DairyNZ

Johne's Disease

A control and prevention guide for New Zealand farmers

For more information visit **dairynz.co.nz**

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Version 1 June 2025 DNZ 60-009

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Johne's Disease, caused by *Mycobacterium avium subspecies paratuberculosis* (MAP), spreads when young stock (birth to 18 months) ingest infected faeces, colostrum, or milk. Protecting young stock from MAP exposure is crucial to reducing disease prevalence, as the younger an animal is, the more susceptible to infection.

The Best Defence is Prevention
This guide highlights management strategies to control and reduce the prevalence of Johne's disease (JD) on farms. The full version was originally published in 2015 as part of the JDRC "Johne's Disease Toolbox" and is available on the DairyNZ website linked to the **Johne's** page. This light version has been adapted and updated with insights from a decade of additional research and literature.

Best practices

These strategies are the best methods identified for NZ farmers to prevent MAP exposure to young stock, avoid introducing the problem to the herd, and remove the main source of infection – infected adult cows.

Testing and Culling:

- Test all cows annually for JD; cull test-positive cows as soon as practicable.
- Take blood samples from cows that were missed or have error results on milk testing.
- Cull cows that show clinical signs of JD after testing.
- Cull current season's calves from clinical JD or high test-positive cows.

Calving and Colostrum Management:

- Only calve cows that are free of clinical signs of JD and receive a 'not detected' test result from previous testing.
- Move springer mob to clean pasture regularly and remove newborn calves twice a day.
- Calve on paddocks that don't get sprayed with effluent.
- Only collect colostrum from cows with at least five seasons of 'not detected' testing history.
- If you do not have enough colostrum from these cows you can collect from first-calvers too, as although they may be infected, they are less likely than older cows to be shedding bacteria.
- Do not take colostrum from daughters of Johne's positive cows.
- Do not feed colostrum from another farm of unknown Johne's disease status.

Calf Management Pre-Weaning:

- Use milk replacer for replacements, and ensure calves have access to clean drinking water.
- Dedicate specific pens and paddocks for replacement calves, ensuring no contact with adult cows or effluent.

Replacement Heifer Management:

- Transfer weaners to a rearing unit for young stock only, or use dedicated grazing areas on the dairy platform for calves and replacement heifers.
- Do not spray effluent on dedicated young stock paddocks.

Biosecurity:

- Ensure good boundary fencing to prevent contact with neighbours.
- Do not bring in external stock (i.e. run a closed herd).
- Use artificial insemination (AI) for the entire mating period to reduce the need to introduce bulls to your herd.

Alternative practices

If implementing best practice is not feasible, alternative practices may be considered. Remember they are not as effective.

Testing and Culling:

- Cull test-positive cows by the end of the season if immediate removal is not possible.
- Tag and manage test-positive or suspect cows separately from the main herd at calving.
- Tag the current season's calves from clinical JD or test-positive cows as high-risk animals.

Calving and Colostrum Management:

- Only feed colostrum from cows that have been tested for JD and have a 'not detected' result.

Calf Management Pre-Weaning:

- Avoid grazing paddocks for at least three months after adult stock use, and longer if conditions are damp and shady.
- Only feed milk from healthy cows that have a 'not detected' result on JD testing.

Replacement Heifer Management:

- Use separate paddocks away from milking platforms.
- Avoid grazing paddocks for at least three months after adult stock use, and longer if conditions are damp and shady.
- Keep heifers separate from adult cattle and other MAP susceptible species (e.g. goats, sheep, deer).

Biosecurity:

- Test all new stock for JD, including replacement heifers and bulls, before introducing to the herd.
- Ask for the JD history of the herd of origin when purchasing new stock.
- Only purchase from herds whose JD history is the same or better than your own.

High-risk activities to avoid

Avoid the following practices as they significantly increase the risk of spreading Johne's Disease and worsening MAP exposure:

Testing and Culling:

- Retaining cows that have 'high positive' or 'positive' results (confirmed on blood testing), or that have clinical JD—they cannot be cured, they will shed MAP for the remainder of their lifetime.

Calving and Colostrum Management:

- Calving test-positive cows with the main herd.
- Calving ill-thrifty cows.
- Leaving calves with dams too long (>24 hours) or in dirty calving environments.
- Rearing calves from clinical or test-positive cows.
- Feeding milk or colostrum to young stock from untested or test-positive cows.

Calf Management Pre-Weaning:

- Feeding milk from sick cows or cows under treatment withhold to replacement calves.
- Allowing contact with adult cows, especially in hospital paddocks.
- Grazing young stock with, or in quick rotation with adult stock.
- Spraying effluent on or near calf paddocks.

Replacement Heifer Management:

- Grazing heifers with (or soon after) any adult stock.
- Grazing on pasture recently irrigated with effluent.
- Allowing access to open water sources or areas with potential faecal contamination.

Biosecurity:

- Buying untested or cull cows, especially those with clinical signs of JD.
- Buying from herds of unknown JD history or no history of JD testing.
- Frequent movement of cattle or other susceptible species (e.g., sheep, goats, deer) between your farm and others.

Key messages

Test regularly:

Annual testing and prompt culling help break the transmission cycle, which can take at least 5-6 seasons to control. Skipping testing can result in disease resurgence.

Good calf management:

Implement smart hygiene and management practices to prevent MAP exposure from birth.

MAP is highly resilient:

Studies have shown MAP can persist in the environment for years in optimal conditions. Dedicated grazing of young stock is the best preventative measure, with spelling of paddocks only adopted if there is no alternative.

Biosecurity measures:

Ensure your farm boundaries are secure, manage the risk if you're purchasing or leasing stock by asking for the animal and herd of origin's Johne's disease testing history, and prevent faecal contamination from external sources.

Keep a closed herd:

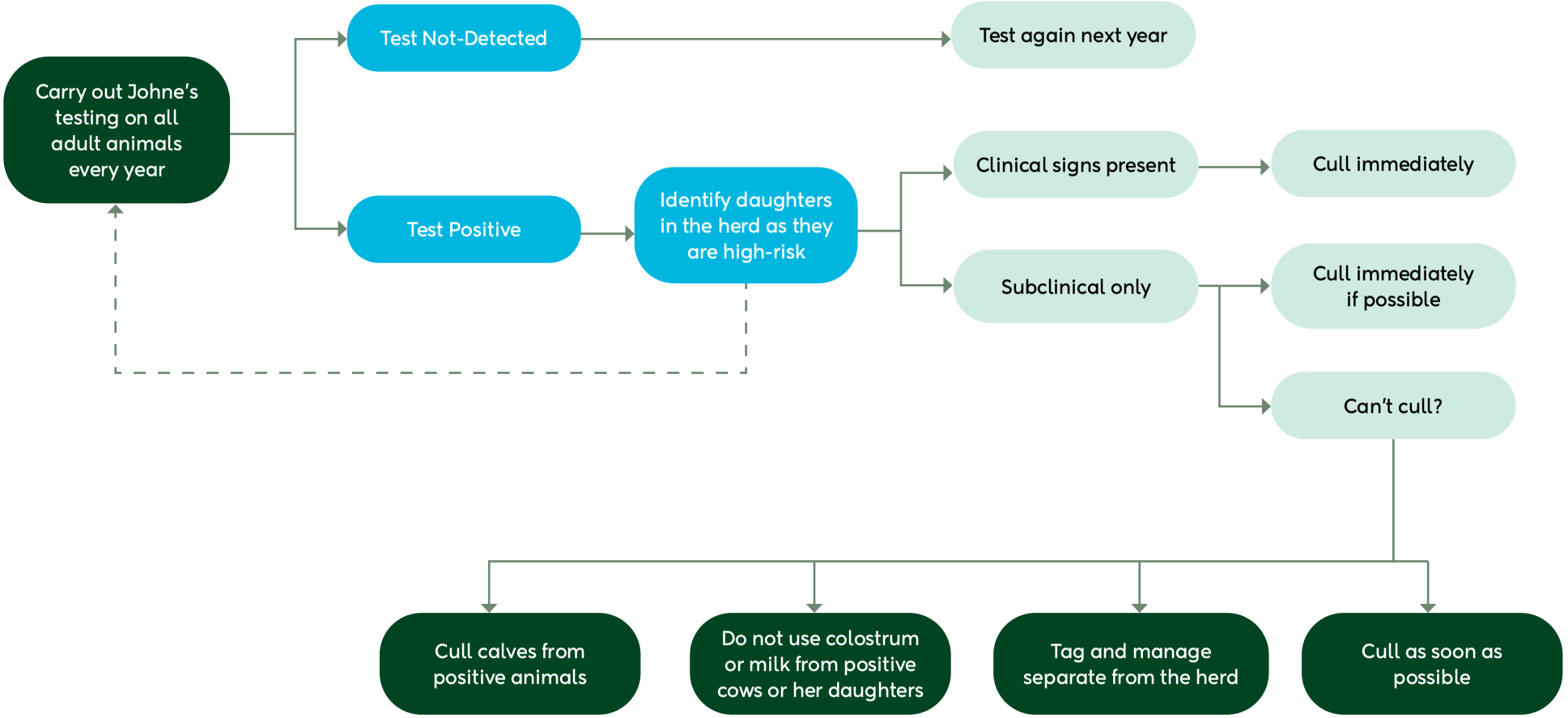
Johne's Disease control is about minimizing bacterial exposure risks and keeping a clean and safe environment for all cattle, especially young stock. A closed, well-managed herd is the most effective strategy. Good on-farm management practices, beyond just test-and-cull, can significantly improve the length of time it takes to break the transmission cycle.

Further information

Johne's disease
dairynz.co.nz/johnes

Johne's disease management guide
dairynz.co.nz/johnes-guide

Johne's disease laboratory testing
dairynz.co.nz/johnes-testing


Carry out Johne's testing on all adult animals every year
Test Not-Detected
Test again next year
Test Positive
Identify daughters in the herd as they are high-risk
Clinical signs present
Cull immediately
Subclinical only
Cull immediately if possible
Can't cull?
Cull calves from positive animals
Do not use colostrum or milk from positive cows or her daughters
Tag and manage separate from the herd
Cull as soon as possible

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