



Biosecurity and Biocontainment in the United States

A look at slowing diseases down in the U.S. beef system.

by *Grace Jacobson*

Whether it's sending the kids back to school or bringing new cattle into the herd, dealing with illness is difficult, inefficient and downright miserable. When introducing new cattle into your herd or participating as a consigner in a sale, interaction with new animals can increase the risk of disease. While biosecurity is not a new concept, it's still an important issue across all animal agriculture systems.

Biosecurity and biocontainment practices include the handling and management of all aspects of the operation. Implementing a biosecurity program decreases your chances of disease, and thus increases your herd and economic productivity. These practices also ensure the safety of the global food supply.

In short, biosecurity is prevention, and biocontainment is regulation.

Historic importance

Biosecurity in the cattle industry has been an important factor for herd management and public safety since the Civil War. Bovine tuberculosis brought on the first large-scale attempt to reduce the spread of disease in 1917 when the USDA created the bovine tuberculosis eradication program. The program included depopulation and isolation practices. The economic benefits for producers were 12 times the cost to fund the program. Now, the USDA suggests a "test and slaughter" strategy if a producer believes their herd is showing symptoms of bovine tuberculosis.

In 1954, the USDA founded the cattle brucellosis eradication program. The USDA included the usage of sanitary practices for unaffected herds and isolation for affected animals. By 1992, only 700 herds were affected by brucellosis compared to the 124,000 herds in 1956.

Current state

The swine industry is a leader in biosecurity and biocontainment. Beef producers use the same principles, but not to the same extent. The three pillars of biosecurity are traffic control, sanitation and resistance.

Clay Breiner, DVM, says that over the years, the cattle industry has improved its biosecurity practices — especially sanitation practices.

"Before, using the same needle and sleeve was common practice, but now, disposable is standard," Breiner says.

Other sanitation practices include sanitizing any equipment that comes into contact with the mouths of cattle and ensuring cattle feed is sanitized before consumption and kept as clean as possible. When handling dead cattle, ensure equipment that comes into direct contact with your herd is disinfected to prevent any cross contamination. Diseases are primarily transferred from animal to animal through bodily fluids — excrement, saliva, blood, etc.

The first line of defense is traffic control and resistance. The easiest way to keep diseases out of your herd and lower the amount of traffic on your farm is to keep a closed herd. However, closed herds are not practical or economical for most producers. Therefore, vaccination programs and health papers are important.

Breiner suggests if you are selling in a consignment sale, sit down and chat with the other consigners about your risk management plans. If you don't have a plan, now would be a great time to make one.

"When you come together for an auction, you come together as one entity with equal liability," he says. "You can use your risk management plans as marketing."

Using health papers and being able to verify your herd as

free from disease is increasingly becoming standard practice.

"Do everything you can to get ready for the sale," Breiner says. "If you are seeing symptoms of a disease in your herd, test. If not, talk about your biosecurity practices."

Fencing is a standard biosecurity measure used to prevent unknown animals from coming into contact with your herd.

A vaccination program will greatly reduce chances of disease and disease spread. Purchasing new stock from an operation with a vaccination program you are familiar with helps when bringing those new animals in, too. Consult with your vet to familiarize yourself with health requirements when bringing new, out-of-state cattle in your operation and to ensure your vaccination program is a good fit.

Knowing vaccination protocol and having health papers is especially important when crossing borders. Producers taking cattle across the Canadian border follow an easier process than in the past, Breiner says.

"There was a time where Canada didn't allow cattle with a positive anaplasmosis test to cross into their country," he says. "Eventually, Canada got it. Then positive beef would come into the United States, and couldn't return because they were positive."

The Canadian Food Inspection Agency removed anaplasmosis from their federally reported disease list in April of 2014. Now, cattle that have tested positive for anaplasmosis can cross the border into Canada.

The most prominent biocontainment practice producers use is isolation or quarantine. Producers will isolate the new animal from the herd for approximately 30 days to monitor potential disease symptoms. The

practice is not widespread across beef operations, because it can be impractical for some producers.

"There is a difference between quarantining one replacement heifer, compared to 50 bred cows," Breiner says.

Anytime you try to implement a biosecurity system, talk with your veterinarian and keep records so you can adjust when needed.

Potential risks

When looking into the future of cattle biosecurity, one has to think about the possibility of highly infectious diseases entering the U.S. beef herd. The U.S. eradicated foot-and-mouth disease in the 1920s, but it is still prevalent around the world, and it is something producers should monitor in their herds.

"If foot-and-mouth disease came back into the United States, you wouldn't be able to move your cattle from pasture to pasture, let alone across county lines," Breiner says.

If a disease like foot-and-mouth disease entered back into the U.S., it would change the way Americans practice beef cattle biosecurity and biocontainment.

"Right now, the concern is mainly at the border," Breiner says. "We have been able to keep it out with physical evaluations and health papers, so far."

Foot-and-mouth disease would quickly make isolation of new arrivals a standard practice in the beef industry.

"If people are able to quarantine cattle for 30 days, that's huge," Breiner says.

Breiner believes the U.S. has greatly advanced its implementation of biosecurity practices into operations.

"We have improved practices over the years, and I believe every year we will continue to grow." **HW**