Biosecurity

• Buying in cattle represents the main method of introducing infection into the herd (eg. replacement heifers, stock bulls).
• The herd history (and status if known) that the purchased animal is coming from should be established as far as possible.
• Animals can be blood sampled for Johne's disease, but note that infected animals in the early stages of disease will test negative. Do NOT rely on one test to check on freedom from Johne's disease.
• There are a number of accredited Johne's surveillance schemes using CHeCS standards. If possible, buy replacement stock from such schemes. Note that they do not certify 100% freedom from disease, but the longer that the herd is monitored negative, the more likely it is that they are free from Johne's disease.

Vaccincation

• A vaccine is available through your vet under a Special Import Certificate from Europe.
• Calves require to be vaccinated using one injection early in life.
• Vaccination will reduce levels of clinical disease, but will not prevent transmission of infection.
• It will interfere with milk and blood tests, which cannot differentiate between vaccinated animals and those naturally infected. It will therefore interfere with Johne's eradication schemes.
• It can also interfere with TB testing, and so authorisation is required from the relevant authorities.
• Johne's vaccination therefore has some important disadvantages, and should not be undertaken lightly.

Controlling Johne's disease in a dairy herd is difficult and long-term, sitting down with your vet to discuss the possible options is critical

If you would like more information
contact our office or visit our website.

DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

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JOHNE'S DISEASE

V1/09/2012

What is it?

• Johne's disease is a chronic wasting disease of cattle and other ruminants
• Caused by the bacterium Mycobacterium avium subspecies paratuberculosis (Map).
• A recent survey has suggested that over ⅓ of UK herds have evidence of infection.
• The same bacterium has been potentially linked with some cases of Crohn's Disease in humans, although the research is incomplete and conflicting.

Symptoms

• Due to the relatively long incubation period, this disease most commonly occurs in animals over three years old
• Initial signs of Johne's disease are reduced milk yields and poor fertility.
• Subclinically infected animals are more prone to other diseases such as infertility, mastitis, high cell counts.
• Affected cows start to lose body condition.
• Terminally, profuse diarrhoea and wasting develop.
• All clinically infected animals will eventually die

What causes it?

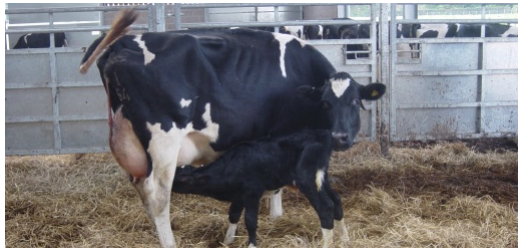
• The Map bacteria are very long-lived and persistent, and can survive within soil for over a year.
• The bacteria are produced in large numbers in the dung of clinical cases of Johne's disease.
• Calves are most susceptible to infection in the first 6 months of life (especially the first month).
• The most common route of infection is calves suckling dirty teats with faecal contamination, drinking colostrum from affected dams, and from a dirty calving environment. Infection can also spread in Johne's infected cattle through the placenta to the unborn calf.
• Infection then slowly develops in the calf as it grows, until it causes clinical disease much later in life.
• The main source of infection is purchased stock, especially as there are currently no reliable tests to guarantee freedom of infection. If you have to buy in cattle, buy from a herd that has been screening adult cattle for a number of years and has shown no evidence of Johnes infection (the longer the herd have been getting tested the better).

Diagnosis

• In clinically infected animals showing signs of disease, your vet can take blood samples or dung samples to check for the presence of disease. Post-mortem examination can also be used for diagnosis.
• However one of the main problems is that the tests for infected cattle are not 100% reliable in the early stages of disease. Apparently healthy animals will test negative yet still be infected with Map, as the antibody response does not fully develop until the later stages of disease
• A bulk tank milk antibody test is sometimes used for initial screening for the presence of Johne's in dairy herds. However due to dilution of antibody levels by other cows, it is not very sensitive and up to 10% infected animals can be present in the herd and the bulk tank still test negative for Johne's disease.
• Get your vet to test any suspect clinical cases (thin cows with diarrhoea) or cull cows.
• In beef herds, regular blood testing of a proportion of cows in the herd can help early detection.
• In dairy herds, the main milk recording organisations are now offering Johne's testing of individual cow milk samples which can be used to pick up Map infected animals more quickly.
• A 30 cull cow screen (using milk or blood) can be used to check for the presence of infection in the herd. Target cull cows over 3 years of age, those with a high cell count, repeat mastitis, poor fertility etc. that are more likely to have Johne's disease.
• Regular milk testing every 3 months in dairy herd can be used to check every cow for Johne's infection.
• Due to cross-reaction, it is recommended to leave at least 6 weeks between a TB test and Johne's testing.

Treatment

• There is NO treatment for clinical cases of Johne's disease.
• Clinically infected animals showing signs should be put down humanely.



Prevention/Control

Identification of infected animals

• Johne's positive cows (especially clinical cases) produce vast amounts of Map, and calves born from infected cows are much more likely to become infected. Identification of such cows is critical.
• Three monthly milk testing in dairy herds or regular blood testing (for example prior to calving) can be used to identify Johne's positive cows. Such schemes used green/amber/red systems to classify cows into groups at risk of being infected with Johne's disease.
• These positive cows can be clearly identified using a red management ear tag if necessary.
• Johne's positive cows should be culled as soon as practical before they develop clinical disease, start to lose condition and contaminate the environment with Johne's bacteria.

Prevention of spread to calves

• Do not feed pooled colostrum or discarded waste milk to calves, as this will spread Map rapidly.
• Discuss colostrum management with your vet. Options are to give colostrum from the mother only, or to use colostrum from proven uninfected cows (ie. that have tested negative repeatedly for Johnes's).
• After the calves have received sufficient colostrum, rear on milk replacer only.
• Good management of the calving pens is key to reducing infection of the environment. Cows that come back positive (or suspicious) after a milk or blood test must have separate dry cow/calving accommodation to reduce the spread of infection to neonatal calves. One cow infected with Johnes disease will shed vast numbers of bacteria and so result in significant contamination of the environment. Therefore all calves sharing this area will be exposed to the infection. Calve Johne's positive cows outside in a separate paddock if possible.
• Do not breed from the offspring of infected cattle.