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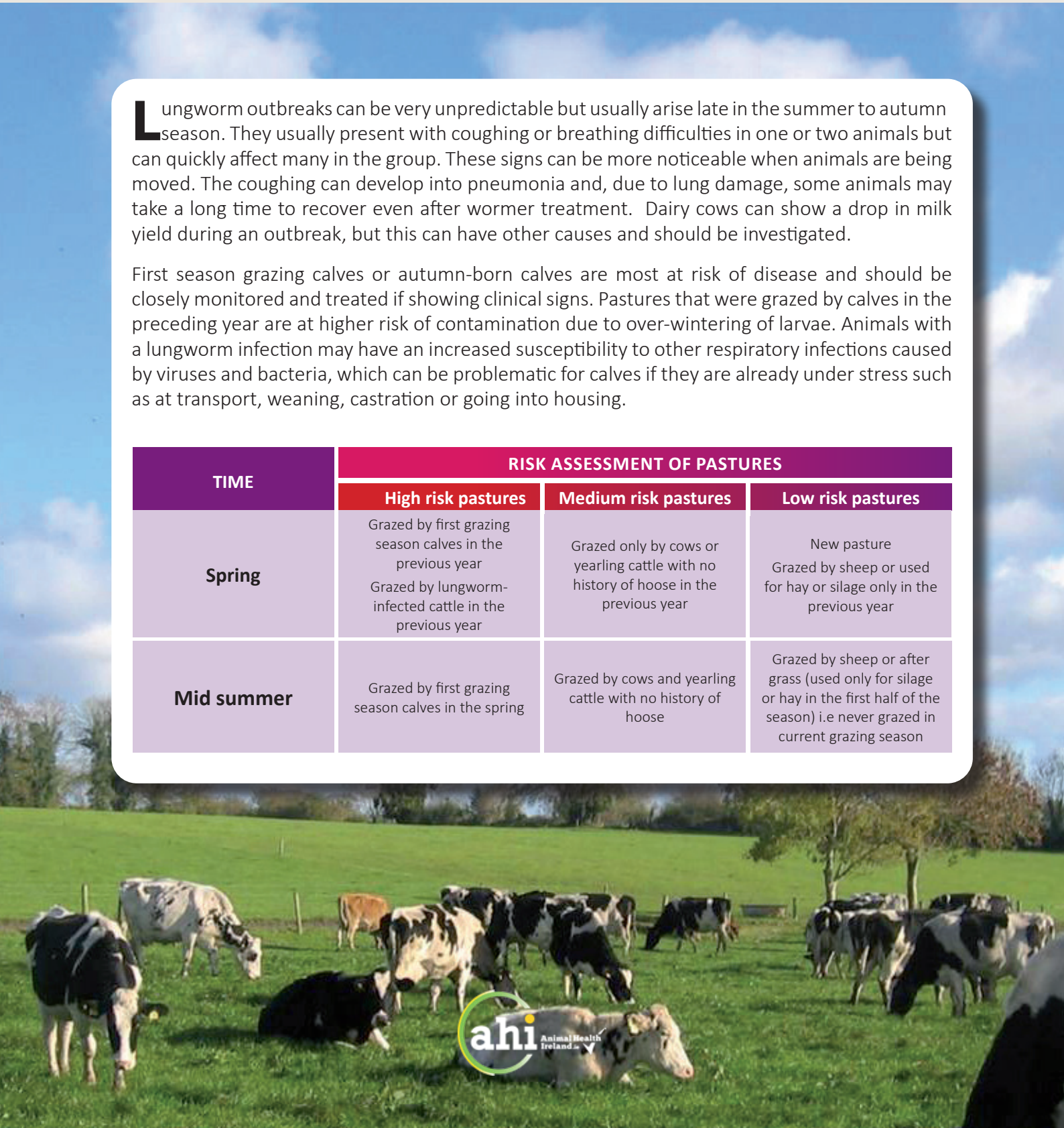
SEASONAL LUNGWORM OUTBREAKS

Natascha Meunier, Beef HeathCheck Programme Manager

Lungworm outbreaks can be very unpredictable but usually arise late in the summer to autumn season. They usually present with coughing or breathing difficulties in one or two animals but can quickly affect many in the group. These signs can be more noticeable when animals are being moved. The coughing can develop into pneumonia and, due to lung damage, some animals may take a long time to recover even after wormer treatment. Dairy cows can show a drop in milk yield during an outbreak, but this can have other causes and should be investigated.

First season grazing calves or autumn-born calves are most at risk of disease and should be closely monitored and treated if showing clinical signs. Pastures that were grazed by calves in the preceding year are at higher risk of contamination due to over-wintering of larvae. Animals with a lungworm infection may have an increased susceptibility to other respiratory infections caused by viruses and bacteria, which can be problematic for calves if they are already under stress such as at transport, weaning, castration or going into housing.

TIME	RISK ASSESSMENT OF PASTURES		
	High risk pastures	Medium risk pastures	Low risk pastures
Spring	Grazed by first grazing season calves in the previous year Grazed by lungworm-infected cattle in the previous year	Grazed only by cows or yearling cattle with no history of hoose in the previous year	New pasture Grazed by sheep or used for hay or silage only in the previous year
Mid summer	Grazed by first grazing season calves in the spring	Grazed by cows and yearling cattle with no history of hoose	Grazed by sheep or after grass (used only for silage or hay in the first half of the season) i.e never grazed in current grazing season



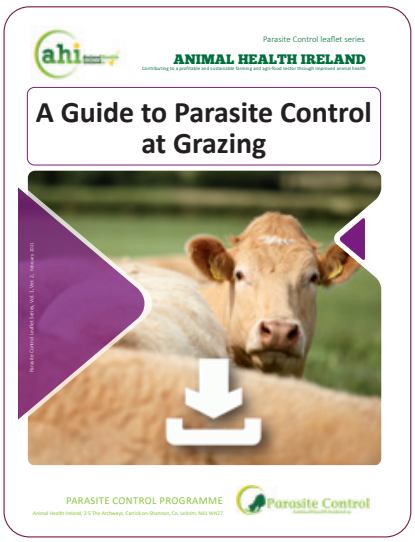
Dung samples are not always helpful to diagnose lungworm and a negative test does not rule out a lungworm infection because the immature larval stages of the worm can cause clinical signs before they are present in dung. High risk animals should be closely monitored for signs of coughing at grass and dosed immediately if lungworm is suspected.

Cattle develop immunity to lungworm by their second or third gazing season provided they have received adequate exposure to the worms. This immunity is short-lived and will wane over time without follow-up exposure, which can lead to cows developing clinical signs. A long housing period combined with use of long-acting wormers, for example, may prevent the natural boost needed to maintain immunity.

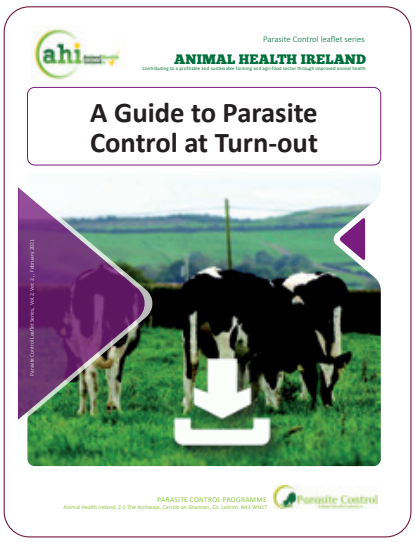
There are increasing reports of cows also developing the clinical signs of lungworm and there could be two main reasons for this. Firstly, these cows may not have been sufficiently exposed as young stock to develop adequate immunity, either due to being raised on pasture without lungworm infection or following intensive anthelmintic treatments. These animals will develop typical signs along with a patent infection where larvae might be detected in dung samples. Alternatively, because the naturally acquired immunity to lungworm is short-lived, cows may develop clinical signs as immunity wanes if there is limited follow-up exposure. High pasture lungworm burdens can also overwhelm the animal's immunity. This results in reinfection syndrome, with respiratory disease and drops in milk yield. Clinical signs and tissue damage can be severe in these animals, likely due to a reaction to adult parasites in the lungs. In these cases, dung samples are usually negative.

Vaccination should be considered where lungworm is a repeated problem. This can be given to calves or yearlings before the grazing season, to returning stock or as booster vaccinations for older animals. However, vaccinating spring-born calves can be a challenge as they need two vaccine doses before turnout. Anthelmintic treatments can interfere with vaccine effectiveness and should not be given at or before vaccination.

Some animals do not respond well to lungworm treatment. This may be due to damage to the lung tissue but resistance of the worms to the anthelmintic is possible. Recent case reports from the UK are concerning, with treatment failures following moxidectin, ivermectin and eprinomectin use. These cases are early warnings that there is always a potential of resistance with medicines and we should focus on using anthelmintics responsibly to ensure their effectiveness into the future. Suspected resistance should be reported to the HPRA and the manufacturer for further investigation.







WHAT DOES A HIGH BULK TANK SOMATIC CELL COUNT COST YOU?

Michelle McGrath, CellCheck Assistant Programme Manager

Is your bulk tank somatic cell count (SCC) starting to creep up slightly? If so, don't ignore it! It is likely to be because the number of infected quarters in your herd is starting to increase a little, which in turn can lead to more infected quarters, and so on. Milk recording your cows regularly allows you to easily see what is happening within your herd. It is the best tool you have to establish which cows are the most profitable in your herd, while also identifying cows with a high SCC, indicating subclinical mastitis. Don't assume that small bulk tank SCC increases during the summer will 'settle down'- act now, and set your herd up for late lactation, with minimal mastitis infections and maximum milk production.

The financial impact of a 'creeping' SCC should not be underestimated. For example, at a milk price of 30c/L, if the average bulk tank SCC of a 100-cow herd increases from 150,000 cells/mL to 250,000 cells/mL, it reduces the overall farm profit by approx. €8,200. This reduction in potential profit increases to over €12,200 if the bulk tank SCC increases from 250,000 cells/mL to 350,000 cells/mL. This is huge money to be losing, especially in a year such as this where margins are tight.

What is a high SCC?

Any cow with an SCC of 200,000 cells/mL or higher on a milk recording, probably has at least one infected quarter. Depending on the type of pathogen she is infected with, it is very possible that she is a source of infection for other cows in the herd.



What can you do to minimise the problems caused by infected cows?

- ✓ Know who they are! This is where milk recording is essential, also providing reports that give an overview of the whole herd, highlighting the areas of good mastitis control and the areas that could be improved. If there are some parts of the report that you don't understand, ask for help from your milk recording organisation, vet or advisor.
- ✓ If you aren't yet milk recording, use a CMT (paddle) to identity the infected cows and quarters.
- ✓ These high SCC cows should be marked and milked last, or their cluster disinfected after milking to minimise disease spread.
- ✓ Now is a good time to collect milk samples (at least 10) from problem cows and send to the lab for culture and susceptibility testing. Samples need to be collected as hygienically as possible or else the results will be misleading.
- ✓ When you get these results back from the lab, discuss a suitable treatment plan with your veterinary practitioner- while treatment may appear to be the most logical option, remember that cure rates can range from 20-80% depending on various factors, such as the bacteria involved, the duration of infection and the cow's lactation number.
- ✓ Remove the source of infection - Dry off individual quarters i.e. simply stop milking it, do NOT use a dry cow tube. Consider culling if the cow is a problem cow i.e. high SCC in two consecutive lactations. These problem cows are not only costing you money, which is sometimes not apparent, but they can also be a source of infection for the healthy cows.
- ✓ Continue to use post milking teat disinfection correctly, throughout lactation.

See Management Note M in the CellCheck Farm Guidelines available here for advice on dealing with high SCC cows. The CellCheck Farm guidelines provide very useful advice during the various stages of lactation and are available on the AHI website. A free veterinary consult is also available if you need help to get your mastitis under control. For more information visit the Cell Count Solutions TASAH webpage





COMMON CONDITIONS CAUSING LAMENESS

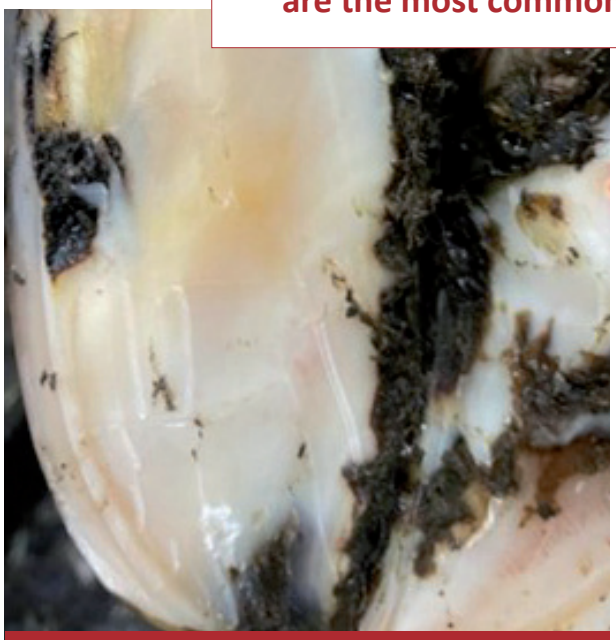
Ger Cusack, Hoof HealthCheck Technical Working Group Member

The majority of cows that become lame do so as a result of problems in the lower limb in the region of the hoof. While upper limb injuries do occur, these cause only a small proportion of the lameness cases we see on Irish dairy farms.

Common conditions causing lameness in Irish dairy cows

- White line disease
- Sole bruising
- Sole ulcer
- Foul in the foot
- Mortellaro (Digital Dermatitis)

In grazing herds, white line damage and sole bruising are the most common hoof lesions that we see.



White line disease



Sole Bruising

When it comes to deciding how best to treat conditions such as white line disease, the results of a study carried out at Nottingham University are worth considering.

This involved a large number of cows that were mildly lame (AHDB Mobility Score 2 on a scale from 0 to 3, with 0 being 100% sound and Mobility Score 3 being obviously lame). All these cows suffered from claw horn lesions such as white line disease, sole haemorrhage/bruising or sole ulcer. Cows with Mortellaro lesions were excluded.

Treatment	Percentage Non-Lame After 5 Weeks (Mobility Score 0 or 1)
Trim only	69%
Trim + Block	72%
Trim + Anti-inflammatory	76%
Trim + Block + Anti-inflammatory	85%

Thomas et al (2015). Journal of Dairy Science

The application of a block to the sound claw has clear benefits. It gives the cow immediate pain relief by taking pressure and concussion away from the affected claw. Blocks are particularly helpful during the grazing season. Cows that are lame graze for shorter times, have reduced dry matter intake, have reduced milk yield, and tend to lose body condition. The application of a block to the sound claw mitigates these effects and, in many cases, enables the affected cow to remain part of the main herd.

It is reasonable to conclude that the hooves of cows that are affected by conditions such as white line disease, sole bruising or sole ulcer, suffer damage to not only the horn capsule, but also the deeper tissues. These include the corium, the laminae and the pedal bone. The addition of non-steroidal anti-inflammatory (e.g., ketoprofen x 3 days) may reduce the inflammatory effect and reduce the longer-term damage that occurs in these deeper tissues. As this medication is a prescription only medicine, consult your veterinary surgeon for advice about the use of such products.

If we regard mobility scores of 0 or 1 as a cure, in this study of recently lame (2 weeks or less) cows, the cure rate was in the range 69-85%.

In a further study, the same researchers selected cows with Mobility Score 2 or 3 that had been lame for at 4 weeks or longer. The same treatment protocols were employed as the group in the first study.

The findings in this group were in stark contrast to the first study. If we define cure as a cow returning to Mobility Score 0 or 1, the cure rate in this group was extremely low. This was true in the case of all four treatment protocols.

The results of these studies at Nottingham University clearly demonstrate that early detection and prompt treatment of lame cows greatly improves treatment outcomes.

The take home message here is clear. To achieve good treatment outcomes when treating lame cows, they need to be treated early in the course of the lameness condition. To quote Roger Blowey MVB MRCVS, recognised UK expert in the field of lameness, "a lame cow is an emergency and needs to be treated as such".



Sole ulcers



Foul-in-the-foot



Mortellaro lesion

Sole ulcers

This type of ulcer is treated by appropriate hoof trimming and the application of a block to the sound claw. The use of a non-steroidal anti-inflammatory drug (NSAIDS) injection could also be considered based on advice of your vet.

Foul-in-the-foot

This is a bacterial infection affecting the soft tissue between the claws. Injectable antibiotic treatment is the appropriate treatment. Seek the advice of your farm vet.

Mortellaro lesion

Mortellaro (also known as digital dermatitis) is a bacterial infection affecting the skin in the region of the hoof. The incidence of Mortellaro has risen steadily in recent years and hoof trimmers and vets report seeing it on many of the farms visited.

It causes an extremely painful erosion of the skin, resulting in flat strawberry-like lesions that can be up to 5 centimetres in diameter. This condition is contagious, and if left unnoticed and unchecked, has the potential to spread rapidly through the herd.

To achieve best treatment outcomes, detect early and treat lame feet affected with Mortellaro as promptly as possible. These feet should be lifted, cleaned, dried with a paper towel, and sprayed with topical oxytetracycline daily for 3 days. This treatment will cure the vast majority of Mortellaro lesions and ensure few recur. As oxytetracycline spray is an antibiotic, consult with your vet before using it.

SPREAD OF JOHNE'S DISEASE ON AN INFECTED FARM

Liam Doyle, Johne's disease Programme Manager

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.

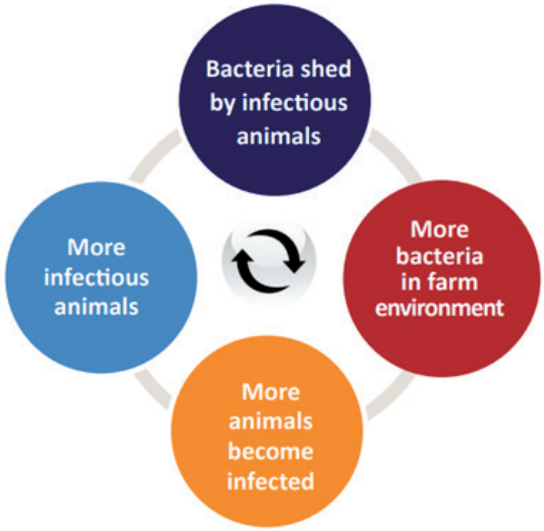


Figure 1. JD infection cycle on the farm.

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.



www.animalhealthireland.ie

BVDFree | CellCheck | Beef HealthCheck | Johne's Control | IBRFree | Pig HealthCheck

BioSecurity | CalfCare | Hoof HealthCheck | Parasite Control

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