

# Improving herd biosecurity and effective Johne's control

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## Summary

- An effective biosecurity plan for Johne's reduces the risk of infection entering the herd and identifies management practices to contain the spread of infection in herds where it is present.
- Remove infected and test-positive animals early to limit further contamination of sheds and pastures.
- Limit introductions to high assurance animals preferably from herds in the Irish Johne's Control Programme (IJCP), or close the herd.
- Feed clean colostrum and milk from test-negative cows to calves.

## Introduction

Biosecurity describes the actions necessary to prevent diseases entering a herd (bioexclusion) and to limit their spread (biocontainment) if infection is unintentionally introduced.

An effective biosecurity plan is an insurance policy against infection establishing in a herd. By carrying out the suggested management actions a farmer is able to limit the spread of infection within a herd.

## Biosecurity planning for Johne's

Most infectious diseases, eg. BVD, IBR and Johne's, may enter herds by way of a carrier animal. In the case of Johne's infection, the most likely source of infection is a carrier animal. At the time of introduction, such animals may appear healthy and be test-negative but still be capable of spreading infection. It is only with the passage of time and at subsequent tests that such animals are identified as infected.

This can occur some years after their introduction. During that time sheds, yards, and paddocks - wherever the infected animal has been - may have been contaminated with MAP, the bacterium which causes Johne's disease. Sometimes the carrier animal may have left the herd.

However, introduced animals are not the only source of infection and farmers should be alert to the risk associated with the spreading of slurry from other farms on pastures grazed by young stock, and by feeding colostrum or milk from an infected herd.

## To prevent Johne's entering a herd

- Maintain a closed herd if possible.
- Limit the number of stock introduced to those purchased or leased from a herd and has an active risk management plan in place.
- Maintain a colostrum bank to avoid purchasing colostrum.
- If sourcing slurry, obtain this from pig farms.
- Provide visitors with clean protective boots and clothing to avoid transfer of infection from one farm to the other.
- Keep farm equipment and all vehicles away from the calf house.

### To limit the spread of Johne's within a herd

A biosecurity plan should also focus on preventing the spread of infection within the herd. Practices which reduce the risk of infection spread are often cheap and easy to adopt, and improve calf health.

Like rotavirus, Johne's infection spreads in the dung of carrier animals. Calves become infected when they kept in an unclean environment or drink dung-contaminated colostrum, milk, or water.

- Calve cows (known test-positive cows) away from the main calving area.
- Remove calves soon after birth, ideally within 15 minutes.
- Avoid feeding colostrum or milk from ELISA test-positive or confirmed infected cows to calves.
- Use milking routine—best practice to collect colostrum.
- Wear clean clothing when handling and feeding colostrum.
- Limit foot traffic, through calf houses.

These biosecurity practices are easy to carry out and should be part of everyday animal health management. Biosecurity is not expensive to implement but may require a change of thinking about farm routines. A veterinary risk assessment and management plan (VRAMP), conducted by an Approved Veterinary Practitioner (AVP) as part of the IJCP identifies where your herd's health is at risk. Your AVP can also work with you to develop some practical risk management strategies.

Effective prevention and control of all diseases, especially Johne's, includes both biocontainment and bioexclusion (Figure 1). Prior to the diagnosis of any infectious disease, the emphasis should be on bioexclusion — avoiding the introduction of infection. After diagnosis, focus on biocontainment, to limit environmental contamination and the spread of infection. Farmers should pay attention to both bioexclusion and biocontainment at all times, even after a negative Whole Herd Test.



**Figure 1.** Herd-level biosecurity for effective disease control

### Conclusions

The cornerstones of Johne's prevention and control are early removal of infected and test positive animals, feeding clean colostrum and milk for calves and separating calves from cows soon after birth. These practices combined with closing a herd, or limiting introductions are the basis of an effective Johne's biosecurity programme.

For information on the management of biosecurity and the Irish Johne's Control Programme visit <http://animalhealthireland.ie/>