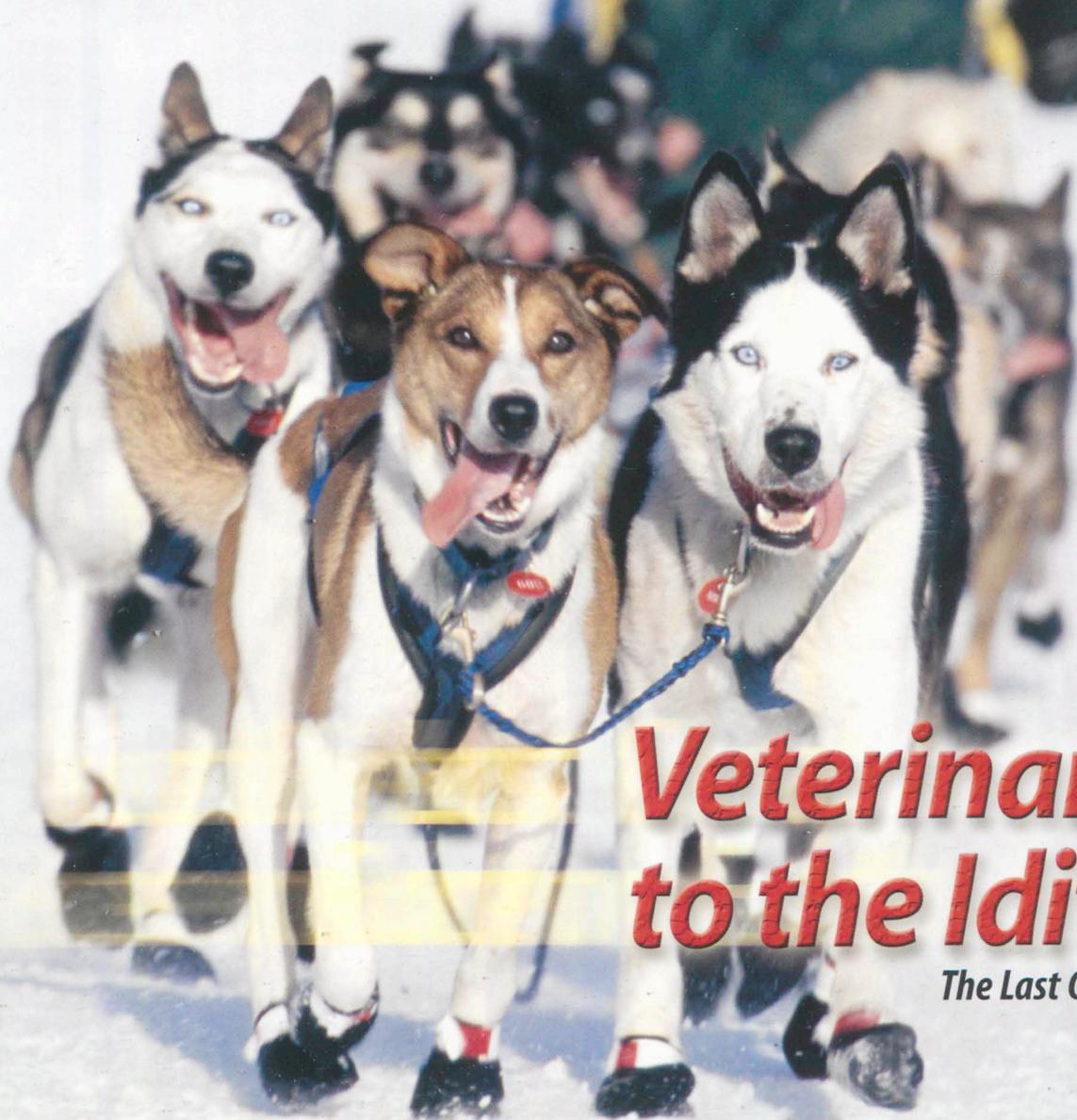


Veterinary

M E D I C A L R E V I E W



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- Economic Impact of Veterinary Medicine
- Becoming a Dragon Vet
- Long Road to Clydesdale
- A New Matter of Money
- Attracting Ag Scholars
- Mugs Up Survives

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The Last Great Race on Earth

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VMR

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Editorial Office

W-203 Veterinary Medicine Building
University of Missouri-Columbia
Columbia, MO 65211

College of Veterinary Medicine Dean

Dr. Joe Kornegay

Associate Dean for Academic Affairs

Dr. C.B. Chastain

Associate Dean for Student and Alumni Affairs

Dr. Ron Cott

Associate Dean for Research

Dr. Lela Riley

Editor and Writer

Randy Mertens

Photography

Don Connor, Randy Mertens,
Rob Hill, Howard Wilson

Design

Sandy Hockenbury
MU Printing Services

Graphics Support

Don Connor, Howard Wilson

Telephone

(573) 884-2215

Web Page Address

www.cvm.missouri.edu
www.vmmh.missouri.edu

on the cover...



Winter Alaska winds, bush flying, and rugged terrain: This is Iditarod.



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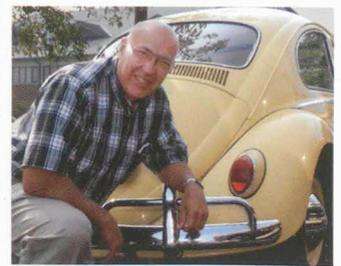
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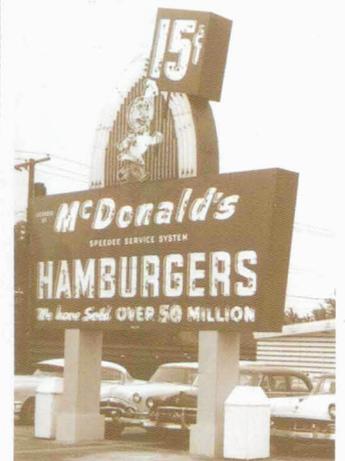
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Biosecurity: An Expanding Role for the College

In a September 30, 2003 press release, Health and Human Services Secretary Tommy Thompson announced funding for construction of two national and nine regional biocontainment laboratories to be strategically positioned around the country (<http://www.niaid.nih.gov/newsroom/releases/nblscorrect21.htm>).

These laboratories were funded by the National Institute of Allergy and Infectious Disease (NIAID), part of the National Institutes of Health (NIH), to “provide Americans with effective therapies, vaccines and diagnostics for diseases caused by agents of bioterror as well as for naturally occurring emerging infections such as SARS and West Nile virus.” One of the regional laboratories will be built on the College of Veterinary Medicine campus just east of our existing Veterinary Medical Diagnostic Laboratory.

The \$6.75 million federal grant will be matched with \$2.25 million from non-federal sources, coming mostly from the college, and, in particular, the recent unrelated sale of property, private gifts, and the Research Animal Diagnostic Laboratory. Additional contributions came from the Missouri Department of Conservation, MU PRIME Fund, and the Missouri Cattlemen’s Association.

The total funding of \$9 million will allow construction of an anticipated 35,000 square foot (10,000 net useable) building that will include a complete necropsy floor for livestock and both research and diagnostic support laboratories. Designated a biosafety-level-3 (BSL-3) laboratory, the facility will be engi-

neered to ensure strict biosecurity. Construction should begin next year, with completion anticipated in 2007.

Funding for this facility positions the MU College of Veterinary Medicine to play a critical role in the nation’s biodefense effort, consistent with a recently-released position paper from the American Association of Veterinary Medical Colleges. This paper, termed *An Agenda for Action: Veterinary Medicine’s Crucial Role in Public Health and Biodefense and the Obligation of Academic Veterinary Medicine to Respond*, establishes roles and responsibilities of both the veterinary profession and academic veterinary medicine to address biological threats facing the United States. Sounding a rallying call, the position paper urges the veterinary profession to proactively “share its capabilities, training, clinical skills, and scientific expertise with policy makers and implementers across the country and, especially, to bridge the gap between human health and veterinary medicine.”

The paper views Colleges of Veterinary Medicine as *gatekeepers* for the profession, with an obligation to recruit students to fill a current shortage of graduates with expertise in areas such as “public health, food safety, food and animal production, biosecurity, and veterinary research.” The overall goal is to ensure that every veterinary graduate is “clinically competent — better yet, clinically excellent — and this principle should extend to population-health and preventive population medicine and to clinical fields that pertain directly to human and comparative medicine (e.g. laboratory animal medicine, wildlife medicine, etc.)”

continued on page 24

Location of Labs

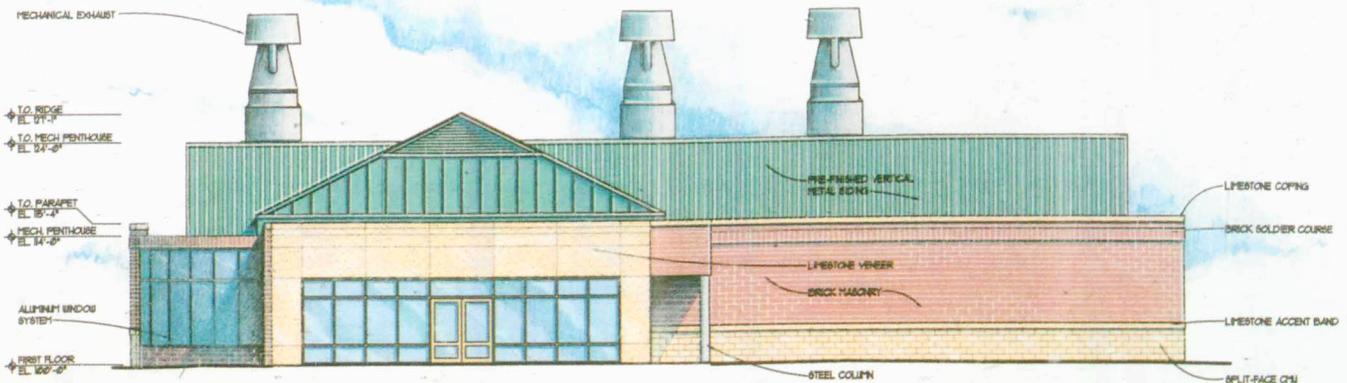
The National Institutes of Health announced grants in September to set up two national and nine regional biocontainment laboratories.

Chosen to house the two national laboratories are:

- Boston University • University of Texas Medical Branch at Galveston

The nine regional laboratories will be at:

- Colorado State University • Duke University • Tulane University
- University of Alabama-Birmingham • University of Chicago
- University of Medicine and Dentistry-New Jersey • **University of Missouri-Columbia**
- University of Pittsburgh • University of Tennessee-Memphis



Around the **CC**

Looking For a Few Good Mules, College Seeks Replacement Mascots

Don't be surprised if you see University of Missouri-Columbia College of Veterinary Medicine faculty, students, and volunteers scouring the state for mules. They're looking for a replacement pair for mascots Jill and Shirley who retired last Spring.

Like the previous pair, the new mules will represent the college and university at about 50 events each year. The MU

mascot mules may be the most famous in the state, appearing in the Kansas City American Royal Parade, MU's Homecoming, St. Louis Charity Horse Show, Missouri governor's inauguration parade, and Missouri State Fair.

Pulling a dozen-passenger wagon, they have provided thousands of kids a ride back into Missouri's past when mules were an important staple of the economy.

Mules occupy a noble part of Missouri's heritage. The

state's first century relied heavily on the animals' ability to work hard and long and eat less than a horse.

Today, machines perform such work. But there are a few places left where the mules can be found and college personnel are checking out the available stock.

The new mules will be purchased through a donation from the Sydenstricker Farm and Lawn Company in Macon, Mo., and Sydenstricker Implement Company in Mexico and Columbia, Mo. The companies are dealers for John Deere tractors, one of the devices that helped ease the agricultural and mining burdens of these animals.

So, what do you look for in a good pair of mules?

Not any mule qualifies, John Dodam, DVM, associate professor in veterinary medicine and surgery and biomedical sciences at the MU College of Veterinary Medicine, and Mule Club Advisor, said. "The new mule team must be mature, well matched, and physically and mentally sound," he said. "They will have to be fairly large, and we would like to purchase a team of mules that has been worked extensively in vehicular traffic."

Above all, however, the team must be gentle and patient among the public, and ignore the distractions of zooming cars while they clomp down the street.

Dr. Dodam has volunteered to lead the mule search along with students in the MU Mule Club. They are also relying on past Mule Club members and CVM alumni who may live or work in areas of mule candidates. Horse and mule owners, like Jim Cunningham of Columbia, Mo., will help the search team identify and evaluate mules. "Of course we will consult with our equine specialists at the MU Veterinary Medical Teaching Hospital once we have identified potential teams," Dr. Dodam said.

Mule buying and selling is uncommon in 21st Century Missouri, but there are some areas where a good team may still be found.

"There are still many mules in the state," Dr. Dodam said, "but there are few that will meet our requirements for size and temperament. Most mules that are available today are riding mules. While these animals may excel on the trail or in the show ring, they are too small for the job that they will have with us."

Who sells mules these days? "Most mules are sold privately, or at public auctions. Public auctions are still a popular way to buy mules," Dr. Dodam said. "In fact, there are two draft horse and mule auctions each year here in Boone County. However, the auction market probably won't provide the conditions that we need to identify the team of mules that



Big "muleshoes" to fill. Rosemary Troy, class of 2006 and president of the MU Mule Club, and Sarah Hesse, also class of 2006 and vice president of the club, have everything ready for a new season of mule mascot public relations duties, with two big exceptions.

College

we need for our college. I imagine that we will purchase our mules by way of a private contract with an individual somewhere in Missouri."

Dr. Dodam expects the search process will likely take a few months as the search team must work around their class and work schedules to arrange its visits.

Dog Walking Used as an Approach To Improving Exercise in Elderly

When it comes to exercise, there is nothing more natural than taking your dog for a walk. That's the premise of an innovative approach to increasing exercise among the elderly, particularly the poor and frail, by Dr. Rebecca Johnson of the MU Sinclair School of Nursing and Dr. Richard Meadows of the College of Veterinary Medicine.

Their pilot program, Walking for Healthy Hearts, is a series of 12-week activity sessions that encourage economically-disadvantaged, disabled elders to walk with specially-screened, trained dogs and dog handlers. The program aims to decrease the participants' cardiac and diabetes risk factors and improve overall health, including joint movement, mood and daily functioning.

Regular walking is known to help minimize risk factors, prevent disabilities and maintain bodily functions.

It also reduces depression and anxiety. Inactivity is linked to the progression of devastating, costly, chronic illnesses in elders, including coronary heart disease and diabetes mellitus.

Getting people to regularly exercise has always been the trick. That's where the dogs come in. The requirement to walk a dog every day gives the elders needed encouragement to maintain a walking program. It also offers social benefits to participants that they would not get walking alone on a treadmill.

"Studies show elders also benefit from human-animal interaction," Dr. Johnson said. "Pet attachment has been associated with lower systolic blood pressure, cholesterol and triglyceride levels; greater likelihood of a healthy, more social lifestyle including exercise;

improved survival rate among those with heart disease; decreased depression; and improved morale."

The program looks to be a success because it is inexpensive—an important factor as most elders in subsidized housing rely on Medicare and Medicaid for health care.

The dogs will be supplied by the College of Veterinary Medicine's Pet Assisted Love and Support

group (PALS). PALS teams of owner and companion animal volunteer to visit nursing home and hospitals. PALS rigorously screens dogs for health and socially-appropriate behavior.

"Walking for Healthy Hearts will help people connect or reconnect with animals," Dr. Johnson said. "This connection may be a powerful way for older adults to maintain their physical, social and emotional health. Owning a pet may not be practical for frail and economically-disadvantaged older adults, and the program gives them the opportunity for this contact without the obligation."

MU Professor Named Chair of College's Pathobiology Department

John Critser, PhD, the Gilbreath-McLorn Professor of Comparative Medicine at the College of Veterinary Medicine, earlier this year was appointed chair of the College's Department of Veterinary Pathobiology. Dr. Critser replaces Dr. Jerry Buening who recently retired.

Before coming to MU, he was a professor in the Departments of Pathology and Laboratory Medicine, Obstetrics and Gynecology, and Microbiology and Immunology at the Indiana University School of Medicine, Indianapolis Ind. From 1997 until 2001, Dr. Critser was also the Director of the Cryobiology Research Institute.

As chair of the department of Pathobiology, he will oversee research and graduate-level education in the areas of pathogenic microorganisms, host

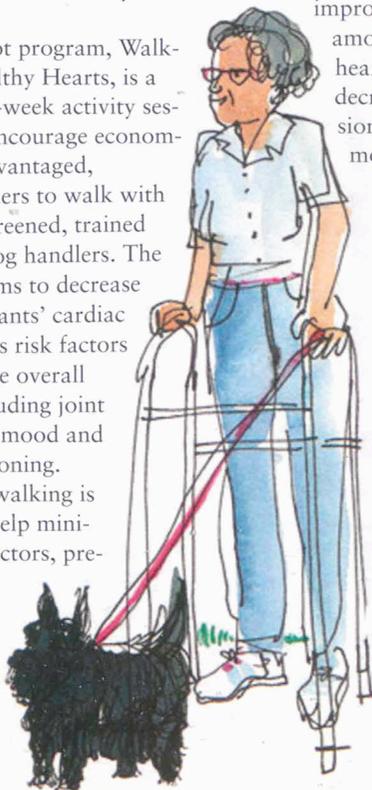
response to invading microorganisms, and techniques for isolation and identification of microorganisms. The department also studies transmission, prevention, and control of infectious and parasitic diseases, veterinary community health, epidemiology, and immunology.

Dr. Critser has published 137 peer-reviewed articles, reviews and book chapters, trained 30 doctoral students and post-doctoral fellows, and holds nine patents—mostly in the cryobiology-reproductive area. He is a member of the American Association of Tissue Banks, American Society of Andrology, Society for the Study of Reproduction, and the Society for Cryobiology. He is currently a member of the Cryobiology Society Board of Governors and Chair of the National Institutes of Health/National Center for Research Resources Comparative Medicine Study Section.

New College Research Shows Even Short Walks Strengthen Heart

Researchers across the country have been studying the beneficial effects of exercise for decades. Now, two researchers have found that even very small amounts of exercise can be beneficial, especially if there are obstructions in the vascular system.

Drs. Ronald Terjung and Steve Yang, professor and associate professor, respectively, of biomedical sciences in the MU College of Veterinary Medicine, are using animals with a reduced blood flow capacity to



Around the **CO**

the limbs to study how exercise can be beneficial to patients with a similar condition called intermittent claudication. This condition causes pain, usually in the calf muscles, after walking up stairs or over a distance when more flow is needed but cannot be delivered.

There are two primary reasons why being physically active improves exercise tolerance in this condition, Dr. Terjung said. First, being more physically active increases the number of capillaries that bathe each muscle fiber with blood in order to deliver oxygen. Thus, the active muscles can better extract the oxygen that is delivered to them, even when there is a limited amount of blood flow. Due to the increase of the small vessels, the blood can get through the obstruction and go to the calf muscles.

"The second, and potentially more significant reason that vascular improvement can be induced by even low intensity walking is an increase in blood flow to the leg," Dr. Terjung said. "This occurs through delivery of blood through alternate vessels that bypass the obstruction. These collateral vessels can increase blood flow to the calf muscles during activity."

Drs. Terjung and Yang found that the greater blood flow comes through an enlargement of the vessels that circumvent the obstruction. Exercise or light physical activity increases potent growth factors that are needed to stimulate and coordinate vascular remodeling. This remodel-

ing can be beneficial in the event of intermittent claudication.

"Through our research, we were able to demonstrate a close link between greater blood flow, increased collateral vessels, and an improved exercise tolerance," Dr. Terjung said. "We are currently evaluating the mechanisms that occur to produce this enlargement of these collateral blood

vessels."

The research was funded by more than \$4 million from the National Heart, Lung and Blood Institute, a division of the National Institutes of Health, and more than \$1 million from private companies such as Sios, Collateral Therapeutics, Chiron, Procter and Gamble Pharmaceuticals and MicroHeart.

MU Faculty Members Receive Orthopedic Award

Dr. James (Jimi) Cook, assistant professor of veterinary medicine and surgery at MU's Veterinary Medical Teaching Hospital, recently received the Orthopaedic Research Society's New Investigator Recognition Award at the Society's 2003 International Meeting in New Orleans. Dr. Cook is the first veterinarian to receive this prestigious award. He is director of MU's Comparative Orthopaedics Laboratory, a collaborative effort designed to investigate human and veterinary orthopedic diseases.

Co-investigators Dr. Bimal Ray and Dr. Alpina Ray, associate professor of veterinary pathobiology and research assistant professor of veterinary pathobiology, also earned a share of the spotlight with Dr. Cook in the seminal work on "Transcription Factor SAF-1 Regulates Matrix Metalloproteinase-1 Gene Expression in Osteoarthritis." Their study looked at the mechanism of a novel transcription factor in degradative enzyme production in osteoarthritis and showed that the presence and action of SAF-1 was essentially identical in canine and human osteoarthritis.

"We're honored this award is coming to MU's Comparative Orthopaedic Laboratory and proud of the teamwork involved which Dr. Cook characterizes as 'collaborative and comparative in the truest sense of the words,' said Dr. Cecil Moore, director of the MU Veterinary Medical Teaching Hospital.

VETERINARY PEOPLE



A Doggone Champion: Local Dog Wins Big at Westminster Dog Show

▼ **Liz Hansen has been breeding and showing dogs for more than 25 years. In her work at the college, she serves as a liaison between researchers looking into the genetic diseases of dogs and breeders across the country.**

Every dog has his day. For Seasar, that day came in February during the Westminster Kennel Club dog show in New York City when the standard schnauzer won Best of Breed.

Seasar is owned by Liz Hansen, coordinator of veterinary information in the department of pathobiology at the MU College of Veterinary Medicine. Westminster is sort of the Superbowl of dog shows and a Who's Who of the dog world all rolled into one.

Ms. Hansen has been breeding and showing dogs for more than 25 years. She and Seasar have been to more than 100—sometimes four in a weekend. It was top showings at these smaller venues that elicited the invitation to Westminster.

This was only the second time that Ms. Hansen had shown a dog there. She and Seasar's great grandfather brought home the second place trophy that year.

Along with his ability to run an obstacle course during dog shows, Seasar is also trained to follow scent trails. Ms. Hansen and Seasar train with the Boone County (Mo.) Search and Rescue Team. After his show days are over, Seasar will probably retire to working for the team full time.

College

Jeff Tyler Recognized For Nutrition Research



Dr. Jeff Tyler, professor of veterinary medicine and surgery and head of MU's Veterinary

Medical Teaching Hospital's food animal section, was selected by the American Veterinary Medical Association's Council on Research as its winner of the 2003 American Feed Industry Association (AFIA) Award.

The award recognizes outstanding research by a veterinarian on nutrition or diseases affecting livestock or poultry production.

CVM ICU Expands Local Emergency Care

A new agreement between the MU Veterinary Medical Teaching Hospital and local veterinarians now provides increased emergency services at night and on the weekends.

Beginning this Spring, the teaching hospital sees all emergency cases for almost a dozen small-animal local veterinarians during times when they are not available. When owners call their veterinarians during off hours, all calls will be forwarded to the college. Dr. Paula Johnson, instructor of small animal emergency and critical care, and Dr. Tony Mann, associate professor of veterinary medicine and surgery and director of small animal emergency and critical care services, are two of the veteri-

narians who helped form the cooperative.

"The partnership allows us to improve the educational experience for veterinary students, interns and residents in several ways," Dr. Johnson said. "Most importantly, it will expose the students to a more diverse spectrum of cases which will include the critical cases as well as an increased number of the more common emergencies they are likely to deal with in a veterinary practice setting."

"We already accept emergency referrals from veterinarians, so in a sense, we have been doing this sort of thing for several years," Dr. Mann said. "The big difference now is that we'll see all emergency cases instead of only the more serious ones."

Big Waistlines Waste Money, Researcher Frank Booth Says

The next time you think about eating ice cream or cake, take a walk for 20 minutes. It could save you more than \$20 each month. According to a college researcher, America's waistline could be costing taxpayers more than \$250 each year and unless Americans change their activity habits, that figure will only get worse.

"Our government does not have enough money for us to remain physically inactive," said Dr. Frank Booth, professor of biomedical sciences, director of the MU Health Activity Center, and co-author of the new book *Exercise*.

According to Center for Disease Control estimates, physi-

cal inactivity costs US taxpayers about \$77 billion every year. That money is spent in insurance premiums, payments to the medical industry, and governmental expenditures through the Medicare and Medicaid programs. Dr. Booth credits the rise of health care costs to a sedentary lifestyle

that has contributed to many diseases.

In his book, Dr. Booth discusses diseases or conditions that may worsen with little physical activity including type 2 diabetes, pancreatic and colon cancer, osteoporosis, hypertension, and congestive heart failure.

RESEARCH PROJECTS

MU CVM Studies "Rabbit Fever" As Part of BioDefense Research Plan



Rabbit hunting season begins Oct. 1 in Missouri, but since Sept. 11, 2001, rabbits have taken on a whole new meaning for biodefense researchers at MU's College of Veterinary Medicine as they try to unravel the science behind Rabbit Fever, a potential biological weapon and one of the deadliest infectious diseases.

"We have to stay ahead of the threat, so we're working to discover a treatment for people who have been infected with Rabbit Fever or tularemia," said Dr. Tom Reilly, assistant professor of veterinary pathobiology. "While the tularemia strain that is usually found in nature can be treated with antibiotics, we are concerned that there could be strains resistant to that type of treatment."

Tularemia is classified as an intracellular pathogen, an organism that seeks to get inside the body's cells before doing any damage. Typically, once a foreign organism enters the body, the body's immune response acts by engulfing the organism inside various cells. This triggers a mechanism known as the respiratory burst that destroys the foreign organism. However, when this same process is activated with tularemia, the disease shuts down the respiratory burst mechanism and multiplies within the body. "We believe that a specific enzyme that tularemia carries is responsible for this action," Dr. Reilly said. "Our current research is exploring how we might neutralize the enzyme and, in fact, turn it into a vaccine. If we are able to create a non-replicating vaccine, or a vaccine from dead materials, it would be beneficial to people who are having certain immune system difficulties since they could be more susceptible to this disease than others."

The bacteria enters the body through numerous modes of transmission including under the fingernails, through open wounds, inhalation or ingestion. Only 10 organisms are needed to begin an infection in the body.

The disease typically affects veterinarians, hunters and others who work with animals and it can be found in dogs and cats.

Bill Wright Braves Winter Alaska,
Bush Flying, and Rugged Terrain
to Volunteer for the Famous Dog Sled Race



Veterinarian to the
IDITAROD

It's 15 degrees below zero on the other side of the tent wall and the nighttime winter Alaskan wind is howling. Bill Wright, MU DVM '75 of Moscow Mills, Mo., is watching his medical supplies freeze as the temperature drops inside the tent. He carefully places a bag of IV fluid near the tent's tiny oil heater, hoping to keep at least one bag liquid in case it is needed. He doubles up in his sleeping bag, hoping not to become a medical casualty himself.

This is part of what you get when you

volunteer to be a veterinarian for the famous Iditarod dog sled race. Not only is this an unpaid job where you pay for your own transportation to and from Alaska, but you also spend hours in tiny bush planes jumping between checkpoints to keep ahead of the race leaders. You shoot through frenzied medical examinations of hundreds of dogs as they pass through each checkpoint, and sometimes provide medical help to injured mushers. It is a whirl of activity and improvisation for the two weeks or more while the dog sleds

transverse the vast Alaskan wilderness.

And, back in the warmer climes of Missouri, it is something that Dr. Wright, who operates the Howdershell Animal Clinic in Florissant, hopes that he will be able to do again.

The Last Great Race on Earth

The Iditarod is a race like no other. Held in March when the rivers are still frozen, about 75 teams of mushers running 16 dogs each transverse a 1,150-mile course from Anchorage in south central Alaska

to Nome on the western Bering Sea coast. It normally takes 10 to 17 days to complete the wilderness route where, west of Fairbanks, there are no roads or railroads. The only way to get to Nome in winter is by airplane, snowmobile, or dog sled.

It's been called the "Last Great Race on Earth" for good reason, Dr Wright said. It covers some of the roughest, most beautiful terrain on the planet. Teams travel over jagged mountain ranges, frozen lakes, dense forests, desolate tundras, and miles of windswept coast. Temperatures can fall far below zero, winds cause a complete loss of visibility, and there are long hours of darkness and treacherous climbs.

Each year the race garners worldwide interest with German, Spanish, British, Japanese, and American journalists covering the event. The race traces its roots to 1925 when life-saving serum was brought to Diphtheria-stricken Nome by intrepid mushers and their faithful, hard-driving dogs.

Mushers come from all walks of life. Fishermen, lawyers, doctors, miners, and artists compete. They come from Norway, New Zealand, Canada, and Australia in addition to the United States. The race is organized by thousands of volunteers who act as checkers, coordinators, and cargo specialists to move mountains of supplies to each of about 25 checkpoints along the route.

Veterinarians volunteer, too, and play a critical role. They look out for the health and welfare of the dogs, respond to emergencies, and gather data for clinical research. Sled dogs are exposed to environmental and athletic factors most dogs will never encounter.

Iditarod dogs receive some of the most intensive healthcare in the animal athletic world, Dr. Wright said. Most mushers have their own veterinarian on retainer. Volunteer veterinarians and veterinary technicians conduct pre-race physical exams, check vaccinations, administer ECG and blood tests, and oversee de-worming requirements. Veterinarians are de facto referees who can disqualify an individual dog or team if a problem or overwork is found.

During the race, veterinarians respond to all kinds of temperature extremes. Calm and sunny days on a reflective snow-covered landscape are conducive to hyperthermia (overheating). In contrast, very low ambient temperatures with extreme wind-chills can quickly result in hypothermia. A dog who has fallen into water can quickly die.

A team of three to six veterinarians is stationed at each checkpoint, about 50 to



Dr. Wright traveled between checkpoints via a Cessna 185 courtesy of the Iditarod Air Force, volunteer Alaskan bush pilots. Injured dogs dropped at checkpoints are stabilized by the veterinarians until they can be flown back to a hub by bush plane.



A small tent warmed by an oil heater is home to the volunteer veterinarians manning the checkpoints. This accommodation was better than many, featuring a wooden floor.

OD



Dr. Wright examines a sled dog at the Unukdeet checkpoint. A musher is automatically disqualified if he or she does not have every dog that they left the previous checkpoint with. If a dog becomes tired, sick, or injured, it must be carried to the next checkpoint, which is manned by at least three veterinarians.



The checkpoint at Eagle Island was hardly an elaborate affair. The lantern allowed teams to home in on the spot during night travel.

Iditarod (continued from page 9)

100 miles apart, to review dog care medical records that must be carried by the mushers and presented at each checkpoint. The dogs get a physical at each checkpoint, too. Veterinarians conduct random drug testing. Of course, veterinarians provide emergency care.

In the rare death of a dog, veterinarians perform necropsies to determine cause of death. Research overseen by the veterinary staff includes cardiovascular, chemistry, gastric, and vitamin changes in the dogs over the long course.

Its tough to join this group as a dozen veterinarians vie for each spot. Those chosen must have a minimum of five years of clinical practice experience, and previous experience working with racing dogs. Some are board certified in their specialty fields. An ability to work as a team is particularly prized.

About 45 veterinarians are chosen to participate in each race with five rookies joining the crew.

Being an Iditarod Veterinarian

Dr. Wright observed the 2002 race. 2003 was his first year as a “trail vet,” a veterinarian tasked with being at the checkpoints before the teams arrive. This meant a lot of travel by Alaskan bushplane.

“Seeing Alaska from a small airplane is



The dogs are exhausted at the end of each leg of the race. Beds of straw are used to provide insulation from the cold Alaskan ground.



Sled dogs are protected from the harsh elements, when possible.

really exciting,” Dr. Wright said.

Aerial logistics are entrusted to the “Iditarod Air Force,” volunteer pilots using their own planes, some on skis, some on wheels. The race committee provides pilots gas, insurance, food, and warm places to throw a sleeping bag.

Flying for the race can be fun—and dangerous because of the forbidding terrain and unpredictable weather. In tens of thousands of hours in the air, no IAF pilot or passenger has been seriously injured.

IAF planes carry the truly eclectic with the veterinarians: trail marking stakes, snowmobile fuel, and tents with their heaters. Sometimes this includes the proverbial kitchen sink in the form of portable camp kitchens. Packs and sleeping bags stuffed to the ceiling and dogs on passengers’ laps aren’t uncommon.

One ubiquitous IAF commodity is dog food. Dogs dine like kings during the race, wolfing down 10,000 calories a day. Their food includes lots of protein, fat, and other high-energy stuff. Some mushers make their own concoctions of fish, hamburger, beef,

Below: Everything must be flown into the remote areas of the racecourse. Every musher must provide about a ton of food and supplies for his or her dogs at 20 or so checkpoints along the route. Each musher must also carry a required amount of equipment in the sled at all times. This gear is critical because the mushers are completely on their own between checkpoints, some of which are more than 100 miles apart.



horsemeat, lamb, beaver, moose, caribou, and seal meat. Usually, this dog food is stored outside and frozen solid—a good thing as when thawed it produces eye-watering fumes.

Once at the checkpoint, veterinarians conduct their animal health duties and, occasionally, some human ones as well. As there are few volunteer race physicians, veterinarians are often the only medical personnel available for injured mushers.

“We saw burns because they use alcohol heaters to melt snow for water,” Dr. Wright said. “They also get banged around a lot on a sled. Dehydration and diarrhea is a problem for the mushers, as well as the dogs.”

Dr. Wright said he acclimated easily to treating humans, given his work with primates in his exotic animal practice. He checked with physicians for advice and proper dosages, however.

Dr. Wright pointed out that the dogs get better care than the mushers. During the race, each dog team must take one mandatory 24-hour rest and two eight-hour rests. Mushers are lucky to get three hours’ sleep a night. While dogs get a complete physical at each checkpoint—mushers receive attention only if they complain. One reason for such animal care is the cost of a competitive dog. Usually, an Alaskan husky sled dog is worth \$1,500. A race-proven breeding male can bring much more.

Dr. Wright said he mostly saw dehydration and muscle tears during the race. He

also saw foot injuries, even though most dogs wore boots. “There’s also pneumonia and frostbite,” he said. “And I even saw overheating when the temperature got above zero. The dogs are working so hard that they can overheat.”

Severely injured dogs are stabilized and airlifted to Anchorage for further care, sometimes via old prop-driven DC-6B airliners.

A Tough Job, But Rewarding

Is the frenzy, hard work, and cold worth it? You bet, said Dr. Wright. The scenery, people, and adventure make working at the Iditarod a spectacular experience. It’s like being thrown a century back in time when there were still frontiers to be conquered through determination and teamwork.

In a more practical way, too, the Iditarod experience applies to the Field-Trial dogs that Dr. Wright raises. These dogs are pointers or setters that are judged as they find and point out birds while the owners follow on horseback.

“You get to talk to the mushers at night and discuss their strategies,” Dr. Wright said. “They don’t tell you everything, but you can pick up some things.”

Will he go back this year? Sure, he replied. “Next time, I’ll bring a thicker sleeping bag.” **VMR**

Right: In the Alaskan bush, if you want water, you dig for it, as Dr. Wright found out at the Eagle Island checkpoint.



Dr. Wright tries out a dog sled at the Unukdeet checkpoint.



Right: Dr. Wright was not the only MU College of Veterinary Medicine alumnus volunteering for the race. Nelson Stuart, MU DVM '76 (center in green coat) was the head veterinarian for the 2003 race. James Higbee, MU DVM '72 (second from left) also participated. Not shown is Vern Starks, MU DVM '65. Dr. Wright is at the far right.





Clydesdale under construction



Robert Kahrs



Ken Niemeyer

The Long Road

Ten years ago, the dedication of Clydesdale Hall promised

For the chronically under-funded University of Missouri College of Veterinary Medicine, Clydesdale Hall was a do-or-die proposition. Without it, the American Veterinary Medical Association would withhold accreditation due to inadequate facilities, meaning no additional students could be enrolled. With it, the college could have the teaching, service, and research facilities to make it among the best in the nation.

Ten years ago, at its dedication, Clydesdale Hall was a promise fulfilled. But getting it built may represent one of the biggest come-from-behind grassroots efforts in the University of Missouri's history. It involved lost financial opportunities, bake-sale-level fundraising efforts, political battles, an unique public relations campaign driving a mule team to events across the state, and scrounging human hospitals for equipment.

What was it like, in the early 1990s, for some of the people involved with making Clydesdale Hall a reality?

Robert Kahrs, DVM

Dean of MU College of Veterinary Medicine, 1982-1992

What was your role in the construction of Clydesdale?

As dean of the MU College of Veterinary Medicine, the ultimate responsibility at the college level.

What was the biggest problem that you expected in the construction and how did you solve it?

Overcoming the perception that it was okay for the college to be chronically under funded with only half the budget required for a quality veterinary institution. Neither the university-wide administration nor the public seemed overly concerned or willing initially to support improvements. We addressed this challenge through grassroots communication such as visits to farm and pet-owner organizations; coordination with practicing veterinarians, alumni, and students and their families; appeals to professional organizations such as the Missouri Veterinary Medical Association (MVMA); speeches at Missouri service clubs; and public exposure via the college's mule team that appeared in parades and county fairs.

What was the biggest unexpected problem and how did you solve it?

How many groups did not initially realize that it was in their best interest to have a first class college of veterinary medicine. Both the university and university-wide officials were not particularly enthused about directing funds to veterinary medi-

cine, feeling such expenditures would detract from other programs. Farm groups had limited knowledge of veterinary programs and were initially lukewarm in their support. Even the MVMA, initially, was cool even though most of their members were alumni. Again, these challenges were addressed with increased communication to each audience, including the state legislators.

What was your most memorable moment in the process?

When the MVMA leadership became concerned about the fate of the college, after news of a major financial reduction by the university, and offered to unleash a lobbying effort. The MVMA initiated a statewide publicity campaign and employed a lobbyist, resulting in then Governor John Ashcroft agreeing to meet "with a few veterinarians." He was greeted by about 200 animal doctors who let him know that there was a problem with the college's facilities.

Kenneth Niemeyer, DVM

Associate Dean for Academic and Alumni Affairs, 1984-1993

Role

Liaison between architects and MU administrators. Responsible for final decisions regarding conflicts that arose during the building phase.



Ron Haffey



Ben Riley



to Clydesdale

the MU College of Veterinary Medicine a new era in education, service and research excellence.

Biggest problem

The College of Agriculture had two buildings on the site where we wanted to build Clydesdale. One was a research holding barn and the other was the whole body counter. The College of Agriculture was reluctant to move either building. After several meetings, everyone agreed it would benefit both colleges to have the buildings moved.

Biggest unexpected problem

Development of a workable farm and equine animal manure removal system proved to be a large problem. We reviewed what other veterinary teaching hospitals had done, but they looked inadequate for our needs. We finally developed our own system consisting of a manual system of cleaning stalls and dumping the refuse into a pit. The refuse is then hoisted into a city dumpster. The city then takes the dumpster to a landfill where it is mixed with topsoil to make fertilizer.

Most memorable moment

There were several for me. The first was when Governor John Ashcroft signed the bill granting the university \$16 million to build the teaching hospital. Although this was \$4 million short of our estimated construction cost, it was a great start. Other moments came with the public support that came during our private fund raising. Then, there was the moment when the university allowed us to borrow money against clinic income to help construct the building. Finally, there was the building's dedication. It rained, snowed, turned cold, but it was a wonderful day.

Ron Haffey

Administrator of the Veterinary Medical Teaching Hospital, 1978 to present

Role

Planning and faculty space assignments. Liaison between the department, contractor, and university architects/project managers during construction.

Biggest problem

Trying to equip the hospital within our budget. We received approval to buy medical equipment from human hospitals for Clydesdale. We bought a lot of equipment from a hospital in West Virginia.

Biggest unexpected problem

The farm and equine animal manure removal system. This was very expensive to install and is still a problem. We also didn't expect the work it took to install the door hardware and make it work. Never anticipated this would be a big problem.

Most memorable moment

When the contracted engineering firm tried to quit on the spot over ventilation issues with about 80 percent of the planning and design completed. Dr. Ken Niemeyer told the architects that they could make all the suggestions they wanted in this regard, but our way was the way it was going to be.

Ben Riley

College Business Manager, 1968 to 2001

Role

Overseeing fiscal operations of the College.

Biggest Problem

A lost opportunity in the mid-1960s when the federal government established a "capitation" program to fund an expansion of colleges of veterinary medicine. The government approved a \$15 million facilities grant to the MU College of Veterinary Medicine if MU would add 25 percent as a cost share. The university turned it down, saying that veterinary medicine wasn't a priority. The plans that we drew up for our building, and the \$15 million, went to Louisiana State University, where "our" building is today, in Baton Rouge.

Biggest Unexpected Problem

Just months before the dedication of Clydesdale Hall, the university announced a \$3 million budget reduction for the college, a shortfall that Interim Dean Richard Adams thought would close the college. Citizens, alumni, news media, livestock organizations, and others rose up to support the college. A Missouri Senate and House joint subcommittee studied the effects of the proposed reduction and supported the college. Finally, with help from donors, friends, and others, the university restored the funds.

Most Memorable Moment

It rained and snowed on the day of Clydesdale Hall's dedication and Dean Richard Adams was looking for me to get it to stop. That's something that I couldn't do. Sorry about that, Richard.

The Economic Impact of Veterinary Medicine on the State of Missouri

A Report from the University of Missouri College of Veterinary Medicine and the Missouri Veterinary Medical Association
Prepared by the Economic and Policy Analysis Research Center University of Missouri-Columbia

Veterinary Medicine's Economic Impact on Missouri

Agriculture is the 2nd largest industry

Veterinary medicine is directly responsible for increasing the efficiency of food animal production. 1% productivity increase in the \$2.5 billion livestock industry = \$25 million more sales for state's producers

More than half of households own one or more pets

About half of Missouri's veterinarians exclusively treat companion animals

About 1/3 of veterinarians practice some large animal medicine

• 140,000 horses support a host of companies supplying feed, tack, buildings, other services & products

• Missouri ranks 8th in cheese production, 8th in milk cow production, & 11th in ice cream production

• Missouri ranks 2nd in production of feeder cattle & livestock production accounts for 57% agricultural revenue

About 30% of veterinarians work for government agencies, universities or corporations

The MU CVM garnered almost \$8 million in research grants during 1999 from National Institutes of Health, National Science Foundation, USDA, EPA, and others

directed the economic research project. "The most familiar contact is the neighborhood veterinarian, where, in 1999, millions of Missouri residents benefited from the physical, psychological, and emotional well being that accompanies companion animal ownership. But, veterinary medicine is also a respected partner in the state's livestock, equine, and food animal industries. Progressive animal health improvements in these areas carry substantial economic benefits. Scientists in veterinary medicine are currently studying life and disease

Everyone knows that the veterinary medical profession is dynamic and complex, encompassing professionals working in such varied fields as life sciences research, diagnostic services, food safety, public health, animal export and trade, the government and military, and private practice. But did you know that in Missouri these efforts have a significant economic impact? All told in 1999, the latest data available, veterinary medicine in Missouri had a direct and indirect impact of more than \$615 million and 9,638 jobs, according to study conducted by the Missouri Veterinary Medical Association and the University of Missouri College of Veterinary Medicine.

The study was published in the booklet *Economic Impact of Veterinary Medicine on the State of Missouri*. Research for the project was conducted by the Economic Policy Analysis Research Center at the University of Missouri-Columbia.

Of the categories of veterinary medicine examined in the study, the largest contributor to the state's economy was private practice. Adding veterinarian and staff salaries, owner profits, insurance, payments to vendors, and other miscellaneous services, private practice accounted for \$485,625,294 in gross impact.

Private practice easily accounted for most of the jobs in the profession. About 8,000 Missouri jobs are tied to Missouri's 721 private practices. Of these jobs, about 2,300 are veterinarians and 4,300 individuals are staff members, with the rest being miscellaneous vendors and others.

There are about 1,019 Missouri jobs associated with academic veterinary medicine, according to the study. Jobs of faculty, researchers, related staff, and vendors and their ripple effect through the economy account for almost \$75 million.

There are 619 veterinarians, related staff, and vendor jobs in the industrial veterinary medicine category. Most are found in the state's veterinary medical-related nutrition and pharmaceutical companies. These jobs have a total impact of \$45,370,817 on the state's economy.

The last aspect of the profession covered by the study, governmental veterinary medicine, accounts for 109 jobs in the state with a total economic impact of almost \$10 million in salaries, services, vendor payments, and miscellaneous services.

"Veterinary medicine touches everyone in the state," says Dr. C.B. Chastain who

processes in their most basic forms, creating a natural collaboration with researchers in human medicine."

Dr. Chastain said this impact is often poorly recognized and easily misunderstood as few studies have been conducted to systematically evaluate the broad monetary impact of the veterinary profession.

"Veterinary medicine offers much to society. Studies such as this help to highlight and improve the visibility of the profession's many invaluable contributions to the quality of animal and human life," Dr. Chastain said.

The booklet can be obtained for \$5 each in check through the MU College of Veterinary Medicine, W-203 Veterinary Medicine Building, University of Missouri, Columbia, Mo. 65211. **VMR**



Drs. Lori and Alan Rohlfling

The Vet *and* the Badge

Lori Rohlfling is Awarded the Missouri Peace Officers Association's 2003 Citizen of the Year Honor

It was a sight to break the heart of any animal lover. On a steaming July 2002 summer day, Liberty, Mo. police responded to a complaint about a mobile home containing more than 100 animals, living in filth and chaos.

To sort out the situation and provide medical help to the animals, the Liberty police department turned to an expert volunteer whom they knew well, Lori Rohlfling, MU DVM '86 and co-owner of the Veterinary Center of Liberty. Dr. Rohlfling had helped law enforcement before, investigating and testifying against local illegal puppy mills as well as volunteering for almost 12 years at the local animal control shelter.

Going beyond what is expected of a volunteer, Dr. Rohlfling and technician, Wendy Caudillo, waded into the trailer, dealing with the terrified and fractious animals. This work, and previous assistance, did not go unnoticed. For her assistance, Dr. Rohlfling this summer was named the 2003 Citizen of the Year by the Missouri Peace Officers Association. It was the first time the award has been presented to a veterinarian.

In his letter of nomination, Liberty Police Chief Craig Knouse wrote, "Though bitten and attacked repeatedly by the group of largely feral animals, she persisted and continued to provide

what care and treatment she could for them.

Solving the Immediate Problem and More

The scene inside the small mobile home was something that veteran officers described as horrid. Inside were 99 cats, four dogs, one rabbit, and a ferret.

The temperature inside the trailer was more than 100 degrees. There had been no accommodation for even basic sanitation. The smell of old urine and feces was overwhelming—even for some of the tough cops who can cope with almost any situation. The trailer and the animals were also heavily infested with flies, maggots, and fleas.

Just getting the animals out and contained was a five-hour ordeal for Dr. Rohlfling. Leading a team of volunteer animal controls officers and police, she captured and removed each animal, one by one, even under the threat of being attacked by the other animals.

It wasn't over with once the animals were contained. One hundred and five sick, injured, and infested animals immediately overwhelmed the Liberty shelter. Several of the animals were infested with maggots and needed immediate emergency medical care.

It took Dr. Rohlfling a week to examine and treat all of the animals. But her involvement didn't end there. Media

requests for information came from all over the state. The Clay County prosecutor filed animal abuse charges against the woman who owned the trailer and needed expert court testimony. And, something had to be done about the animals. To this, Dr. Rohlfling devised a system to determine the adoptability of each animal and worked with the court to have the animals placed in new homes.

As the owner of the mobile home pleaded innocent to the abuse charges, the case went to court and Dr. Rohlfling had to deal with sometimes heated cross examination. "She was unwavering," Chief Knouse said.

All of the activity took Dr. Rohlfling away from her practice. "In spite of all of the difficulties," Chief Knouse said, "she readily answered when called upon and saw the incident through to the end."

Backing Dr. Rohlfling was her husband, Alan, MU DVM '85 and co-owner of the Veterinary Center of Liberty.

Not the First Time to Help

This wasn't the first time that Dr. Rohlfling had helped law enforcement. She has been assisting the Clay County Sheriff's Department in investigating illegal puppy mills.

She, Alan, and members of her team help in other ways. For example, dog washes at the practice have generated donations for the Friends of the Liberty Animal Shelter group. Around St. Patrick's Day, Dr. Rohlfling started sewing doggy bandannas, selling them for \$5 each and donating the proceeds to Friends of the Liberty shelter. She spends almost three hours a week sewing. "We've sold over \$1,500 worth," Dr. Rohlfling said. "This is my way to make a positive difference. And it makes me feel good. Sewing these bandannas has become my relaxation therapy."

"Dr. Rohlfling's patience, determination, and understanding of what needs to be done in this situation was invaluable," the Missouri Peace Officers Association citation reads. "Throughout this ordeal she remained focused and professional. Dr. Rohlfling's actions stand as a strong, and proud example of her dedication to her community." **VMR**

SELLING

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CARRYING ON DR. LEGEAR'S HIGH IDEALS OF SERVICE

Long, conscientious study and much practical experience qualify the Dr. L. D. LeGear Medicine Company to recognize livestock conditions and advise farm men to meet those needs—thus saving farmers untold losses in production and stock.

DR. L. D. LeGear, V.S.
In Business Since 1892
Trade Mark Reg. U.S. Pat. Off.

MEMBER of the American Veterinary Association, National Veterinary Examiners, and the American College of Veterinary Surgeons. Graduated from Ohio State University, Columbus, Ohio, and received his M.D. from the University of Michigan, Ann Arbor, Michigan. He has held a variety of positions in the veterinary profession and has been a member of the American Veterinary Association and the American College of Veterinary Surgeons. He has been a member of the American Veterinary Association and the American College of Veterinary Surgeons. He has been a member of the American Veterinary Association and the American College of Veterinary Surgeons.

DR. D. H. LeGear
Director of Veterinary Service

DR. H. W. LeGear
Director of Research

MR. H. S. LeGear
Vice President

MR. S. D. LeGear
President

DR. LEGEAR'S POULTRY RED CAPS

SAFE—SURE—SPEDDY!
For the treatment of large round worms and small worms in chickens and turkeys.

At the first sign of infestation, use Dr. LeGear's new Poultry Red Caps.

Their effectiveness has been demonstrated in hundreds of cases of infestation and in actual use on the farm.

Tablets form assured, each bird exact and proper dose.

One size for all birds 2 pounds or over except turkeys 12 pounds or over.

Economical Treatment is individual and need usually be given but twice per year. Quick and easy.

Especially effective against oval worms in turkeys and chickens.

Parke's Envelopes of 50 tablets \$5.00
Cases of 10 envelopes (500 tablets) \$12.00

Complete directions for use on every package.

DR. LEGEAR'S POULTRY WORM POWDER

An effective flock treatment against Large Round Worms (Ascaridia) as well as Capillaria and Cecal Worms in both chickens and turkeys.

It is an efficient, mild treatment, especially recommended for birds in production. Mixed in the feed, it treats the entire flock at one and the same time.

1 1/2 lb. package	\$0.60
10 lb. package	4.25
50 lb. bag	15.00

Scientifically prepared, Dr. LeGear's Poultry Worm Powder is the simple, safe, convenient treatment to use.



A

century ago, medicine for both humans and animals was basic. There was no FDA to oversee and approve techniques and medicine, and almost anyone could hang out a shingle and sell elixirs and cures. It was an era of patent medicines. For people desperately seeking relief or a cure, these medicines were popular and persuasive.

In the Midwest, probably the most successful purveyor of veterinary patent medicines was the Dr. L.D. LeGear Company of St. Louis. For less than a dollar, a can of powder could treat such ailments as colic in horses, diarrhea in poultry, and the common cold in dogs and puppies.

Dr. LeGear popularized his cures through the Internet of the day—the catalog. The company mass mailed catalogs to veterinarians and animal owners throughout the country. And, if that didn't get you the message, the company followed up with postcards, calendars, magazine advertising, buttons, signs, posters, and medicine cabinets. Midwestern barn roofs were emblazoned with such advertising, too. Dr. LeGear was nothing if not up-to-date. In 1903 you could call him on one of the first telephones in St. Louis. His phone number was 329.

Today, patent medicines have long been regulated away by the FDA. The only remnants of the LeGear Company are antique collectibles that appear at auctions and eBay.

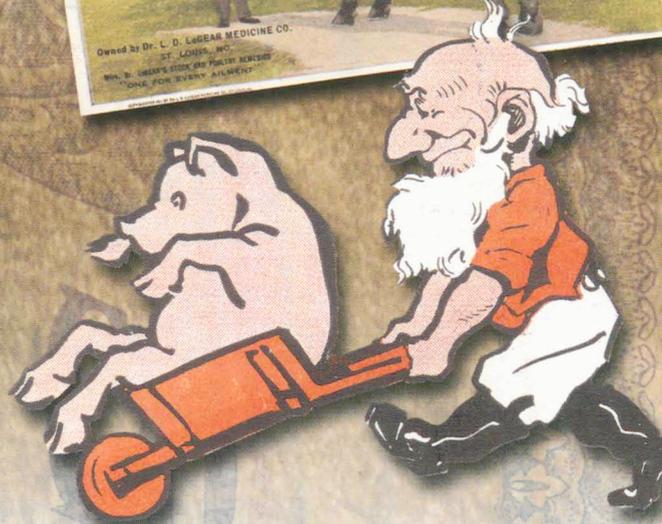
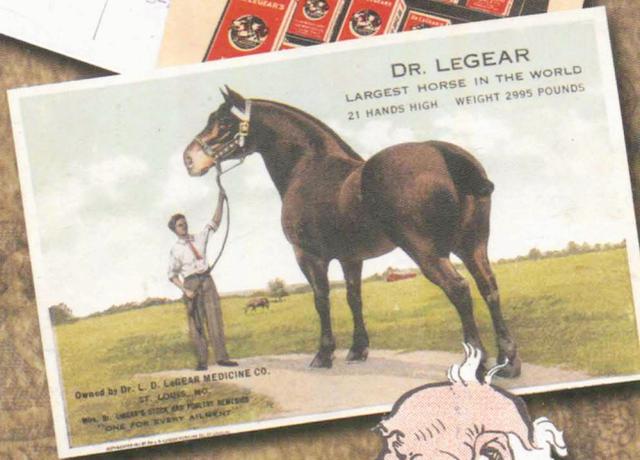
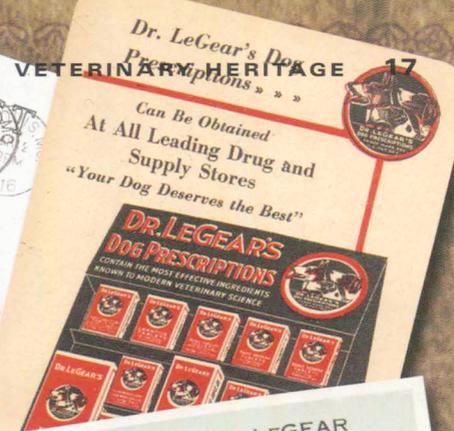
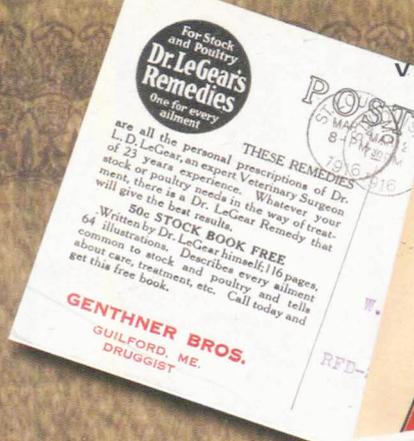
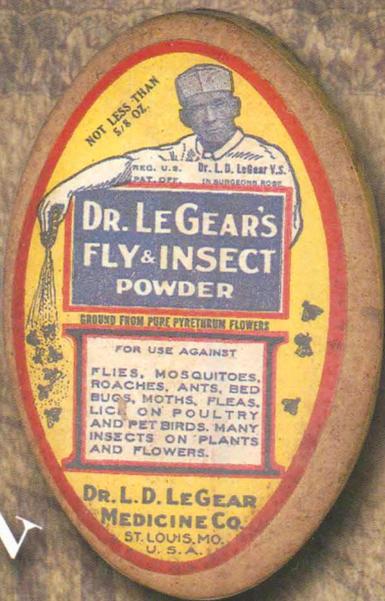
One of the collectors on watch for LeGear materials is Mr. Trenton Boyd, acknowledged collector of veterinary medicine postcards and librarian at the University of Missouri College of Veterinary Medicine Library. His collection gives a glimpse into the world of veterinary patent medicines of a century ago.

PROMISES OF A CURE TO ALMOST ANYTHING

Louis D. LeGear was born in Canada in 1868, but raised on a rural farm in Michigan. As a youth he worked as a day laborer and later taught school. His goal was to attend the Ontario Veterinary College in Toronto, Canada, then the most respected school in North America.

As told in a Veterinary Collectibles Roundtable newsletter article by Editor Mike Smith, DVM, Dr. LeGear graduated from that college in 1892. The 24-year-old then opened his first office in Austin, Texas. There, he became acquainted with a local pharmacist and almost immediately began manufacturing various veterinary remedies.

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For more information about *Veterinary Collectibles Roundtable* newsletter, contact Dr. Mike Smith at PetVet@Mind.com

COLLECTIBLES, REMNANTS OF HISTORY

For collectors today, like Mr. Boyd, Dr. LeGear remedies from his Austin facility are virtually non-existent while his St. Louis materials are plentiful. Much of this advertising is dominated by the image of "Dr. LeGear, the Giant Horse." This Percheron gelding allegedly stood 21 hands tall and weighed almost 3,000 lbs. The giant horse image was used on tin signs, calendars, and the company's letterhead. Posters featuring the horse were plastered on barns around the Midwest. At least, some of the posters were huge—one that recently fell into a collector's hands was 5-ft. tall and 3-ft. wide.

LeGear Dog Remedies are also highly sought by collectors. These red and black printed boxes turn up occasionally on eBay and other sites. More rare is the metal display racks that once held these medicines.

Equally rare is a wooden, glass front display cabinet with Dr. L.D. LeGear's Veterinary Remedies stenciled on the front.

They are a rare reminder of the days of patent veterinary medicine. *V.M.R.*

By the turn of the century, Dr. LeGear and his brother, W.A. LeGear, were operating the appropriately named Dr. L.D. LeGear & Bro. Company. According to old letterheads, they were the "sole proprietors and manufacturers of Dr. LeGear's celebrated veterinary remedies." These remedies included Healing Powder, Colic Cure, Spavin Cure, Eye Water, Screw Worm Powder, and Stock Powders.

In a mere four years, the company opened a new factory, and added a Poultry Powder to the product line. In 1905, the company expanded with a second manufacturing facility located in St. Louis. While W.A. LeGear continued to serve as general manager, the company's name was changed to Dr. L.D. LeGear Company, according to Dr. Smith.

In 1907, a Hoof Oil and Family Liniment was added. The company seized on the new idea of a catalog for mass merchandizing. The Austin factory was closed and the St. Louis facility, at Broadway and Howard streets, was expanded.

The company prospered and grew to achieve multi-million dollar annual sales. Sometime in the 1930's, Dr. LeGear retired and the company was taken over by another brother, S.D. Dr. LeGear became a national lecturer on poultry raising. He died in 1943 at his California ranch, Cherrycroft, at the age of 75.

What a difference a decade makes. Ten years ago, a third of the University of Missouri College of Veterinary Medicine's pharmacy's sales were flea and tick treatments. Everything else was traditional animal potions and a few simple medications.

Today, insect control is less than a tenth of the pharmacy's business and shrinking with that trade being assumed by retailers and pet stores. What is growing for the veterinary pharmacy is a more sophisticated form of treatment straight from human medicine.

With animals living longer and receiving more advanced healthcare, seventy percent of the MU veterinary pharmacy's stock today is made up of human medications modified for veterinary use. And, this trend will do nothing but continue as human and veterinary medicine continues a technical convergence and pharmaceutical companies see veterinary health as a growth industry.

George Faust, RPh, who directs the pharmacy at the Veterinary Medical Teaching Hospital at the MU College of Veterinary Medicine, has seen the changes first hand. He was a pharmacist at MU's University Hospital and Clinics from 1978 until 1990 when he joined the College of Veterinary Medicine.

"We, in veterinary medicine, used to be ten years behind the therapeutic curve of human medicine," Mr. Faust notes. "That's changed. We routinely dispense patient-controlled analgesia that was developed only five years ago for human use. We're dispensing more oncology treatment medications and medications for other specialty medicine areas. Except for the really cutting edge therapies, veterinary medications have caught up with human treatments."

There are a number of reasons for this change. Animals are living longer and experiencing the same chronic illnesses of old age, such as cancer, as humans. Veterinarians are rapidly incorporating advanced treatment modalities of human medicine, requiring the latest medications. Animal owners, through resources such as the Internet, are better educated in the latest pharmaceuticals and are not shy about requesting them for their companion animals who are often seen as full family members deserving of the latest and best care available.



Not Business As Usual

New Roles and Challenges for the Veterinary Pharmacy

And, veterinary medical professionals are also paying greater attention to pain management, which has brought the analgesic IV drip into many clinics.

In all, it's not been business as usual at the veterinary pharmacy, Mr. Faust says.

Aging and Pain Management

Pain management has always been a difficult aspect of veterinary medicine as it is difficult to look at an animal and definitely say that it is in pain. Animals are non-verbal and, in evolutionary terms, they have developed mechanisms to hide from predators the fact that they are injured.

The need to better control pain is developing in the profession, replacing the belief that a certain degree of pain kept an animal from being too active after surgery. The American College of Veterinary Anesthesiologists' position paper on treatment of pain in animals states that the prevention and alleviation of pain in animals is a central, guiding principle of practice. The American Veterinary Med-

ical Association (AVMA) also adopted a position statement acknowledging that animal pain and suffering are clinically important conditions that adversely affect an animal's quality of life, and methods to prevent and control pain must be tailored to the animal. The American Animal Hospital Association has included pain management in their certification process.

Such a sea change has led to probably the biggest change in the modern veterinary pharmacy, Mr. Faust reports. CCRI, Continuous Constant Rate Infusion—a precision pump device that has largely replaced the IV drip familiar to anyone who has watched a TV medical drama—has become common in many clinics for controlling pain.

"The use of CCRI's has exploded in the last few years," Mr. Faust says. "Use of such non-steroidal veterinary medical pain treatments just didn't exist a few years ago. Part of the reason here is that veterinarians are conducting more sophisticated surgeries that have demanded a greater

level of post-operative pain management.”

Dr. John Dodam, associate professor of veterinary medicine and surgery at the MU Veterinary Medical Teaching Hospital agrees: “Veterinarians are performing more sophisticated and difficult diagnostic and therapeutic procedures. These procedures are often associated with increased pain in our patients. Thus, perioperative pain management has likewise become more common and more sophisticated. This is important from a medical standpoint as appropriate pain management decreases patient stress, and probably leads to improved recovery and healing. From an ethical standpoint, pain management is important so that we minimize patient suffering.

Another hot topic of pain management comes with an aging population—both human and companion animal. The debate in human medicine on implementing standards and grading pain is spilling over into the veterinary arena, according to the AVMA. Such a grading standard will probably create standardized treatment for reducing pain, further bringing the best pain relievers into mainstream veterinary medicine.

Adoption of common standards and treatments for pain in people and animals probably won't raise an eyebrow, an indication of how much healthcare professionals' attitudes have changed in a decade, Mr. Faust says.

The attitudes of many healthcare receivers have evolved, too. Many of the estimated 50 million people suffering from chronic pain are seeing their animals develop the same maladies, and believe veterinary medicine should provide the same treatment options as prescribed by physicians.

Ditto for diseases like cancer.

“Dogs, as a part of our families and living indoors, aren't exposed to the same rate of death from things like being hit by cars. Therefore, dogs are living longer and are becoming susceptible to age-related illnesses such as cancer. As clients today often want the same treatment options for their pets as they demand for themselves, we're treating more oncology patients than I could have ever expected. Five or six years ago, I would have made only one oncology compound a month. Now, I often make five a day.”

Pharmaceutical companies have begun aggressive advertising programs directed at

patients who come into their physicians' offices with requests for specific drugs. The same thing is beginning to happen in veterinary medicine.

New Challenges For the Vet Med Pharmacy

How are modern veterinary pharmacists coping? A big problem is keeping up with the steep learning curve that comes with a flurry of new medications, Mr. Faust says. He and his team are looking to pharmaceutical companies, scientific publications, and other sources for help

One staple is the Veterinary Drug Handbook, compiled by a Minnesota pharmacist. It has grown thick with steadily increasing data on cross-species uses of pharmaceuticals.

Another good source is a new worldwide computer veterinary pharmacy list serve where veterinary pharmacists can survey colleagues or search databases on best practices.

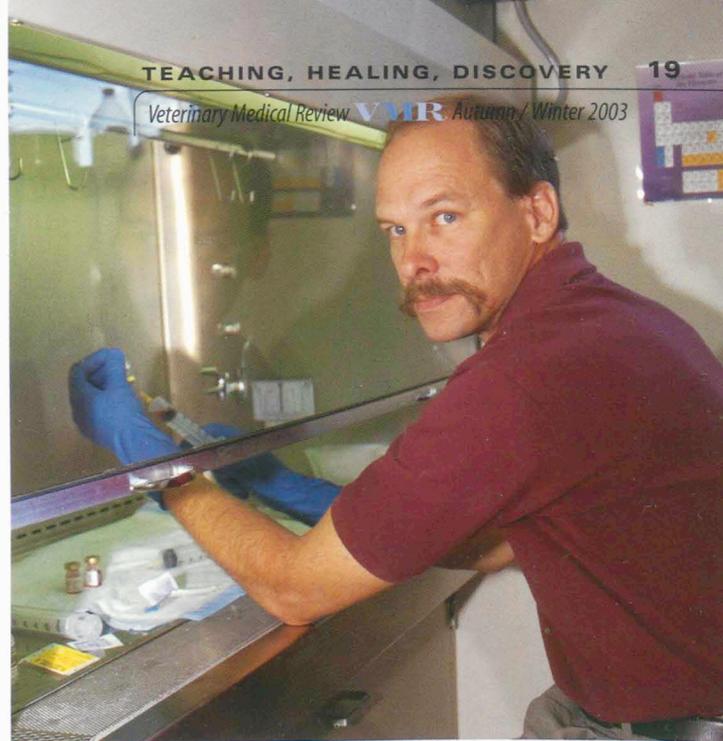
Replacing trial-and-error clinical practices with research is a good thing. Modifying sophisticated human medications for veterinary use can be tricky, starting with determining proper dosage.

“You just can't use body mass as the main criterion anymore,” Mr. Faust says. “A mouse's metabolism is much higher than a person's, so requires a proportionally higher dose. Dogs tolerate much more morphine, per pound, than a human can.”

Common medications such as Tylenol can be toxic to dogs. Also, sometimes the frequency and character of side effects are radically different for an animal than for a human. Aspirin, for example, can cause serious gastrointestinal irritation in cats.

While veterinary pharmacies wrestle with the scientific challenges, they are also seeing increased competition from traditionally human-oriented pharmacies that see veterinary medicine as an emerging market.

The American Pharmacists Association has published a textbook that includes guidelines on formulating veterinary prescriptions from bulk materials. It gives tips on how pharmacists can formulate 25 stan-



George Faust, who directs the pharmacy at the MU Veterinary Medical Teaching Hospital, has seen veterinary medicine converge with that of human medicine and has been modifying his role to the new realities. He's helping individual clinics that may reluctant to stock infrequently used or expensive medications that will expire before a minimum order can be used. Here, the MU veterinary medical pharmacy acts as a "depot," stocking these medications and sharing smaller doses with the clinics.

dard antibiotic pills, for example, with a molasses-flavored mixture to produce a tasty muffin for a sick horse. Some human pharmacies have already found financial success in adding a veterinary business component. A Jacksonville, Fla. pharmacy advertises that it fills both human and animal prescriptions in one visit. The company reported a 35 percent increase in income, according to the Jacksonville Business Journal. The Houston Business Journal described how the BCP Pharmacy noted increased consumer loyalty from its human medicine customers who felt their pets received the same professional treatment. BCP markets tuna-flavored “blanks” for healthy animals who become jealous seeing their littermates enjoying their medications.

In an article in the British National Pharmaceutical Association's journal, animal owners increasingly see pet stores as too “amateurish” for such important purchases. They feel that pharmacists are medical experts who can be trusted to provide good advice. A distance-learning course is being offered in the UK for pharmacists who want to become better educated in veterinary medical care.

All in all, it's not business as usual anymore for the veterinary pharmacy. **VMR**

A New Matter of Money

Times are tough for higher education. Almost every state is coping with dramatic revenue shortfalls. To make ends meet, their post-secondary institutions are sometimes first on the chopping block. As Arturo Perez, fiscal analyst for the National Conference of State Legislators told the *Wall Street Journal*, state colleges and universities are considered the “balancing wheel” of a state budget, feeling any shortfalls first and longest.

The University of Missouri (UM) isn't immune. The UM system lost \$126 million in state assistance for fiscal years (FY) 2000 and 2001 combined and nearly \$40 million more for FY03 ending June 30, 2003. That collectively resulted in about a 20 percent cut in state support for the University of Missouri-Columbia (MU)—among the biggest cuts in the nation.

And Missouri's College of Veterinary Medicine shared in the pain. Before the fiscal meltdown, the state supported its college of veterinary medicine at almost \$11 million per year. In the last three years, consistent with other divisions on campus, the college has lost more than \$1 mil-

lion of this support. Needless to say, the cuts hurt. Even before the financial problems, the MU College of Veterinary Medicine received less state support than any of its 10 peers in the Association of American Universities (AAU).

With FY04 expected to be another lean year, what will the college do to maintain its missions of education, service, and research?

The short answer is to become even leaner and more self-sufficient, and launch creative new ways to replace state funds that will be slow to come back, if they come back at all. Making that happen will be among the hardest challenges ever faced by the institution.

Bad Times All Over

Unfortunately, there are no easy answers. To cope with its budgetary shortfalls, Arizona State University raised its tuition 40 percent in 2003. The University of California instituted a hike of 30, and the University of Virginia raised fees 20 percent. The American Association of State Colleges and Universities recorded a national tuition average increase of 12.5 percent—on top of the 9.6 percent increase last year.

State schools are not just raising fees; they're slashing services, too. That can mean everything from faculty and staff layoffs and fewer course offerings to cutting maintenance for buildings and grounds, the *Wall Street Journal* reported.

At the University of Virginia, tuition increases only offset half of the state budget cuts. As a result, the school is replacing full-time faculty with lower-paid adjunct professors and cutting back on courses.

Libraries are closing early and student recreation opportunities are being cut. Some universities have eliminated entire programs and have discussed shutting entire colleges.

MU raised its 2003 tuition about 20 percent over 2002, and is implementing ways to save money through a variety of structural administrative consolidations, layoffs, and salary freezes. One big change was to offer early retirement packages—something that saved MU about \$6 million in FY03, but hurt many programs as positions were then left unfilled. MU has also curtailed travel, maintenance, cleaning, and equipment purchases.

Dr. Gary Thomas, chancellor of the University of Missouri-Rolla, told the *Kansas City Star* that the future is grim if state cuts continue. He sees two scenarios: one in which tuition would be raised so high that UM students would pay close to that at private schools, and, secondly, salaries and benefits of UM faculty and staff would become so uncompetitive that quality professors and staff would be “cherry picked” by other institutions.

Ironically, running parallel with the budget cuts is a national trend of record enrollments. The fall semester of 2003 saw a record infusion of freshmen at MU—with a scramble to find enough housing and classrooms for them.

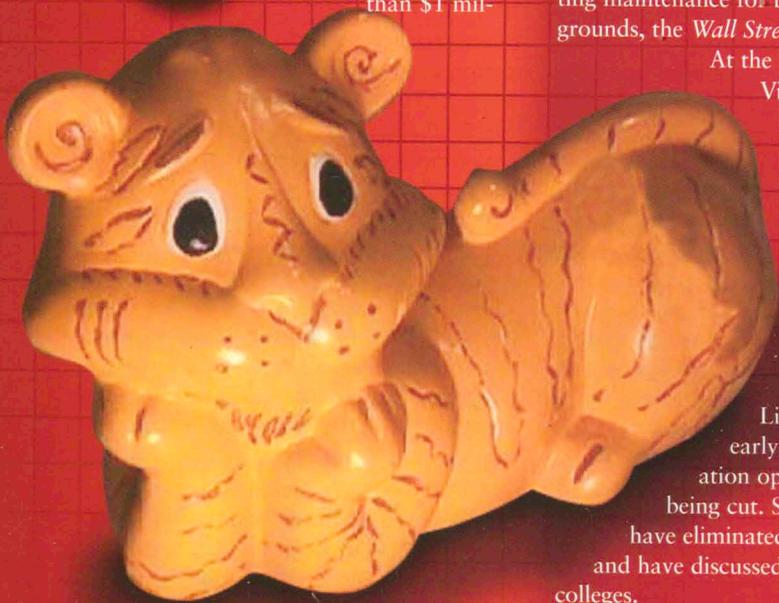
Coping With the CVM Cuts

For FY99, before Missouri's financial crisis, 39 percent of the MU College of Veterinary Medicine's budget came from the state. That percentage has gone down, for FY02, to 32 percent and probably will continue to drop. As most of the college's state funding is directed toward salaries, personnel were unavoidably impacted by the new cuts. Some open faculty and staff positions were not filled and others were combined. Additional faculty and staff retired through MU's early retirement program.

To save money, overtime has been cut back. With little or no replacement hiring, faculty and staff who remain have seen their workloads increase.

All departments have been directed to reduce purchasing. Cleaning, maintenance, and equipment purchases have been curtailed.

Unfortunately, cutting already lean programs is not enough. The teaching hospital has instituted a series of fee increas-



The MU College of Veterinary Medicine Has Faced Financial Challenges For Most of its History. Shortfalls from the Current State Budget Crisis May Mean Significant Changes in How the College Operates

es—two 12.5 percent increases in the last two years and a 10 percent increase for 2003. Associate director of the teaching hospital Dr. David Wilson is leading a team to identify new ways to cut costs without impacting the hospital's core mission as well as searching for new methods to increase income.

A Quality Education With Less State Help

Even before the state funding cuts, the college was struggling with the rising cost students face obtaining a veterinary medical education. New graduates now have individual average debt after graduation of about \$70,000. With the national trend for less state funding, students will probably bear even more of the cost of their education.

Despite financial challenges over the years, the MU College of Veterinary Medicine has consistently graduated some of the best-trained veterinarians at the most reasonable tuition possible. Currently, our student tuition is near the middle of AAU peer institutions with no plan to inordinately raise these fees. The college over its five decades has steadfastly built a quality reputation that attracts the best students—the entering grade point average of MU students and scores on the North American Veterinary Licensing Examination after graduation are among the best at AAU institutions. The college doesn't plan to lose these hard-won gains.

One possibility being discussed to offset withdrawn state funds is increasing MU's class size from 64 to 76 over a three or more year period. That's what Kansas State's College of Veterinary Medicine recently did when hit with an eight percent decrease in state support. It rearranged its facilities to accommodate eight additional out-of-state students per class, adding tuition income while trying to keep fixed costs level. Any increase in class size at MU will likely be coordinated with a new initiative such as the Ag Scholars program (see page 25) or a combined DVM-PhD program that will attract more applicants. In this way, student quality should be maintained.

The Role of Private Giving

As an immediate step to lessen the tuition burden, the MU College of Veterinary Medicine has committed to raising additional funds for scholarships. There have been significant early successes through the generosity of donors—endowments totaling \$3 million have been established over the last few years to provide student scholarships. The next step is to seek \$4.2 million in additional private scholarship endowments in association with MU's For All We Call Mizzou comprehensive campaign.

The college has also been enhancing its educational capabilities through the creation of a series of endowed professorships and programs funded through generous donors to the college.

As examples, professorships were endowed by St. Louisian Thelma Zalk who appreciated the care her dog received, and through the estate of westerner Charles McKee, a graduate of MU's journalism school who also loved animals. In this way, private giving can provide the margin between good and excellent programs.

Through the Mizzou campaign, the college hopes to raise an additional \$7.2 million in donations to improve its learning environment through improved facilities such as an expanded and updated library. New clinical and research areas, including an Equine Lameness Center, also require private support.

Other Options for Additional Income

In addition to private donations, public universities will rely even more on finding sources other than the state.

Here, the MU College of Veterinary Medicine has an ironic leg up over other institutions as it is accustomed to using funds from service and research to meet our missions. As an example, the college ranks third among its AAU peers in funding from the National Institutes of Health. This and other research funding allows faculty to pursue questions that are at the forefront of science. Information gained from these studies is incorporated into lectures, thus enriching student learning, and also contributes to advances

in clinical medicine.

Research funding must continue to grow for key academic programs to remain at the cutting edge. To this end, the college has become a full partner in MU's Life Sciences Center scheduled for completion next year. Our faculty will work closely with colleagues from other divisions to address critical factors impacting human and animal health.

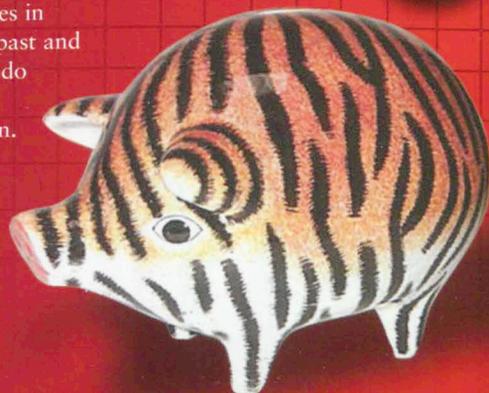
The CVM has also joined the campus-wide effort to achieve Comprehensive Cancer Center status for Ellis Fischel Cancer Center, with our comparative oncology program playing an important role. This effort is already bearing financial fruit as, this summer, the National Cancer Institute announced a \$10 million grant to MU to develop radiopharmaceuticals to help physicians and veterinarians locate and treat common cancers, such as those found in the breast and prostate.

Profound Changes the Norm?

Few observers think that the state's budget problems will be going away soon. Even when better economic times return tax revenues to the state, there is no guarantee that legislators will remember and restore the cuts to higher education—particularly since no major public outcry accompanied the decision.

This means the college, as well as its peers, must make profound changes in the way it finances its missions. However, we have successfully faced such challenges in the past and will do so again.

VMR



Scott Bormanis Joins the Only Airborne Veterinary Medical Unit in the Army

American Army personnel must learn to operate from a number of aircraft, including military helicopters.



Becoming a

DRAGON VET

You think your commute to the clinic is tough? Imagine having to parachute from a combat transport to get to work.

That's the deal when you belong to the Dragon Vets, the nickname given to the 248th Medical Detachment (Veterinary Service) based at Ft. Bragg, North Carolina. The Dragon Vets are the only airborne veterinary medical unit in the Army.

Airborne units are usually the

A Combat Equipment Jump means that the paratrooper carries 50 lbs. of food and supplies. This extra weight leads to faster decent rates and a harder landing.

first responders in an emergency. Their ability to parachute from a plane allows them entry to places where airports, roads, or docks are unavailable or denied due to enemy forces. Airborne units must

be light, fast, and self-sufficient until conventional forces can arrive. Often, airborne forces are the first sent into a fight, catching a hostile force off guard or providing a near instant flanking force.

These parachute jumps can be some of the

toughest in military aviation, ranging from very high altitude missions to those close to the deck.

Airborne personnel train to land under enemy fire and immediately perform their military missions. Medical units like the 248th usually follow the combat troops, coming in to achieve their medical support missions.

Earlier this year, Maj. Scott Bormanis arrived at Ft. Bragg to assume the role as Deputy Commander of the unit. Maj. Bormanis is a 1994 graduate of the MU College of Veterinary Medicine.

And while helping to lead this unit requires a necessary amount of desk time, it also means becoming proficient in the sometimes-rough art of jumping out of airplanes.

A Well-Traveled Unit

The 248th Medical Detachment is a storied unit. Activated in 1941 as part of Gen. George Patton's Third Armored Division, it saw service in Europe during World War II, Korea, and the Vietnam War. It was involved in Operation Desert Shield and Desert Storm in Iraq from 1990 through 1991. In 1994, the unit was deployed to the Middle East as part of Operation Uphold Democracy.

The unit was also sent to Bosnia where Maj. Bormanis had served in a previous assignment. As with many of their missions, the unit cared for military working dogs, conducted clinics in small towns and villages where veterinary care is rarely available, and performed

sanitary inspections of the local food suppliers. In addition, the unit provided care to area livestock to help aid the local economy.

That last mission was particularly important in Kosovo. Local citizens, ravaged by decades of war and guerrilla fighting, relied heavily on their meager animal agriculture for survival. The Dragon Vets brought the first modern techniques and antibiotics to the area's big, dusty-brown cows with dirty udders and chronic diarrhea.

Army veterinarians are a special group, as there are only about 400 in the entire US Army.

An Army Odyssey

Maj. Bormanis joined the Army Veterinary Corps just after graduation from MU. His first assignment was with the 72nd Medical Detachment in Schweinfurt, Ger-

many. The assignment was atypical for a new officer—this was a field veterinary unit that provided medical care to military working dogs, food safety inspection, and veterinary preventive medicine in support of deployment operations in the European Command's area of responsibility. Normally, a new officer serves in a stateside clinic assignment where they can hone their veterinary skills and learn food inspection.

He was deployed for 10 months to Bosnia-Herzegovina in December 1995 in support of Operation Joint Endeavor. There, his unit was involved in coordinating the control of a Foot and Mouth Disease outbreak in southern Bosnia that had been introduced into the area from Albania. "The challenges of working with veterinarians from the former Serbian, Croatian, and Muslim warring factions were daunting," he says. "But, it proved to ultimately be successful in controlling the outbreak and preventing its spread into central and Western Europe."

It hasn't all been work. Upon his return from Bosnia, he took a May safari to Kenya and Tanzania, where he visited the Masai Mara preserve in southern Kenya, the Ngorongoro crater, and Serengeti in Tanzania. "It truly was amazing seeing rhinoceros, elephants, zebras, lions, and many other species in their natural habitat uninhibited and up close," he explains. "In the Serengeti, I witnessed the 'great migration' that occurs twice a year where millions of wildebeest and zebra travel hundreds of miles in search of lush grasslands."

Back to work, he was assigned to White Sands Missile Range, New Mexico where he ran a full service veterinary clinic and provided veterinary support to the wild horse and Gemsbok oryx (a type of African antelope) herds on the range.

"This was probably my favorite assignment because I got to work outdoors a lot with wildlife and enjoy the beautiful New Mexico landscape," Maj. Bormanis says. "It was also great fun participating in the wild horse round ups that

occurred twice a year as part of an adoption and herd reduction program. In fact, I had the honor of participating in the very last round up prior to leaving White Sands in May 1999."

After other assignments, he chose veterinary preventive medicine as his new specialty and was accepted into the Master's in Public Health (MPH) program at the University of South Florida in Tampa. There, he majored in infectious and tropical diseases.

Becoming a Dragon Vet

"After a year of fun and sun in Florida, the Army decided it was time for me to get back to work," Maj. Bormanis says. "They sent me to be the Deputy Commander of the 248th Medical Detachment at Ft. Bragg. This unit is similar to the one in which I served in Germany except that it is the most deployed veterinary unit in the army and it is the only airborne veterinary unit in the Army. So, that meant I needed to go to airborne school prior to taking the job."

Maj. Bormanis earned his jump wings in November 2002 and has been jumping on a regular basis since to maintain proficiency. He's parachuted from the veteran C-130 turboprop, giant C-17 Globemaster jet, CH-47 Chinook helicopter, and, in April, he earned his German jump wings when he jumped with a German airborne liaison unit.

Earning German jump wings is both ceremonial and practical. "They are ceremonial in the sense that it is an airborne tradition to exchange wings between allied forces," Maj. Bormanis explains. "They are also practical in that it provides an opportunity for joint training with allied forces resulting in familiarity with other military's equipment and aircraft. With current world events, it's possible that we may be required to jump out of another country's aircraft as part of coalition forces."

Among his training jumps was a night drop. Another was a combat equipment jump, meaning he jumped with about 50 lbs. of equipment attached to his body.

In April, 30 out of the unit's 48

personnel deployed to Kuwait, making Maj. Bormanis the Rear Detachment Commander for the portion of his unit that was not deployed.

His duties here included addressing any army-related issues family members of deployed soldiers may have, and supervising the maintenance and ensuring readiness of remaining assets in case the remainder of the unit must deploy.

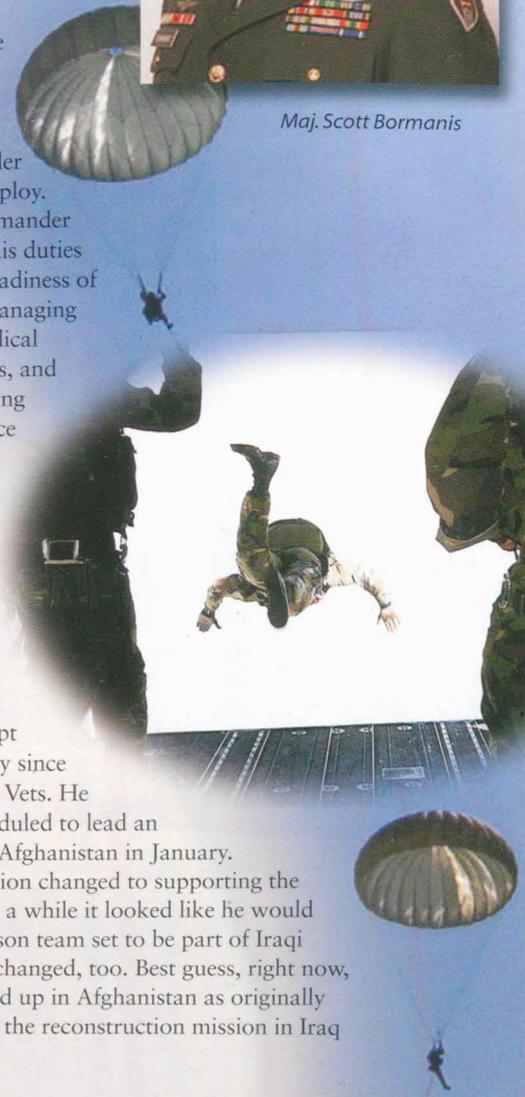
As Deputy Commander of the entire unit, his duties include ensuring readiness of the unit through managing and upgrading medical equipment, supplies, and capability; identifying and integrating force modernization systems; and training his soldiers in veterinary field services and airborne operations in preparation for deployment.

The unstable world scene has kept Maj. Bormanis busy since joining the Dragon Vets. He was originally scheduled to lead an 11-person team to Afghanistan in January. However, that mission changed to supporting the Iraq operation. For a while it looked like he would be part of a 30-person team set to be part of Iraqi Freedom, but that changed, too. Best guess, right now, he will probably end up in Afghanistan as originally planned or support the reconstruction mission in Iraq as part of a future unit rotation. **VMR**

Maj. Bormanis was awarded a jump certificate from the German military after successfully completing requirements for that force. Such certification is important as American soldiers may be asked to participate in operational missions with friendly forces.



Maj. Scott Bormanis



A New Swine Resource Center



“Because of similarities in their body size and physiology, pigs are an ideal animal model for humans, whether a researcher is studying diabetes, cardiovascular disease, obesity, or organ transplantation,” he said. “In comparison to mice, their size aids with blood and tissue collection, as well as testing new medical procedures.”

Pigs are becoming the animal model of choice for studying human disease. A new MU center will soon be the world’s clearinghouse for swine genetics.

The National Institutes of Health (NIH) recently awarded MU a \$2.848 million grant to establish the National Swine Research and Resource Center. The grant, to be matched by the university, will construct a 20,000-sq.-ft. facility at the northeast corner of the Animal Science Research Center. Faculty working in the center will create, store, and distribute swine models to biomedical researchers around the globe. The NIH also awarded the center a five-year, \$7.1 million operational budget.

The swine center is the third NIH-funded animal resource center hosted by the college, joining the Mutant Mouse Resource and Research Center and the Rat Resource and Research Center.

“MU is home to the only rat and swine centers in the nation, and one of only four mouse centers,” said Dr. John Critser, chair of the department of veterinary pathobiology, who will help direct the swine center.

Swine models offer new opportunities for study of human health, said Dr. Randall Prather, an MU animal scientist helping to establish the new center.

Dr. Lela Riley, associate dean for research and post-graduate studies and also involved with the swine center, said that there relatively few swine models currently available to researchers. Those that are available often are not well used because researchers have difficulty accessing the models.

“Our primary goal is to put these models in the hands of the researchers who need them,” she said. “Eighty percent of the funding for the new center will be dedicated to collecting and maintaining the resource repository. The repository will include various genetic materials from the swine models that exist, including eggs, sperm, embryos, somatic cells, and ovarian tissue.”

Although the center primarily will serve biomedical research applications, Dr. Prather said many of the same genetic technologies could be used to enhance agricultural livestock production in the future.

“Just as we can genetically modify pigs to study disease, we can also modify them to help farmers produce higher quality hogs at less cost,” he said. “Through modification, we can make healthier pigs that resist diseases, more efficient pigs that produce more muscle with less feed, and pigs that are more reproductively efficient and environmentally friendly. The possibilities are only limited by the imagination.” **VMR**

Biosecurity *(continued from page 3)*

Notification of funding for the biodefense laboratory came approximately one year after a Request for Applications was issued by the NIH. The two-step process called for potential applicants to initially contribute to proposals for new Regional Centers of Excellence for Biodefense to also be funded by the NIAID. Associate Dean for Research Lela Riley coordinated our effort, with college faculty ultimately contributing to two proposals, including the successful application on which Washington University in St. Louis took the lead. The college will receive center funding to provide training to veterinarians in the area of biodefense, capitalizing on our laboratory animal veterinarian training program supported by NIH for 30 years.

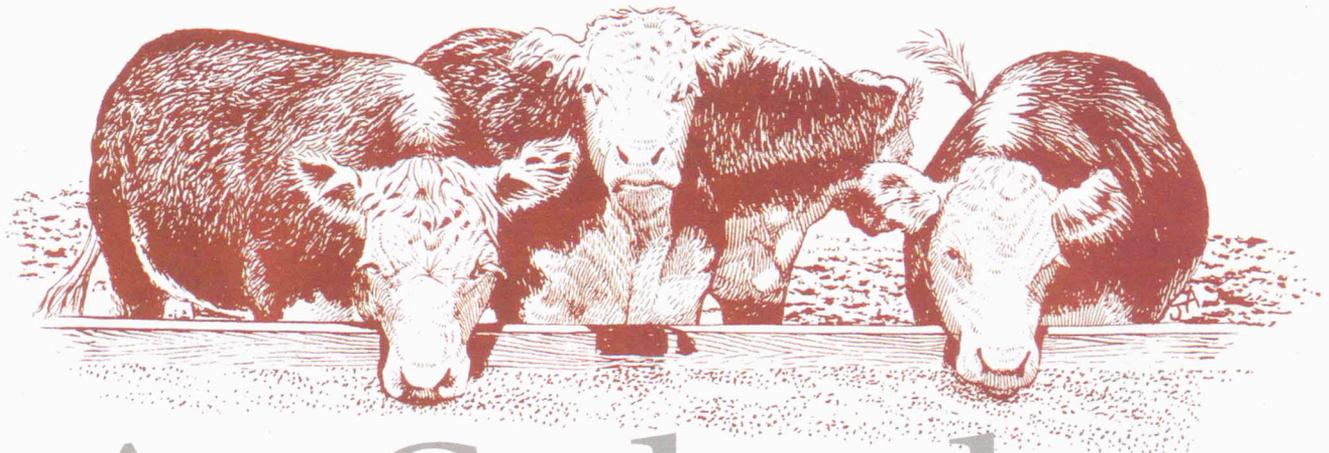
Our subsequent biodefense laboratory

application was developed over a two month period at the turn of the year and principally involved Dr. Riley, Drs. Gayle Johnson and Steve Kleiboeker from the MU Veterinary Medical Diagnostic Laboratory, and Dr. Kim Wise of the MU School of Medicine. The application emphasized the synergy that would be gained by bringing faculty with expertise in both basic research and diagnostic medicine together in the same facility.

Infectious disease research done by faculty from the college’s Department of Veterinary Pathobiology and the School of Medicine’s Department of Molecular Microbiology and Immunology was highlighted. Importantly, the application was submitted after key stakeholders in the state, including the Missouri Veterinary

Medical Association and various commodity groups, had been sensitized to the need for such a facility by Veterinary Medical Diagnostic Laboratory Director Stan Cassteel and former Director of the Missouri Department of Agriculture Lowell Mohler. The NIAID press release emphasized the importance of such a coordinated statewide and national effort “to assist national, state, and local public health efforts in the event of a bioterrorism or infectious disease emergency.”

Animal producers, veterinary practitioners, commodity groups, university faculty, and governmental officials *must continue to work together* to ensure that the biodefense laboratory is used to fulfill the state and national biodefense agenda. **VMR**



AgScholars

A New Way to Attract Students Into Food Animal Medicine

Veterinarians who specialize in food-animal medicine may be becoming an endangered species, according to the American Veterinary Medical Association. Fewer food animal-oriented students are entering veterinary schools, fewer graduates are entering food animal practice, and too many veterinarians are leaving food animal practice.

To help assure that Missouri, a major animal agriculture state, has enough food animal veterinarians, the College of Veterinary Medicine at the University of Missouri-Columbia has begun a new program to attract students with a demonstrated interest in food animals. Called the AgScholars Program, the effort is designed to direct undergraduate Animal Science majors through courses preparing them for a DVM education. The program will also provide these students with veterinary medicine mentors.

"The AgScholars Program will provide us with a unique opportunity to train food animal and mixed animal practitioners for rural communities in Missouri and the surrounding states," says Dr. Jeff Tyler, director of the Food Animal Section of the MU Veterinary Medical Teaching Hospital.

"Students with interest and expertise in livestock production and health will be identified early in their academic careers and offered a substantive reason to attend MU. By helping students develop these career goals, we will create long-term relationships with pre-veterinary students. Students enrolled in the program will complete a more intensive and structured undergraduate curriculum than the average pre-veterinary student. This undergraduate curriculum will provide them with a skill set that includes basic nutrition, livestock production and quantitative reasoning, better preparing them for the challenges of modern food animal practice."

Animal Science majors who successfully complete the pro-

gram will be assured acceptance into the MU College of Veterinary Medicine.

"Students should find this partnership between Animal Science and Veterinary Medicine to be very attractive," said Dr. George Jesse, director of graduate studies for the Animal Sciences department.

As the academic standards to enter veterinary medical school are rigorous, so are the standards to enter the AgScholars program. High school seniors and MU freshman must have an ACT composite score of 27 or more, or an equivalent SAT score to be eligible for the program. To qualify, they must have demonstrated experience or interest in livestock production and health. Examples of such experience may include participation in a livestock enterprise as either a family member or an employee; enrollment in at least two years of high school agricultural coursework; and participation in FFA, 4H, or equivalent organizations with projects directly related to livestock production or health.

Students who do not meet the experience or interest standards will be admitted if they agree to complete an internship in the summer between their freshman and sophomore years. This internship must entail at least 250 hours of supervised experience in livestock production or a livestock health enterprise.

Selection for this program is based on meeting the academic eligibility requirements and attaining a satisfactory score from an interview. Applicants must also satisfactorily complete all requirements as a full-time undergrad on the MU campus, maintain a cumulative GPA of at least 3.3, make a B- or better in all required courses, and enroll as a freshman in the Animal Science BS degree program at the University of Missouri. **VMR**

Alumni at Large

Tom Lenz To Lead Equine Practitioners Group

Thomas Lenz, MU DVM '75, was installed as the 49th president of the American Association of Equine Practitioners (AAEP), a leading association of equine veterinarians.

During his 27-year veterinary medical career, Dr. Lenz has worked in private practice, academia, and corporate business. He recently retired as senior director of strategic science and technology for Bayer Animal Health in Shawnee Mission, Kan. Dr. Lenz was board certified by the American College of Theriogenologists in 1986 and received a Master of Science degree from Texas A&M University in 1988.

Dr. Lenz received the 1997 Distinguished Alumni Award from MU and the College of Veterinary Medicine's Alumnus of the Year Award in 1995. He is the past president of the College's Alumni Association and remains active on the group's

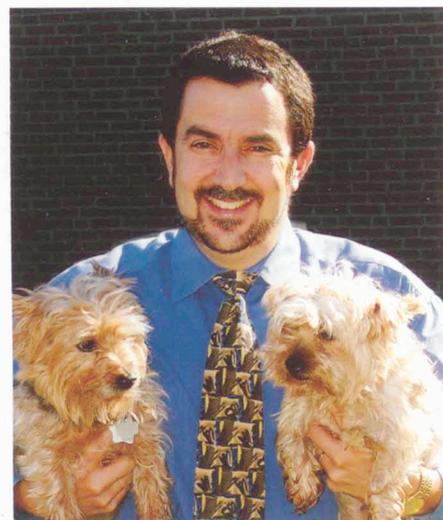
board of directors.

In addition to his presidency, Dr. Lenz is a member of the AAEP Foundation's board of directors. Active in the equine industry, he is a member of the American Horse Council's Animal Welfare Committee and serves on the Research Committee of the American Quarter Horse Association (AQHA). Dr. Lenz writes a monthly equine health column for the *Quarter Horse Journal*. He is also a member of the National Professional Rodeo Cowboy's Association's Veterinary Advisory Committee.

Dr. Lenz resides in Louisburg, Kan.

Ed Migneco of St. Louis Named MVMA Veterinarian of the Year

Ed Migneco, MU DVM '86 of St. Louis, was awarded the 2002 Veterinarian of the Year honor by the Missouri Veterinary Medical Association.



Dr. Ed Migneco

Dr. Migneco opened the City/Hillside Animal Hospital just after graduation from the MU College of Veterinary Medicine.

He renovated the facility in December 2001, changing the name to the Hillside Animal Hospital. The name Hillside was used because of its location on the edge of "The Hill" neighborhood in south St. Louis, the same neighborhood where he was raised.

"I believe our hospital is very special in that it combines the highest quality medicine available with the comfortable feeling of a small clinic," Dr. Migneco said. "Even though we moved into a very large space compared to what we had before, we have strived to maintain the atmosphere that our clients love about us."

Also working at the clinic is Dr. Sherry Nelson-Torregrossa, MU DVM '93.

Dr. Migneco does volunteer veterinary work for a not-for-profit group called Stray Rescue of St. Louis.

"It was through them that I was involved in the rescue of some abandoned puppies at a puppy mill in rural Missouri," he said. "The story aired on the local news, and was eventually seen by a producer from *Animal Planet*, the cable channel. They came and interviewed us, incorporated some of the news footage, and followed up on the dogs rescued."

The segment has aired many times on the show *Wild Animal Rescues*. "Ever so often, I will get a phone call from a friend saying they were channel surfing late at night and saw the segment about us," Dr. Migneco noted.

The work for Stray Rescue was also covered in the *Riverfront Times*, a St. Louis newspaper, and was recently featured in a

Dr. Tom Lenz and his wife, Erin Evans, DVM. Also pictured is Dr. Lenz's horse Sonny, and Dr. Evans' roan horse Woody. The Jack Russell dog is named Gracie.



new book written about Stray Rescue's Founder, Randy Grim, a good friend of Dr. Migneco. The Hillside hospital is featured prominently in three chapters of the book.

Dr. Migneco was recently re-certified as a Diplomate of the American Board of Veterinary Practitioners in Canine and Feline Practice. This is a specialty board for general practitioners.

Clark Fobian Installed as President Of Missouri Veterinary Association

Clark Fobian, MU DVM '77, earlier this year was installed as president of the Missouri Veterinary Medical Association (MVMA).

Dr. Fobian owns the Thompson Hills Animal Clinic in Sedalia, Mo. His wife of 27 years, Rita, is the practice manager of the clinic.

He has served as the chair of the convention planning committee, and was the organization's West Central District president. Dr. Fobian also was a member of the MVMA's Missouri Academy of Veterinary Practitioners and the Veterinary Technician Committee.

After graduation from the MU College of Veterinary Medicine, Dr. Fobian was an associate veterinarian in mixed animal practices for four years in Nevada and Marshall, Mo. After moving to Sedalia, he opened the Thompson Hills Animal Clinic, building a new facility in 1996.

Dr. Fobian follows the MVMA presidency of Kenneth White, MU DVM '70.

Installed as vice president of the MVMA was Allen Robinson, MU DVM '66. Dr. Robinson is a practitioner at the Palmyra Veterinary clinic. As vice president, he will chair the organization's statewide membership committee.

James Nave Honored At AVMA Convention

James Nave, MU DVM '68, was presented the American Veterinary Medical Association 2003 President's Award for his contributions to animal, human, and public health.

The award cited Dr. Nave's commitment to the profession's economic future and his service to organized veterinary medicine. Dr. Nave is a former president AVMA president and board member. He served on the National Commission on Veterinary Economic Issues and currently serves as a Global Accreditation Surveillance Monitor and Councilor to the World Veterinary Association.

Dr. Nave is a small animal practitioner and practice owner in Las Vegas.

Their Lives as Veterinarians Are Topics of Two New Books

Two Missouri College of Veterinary Medicine alumni have been busy at their typewriters and recently published books about their life stories. Jack "Doc" Parker, MU DVM '54, saw the publishing of his book, *Life of a Country Veterinarian*, late last year. Merrill Townley, MU DVM '63, published his book, *The Strangest Species*, this Spring.

Dr. Parker lives in Ravenwood, Mo. while Dr. Townley lives in Chamois, Mo.

Life of a Country Veterinarian details Dr. Parker's early years during the Depression in rural Missouri. Those were hard times and the family traded farm labor for groceries. Following rare jobs, Dr. Parker's father moved the family eight times until 1944 when life became better.

Dr. Parker's earliest interest in veterinary medicine came during his high school years in Parnell, Mo. when he accepted a \$20 a week part-time job from Dr. Joe Matteson. His first job was to catch and hold pigs for vaccination and his main goal in life was to finish high school. Ten years later, he was no longer a skinny kid with holes in his clothes, but had a bachelor of science in agriculture and was a licensed veterinarian, and a first lieutenant in the US Army Veterinary Corps.

The big change occurred when he saved \$400 from working Kansas wheat harvests. This was just enough for the young Parker to begin college. Dr. Parker and his new wife lived in an 18-ft. trailer towed behind a worn out Model A Ford. He paid his tuition by digging ditches.

After graduation, it was into the Army Veterinary Corps and \$700 a month in pay. Maybe he was going to make it after all, he thought.

Dr. Parker's book is available from the author at PO Box 121, Ravenwood, Mo. 64497.

Dr. Townley's book title refers to *homo sapiens*, taken from his experiences as a practitioner as well as a state legislator. The book details his early life through 1966, three years after earning his DVM degree.

Much of the book recounts the three years that he spent at Hermann, Mo. as a struggling veterinarian, fresh out of college.

In a book review published by the *Unter-rified Democrat* Newspaper, Linn, Mo., Dr. Townley said that the book was an attempt to "remember the art of veterinary medicine as it happened on the interface between science and reality, where the caretaker and individual meet."

Dr. Townley plans to pen at least two more volumes—one about his veterinary practice from 1966 to present, and another about politicians.

Dr. Townley's book can be obtained through a \$25 donation to the Missouri Veterinary Medicine Foundation, 2500 Country Club Dr., Jefferson City, Mo. 65109.



Dr. Michael Lairmore

Michael Lairmore Named Chair for Ohio CVM Veterinary Biosciences

Dr. Michael Lairmore, MU DVM '81, was named Chair

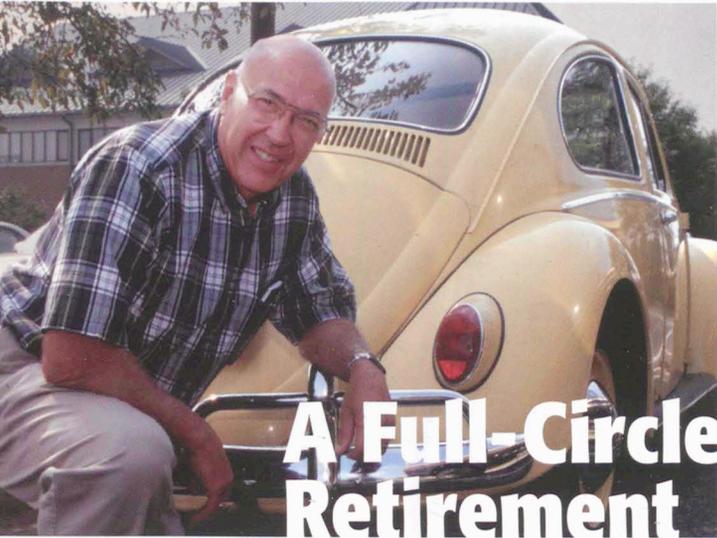
for the Department of Veterinary Biosciences, College of Veterinary Medicine, Ohio State University.

Dr. Lairmore is trained in molecular virology and veterinary pathology and is a Diplomate of both the American College of Veterinary Pathologists and the American College of Veterinary Microbiologists. He was awarded his PhD degree in 1987 from Colorado State University where he studied the pathogenesis of sheep retroviruses.

After postdoctoral research at the Centers for Disease Control where he became nationally recognized for his studies of human retroviruses, he joined the Ohio State University faculty to continue his research interest in molecular and cellular mechanisms that control retrovirus replication and disease. He is the author or co-author of more than 110 scientific publications.

Since 1990, Dr. Lairmore has received continuous funding from extramural sources including a newly funded \$1.3 million, five-year grant from the National Cancer Institute entitled, "Mechanisms of p12 and p30" in HTLV-1 Infection". Human T-lymphotropic virus type 1 (HTLV-1) infection causes adult T-cell leukemia/lymphoma (ATL) and a variety of immune-mediated disorders. Dr. Lairmore's research seeks to understand mechanisms by which these proteins influence HTLV-1 replication and cellular gene expression during the natural infection.

The Ohio College of Veterinary Medicine awarded Dr. Lairmore the Dean's Excellence in Graduate Education Award in 1999.



A Full-Circle Retirement

Dr. Creed always wanted to teach surgery. After a career in college administration, he returns to MU to help in the surgery lab

Among the many changes at the MU College of Veterinary Medicine in the past few decades, one small thing has remained a constant—a little yellow Volkswagen motoring up to the college.

Inside the vintage vehicle is Dr. James Creed, retired director of the Veterinary Medical Teaching Hospital, coming in to help teach surgery. Dr. Creed and the VW have been regulars to east campus parking lots since the 1980s. Since his formal retirement in 1999, Dr. Creed has taken on a host of continuing education projects, keeping himself, and the little yellow car, as busy as ever.

From Farm to College to Farm

Dr. Creed was a Depression baby born on a 160-acre farm in Misouri's north-west tip. The farm was home to cattle, hogs, corn, and beans and is still owned by the Creeds.

Dr. Creed came to MU in 1950 as a General Agriculture and ROTC student. After graduation, he served as an Air Force supply officer. He then went back to the farm just in time for a drought so bad that an acre would only yield 37 bushels of corn.

In college and the military, Dr. Creed enjoyed the company of people; something rural farm life provided little of. As he had a good image of the veterinary profession, and a good friend who had entered veterinary school, he joined the MU College of Veterinary Medicine's Class of '61.

During his education, he came to enjoy the academic life and decided to pursue a career in higher education.

Early in his senior year, he wrote letters of inquiry to ten veterinary medical schools and received nine responses—all with nothing to offer. Only Oklahoma State had a large-animal ambulatory position. Flattered, Dr. Creed turned the position down, fearful that a brand new DVM wouldn't be able to teach much to senior students. Persistence paid off with an offer in bacteriology from Purdue.

Dr. Ken Niemeyer, then MU CVM director of small animal medicine, knew of Dr. Creed's love of surgery and became aware of a surgical position at Colorado State. Dr. Creed wanted to jump at the offer—except that he had just bought a house in West Lafayette.

One day before leaving for Purdue, Colorado State made an offer and Dr. Creed accepted, beginning a 21-year career in the mountain state, eventually becoming section head of small animal surgery.

It was there that Dr. Creed's commitment to volunteering started, becoming involved in several organizations and becoming president of Optimist International in 1979-1980.

In 1982, Dr. Creed moved to Oklahoma State with the intention of finishing his career there. Six months on the prairie, he was asked to become chairman of MU's veterinary medicine and surgery department—a position he held for 8.5 years. He did, indeed, finish his career at OSU. He went back there in 1992 as assistant dean for service and director of the veterinary medical teaching hospital. After this retirement, he came back to south Columbia to live, and manage his old Missouri farm.

Building the Department at MU

Dr. Creed joined the MU CVM at a rare time in its history—it wasn't facing crushing economic problems. Though scrawny in relation to its peers, the college was enjoying slow but steady funding progress.

But, overcoming an impoverished reputation was tough. "My biggest challenge was recruiting people," Dr. Creed said. "The equine department, which consisted of just Dr. Lou Tritschler and one intern, was especially hard to fill. We persevered and I'm proud to say that most of the faculty that I recruited are still there. My high water mark was attracting Dr. Nat Messer and David Wilson to the program on the same day."

Another challenge was improving the physical facilities at the old teaching hospital—applying old-fashioned good business management and attention to detail to move the program in a better direction. "Everything was poor when I arrived," he said. "Maintenance was poor, there was a general lack of equipment, and the reception area didn't impart a strong, professional image. I concentrated on what I called the Big I—image. With a professional image, the rest of the department had a chance of becoming what it was fully capable of."

During his higher education administration work he kept a hand in his favorite subject, surgery, teaching labs and working in the clinics.

A Busy Retirement

Save for working in a "good sized" garden, Dr. Creed's retirement is hardly restful. For the past four years he has been the Western States Veterinary Conference companion animal program coordinator responsible for lining up 35 topic coordinators and 450 hours of continuing education credit for about 7,000 veterinarians. As section manager for the Companion Animal Program, he is also a member of the AVMA's Convention Meeting and Program Committee—responsible for 300 hours of companion animal programming.

And, he still helps the MU College of Veterinary Medicine by teaching surgery labs—to which he motors to in his yellow Volkswagen. **VMR**

Class Notes

50's

Clifton Murphy, MU DVM '52, was awarded the Lifetime Achievement Award from the American Embryo Transfer Society. The purpose of the organization is to unite those organizations and individuals engaged in the embryo transfer industry into an affiliated federation operating under self-imposed standards of performance and conduct. Dr. Murphy lives in Columbia, Mo.

Jack O. Parker, MU DVM '54, recently published a book, *Life of a Country Veterinarian*. Dr. Parker lives in Ravenwood, Mo.

Alanson L. Jones, MU DVM '58, reported that he is retiring from practice but will still continue to ranch. He lives in Broken Bow, Neb.

60's

Richard Taylor, MU DVM '62, was presented a Lifetime Membership Award at the Missouri Veterinary Medical Association's convention held earlier this year. Dr. Taylor, and his partner, Kenneth Vroman, MU DVM '69, observed their 40th anniversary as operators of the Howard County Veterinary Service, Fayette, Mo.

Merrill Townley, MU DVM '63, was selected to receive the Missouri Farm Bureau's 2002 Agriculture Award. Dr. Townley practices veterinary medicine in Chamois, Mo.

Waybern Yates, MU DVM '68, recently retired from practice after more than 30 years of service to the Raytown, Mo. area. After graduation from MU, he served as a captain in the 175th Veterinary Medical Corps. He opened his Raytown practice in 1970. In 1994, Gov. Mel Carnahan named Dr. Yates as Horse Racing Commissioner, a position that Dr. Yates still holds.

70's

James Montgomery, MU DVM '71, and son **Ryan, MU DVM 2001**, recently moved into new clinic quarters in Brookfield, Mo. The new facility replaced one built in 1932.

M.A. "Chip" Kammerlohr, MU DVM '73, was recently elected president-elect of the Missouri Veterinary Medical Association. Dr. Kammerlohr owns and operates the Cassville Veterinary Clinic in Cassville, Mo.

Bill Tappmeyer, MU DVM '74, was awarded the 2002 Wright City Men's Society Appreciation Award. Dr. Tappmeyer operates the Wright City (Mo.) Veterinary clinic.

Linda Scorse, MU DVM '75, was installed as president-elect of the Missouri Academy of Veterinary Practice, the continuing education arm of the Missouri Veterinary Medical Association. Dr. Scorse lives in Joplin, Mo. and operates the Joplin Veterinary Hospital.

80's

David Baumert, MU DVM '84, recently accepted a staff veterinarian position with the Cargill Pork Company of Russellville, Ark. He previously was the veterinarian at the Monsanto Choice Genetics foundation Farm in Plains, Kan.

Gene Grellner, MU DVM '84, this spring had a research project published in a peer-reviewed professional magazine, the *Journal of Swine Health and Production*. Dr. Grellner owns and operates a mixed-animal practice in Loose Creek, Mo.

Michael Joyner, MU DVM '84, was installed as the 2004-2005 president of the Texas Veterinary Medical Association. He lives in Killeen, Texas and is the owner of the East Lake Veterinary Clinic. Dr. Joyner has been practicing veterinary medicine in Killeen since 1984. He was voted "Best Veterinarian in Central Texas" in the Reader's Choice Award in 1996 and again in 1997.

Andrea Morgan, MU DVM '85, was recently promoted to Associate Deputy Administrator for Veterinary Services Regional Operations at the USDA in Laurel, Maryland.

90's

W. Wayne Fry, MU DVM '92; **G.W. Buckaloo, Jr., MU DVM '72**; and **A. Jay Schweizer, MU DVM '92**, all of the Chrysler Animal Hospital in Independence, Mo., were inducted into the Morris Animal Foundation's Veterinary Honor Roll. To date, 155 veterinary professionals have been inducted into the Honor Roll. Donors nominate honorees by contributing \$500 or more to the Foundation on behalf of each recipient. The three alumni were nominated by C. Jane and Al Boeck of Blue Springs, Mo. "These three men have gone above and beyond to care for our animals," the Boecks said. "There's no one else we would trust with the care of our dogs." Dr. Fry was also recently installed as president of the Missouri Academy of Veterinary Practice.

Jennifer Pearl, MU DVM '92, has accepted a position at Banfield's Manchester, Mo. Pet Hospital.

Steven Finch, MU DVM '94, announced the birth of a daughter, Kathleen, born December 8, 2002 in St. Louis. Dr. Finch's wife, Maureen, is a former employee of the College's library.

David Ihrke, MU DVM '95, and his wife Amber, MU DVM '96, announced in January the birth of twins, Catherine Amber and Madeline Nicole. The pair joins big sister Elizabeth. The family lives in Lockport, Ill.

Carolyn Harman, MU DVM '97, recently opened a new clinic in Marshfield, Mo. Dr. Harman previously served with the US Army as

veterinary services branch chief at Fort Leonard Wood and as an associate veterinarian in Springfield, Mo. The new clinic is called the Webster County Veterinary Hospital.

Kasie Nelson, MU DVM '99, in October 2002 opened the Animal Clinic of Sarcoxie in Sarcoxie, Mo.

00's

Angela Holt, MU DVM '00, and her husband Mark, announced the birth of a daughter in October 2002. The couple named the 7 lb., 4 oz. girl Devyn Jayne. Dr. Holt also reports that she has accepted a new job at the Chipman Road Animal Hospital in Lee's Summit, Mo.

In Memoriam

Floyd Coley, MU DVM '50, died Jan. 29, 2003 in Boonville, Mo. He attended Wayne State Teachers College and was a teacher for two years in Stanton County, Neb. He received his bachelor's degree in agriculture in 1941 from the University of Nebraska. He served in the US Army from 1942 until 1946 in the Southwest Pacific, and achieved the rank of major. He practiced veterinary medicine in Boonville, Mo. until his retirement in the 1990's. He married Roselyn Genevieve Peterson on June 6, 1942, who survives. He is also survived by his two sons, James Scott Coley and Douglas Kent Coley, both of Columbia.

William J. "Bill" Minor, MU DVM '50 of Arlington, Virginia, died Dec. 18, 2002. He is survived by his wife, Bethene Minor; and children William, Laird, John, and Timothy Minor. Seven grandchildren also survive him.

C.J. McCormick, MU DVM '52 of Monnett, Mo., died May 12, 2003. Dr. McCormick was one of 12 children and born in Holland, Mo. He served as a B-17 bomber pilot in World War II and completed 25 missions over Germany. Before entering the MU College of Veterinary Medicine, he taught agriculture at Poplar Bluff High School. He established a veterinary medical practice in Monnett in 1952, practicing first from his home and later at the Monnett Veterinary Clinic. He practiced for 32 years, retiring in 1983. He is survived by his wife, Wylla Jeanne Newell McCormick, and two sons, Don McCormick, MU DVM '76, and Alan McCormick.



Dr. Burl "Zack" Pfander, MU DVM '52, died August 15, 2003. He was born May 22, 1926, the son of John and Grace Pfander in Jasper, Mo. The Pfander family moved to a dairy farm in Barton County in 1940. After service in the US Army, Dr. Pfander graduated from MU in 1952 with a Bachelor Degree in Agriculture and his Doctor of Veterinary Medicine. He opened his first practice, the Cottage Veterinary Hospital, in Springfield, Mo., which is now operated by his son, Michael Pfander, MU DVM '82. Dr. Pfander was a member of the American Veterinary Medical Association, the Missouri Veterinary Medical Association, and the American Animal Hospital Association. Dr. Pfander's wife, Reba, survives him.

James W. Hubbard, MU DVM '54 who lived in Scottsdale, Ariz., passed away, July 9, 2003. He was born October 8, 1927 in St. Louis, Missouri. A retired

veterinarian, he attended Washington University in St. Louis, graduated from the University of Missouri, and was a member of the Sigma Nu fraternity. He served in the U.S. Army during WWII and practiced veterinary medicine in Phoenix for 36 years. He was preceded in death by his daughter Mary Kathryn Hubbard. Survivors include his wife Patricia Burke Hubbard. Daughter: Susan Elizabeth Godbey. Son: James Blythe Hubbard. Stepson: Steven Burke Hubbard. Four grandchildren and three step-grandchildren.

Robert S. Groves, MU DVM '55 of Eldon, Mo., died July 20, 2003, at Osage Beach, Mo. He was born Oct. 31, 1929 in Mexico, Mo., the son of Clifton Groves and Helen (Moore) Groves. He was married July 5, 1958 to Mary Joan (Leitner) Groves in Kansas City. Survivors include one daughter, Jo Ann Groves, Shawnee, Kan.; three sons, Alan Groves, Eldon, Mo., Stephen Groves, Jackson, Mo., and John Groves, Barnett, Mo.; one sister, Carol Abernathy, McFarland, Wisc.; and one brother, Clarence Groves, Mexico, Mo. Dr. Groves practiced in Eldon for nearly fifty years.

Edward Lee Snider, MU DVM '63 of Cape Girardeau, Mo., died June 15, 2003, at his home. He was born March 10, 1930, in Stoddard County, Mo., son of John T. and Emma Lee Cliff Snider. He and Lurlyne Lee Kincy were married Aug. 19, 1950, at Dexter, Mo. Dr. Snider was owner and operator of Skyview Animal Clinic. Survivors include his wife; three sons, Ray Dennis Snider, Ralph Lee Snider, and Dean Ryan Snider; a daughter, Jan Ellen Grammer; two brothers, Harold "Pete" Snider, Dr. Glen Snider; two sisters, Dorlus Moore and Betty Irvin; nine grandchildren; and two great-grandchildren.

Dennis Stuttgen, MU DVM '77, died at his Fall Creek, Wisc. home on Dec. 17, 2002, a victim of cancer. He was born on March 13, 1948 and grew up on the family dairy farm in Stanley, Wisc. He owned a mixed practice in Fall Creek for 19 years. Prior to that, he practiced in Cadott and Loyal in Wisconsin. He was a member of the Wisconsin Veterinary Medical Association. He is survived by his wife, Jayne Stuttgen; a daughter; and two sons.

John P. Cousins, MU DVM '79, died unexpectedly in Kansas City on July 4, 2003. Dr. Cousins was born in Worth County, Mo. where he was raised with three sisters on a farm. He is survived by his wife, Mary Jo Cousins, and children Ashley, Dane, and Jill Cousins. Dr. Cousins owned the Animed Animal Hospital in Blue Springs, Mo.



MUGS UP

It's an unlikely historical artifact. With blazing neon lights by night and bustling carhops at noon, the Mugs Up Drive-In in Columbia, Mo. is a living and working throwback to the early days of the drive-in restaurant.

Want a taste of nostalgia, figuratively and literally? Head for the fifties-era drive-in tucked behind a bar and Mexican restaurant off old Highway 40 in Columbia. While conventional wisdom says that businesses must change with the times, the Mugs Up has survived because it is doing everything the same way that it did a half-century ago. Other Columbia drive-ins have closed or changed, but the Mugs Up endures.

The Columbia Mugs Up, and a twin in Independence, Mo., are the only remaining locations of a chain founded by in the early 1950's by Jim Heavey of Raytown, Mo. At its peak, the company had 60 locations from Arizona to Florida. In 1955, Columbian Ray Kewley recognized that a Mugs Up would do well in a college town.

From there, it was on to the hottest food fare of the era: Zip Burgers, Cheese Zips, and Chili Cheese Dogs, washed down a root beer float called the Black Cow or an orange and ice cream concoction called the Orangearoo. There was also that fifties' standby, the Cherry Coke.

The original location of the Mugs Up was on Orange Street, a couple of hundred feet south of Highway 40, Columbia's main drag. Business suffered as other drive-ins began to crowd in on the highway, so Mr. Kewley picked up the facility

and moved it to where the action was.

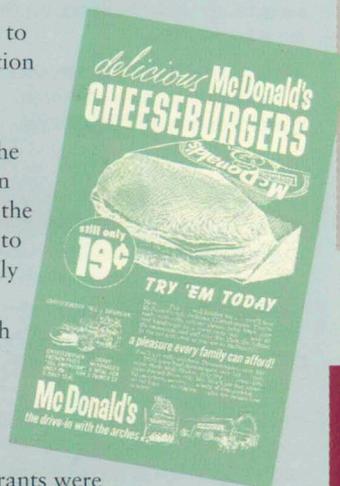
Business boomed on the new spot even as Mugs Up, the chain, began to falter. Basically one-room buildings with awnings to protect customers' cars, the franchised restaurants were too small for anything but a small family business. When others converted to corporate ownership, costs outstripped what the facilities could generate. The Columbia Mugs Up persisted, however, because its ownership never left the Kewley family. Today, the third generation of the family practices the ancient art of carhopping. It prospers because it has remained a family business, serves great food, and has developed something unique in the restaurant business today, a lasting relationship with a loyal clientele.

A Tasty History of Columbia Drive-Ins

History credits the first drive-in restaurant to be an A&W roadside stand that opened in California in 1923. Root beer and hot dogs were a natural combination for motorists—simple food that was easy to hold.

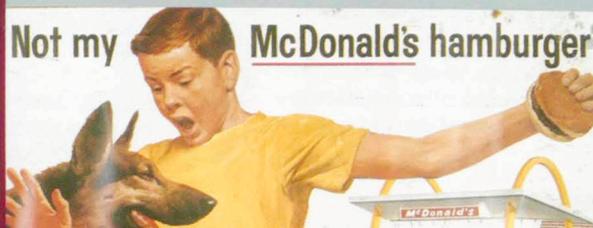
The genre took off in 1953 when two Illinois schoolteachers looking for a profitable summer venture founded Dog n

Suds. Success came quickly and soon the pair had franchised drive-ins as far west as Kansas. The chain may have invented, or certainly popularized, the drive-in concept where patrons parked in individual parking bays and ate in the car.



Nostalgia and Tradition
Keep an Original
Drive-In Afloat

While Its Columbia
Competitors Have
Closed or Changed





A Survivor from the 50's

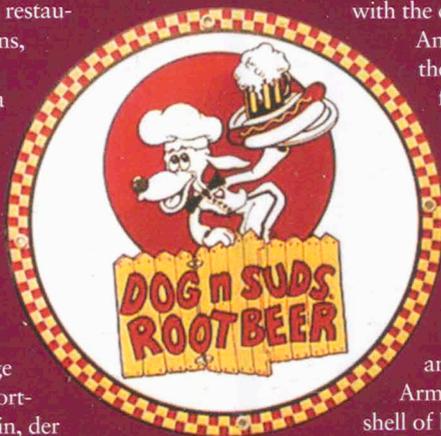
Carhops—waitresses—shuttled orders and food. Dog n Suds also popularized a food-holding tray that would fit onto a partially opened car window.

Menu specialties were just what the name implied—hot dogs and root beer. Twelve-cent hamburgers and 15-cent cheeseburgers were featured on those early menus.

Dog n Suds was Columbia's second drive-in chain restaurant and opened around 1957 on the corner of Highway 40 and Providence Road. The franchise faded in the 1970's:

In 1975, the Columbia restaurant, like many locations, was bought by Sonic Drive-Ins of Oklahoma City. Columbia's original Sonic was torn down in Summer 1981. A new location was opened on Business Loop 70 in June 1988.

Hot dogs—German style—were center stage with another, albeit short-lived, Columbia drive-in, der Wienerschnitzel. This facility operated from the late sixties to early seventies. It featured the brand's signature red A-frame roof with a revolutionary center drive-through lane. No longer in the Midwest market, the company is still in business with 300 stores in ten western states and Guam.



Industry giant McDonald's began with one restaurant in 1955 in Des Plaines, Ill. Columbia's Highway 40 store was an early franchise location that opened in 1959 and featured the company's original golden arches where patrons walked up to an outdoor window. Later, an angled-glass enclosure and stainless-steel counter were added. You could sit on one of the red vinyl-covered stools or take your 15-cent hamburger and 25-cent malt back to the car. The original Columbia facility was torn down in the 1970's and replaced with the current McDonald's.

Another Columbia franchise, the Zesto Drive-In, operated from the late sixties through the early eighties. It was notable for its soft-serve creations—ice cream, 14 kinds of sherbert, and weird sundaes like Peach Cobbler (not cobbler at all, but a concoction of ice cream, caramel syrup, nuts, and fresh peaches) and the Armadillo (a sundae with a hard shell of butterscotch). The Columbia Zesto closed and was replaced by a Rax Restaurant with their signature roast beef sandwiches. The economic malaise of the late 1980's forced this chain into bankruptcy. Though gone from Columbia, two Zestos still operate in Jefferson City.

An Era Fades...Almost

By 1969, the drive-in industry was in trouble. Teenagers used the businesses for "cruising." They gridlocked lots by driving in endless loops, honking at their friends.

Rising labor costs hurt, too. Owners eliminated carhops with walk-up windows where customers retrieved their own food. Many community "beautification" efforts targeted the gaudy-painted businesses. Later, Vietnam-era teenagers snubbed drive-ins that they associated with their parents' generation.

One by one, the drive-ins' neon signs flickered off for the last time.

Through this turbulent era, Mugs Up survived. In 1969, a local BBQ joint, Tennessee Jed's, wanted the Mugs Up's Highway 40 location, so the Kewleys hauled the building back to Orange Street where it is today.

Larry Kewley, second-generation owner of the place, said it has survived because it has kept its unique '50's style—in architecture, menu items, and carhop curb service. And, it's also become a tradition, now with three generations of Columbians.

Throw in the occasional classic car meet, and it's not a bad way to visit an historical artifact. **VMMR**

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- Donate items to be auctioned at the benefit. Typical items include artwork and paintings, veterinary medical supplies, furniture, books, timeshare vacation packages, tickets to sporting and other events, and items that will warm the hearts of animal lovers.
- Be an individual sponsor by donating cash to the Gentle Doctor Benefit.
- Be a corporate sponsor by donating \$1,000 or more to the GDB. Corporate sponsors are provided a full-page ad in the GDB program, are included in mailings to more than 6,000 individuals across the nation, and are provided an eight-person table at the event for friends, clients, or employees.
- Attend the Gentle Doctor Benefit and encourage others to attend as well.



How Will The Funds Be Used?

Currently, the Gentle Doctor Benefit is committed to raising at least \$100,000 for an endowed scholarship fund for veterinary medical students.

For More Information

Lisa R. Jones
Special Events Coordinator
COLLEGE OF VETERINARY MEDICINE
W211 Veterinary Medicine Building
University of Missouri
Columbia, Missouri 65211

Phone: (573) 882-5972
Toll Free: (888) 850-2357
E-mail: JonesLR@missouri.edu

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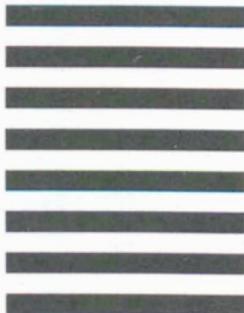
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