

SPREAD OF JOHNE'S DISEASE ON AN INFECTED FARM

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In the previous monthly bulletin we looked at the actions you might implement to help prevent the introduction of Johne's Disease (JD) into your herd. In this bulletin we are focusing on how you would go about limiting the spread of infection on an infected farm. Johne's disease typically spreads on a farm when *Mycobacterium avium* subspecies *paratuberculosis* (MAP) bacteria are passed from infectious or affected animals to young calves and other susceptible animals. Older animals are likely to be the highest shedders and young animals (in the first months of life) are most susceptible to infection. As pointed out in the June bulletin the most recent estimate of JD prevalence in Irish Dairy herds was 28%, carried out in 2016. No estimate of national JD prevalence has been carried out since then, but the trend is speculated to be upwards.

On a farm, spread can occur for years before any animal develops noticeable signs of JD. Animals can become infected in two ways:

1. Dung, colostrum and milk: animals can be infected by swallowing MAP bacteria in dung, colostrum or milk, e.g. from dung-contaminated teats or bedding.
2. In the womb: calves can be infected in the womb if the dam is infected. This becomes increasingly common as the disease progresses in the dam.

Once MAP bacteria have been shed, they can remain infective (e.g. in slurry or the farm environment) for many months and sometimes for over a year. There may be considerable spread of disease on a farm before an animal develops noticeable signs. 'Unseen spread' means that by the time the first animal develops signs on a farm (Figure 1):

1. There may be many more unidentified infected animals in the herd.
2. Young and other susceptible animals are at high risk of becoming infected.

Figure 1 shows how JD can gradually increase over time on a farm, where more infected animals placing greater volumes of MAP bacteria into the environment in turn infects an even greater proportion of the herd, in effect snowballing the problem.

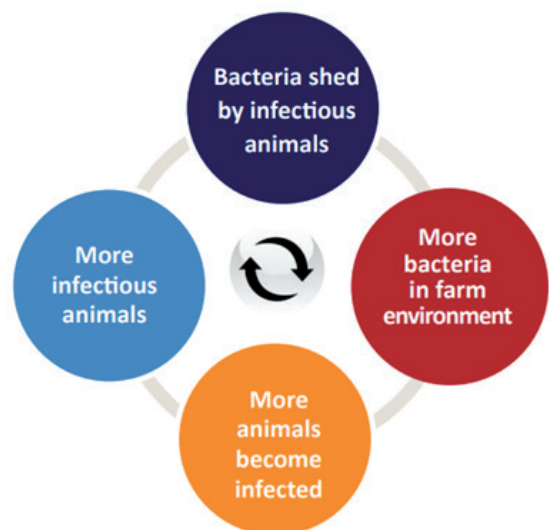


Figure 1. JD infection cycle on the farm.

Management practices that can increase unseen spread

Some common management practices can dramatically increase the rate of spread of Johne's disease on an infected farm. This occurs when a single infected cow feeds or is in contact with several calves.

- Feeding pooled colostrum or milk to calves.
- Having group calving accommodation.
- Inadequately cleaning pens between calvings.
- Having adult cows share accommodation with several calves/young animals.
- Adult cattle handling facilities where sick animals are treated adjacent to calf pens.
- Spreading slurry from adults onto land grazed by calves/young animals.
- Not observing good cleansing and disinfection procedures before entering calf pens and working with young calves.

These activities present an increased risk of rapid spread of Johne's disease on a farm. Remember that the group of animals you need to protect the most on your farm are the calves that will form your replacement breeding stock, as breaking the cycle of JD infection in this cohort will have the greatest impact for future disease levels.



For more information about preventing JD getting into your herd, speak to your veterinary practitioner or refer to the IJCP webpages, [Click here.](#)