

Determining Your Johne's Risk

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Johne's Disease (JD) is increasingly recognized as an important disease of cattle and with good reason. In the dairy industry, JD is estimated to cost US producers \$1.5 billion annually due to reduced milk production, reduced body weight of cull animals and increased culling. The National Animal Health Monitoring System's 1996 dairy study estimated a cost of \$227 per head in a herd that had at least 10% of the animals infected with JD.

Controlling and preventing JD requires education, refinement of management procedures, and herd testing/culling of infected animals. Each herd should develop a plan depending on their goals. The more aggressive the plan, the more likely a producer is to reduce or eliminate the disease. The first step in preventing and controlling the disease is to participate in the Colorado Voluntary Bovine Johne's Disease Control Program. Part of the management portion of the program involves a JD risk assessment for your farm. This allows your veterinarian to make specific recommendations to prevent and control Johne's disease within your herd.

The Committee that devised the Colorado Voluntary Bovine JD Control Program also adopted an assessment protocol for producers to evaluate their operation and estimate the risk of JD in their herd. The risk assessment questions concern basic management of calves, heifers and cows. The form for the risk assessment is enclosed as an insert in this issue.

Management procedures that result in separating adult cows and young stock and minimizing fecal contamination are paramount to minimizing the spread of JD because the most common method of infection is ingestion of contaminated feed, water, or milk. Infected animals shed large numbers of bacteria in their feces, which leads to contamination of feed and water sources, and can also shed the bacteria in their colostrum and milk.

JD can spread from apparently healthy cows shedding the organism in feces to newborn and pre-weaned calves easily. This type of transmission will often be inapparent to the producer but result in lower milk production and only the occasional "Johne's" appearing cow with chronic weight loss and diarrhea.

Infection usually occurs in calves within the first few months of life. Occasionally, fetuses can be infected during pregnancy by their dam. Calf handling procedures that keep newborns from being exposed include removal of the calf soon after birth, feeding of colostrum from JD-free cows, and feeding clean milk or pasteurized milk thereafter.

If the risk of JD in your herd is high, you may wish to test your herd to assess the actual prevalence of infection. Repeat testing is a tool to evaluate the success of your efforts to eliminate and prevent further spread of JD. If the risk of JD is low in your herd, testing will document your status as a low risk JD herd which will bring economic benefits when heifers are sold. However, testing is not necessary to be part of the Voluntary Control Program. Confidentiality of test results will be maintained within the limits of Colorado law.

There are two types of diagnostic tests. Each test has advantages and disadvantages. The two main types of tests used are the ELISA blood test, which is a screening test and the fecal culture, which is considered an official test. Results of the ELISA blood test are available in several days. Animals that test positive with the ELISA should be confirmed positive with the fecal culture, because interpretation of the screening test is not always clear cut. The results of the fecal culture take 4-6 months. Fecal culture positive animals are considered infected and should be managed to eliminate exposure to other animals, or be culled. Federal

regulations restrict interstate (between state) movement of fecal culture positive cattle.

The Colorado Voluntary Bovine JD

Control Program suggests that animals eligible for testing are cows greater than 3 years of age (>1st lactation) and bulls over 2 years of age. According to the program protocol a total of 30 animals are tested with the ELISA blood test on the initial screening. If your herd has less than 30 animals in these age ranges, you must include enough animals in their first lactation to satisfy the minimum of 30 test animals, or your complete herd. Samples must be submitted to a lab approved by NVSL. Colorado State University's Diagnostic Laboratory and the Rocky Mountain Regional Animal Health Laboratory are approved labs.

If all animals test negative, herds enter the Herd Status Program – Standard track. Annual testing moves these herds (assuming they maintain a test-negative herd) from a Status 1 to a Status 4. Status 4 herds have been tested four times in three years without any positive animals.

Test-Positive herds enter the Preventive Management Program. Based on herd prevalence, the herd is assigned a score of A through D. Subsequent testing can improve the score and herds testing negative at later dates can enter the Herd Status level if all cows are negative.