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FARMER GUIDE

# Johne's disease

## Introduction

Johne's disease is a chronic inflammation of the intestine caused by a bacterium called *Mycobacterium avium* subspecies *paratuberculosis* - we usually abbreviate this to MAP.

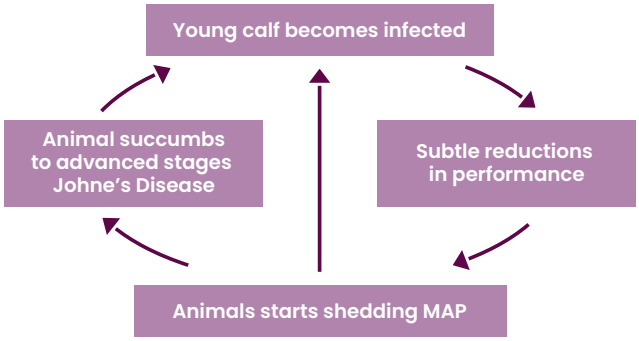
Significant losses can occur due to a combination of lost production efficiency in the early stages of the disease, followed by the cost of losses of animals as the disease progresses. Exact prevalence of the disease in the UK is unknown but it is likely that the majority of herds are affected.

The control of Johne's disease is complicated by the long delay between infection and animals showing signs of disease in addition to the relatively poor tests that are available to identify infected individuals.

It is therefore important for farmers with confirmed disease, and also for those that suspect they are free of MAP to identify potential risk factors within their farming system to help reduce the numbers of animals affected.

## Johne's Disease Process

- Animals become infected typically at a very young age by being exposed to the bacteria from faeces, colostrum/waste milk or via infection across the placenta from an infected dam
- Older animals can also become infected later in life but this is less of a concern
- The incubation period of the disease can be very long – from 18 months to many years
- Production performance is compromised during the incubation period before animals progress to the advanced stage of the disease
- Animals in advanced stages of disease are capable of shedding vast quantities of infectious bacteria, primarily in their faeces, but also across the placenta and into colostrum or milk.



## Impact of MAP and Johne's

The losses associated with MAP and Johne's Disease include:

1. Reduced growth rates in younger animals
2. Older age at first calving
3. Reduced 305-day and lifetime milk yield
4. Increased somatic cell count
5. Increased mastitis
6. Increased calving to conception
7. Increased culling rates
8. Losses associated with cows affected by end-stage Johne's disease
   a. Culling costs
   b. Reduced carcass values

The wide-ranging effects of MAP and Johne's disease indicate that the impact of the infection start from a younger age than many realise. It is vital that control is focused on preventing infection in young animals

## Control of MAP and Johne's Disease

Do you have MAP in your herd?

Diagnosis of herd infection by laboratory testing can be done in a variety of ways:

1. Routine screening of all cull cows via milk or blood tests
2. Screening of pooled faeces, e.g. samples of dung from collecting yard, passageways etc.
3. Screening of groups of cows on a regular basis via blood or milk
4. Screening all cows via blood or milk followed up by faecal testing

If MAP status is unknown then consult your vet to find out.

### DID YOU KNOW?

For every one animal with obvious signs of Johne's there will be 15-25 other animals infected but not showing signs

## MAP INFECTION IN DAIRY HERDS

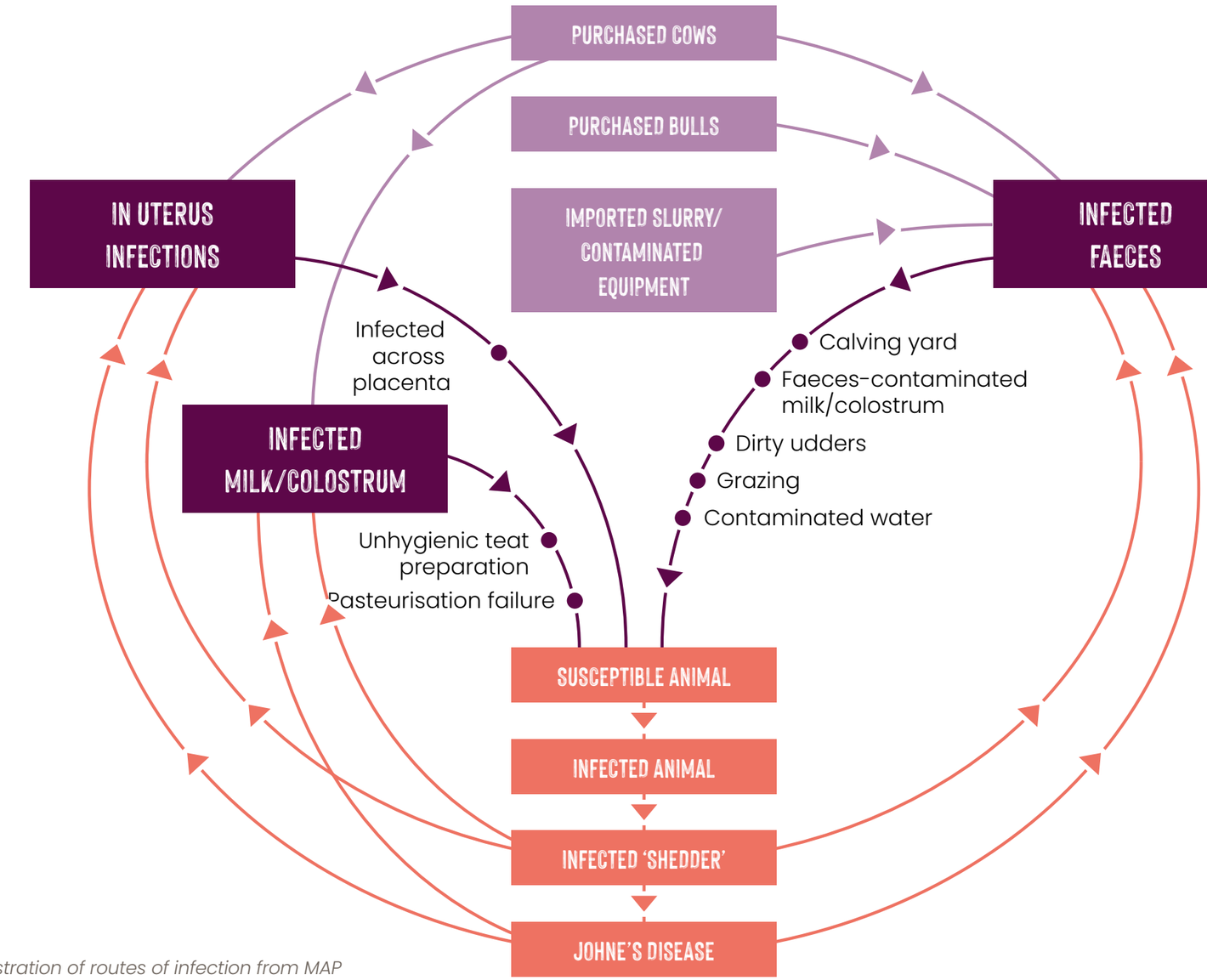



*Illustration of routes of infection from MAP*

# 3-step approach to Johne's control

## Don't introduce infection to your herd

- Ideally operate a strict closed herd
- If not practical, minimise the risk of infected animals entering the herd (including bulls)
- Ideally, only purchase animals form herds with known MAP-free status
- Screen individuals entering the herd, but bear in mind many younger infected animals cannot be detected
- Do not import potentially infected slurry or equipment onto the farm
- If animals are reared away from the farm, consider the risks of exposure to infection at alternative premises

## Identify your high-risk animals

Routine testing of susceptible individuals

Clearly identify high-risk cows so they stand out from the rest of the herd

Minimise risk posed by infected animals by:

- Promptly culling cows with obvious Johnes disease
- Clearly and permanently identify infected animals
- Separate calving areas
- Never feed milk and colostrum harvested from infected cows to calves
- Do not breed replacement animals from infected dams

## General hygiene measures

Exposure of young animals to infected faeces is the MAIN RISK.

- Minimise exposure of calves to faecal matter
- Dry cow and calving yard hygiene
- Ideally individual calving pens
- Remove calves as soon as possible after calving
- Don't allow calves to suckle

Prevent faecal contamination of milk/colostrum

- Ensure high degree of cleanliness when collecting colostrum for calves
- Ideally do not feed pooled colostrum or milk to calves, but pasteurise anything that does go to calves

Ensure hygiene of drinking water by preventing faecal contamination, using mains drinking water and fencing off areas of stagnant water

Try to spread slurry only onto arable land

*Calves can acquire MAP infections from suckling as bacteria can be found on teats and udder*

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