Our system can record 30 different measurements,” Dr. Butt said. The vertical force measurements provide the most useful information in assessing lameness, he adds.

“We need five hits with each of the horse's legs for a valid analysis,” Dr. Butt said. The same handler puts the horse through its paces to keep the animal's forward speed consistent as it comes down the hallway. With a cooperative horse, it takes about a half hour; when the horse is uncooperative, it takes longer.

Because force plate analysis is time-consuming, it is not useful for diagnostic purposes. “If, however, we determine through research that certain disease conditions produce specific force patterns,” Dr. Butt said, “then we might only have to run a horse across the plate once to figure out what is going on. Force patterns research has the potential to decrease the time it takes to diagnose problems, saving the horse owner time and treatment costs.”

Dr. Troy Butt uses a computer to evaluate the force patterns that result from a horse stepping on the force plate at Iowa State. When the horse strikes the plate, sensors measure, transmit and record the force exerted. The computer software can record 30 different measurements.
Got $25?

Why not support the Veterinary Medical Alumni Association at ISU?

The VMAA supports a number of activities, including:
- alumni receptions at four national veterinary meetings
- two scholarships to ISU veterinary students
- annual Homecoming BBQ
- Stange Awards

Give the gift that keeps giving back.

Join the VMAA today!

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VMAA Membership Form

2004 membership dues are $25.
To join, complete and mail this form to: VMAA, P.O. Box 1726, Ames, IA 50010-1726.

If you have questions, contact
Dr. Ron Morgan, Secretary-Treasurer,
VMAA, at vmaaisu@iastate.edu
It’s Spring!