Culling test-positive animals

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Culling animals which are test-positive is one part of the broader strategy for control of Johne's disease. Culling is recommended under the Irish Johne's Control Programme but not mandatory.

A recent JD Bulletin of March 2022 presented the some of the findings of computer modelling of Johne's disease in Ireland. One of these findings was that culling test-positive animals contributes more effectively to Johne's disease control if done promptly (e.g. within 4 weeks after testing) rather than retaining animals until the end of lactation, or until they have calved, or even later.

Logically, these cows are likely to shed MAP, the bacteria that cause Johne's disease, in their dung. They are thus likely to spread infection to other animals, particularly to highly-susceptible calves but also to older animals, and the longer these high-risk animals are retained, especially approaching and through the calving period, the greater the risk of spread.

In addition to reducing the spread of Johne's disease, some of these test-positive cows should be removed from the herd on economic grounds. This was demonstrated in data from a British Johne's disease programme presented at a recent international conference on Johne's disease in Dublin.

This work showed that cows with positive test results from at least two consecutive tests are associated with chronic mastitis, and cows with repeated positive results or with results that are consistently increasing in test value are much more likely to be culled from the herd within 100 days after calving, before they have produced enough milk to pay the costs of feeding though the housing period. The British programme is based on quarterly milk-ELISA testing of all milkers, and operates in a context of a greater proportion of herds and animals being infected and different pricing schedules for milk and farm inputs than in Ireland so there are limits to how that data can be applied here. However, the principle applies that test-positive cows, especially those with high and/or increasing ELISA values are at higher risk of both spreading infection and being uneconomic to keep in the herd. Such decisions can be difficult, particularly if these animals are still producing high milk yields and have been bred successfully.

We see evidence of similar retention of high-risk cows in Irish programme herds, probably exacerbated by the need to retain cows to expand herd size. As those herds approach target size, there will be greater opportunity to remove animals with ELISA-positive results because of their higher risk of spreading MAP and in time developing clinical signs of Johne's disease.

Beside high ELISA values and increasing ELISA values, two other factors can be taken into account when deciding your culling priorities. Any animal that is showing clinical signs of Johne's disease (drop in milk production followed be severe loss of body condition and diarrhoea) should be removed to slaughter immediately, as these animals will shed such large amounts of MAP as to be capable of infecting other adults as well as calves. An animal with a positive PCR test result is showing that it is already excreting MAP, and should also be a high priority for removal.

Also, remember that effective control of Johne's disease is very dependent on protecting new generations of calves from exposure to MAP, not just removing existing infected animals. If you are unable to cull all test-positive cows as recommended, use the ELISA results to at least protect your next generations of replacement heifers. Isolate these positive cows from the rest of the herd if possible, milk them last, calve them in an area that is separate from where other cows are calved; pay attention to cleanliness and hygiene in the calving pens, calf rearing pens, and when preparing and feeding colostrum and milk; do not feed colostrum and milk from high-risk cows to replacement calves; and raise calves from the high-risk cows in an area separated from that for replacement calves.

The Irish Johne's Control Programme provides for herd owners to consult with veterinary practitioners who have completed extra training in Johne's disease risk management and the programme, and funds one consultation per year through the veterinary risk assessment and management plan (VRAMP). The programme encourages you to make the most of that VRAMP opportunity and at other times by asking questions and thinking critically; to make sure that Johne's risks are addressed throughout the year, not just at calving, calf rearing and culling.