



Johne's Factsheet

Healthy Cows, Quality Milk!

FACTSHEET 05-003

Using Results from the DHI Milk ELISA Test for Johne's Disease

Dr. Ann Godkin, Veterinary Science, OMAF and Dr. David Kelton, Population Medicine, OVC

A cow infected with Johne's Disease (JD) will produce antibody to fight off the infection. The DHI milk ELISA test for Johne's Disease detects the antibody in a sample of milk. Testing for Johne's disease using the DHI milk sample is an efficient, cost effective method for herd screening that provides results quickly.

About the test

Like all Johne's Disease tests the milk test does not accurately identify the infection status of every cow. On average, about 60% of infected cows will be found positive by this test. This is similar to test results done using blood serum. While this may seem low, the good news is that the more serious the disease becomes, the more likely the milk test is to be positive. About 80% of cows that are shedding lots of JD bacteria in the manure (possibly causing JD to spread to herd mates) will be called positive by the milk test. About 50% of cows shedding moderate amounts of JD bacteria will be positive on the milk test. This means the milk test is likely to identify infected cows that are a problem for disease spread.

The test tries to be sure the antibody it finds is truly the one made to fight JD. Most of the time (95%) it is correct. Unfortunately, the test will occasionally be positive in cows that are apparently uninfected. This means a few of the positive test results will be false positives.

Once JD infection is found in a herd, actions **MUST** be taken to prevent the calves from becoming infected. To be effective JD prevention must primarily focus on protecting young calves and heifers from infection after birth.



What to do with JD test results

- Contact your veterinarian to assist in the interpretation of your Johne's test results.
- Even if all cows test negative it is still possible for there to be some truly infected cows in the herd. Testing more than once is advisable as:

- Not all cows may have been tested.
 - ▶ A few infected cows may have low antibody levels that were not detected by the test;
 - ▶ Some infected cows may be too early in the stage of infection for antibody to have been present at test time;
 - ▶ Some infected cows may have been dry or heifers not yet calved when milk samples for testing were collected, or
 - ▶ Infected cows may have been purchased since the test was done.
- If very few cows have tested positive on the milk test, then the risk of JD infection spreading may be low. Culling positive cows based on the milk test result alone will not eliminate a herd's JD problem. Discuss potential changes to calf rearing with your herd veterinarian.
- If multiple cows have tested positive on the JD milk test, and this is the first time you have used this test, you need to confirm these results for this herd by submitting manure from some of these cows for fecal culture at a veterinary diagnostic laboratory (See sidebar: Fecal testing for Johne's Disease).
- If the fecal cultures of some of these cows are positive for JD it is highly likely that the disease is present in this herd. When multiple infected cows are identified then the risk of baby calves becoming infected is high. If the infected cow(s) was home-raised, you need to change calf raising so that your calves will:
 - ▶ Be separate from mature cows and older heifers;
 - ▶ Have no contact with manure from cows or equipment used to handle cow manure;
 - ▶ Eat feed and drink water that is never contaminated by manure or manure run-off;
 - ▶ Be fed only milk from known JD-negative cows and heifers OR are fed milk replacer and
 - ▶ Be fed 4 litres of colostrum at less than 6 hours of age, from JD-negative cows or heifers.

Follow-up or future testing

Lastly, make a plan for follow-up herd testing. Testing programs depend on the herd's status, the speed with which the herd owner wants to control the disease, cost, management strategies and many other herd specific factors. Your veterinarian can help you to design an appropriate testing program.

Fecal testing for Johne's Disease

To detect Johne's Disease bacteria in manure, a fresh manure sample can be cultured. Due to the slow growing nature of the Johne's Disease bacteria, testing can take up to 10 weeks to complete. In most provinces, fecal culture testing for Johne's is available through your veterinarian and the Animal Health Laboratory. Contact your herd veterinarian about this test.