

# Johne's disease – a silent killer

Producers warned to avoid harbouring any stigma associated with Johne's

With Johne's Disease on the rise, producers need to face reality and assess the risk for their herds. The nature of the disease makes it difficult to detect. Likened to an iceberg, the visible problems are only the tip – far more problems are lurking below the surface.

A survey has shown that 100% of herds with 500 or more cows in the US are infected with Johne's Disease. Estimates are that around 50% of British herds may have it and it is likely that 5% of herds are heavily infected. Vet Peter Orpin tackles the key questions.

Is Johne's more prevalent now than say 10 years ago and, if so, why?

"Yes, its spread has been fuelled by more cattle movements as herds have increased. Also, there has been more spread within herds as cow numbers and stocking densities have increased and more waste and pooled colostrum has been fed to calves due to prolonged lower milk prices, mastitis and health problems in calves."

What is Johne's disease?

"It is a bacterial disease affecting cattle that causes the cow to become more susceptible to other diseases. Reduced milk production and then, in the end stages, scour and wasting are typical signs of the disease. The bacteria, often called MAP for short (mycobacterium avium subspecies paratuberculosis), is closely related to TB. Eighty per cent of cattle with the disease become infected in the first month of life and the disease is incubated in the cow for many years before it manifests itself.

"It is described as a 'silent killer' as many infected cows are culled in the subclinical stage before clinical signs develop. Cows surviving until the later stages of disease



Peter Orpin: "Many herds have the infection and don't realise it until it's too late"

develop a profuse watery scour although in many cases the cows are culled before this occurs. For every severe clinical case there may be 10 to 15 other subclinical cows affected in the herd. Many herds have the infection and don't realise until it's too late. There is no cure for infected cows."

When can it be detected?

"Once the bacteria starts to be shed in the dung – which typically occurs between two and seven years old – the animal will

produce antibodies that can be picked up in an individual cow milk test. The tests become more sensitive as the disease progresses in the cow. Typically, infection is only detected once the herd becomes heavily infected as many of the early cases may be culled prior to the full blown disease developing.

"An active testing programme is required to really establish the disease level within the herd and a minimum of 30 cows must be tested to get a reasonable idea of true levels of infection. Testing the odd cow is not good enough."

What are the clinical signs of Johne's?

"Reduced milk yield is one of the earliest signs of the disease, typically up to 4,000kg per lifetime in affected animals. This, combined with other associated signs such as a higher risk of displaced abomasums, downer cows and high cell count cows through reduced immunity, make for an expensive disease. A higher than average forced cull rate in a herd with more than 5% of the herd being culled for ill health may also indicate a herd infection.

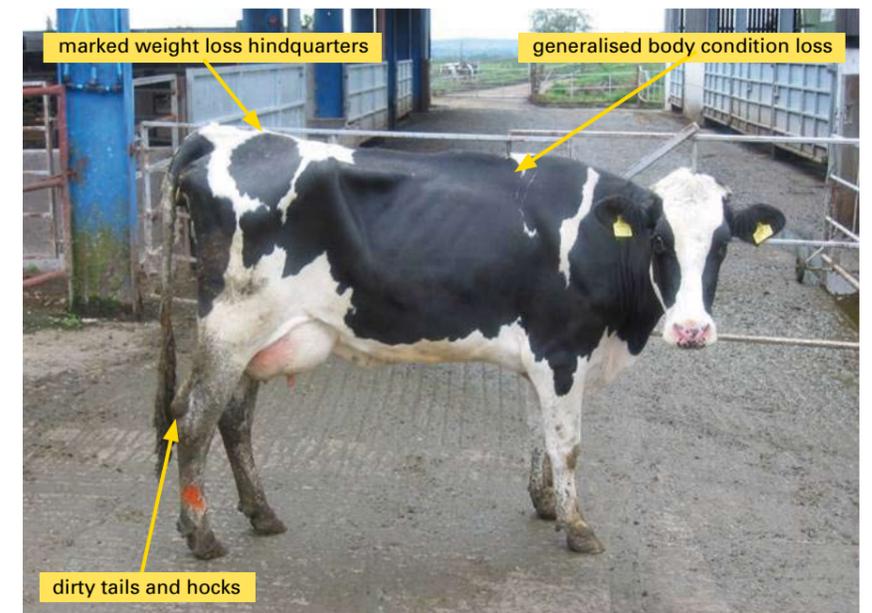
"In many herds culling of cows for disappointing yields and poor performance may hide the true infection as these cows are removed prior to developing typical symptoms of scour. Cull cows are a good group to test for this reason."

How are cows infected?

"The calf becomes infected usually from contact with faeces from infected cows in the calving yard or from being fed contaminated colostrum or milk from infected cows."

So the cow can pass on Johne's before she becomes a typical clinical case?

"Yes, infection can spread from cow to calf in the months before clinical disease develops. However testing cows on a regular basis will help identify these infected cows and give a chance to isolate them from the calving yards and prevent



Heifer with typical symptoms of Johne's Disease

their waste milk and colostrum being fed to replacement calves. This 'test and manage' approach using repeated testing is a more economic approach than the more traditional 'test and cull' as cows are retained in the herd and culled on a planned basis."

How can Johne's be controlled?

"It's vital that all producers work closely with their vets to carry out a risk analysis in their herds to identify high risk cows then draw up a control plan. The disease is complex and does not lend itself to DIY control. Risk elimination is a major part of the control programme. Testing alone without controlling spread will not work. There are now computer programs to help vets develop comprehensive Johne's control programmes making this a more reliable route to follow."

Is vaccination an option?

"Vaccination is an option for a small proportion of herds. Vaccinated cattle cross react with the TB test. This is a major complication of vaccination, particularly in areas endemic with TB.

"If cattle are bought in from a vaccinated herd these animals must be treated as potentially infectious rather than free of disease. Once cattle have been vaccinated there is no test to distinguish between true infection and vaccinated cattle."

What are the economic consequences of not controlling Johne's?

"Once the disease gets hold, culling due to Johne's can rise by between five and 10% a year. Combined with the 4,000kg loss in milk per affected cow, knock on disease effects and limitations on other culling, Johne's is a devastating disease. There is no question that the cost of controlling Johne's far outweighs the consequences of infection of the disease and the earlier it is tackled the better."

Karen Wright

Useful web sites

www.myhealthyherd.com  
www.johnes.org  
www.Defra.gov.uk

## The golden 'control' rules – three simple steps

### 1 Assess the likelihood of disease being in the herd by examining risks of disease entry

Having a Johne's biosecurity plan is the most important control point for the majority of herds. Up to 75% of herds are disease free or lightly infected and they should aim to keep it that way by following best veterinary advice and putting a plan in place.

Producers can stop Johne's entering the herd by operating a closed herd or avoiding buying stock from herds of unknown health status. A written pre purchase status defining the level of Johne's disease in the herd from the vendor and his vet should be sought or purchases made only from herds with robust Johne's testing programmes in place.

If more herds tested for the disease then there would be a larger pool of herds to purchase from. A 'posh' or pedigree herd is not a good enough assurance that the farm is free of Johne's disease. Too often cattle are bought on a verbal assurance that the cattle are healthy only to find that they break down with disease on the purchaser's farm later – and after infecting many calves.

### 2 Establish herd levels

Work out what the level of disease is by testing groups of high risk animals or performing a whole herd screen. Regular milk tests for Johne's have now become an accepted part of the control programme. In a new service to be launched by NML (National Milk Laboratories) this autumn the link between risk assessment and

control will become far more precise. Cows will be put in one of three groups according to their consecutive milk Johne's test results and each group will have varying degrees of control measures placed on them. This will be a big step forward in the control of Johne's in milk recorded herds.

### 3 Control the spread of disease using a combination of husbandry and testing

Cow-to-calf transmission is the key area to get right. Pooling of colostrum, feeding waste milk to calves and dirty calving areas should be avoided. The Johne's control programme should be modified to fit what's practical on the actual farm, the producer's aspirations and the level of disease.