



Who's Minding the Animals?

The number of veterinarians electing to live in rural America to tend to cows, pigs, and other food animals is the lowest in 70 years. But not everyone—many farmers and vets included—agrees that this trend is a problem.

By Greg Breining ■ Photographs by Sher Stoneman

Dr. Larry Goelz (B.S. '94, D.V.M. '96) makes house calls, driving the rural highways and back roads of Minnesota, South Dakota, and Iowa in his black GMC pickup. His patients are mostly cows and horses but might include sheep, pigs, and just about any other farm animal or pet. "If your vision of large-animal veterinarians is James Herriot," says Goelz, "things have changed a lot."

James Herriot, of course, was the modest British country vet turned author whose heartwarming stories portray the close-knit and somewhat isolated communities in the bucolic North Yorkshire countryside in the World War II era.

But farming—in the midwestern United States and elsewhere—is no longer a business of small farms, mixed agriculture, and parochial relationships. In the broad sweep of farmland around Pipestone, Minnesota, dairy and beef cattle operations number in the hundreds of animals. New swine barns hold a thousand pigs.

In Pipestone County, the ratio of farm animals to veterinarians is 30,000 to 1. In adjoining counties, the ratio is 100,000 to 1. Veterinary clinics have grown, consolidated, and specialized. Some counties have no resident veterinarians at all, and vets travel to fill the void. Goelz figures he drives an average of 134 miles a day.

Some of Goelz's colleagues at the Pipestone Veterinary Clinic travel even more widely. "When I graduated in 1981, you [worked] in Pipestone County and that was it," says Gordon Spronk (B.S. '79, D.V.M. '81), a senior partner. He was one of two vets at the clinic back then. Now there are 14. Spronk recently returned from China, where he consulted about swine, his specialty.

With rising big ag, a declining rural population, and increasing specialization in agriculture, "there's concern that there are fewer veterinarians who can respond to the needs of the food ani-

Left: Dr. Larry Goelz (right) performs a vasectomy on a ram lamb in the back of a trailer as vet tech Del Ford holds the animal still.



mals in rural communities," says Trevor Ames (M.S. '91), dean of the University of Minnesota's College of Veterinary Medicine. In a state that ranks first in the nation in turkeys, third in swine, and in the top half-dozen in dairy cows, says Ames, "keeping those animals healthy plays a significant role in keeping the state's economy healthy."

Professionals in veterinary medicine worry that rural areas don't have enough food-animal vets and that the situation will grow worse, compromising the welfare of farm animals, threatening the nation's food supply, and even endangering public health. "Veterinarians affect the lives of Minnesotans every minute of every day," Ames says.

According to a recent essay in the *Journal of the American Veterinary Medical Association*, the number of vets choosing careers related to food animals is the lowest in 70 years. Fewer than 14 percent of American Veterinary Medical Association members reported that they worked in practices related to food animals. The association reports that the vet-to-food-animal shortage is most acute through the Great Plains, from Texas to southwestern Minnesota.

Writes Jennifer Walker, veterinary epidemiologist with Dean Foods of Dallas and author of the essay, there's "increasing concern that traditional rural, mixed-practice [food-animal vets] are on a path toward extinction."

A day in the life

Goelz, who grew up on a farm near Redwood Falls, Minnesota, pulls into the Pipestone Veterinary Clinic on the south edge of town about 7:30 a.m. He picks out supplies and loads them into his pickup. He

pulls on green coveralls and rubber overshoes, and then he climbs behind the wheel and drives north through town.

The clinic is a mix of specialists and generalists, he explains. Several work almost exclusively on swine. One tends to dogs and cats. Goelz is an authority on cattle and horses. “That specialization has increased more and more as operations have gotten larger,” he says. “Our clients have millions of dollars on the line. They want the best, and they want somebody who focuses on that solely.”

But, he adds, “When you’re on call you do anything that needs to



Top: Goelz often eats his meals as he drives from farm to farm and frequently travels with a box of pastries in the cab.

Bottom: Goelz consults with Pipestone Veterinary Clinic staff member Angie DeGroot as staffer Scott Crawford talks on the phone.

be done: pull a calf, do a C-section on a dog, surgery on a cow, suture up a cut horse.”

Along Buffalo Ridge, sunshine glints off the blades of wind turbines as Goelz turns into Mike Zeinstra’s farm. Today Goelz is conducting pregnancy

checks on several dozen cows that were artificially inseminated a month earlier. The average cow in Zeinstra’s herd of 550 produces 86 pounds—10 gallons—of milk each day. Unnecessary periods of infertility mean a loss of production. Says Goelz, “There’s tremendous economic advantage to getting them pregnant early.”

Goelz slips on a backpack carrying a portable ultrasound unit; a streamlined plastic-covered sensor dangles from a long cord. He steps into the sprawling barn where Zeinstra and several hands herd cows through one of three daily milkings. The morning is warm

but the barn is cool and breezy with the heavy aroma of manure. After milking, the cows file down the “return lane,” their hind ends presented so Goelz can walk behind each animal.

He pulls on a disposable glove that reaches to his left shoulder and plunges the sensor, and his arm up to the bicep, into the cow’s rectum. Within seconds he captures an ultrasound image of the uterus, which he views on a tiny monitor he wears like a jeweler’s eyepiece. Goelz sees a fetus. “Pregnant,” he calls out, and Zeinstra takes note on a clipboard. And so on, one cow after another. “Pregnant.” Or “She’s open”—that is, not pregnant and ready to be bred again.

In decades past, food-animal vets primarily cared for sick or injured animals. Today, focus is less on the individual animal and more on managing the herd. Vets pay visits to dozens of farms to evaluate health, handle vaccinations, test for pregnancy—all on a schedule—serving the needs of a large farm in a single visit and making a long drive practical.

Because veterinarians routinely see a lot of animals over a broad area, they “serve as the first line of defense against disease outbreak—diseases that potentially affect humans, such as TB,” says Goelz. “One of the concerns is that if there’s not a lot of veterinarians around, it won’t be possible to identify a disease outbreak quickly enough. So, obviously, the federal government has a huge interest in having veterinarians all around the U.S. trained to identify these diseases and notify the authorities whenever we suspect them.”

Goelz tells several stories about disease outbreaks he’s witnessed, including in 1999 when pseudorabies was in the final stages of national eradication. As a student, he recalls thinking he’d never see the disease. “Three years later there were outbreaks across the Upper Midwest,” he says. “I diagnosed it three times myself, and as a group we were involved in a dozen outbreaks on farms. It was a very memorable, eye-opening experience, particularly when you consider the amount of animal movement in today’s agriculture.”

Goelz grabs his bottle of Diet Pepsi—with his right hand—and drinks. It’s difficult to recruit more people to food-animal veterinary practice for several reasons, he says. Pay is comparable to companion-animal practices in towns and cities but the hours are longer, and physically handling livestock is taxing. Goelz has had arthroscopic surgery on his knee to remove part of a damaged meniscus and has also ruptured a disc—injuries he attributes to the wear and tear of shoving large animals around. “It’s not a matter of if you get hurt, but when and how bad,” he says.

The biggest issue seems to be farm country itself. “How do you attract someone who is 25 or 30 to a rural area?” Goelz asks. Of his colleagues in Pipestone, nearly every one grew up on a farm or in a small town. “We don’t exactly have an opera house here. It helps that we’re only an hour from Sioux Falls [South Dakota]. But for most people who grew up in a metro area, Sioux Falls isn’t big enough.”

Responding to a shortage

Do we have enough food-animal veterinarians?

Maps by the American Veterinary Medical Association would say no. They show counties in southwestern Minnesota where the ratio of farm animals to vets is 100,000 to 1. Several counties in western Minnesota have tens of thousands of farm animals and no vets at all.



Above: Goelz drains and cleans an abscess on a Holstein heifer at the Pipestone Livestock Auction Market. Right: Goelz injects an anti-inflammatory drug into Terrie Petersen's horse Beau, who had a hoof infection called laminitis.

The U.S. Department of Agriculture would say no too. Its National Institute of Food and Agriculture has designated portions of central, west central, and northwestern Minnesota as "shortage situations" for the purposes of a federal education loan-repayment program designed to lure veterinary graduates to underserved rural areas.

But most farmers seem to be getting by. "I've learned to do an awful lot of it myself," says Art Krahn, who milks about 40 cows and has 80 beef cattle on a farm near Warroad, Minnesota. His vet is located 40 miles away, in Greenbush. "It's not that he's not a great vet. But that guy runs long and hard. I know that," he says. "I do call and consult once in a while to get the right medications."

Ron Homan, who runs a 1,300-pig farrow-to-wean farm near Hector, Minnesota, says it's vital to have a vet when he needs one but not necessary to have a vet close at hand. He even trucks ailing pigs to University of Minnesota diagnostic labs in St. Paul 100 miles away. "If you've been in the industry long enough, you get to know those people," he says. "You want the healthiest animals you can have."

Yet veterinarians see danger in a potentially diminishing pool of students willing to become food-animal vets. "If there are fewer farm kids growing up in agriculture, I think that reflects itself in the



pool of people that apply to veterinary school and have an interest or desire to work with farmers in food-animal production," says Jeff Feder (B.S. '95, D.V.M. '97), a veterinarian at the Swine Vet Center in St. Peter, Minnesota.

At the University of Minnesota, the College of Veterinary Medicine has launched or helped develop several recent initiatives to prepare and encourage students to practice food-animal medicine.

The fast track. Eight years ago, the College of Veterinary Medicine developed the Veterinary Food Animal Scholar Track, or VetFAST. Students in animal science who qualify by high-school rank, ACT

score, and food-animal experience can apply to veterinary school at the end of their freshman year instead of waiting until their junior or senior year. They're guaranteed acceptance if they maintain a 3.4 grade-point average and complete internships in mentored veterinary experiences. Students can apply veterinary credits to an animal science degree, shaving a year off the time required to earn both degrees. This year, the program will accept about nine freshmen, says Ames. "Kids from rural communities who worry about getting lost at the University all of a sudden can see a career path," he says.

Carissa Odland (B.S. '06, D.V.M. '09), who grew up on a sheep farm near St. Peter, enrolled in VetFAST as a freshman. "The key advantage was that it really helped you to focus," she says. "I knew that I wanted to work with livestock. The small group of people who were also in the VetFAST program would help each other out." VetFAST students benefit from early mentorships with veterinary faculty and gain an inside track on summer internships and scholarships. After earning her doctorate degree, Odland joined the Pipestone Veterinary Clinic.

Loan forgiveness. The high cost of a veterinary medicine degree and modest starting salary can keep students out of the field altogether. The average indebtedness of a new graduate is \$120,000, roughly twice the average starting salary.

"These students are getting out of school with a significant debt load that is an albatross around their neck," says state Senator Steve Dille (B.S. '67, D.V.M. '69), of Dassel, himself a large-animal vet before he entered politics. "If we can provide some incentive for young people to go out in the country where the large-animal veterinarians are really needed... once they stay five years they generally stay for the rest of their productive life."

To reduce the barrier of debt, Ames has worked with Dille and state Representative Mary Ellen Otremba, of Long Prairie, to develop a state loan forgiveness program. The program funds payments of as much as \$15,000 a year for up to five years to College of Veterinary Medicine students and graduates who agree to take a full-time job working with food animals in rural Minnesota.

The federal government offers a similar plan. The U.S. Department of Agriculture's Veterinary Medicine Loan Repayment Program will pay up to \$25,000 each year toward educational loans of eligible veterinarians who agree to serve for three years in areas where the National Institute of Food and Agriculture has designated a shortage of vets, including parts of Minnesota.

Public health vets. Contagious animal diseases have always concerned vets. But the threat of terrorism and appearance of diseases such as swine and avian flu that potentially may pass between humans and animals have stoked interest in public health veterinarians in agencies such as the U.S. Food and Drug Administration and Centers for Disease Control and Prevention.

"What do you do when you have an outbreak?" asks Scott Wells (Ph.D. '92), professor of epidemiology, public health, and food hygiene at the University of Minnesota. "Or a natural disaster of some sort? Or some sort of bioterrorism?" To better meet these animal-human health concerns, the U's College of Veterinary Medicine and School of Public Health have developed a joint degree program in which more than 100 students are enrolled.

"Veterinarians are our first line of defense," says Ames. A classic example was an outbreak of avian pneumovirus, a respiratory disease in turkeys that spread through the Upper Midwest, primarily Minnesota, a decade ago. Within five years, University vets had



Above: Dairy cattle at the New Sweden Dairy. Top right: The New Sweden Dairy features a 72-cow rotating milking parlor that milks cows 24 hours a day, except for two 45-minute cleaning periods. Bottom right: University of Minnesota veterinary medicine students Stephanie Stewart (front left) and Alexandre Scanavez (right) conduct pregnancy checks on cattle at the New Sweden Dairy as classmate Jessie Liebenstein looks on.

developed diagnostic tests and vaccines, Ames says. "The whole disease control system is based on initial detection by practicing veterinarians."

Better clinical facilities. The best way to prepare more veterinarians is to give them an excellent education. The College of Veterinary Medicine this spring opened new teaching facilities at New Sweden Dairy near Le Sueur, Minnesota. "It's a very efficient way to teach," says Ames. "You can have them in a classroom, then you can walk right out and show it to them."

New Sweden Dairy is a state-of-the-art farm owned by Davisco Foods International, headquartered in Le Sueur, which also owns nearby Northern Plains Dairy. Together, the dairies employ about 75 people and milk some 7,000 cows. The U doesn't own the dairy, but the College of Veterinary Medicine did help plan it and raised funds for an academic building at the dairy that includes offices, classrooms, laboratories, and dorms for up to 24 students.

The college has had teaching facilities at a working dairy in the past, as well as a swine facility, but nothing on the scale of New Sweden. The dairy calved more than 7,000 cows in the past year, providing an outstanding opportunity for veterinary students to observe and treat animal health problems. "Sooner or later, [an animal] is going to get sick," says John Fetrow, University professor of ruminant health management. "Ordinary clinical events will happen that we can then use to teach our students. How do you diagnose it? How do you treat it? There's a wealth of clinical teaching material



here without having to drive from farm to farm.”

The centerpiece of the dairy’s commercial facilities is a 72-cow rotary milking parlor, like an elevated bovine merry-go-round. As cows revolve, milkers disinfect teats, dry them, apply the milking machines, and then disinfect the teats again before the cows step off one by one and return to stalls. Within 20 seconds of milking, the milk is chilled to 34 degrees and piped directly to a waiting tanker truck. Says Fetrow, “Within 12 to 24 hours of coming out of the cow here, it’s a 40-pound block of cheddar cheese in a cooler.”

Selling the good life

The University must sell the benefits of rural life, says Pipestone vet Spronk, who serves on an advisory panel for the College of Veterinary Medicine. “We’ve got to say, ‘Listen, there’s something noble about raising food. And there’s a purpose in life in being back on the farm and feeding the world.’”

For the dwindling few who actually do come from farms, no salesmanship is necessary. Scott Vanderpoel grew up on a farm in southwestern Minnesota, studied animal science in South Dakota, worked for a summer in a veterinary clinic, and decided veterinary medicine is where he wanted to stay. “I really enjoyed the profession and the industry,” he says. He recently was accepted to the U’s College of Veterinary Medicine. For him, becoming a vet was a way to stay in farming without becoming a farmer. “A lot of farm kids don’t go back to the farm but go into a different part of the profession.”

That’s not news to a grown-up farm kid like Goelz. Living in ag country is a plus, not a minus. He and his family live on a farm five miles from the Pipestone clinic. “If you grew up on the farm, you



want that peace and quiet,” he says.

Through the remainder of his workday, Goelz tends to a variety of chores reminiscent of old-time medicine. He stops at a small sheep farm to fix anal prolapses—distended rectums—of three sheep. He stops on the edge of town to check the progress of a riding horse with laminitis, a common hoof infection.

Shortly after noon, he swings through the Pipestone McDonald’s to pick up lunch and drives back to the clinic to do paperwork and grab additional supplies.

By mid-afternoon, he’s back on the road to a small farm southwest of town to do more pregnancy checks. “I love what I do,” he says. “So I’m happy.” ■

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