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NEWSLETTER APRIL 2010.

Johnes Disease

Johnes disease (paratuberculosis) is a chronic ententis of cattle & sheep caused by the bacteria Mycobacterium avium subspecies paratuberculosis (Map). The main clinical signs in cattle are: progressive weight loss and chronic diarrhoea. There is no effective treatment. The disease is seen worldwide affecting cattle, sheep, goats, deer and rabbits. There is limited but disputed evidence that the organism may be associated with Crohn's disease in humans.

In Johnes disease cattle are usually infected as calves in the first few weeks or months of life. But clinical signs are not seen until the cow is 3 – 5 years olds. Calves can become infected in utero of by drinking colostrum from an infected cow. Also from infected faeces contaminating cow teats, food and water troughs and dirty bedding.

How common is Johnes disease?

In a recent survey 65% herds were shown to have positive animals but 38% of these only had one seropositive cow on a blood test. The problem is knowing how many animals are infected but not yet showing any symptoms. These infected animals can shed Map bacteria for more than a year before scouring themselves. Animals can also be shedding bacteria but are negative on serology (blood tests). We usually take a faeces sample and a blood sample to diagnose a clinical case. Milk samples can also be used to detect antibodies to Map.

What else can we do?

As you can see management of calves is very important in the control of the spread of Johnes disease. One Map carrier in a calving yard or calving paddock can potentially infect all the calves there. Pooling colostrum and feeding several calves is another way in which the disease has been spread around whole groups of calves. Problems are only seen 2 or 3 years.

Johnes disease has been made worse by modern farming practices. Calving yards instead of individual calving boxes. Please do not put that one sick scouring cow in the yard too! Feeding pooled colostrum is no longer recommended but it used to be the right thing for combating rotavirus infection.

If we ignore Johnes disease and do nothing the incidence will rise and it becomes impossible to control. Large numbers of cows in a herd will be infected and with no treatment available will need to be culled.

Looking for Johnes disease

We use two types of test:

1. Antibody tests
2. Tests to find the bacteria in faeces samples.

An elisa antibody test can be performed on milk or blood. The simplest is a bulk milk test which most of you will already know about through us or through NML. This test is not very sensitive but if repeated several times should confirm Johnes disease at herd level.

If we suspect Johnes problems the next step would be blood elisa tests. Usually a batch of 30 cows are sampled including poor doers, chronic mastitis cases and cows to be culled.

One dairy company is currently offering free individual milk elisa tests for 30 cows in a herd. Milk elisa tests are apparently more accurate in the second half of lactation. All elisa tests will be affected by the TB skin test, giving false positives.

Herdwise from NML

This is an eradication programme for Johnes disease in a herd. Cows are sampled quarterly taking individual milk samples. Cows can then be grouped as:

1. Green cows which are non-infected
2. Red cows which are infected and need culling before the next calving
3. Yellow cows, which are controlling their infection. These should calve in individual pens with the calf removed and housed with beef calves

Herdsure Cattle Health Improvement

This VLA program can also be used to eradicate Johnes with a tailor-made protocol for each individual farm.