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BRUCELLOSIS-INFECTED CATTLE TESTED AT STATE VET LAB

University of Wyoming experts will be players in cutting-edge brucellosis research following their role as part of a team of federal and state officials who conducted necropsies at the Wyoming State Veterinary Laboratory (WSVL) in Laramie on the 31 cattle from Sublette County that tested positive for the disease in December.

The official results of tissue examinations on the reactor cattle will be released by the National Veterinary Sciences Laboratory (NVSL) in Ames, Iowa, in about three weeks, according to Professor Donal O'Toole, WSVL director and head of the College of Agriculture's Department of Veterinary Sciences.

As a result of the collaborative efforts on the part of WSVL, the National Animal Disease Center, NVSL, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) and the state veterinarian, UW researchers collected a set of tissues from the animals for additional investigation.

The University of Wyoming and the United States Department of Agriculture cooperate.

The researchers, led by UW Associate Professor Don Montgomery, a veterinary pathologist, will establish which of three laboratory methods is most sensitive in confirming a diagnosis of brucellosis in reactor cattle. “The study may also allow a comparison to be made between *Brucella* strains from cattle with isolates from elk in the affected part of Sublette County,” O’Toole says.

“It’s kind of late in the brucellosis story to be finding this out, but nobody has really done this type of investigation,” O’Toole says. In the decades-long U.S. fight to eradicate the disease, cattle have traditionally been slaughtered as opposed to necropsied for further study.

Meanwhile, the collaborating agency representatives who converged in Laramie have heaped praise on UW for its role in helping to process the infected cattle in a safe and timely manner.

“Because we had such a high number of reactors that tested so strongly positive, we had real safety concerns about moving them through interstate commerce and about the potential hazards of exposing slaughter plant workers to the disease,” explains Bret Combs, the area veterinarian in charge of APHIS Veterinary Services. “From our standpoint, being able to euthanize the animals and perform the necropsies in the controlled environment of the lab was a good deal that saved us a lot of headaches,” he adds.

Brucellosis, which causes cattle to abort, can cause an acute as well as chronic and potentially serious flu-like illness in humans if they become infected through handling the animals. About 100 to 200 cases of brucellosis occur in people each year in the United States, according to O’Toole.

Wyoming State Veterinarian Jim Logan says he wants to thank WSVL personnel and everyone else who came in to work during the week to gather tissue samples. “A fantastic effort

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was put through by all of the people involved,” he says. “The trained lab personnel were able to take the appropriate security measures to avoid public health risks and to get the job done.”

Logan notes that even though meat from the reactor animals would not have been a health threat, officials did not want to give any perception that the infected animals would go into the food chain.

“The diagnostic and research samples were harvested, and the rest of the tissues were incinerated in an environmentally safe way,” Logan says. By dividing the samples among WSVL and the federal agencies, he adds, “the bigger diagnostic picture is that we will actually have some very valuable research results having done it this way.”

Montgomery, who headed UW’s efforts, notes that student workers, paraprofessionals, and veterinary professionals from a variety of disciplines were involved in organizing the necropsies.

O’Toole says it was the largest number of animals his department has worked with at one time in the many years he has been with the College of Agriculture. “We handled 31 cattle, each weighing 1,000-plus pounds, in just over two days. Hopefully everyone who worked with us is safe. Every precaution was taken,” he reports.

The initial confirmation of brucellosis in the 31 cattle was made at the state lab. The herd was first tested Dec. 2 and officially declared infected Dec. 29 by APHIS officials. Regulations require that contaminated animals must be removed from their herd within 30 days of being named as reactors.

“We want to confirm that these animals were indeed infected with brucellosis so that there’s no question they had the disease, and we want to facilitate additional research done at the National Animal Disease Center in terms of strain typing,” O’Toole says.

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In a presentation last week at WSVL, Steve Olsen of the research bacteriology lab at the National Animal Disease Center noted that since 2001 the nation has been considered free of brucellosis in all states except Texas and Missouri. If a cow from another herd in Wyoming is infected, the state could lose its brucellosis-free status and its cattle could be subject to testing and movement restrictions. Producers and state officials have already expressed concern that emergency testing of breeder cattle as a result of the outbreak could cost ranchers more than \$1 million a year.

The 31 cattle trucked to the laboratory were from a herd in the Boulder area, about 100 miles south of Yellowstone National Park and adjacent to state feeding grounds where infected elk can be found. The cattle in question had been vaccinated against brucellosis. Olsen pointed out in his talk that while a reasonable vaccine exists for cattle, researchers “are a long way” from being able to successfully vaccinate elk.

APHIS’s Combs says further testing will be required before it can be determined whether infected elk caused the outbreak. He said representatives of the Wyoming Game and Fish Department will analyze elk in the area and that other cattle herds in the vicinity of the infected one will be reexamined in the spring after calving. Recent tests on those herds revealed no sign of brucellosis.

The remaining 360 to 365 cattle in the Sublette herd will be slaughtered as a precaution. “The silver lining is that the government will pay for the cattle at fair market value,” Combs adds, noting, however, that the owner “will still lose a lot of the work he put into developing his herd.”

Combs says the governor is committed to trying to put together a task force to look at the situation in a long-term way. Other states that import Wyoming beef will likely be watching.

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“We’ll be working with all of the involved agencies to try to identify the problem and to find strategies we can give the ranchers to help them protect their herds,” Combs says.

Once that has been accomplished, he adds, “we need to sit down with a lot of folks and work out a plan for the future.”

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