

RABIES ALERT

Knowledge precaution and vaccination can keep you and your livestock safe against this deadly disease.

It was about 9 o'clock on a warm spring evening. The couple was relaxing in the TV room of their farm house watching a movie. Suddenly they heard a sound outside. It seemed to be coming from their herd of cattle pastured in the field next to the house. The eerie noise had an almost unearthly quality and was gaining in intensity.

The man moved quickly, calling his son who was in another room, while pulling on his boots. Both ran for the pickup parked in the driveway. The hilly pasture was bordered by a paved road on the top side and a dirt road on the lower side. Driving on the dirt road, they cut into the field staying on the outer perimeter of the fenceline while shining a spotlight on the herd. The group of Angus cows and calves were gathered together looking at something in their midst. As the truck drew nearer, the cattle parted, and the beam of light shone on a wild-eyed raccoon with ruffed-up fur. The animal was staggering and acting strangely. Both men immediately suspected rabies since the disease was on the upswing in their state.

Seeing an avenue of escape, the raccoon made a run in the direction of the nearby woods. The cattle pursued the raccoon, butting and kicking at it. When the animal ran under the fence, the man gunned the truck, overtook the animal and ran over it with the left front tire. The husband hoped that he had missed the head. He knew the brain would have to be intact for diagnosis at a state laboratory.

The following day their local veterinarian gave them instructions on how to ship the raccoon to a laboratory. The animal was to be handled with rubber gloves, packed in several plastic bags, then placed in a styrofoam cooler with an ice pack, sealed in a cardboard box clearly marked "laboratory specimen" and shipped by United Parcel Service. Inside the cardboard box was to be a narrative of the circumstances under which the animal had been obtained along with the addresses and daytime phone numbers of all people involved.

The specimen was received at the Pennsylvania Department of Agriculture Summerdale Laboratory the following day. Tom Wampler, virology supervisor of

the lab, examined the brain of the raccoon. Luckily, the results of the test for rabies proved to be negative. Wampler says he suspects the raccoon made the unfortunate mistake of wandering into a herd where the cows were being naturally protective of their calves.

"I think we have come a long way in controlling rabies. Much of this due to our program for vaccinating dogs and cats reduce number of strays. We also have less exposure to wild animals because of urbanization. Still, we cannot seem to eradicate the disease since it is prevalent in wildlife "

— Dale Moore, DVM

In the event the animal had tested positive, Wampler would have notified the Pennsylvania Department of Agriculture in Harrisburg. "When we report an animal has tested positive for rabies to the ag department, our responsibility stops," he explains. "The ag department will then report to its regional office in the area where the specimen was found and to the veterinarian or owner who submitted it. The regional officials visit the farm to discuss the types of exposure that may have occurred and to review the vaccination history of the herd and other animals that may have been exposed. Depending on exposures, the ag department may quarantine the farm for a period of 180 days. If the animals are vaccinated or the exposure is questionable, the time could be shorter."

Wampler says all warm-blooded animals are susceptible to rabies, although generally the disease is associated with wild animals such as the skunk, bat, raccoon and fox, with cats and dogs being the carriers among the domestic species. Many people forget that cattle, sheep, horses, goats and all other livestock are counted in with the domestic species.

Even though the percentages testing positive are not large, Wampler advises cattle producers to be on the alert for possible rabies cases on their farms.

The figures at the Summerdale lab, which is one of three in Pennsylvania, would confirm that rabies cases in cattle, although infrequent, are still occurring. In 1988, when the outbreak of rabies was on the increase in the state, of 1,551 overall cases tested, 7.6 percent were positive; of 116 bovine tested, 12 percent, or 14, were positive. In 1993, of 1,208 overall cases tested, 22.4 percent were positive; of 83 bovine tested, 2.4 percent, or two cows, tested positive.

In 1992, of 1,071 overall cases tested, 26 percent were positive; of 77 bovine tested, 15 percent, or 12, were positive. "This was one of the highest percentages in recent years, but I like to see at least 100 animals checked before we put a lot of emphasis on percentage of positives," Wampler explains.

According to the Center for Disease Control (CDC) in Atlanta, Ga., the rabies virus is found in every state with the exception of Hawaii. Of all rabid animals reported throughout the country in the 1990s, domestic species accounted for 8.9 percent. In 1993 cats led the list of domestic species, with cattle being second and dogs third. CDC reports rabies in livestock is most common in late spring/early summer and in winter, possibly reflecting the preceding seasonal peaks in skunks.

Dr. Dale Moore, Extension veterinarian for Penn State College of Agricultural Sciences, says even though figures show rabies in livestock does not occur in large numbers, it is potentially dangerous. This is due mainly to the fact most producers do not consider taking precautions against the disease when cattle become ill. She cautions that rabies in cattle can mimic many other diseases, since the virus localizes in the brain and disrupts the central nervous system.

Moore advises cattle producers to watch for signs of rabies in their animals. These can include abnormal behavior such as becoming aggressive or passive, bellowing frequently, staggering and falling down, and suffering paralysis of the throat.

VET CALL

Cattle salivate excessively and may appear to be choking.

"Many times when people see this they will typically respond by sticking their arms in the animals mouth in an effort to relieve the obstruction. This is akin to submerging your arm in a sea of saliva," Moore says. "If there is a wound on the hand or arm or scratches from the animal's teeth, there is exposure to the disease."

If the animal tests positive, then the person must go through a series of shots that are now given in the arm. "I have always warned veterinary students to be cautious if they are working with cattle suspected of having rabies. Although we had previously thought there were no documented cases of humans contracting the disease from cattle, I recently heard of two cases in South America," Moore says.

Moore encountered her first case of rabies in cattle while she was a resident at the University of California. "I had an Angus cow come in that was flat on her side. The owner indicated the animal had been repeatedly running like crazy and then falling down. He had been treating the

cow for what he thought might be a brain infection, but her condition had continued to deteriorate. She died shortly after coming to the clinic and tested positive for rabies. Several days later, he brought another cow in from his herd that also tested positive."

It was necessary for the owner of the cattle to undergo treatment because he had been exposed to the disease. He later recalled he had seen his herd congregated around a skunk in one of the pastures. Moore says it is highly unusual to have more than one animal bitten in a situation such as the one the owner described, but it's not impossible. When there is an exposure, other animals in the herd should be vaccinated to prevent additional cases stemming from exposure to other rabid wild animals in the area. After diagnosis of rabies, the cattle are usually quarantined for six months.

Moore notes that cattle are typically bitten on the nose or hind legs when they encounter a rabid wild animal. "Since they are naturally curious and try to smell the animal, the nose is a prime target. The virus is transmitted through the saliva of the biting animal. It localizes around nerves at the site of the bite and travels up the nerves to the animal's brain where it does its damage. Naturally the disease will manifest itself more

quickly from a bite on the nose than it will from one on the hind leg, but the incubation period is quite variable from weeks to as long as a year."

If a cattle producer has knowledge of diagnosed rabies cases in the area, vaccination is strongly recommended. It is also recommended that rubber or latex examination gloves be worn when examining an animal's mouth. If a bite or scratch should occur, wash the wound with soap and flush with water for about 15 minutes. See your doctor immediately.

States such as New York have taken steps to control the disease by putting vaccine in bait for wild animals. People should always be alert to rabies symptoms in livestock and other animals on the farm, Moore advises. The people who work on the farm, as well as all farm animals and livestock should be vaccinated in areas where there is a confirmed high incidence.

Despite efforts to minimize rabies in the animal population, human exposure to the virus still occurs. Even though there aren't as many cases reported in humans in the United States as there were in the past, it is still a fatal disease without any cure.

— **Janet E. Mayer**