

## Guidelines for preventing the introduction of Johne's disease into a herd



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IRISH JOHNE'S CONTROL PROGRAMME

Animal Health Ireland, 4-5 The Archways, Carrick-on-Shannon, Co. Leitrim, N41 WN27



**Johne's Control**  
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## Introduction




Johne's disease is a bacterial disease of cattle and other ruminants for which there is no cure. It is caused by the bacterium *Mycobacterium avium* subspecies *paratuberculosis* (MAP). Cattle usually become infected as calves early in life by drinking milk or eating food contaminated with the bacteria, which are shed in the dung or milk of infected adult cattle. Calves may also be born already infected if the dam is infected, particularly if the dam is test positive and highly likely if she is already exhibiting clinical symptoms. Once animals become infected, the disease progresses slowly and silently. Very commonly, signs of Johne's disease won't be visible until the animal has had three or more calves. Effective biosecurity is the key to avoiding the introduction of many diseases, including Johne's disease, into a herd.



These guidelines are relevant to all herdowners. However bioexclusion is of particular importance to herdowners whose herds have no history of Johne's disease and have repeatedly tested negative. They describe:




- The main risk points by which MAP may be introduced into a herd,
- Practices for reducing the risk of disease introduction and,
- Ways in which the effectiveness of these management practices can be monitored.

It is strongly recommended that all herdowners seeking to prevent or manage Johne's disease should adopt these practices. Not all farming practices are associated with the same level of risk. The most important risks to manage are highlighted red. The use of barriers, disinfection points, boot washing facilities and signage to identify biosecure areas are useful additional general risk management strategies to alert herdowners, family members, employees, contractors and visitors of the importance of following the best practices established to protect a herd from Johne's disease.



SOURCE OF RISK	HOW THE RISK OCCURS	CONTROL MEASURES	ACTIONS/ MONITORING
 <b>INTRODUCED ANIMALS</b>	<p>Infected animals are introduced to the herd, contaminating the environment. (These animals may appear healthy and may even have had a negative blood test for Johne's disease).</p>	<ul style="list-style-type: none"> <li>Minimise the number of herds from which animals are introduced into the herd.</li> <li>Minimise the number of high or unknown risk animal introductions. Ideally source replacements from low-risk herds (closed herds with several test-negative whole herd tests).</li> <li>Use the Herd Assurance Score (HAS) to assess the risk associated with the herd from which individual animals or groups of animals are introduced.</li> </ul>	<ul style="list-style-type: none"> <li>Record the numbers of animals introduced each year (include all animals even those only introduced for short periods such as a borrowed bull).</li> <li>Record the HAS of the herds from which animals are purchased.</li> <li>If any of these animals test positive, immediately identify any female progeny or breeding bulls that have been retained in the herd and record them as higher risk animals.</li> </ul>
 <b>BIOLOGICAL MATERIALS</b>	<p>Colostrum may be contaminated with MAP as a result of inadequate hygiene during collection, or the use of high risk donor cows.</p>	<ul style="list-style-type: none"> <li>Avoid the use of colostrum from herds other than high-assurance herds.</li> </ul>	<ul style="list-style-type: none"> <li>Keep a record of colostrum stores to ensure the farm doesn't run out.</li> <li>Keep a record of which calves get colostrum from the colostrum bank in case a colostrum donor cow is subsequently diagnosed with Johne's disease.</li> <li>Where a donor cow is subsequently diagnosed with Johne's disease, identify any female animals and breeding bulls born to the donor that have been retained in the herd and record them as higher risk animals.</li> </ul>
 <b>SLURRY</b>	<p>Slurry/manure, (other than from pigs or poultry) introduced from elsewhere, including from stock introduced for 'fattening' purposes and held as a biosecure unit, may contain viable MAP bacteria.</p> <p>Slurry from any stock may contaminate pastures</p>	<ul style="list-style-type: none"> <li>Do not import slurry.</li> <li>Avoid the use of slurry on areas where young stock are grazed.</li> <li>Ensure contractors have thoroughly cleaned vehicles inside and out before spreading slurry.</li> </ul>	<ul style="list-style-type: none"> <li>Keep a record of where and when slurry is spread and the sources of slurry used on pasture and tillage.</li> </ul>

SOURCE OF RISK	HOW THE RISK OCCURS	CONTROL MEASURES	ACTIONS/ MONITORING
 <b>FARM WORKERS</b>	Workers can spread infective dung on vehicles (see below), equipment (see below), boots and overalls as they move between herds.	<ul style="list-style-type: none"> <li>• Restrict access to calf areas.</li> <li>• Provide personal protective clothing (e.g. clean washable overalls or boiler-suit, wellington boots) to all workers.</li> <li>• Provide cleaning facilities for workers through ready access to hand and boot washing points.</li> <li>• Explain farm biosecurity procedures to all new staff members and contractors.</li> <li>• Limit worker access to controlled areas such as calf units.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure boot wash points and foot baths are in place and regularly cleaned. Replace the disinfectant at regular intervals to ensure it remains active.</li> <li>• Clearly identify restricted areas.</li> <li>• Introduce new employees to the husbandry practices used within the herd.</li> </ul>
 <b>VEHICLES</b>	Vehicles, trailers and farm machinery can introduce infective dung to a farm on tyres and machinery and can also spread infective material within a farm as the equipment is moved around the farm.	<ul style="list-style-type: none"> <li>• Establish a dedicated parking area for visitors' and contractors' vehicles, well away from areas that animals move through or are housed in.</li> <li>• Ensure contractors' vehicles, trailers and machinery have clean external surfaces and internal surfaces have been washed before entering the farm.</li> <li>• A tyre/under wheel arch/under-body wash area near the entrance to the farm will reduce the risk of infective material being spread over areas of the farm where young stock graze.</li> </ul>	<ul style="list-style-type: none"> <li>• A specific parking area should be established and identified for visitors.</li> <li>• Contractors' vehicles, trailers and machinery should be cleaned before entering areas which are accessed by animals.</li> <li>• Consider the use of biosecurity mats/ gravel bed at the entrance to farms.</li> </ul>

SOURCE OF RISK	HOW THE RISK OCCURS	CONTROL MEASURES	ACTIONS/ MONITORING
 <b>FARM VISITORS</b>	<p>Visitors can introduce infective dung on vehicles (see below), equipment (see below), boots and overalls and deposit or spread infective material as they visit different sections of the farm.</p>	<ul style="list-style-type: none"> <li>• Minimise numbers of visitors.</li> <li>• Minimise the number of entry points to the farm.</li> <li>• Establish barriers (e.g. gate) with biosecurity notice and disinfection points and foot baths at the main entry points to the farm and calf house.</li> <li>• Restrict access to calf areas.</li> <li>• Provide personal protective clothing (e.g. clean washable overalls or boiler-suit, disposable over-boots) to visitors for use while they are on the farm.</li> <li>• Provide cleaning facilities for visitors through ready access to hand and boot washing points.</li> <li>• Restrict knacker lorry access to areas away from livestock.</li> <li>• Explain farm biosecurity procedures to all new staff members and contractors.</li> </ul>	<ul style="list-style-type: none"> <li>• Biosecurity notices should be clearly legible and placed prominently on barriers to farm and calf housing/grazing areas.</li> <li>• Ensure wash points and foot baths are in place and regularly cleaned. Replace the disinfectant at regular intervals to ensure it remains active.</li> <li>• Ensure clean protective equipment is available and used by visitors.</li> <li>• Clearly identify restricted areas.</li> <li>• Introduce new employees to the husbandry practices used within the herd.</li> </ul>
 <b>RETURNING ANIMALS</b>	<p>Animals that have left the home-farm for variable lengths of time can be exposed to infection by grazing contaminated pastures or through contact with infected dung in off-farm heifer rearing units, or at shows and marts.</p>	<ul style="list-style-type: none"> <li>• When moving stock to off-farm locations, avoid pastures where slurry has recently been spread.</li> <li>• Check biosecurity practices of contract rearing units before sending calves/young stock</li> <li>• Clean all equipment including trailers thoroughly, inside and out on return from shows and marts away from areas where young stock are held or graze.</li> </ul>	<ul style="list-style-type: none"> <li>• Establish a system for cleaning equipment and trailers when these return to the home-farm.</li> <li>• Ensure workers understand the importance of following this system.</li> </ul>
 <b>EQUIPMENT</b>	<p>Borrowed equipment can spread infection between animals.</p>	<ul style="list-style-type: none"> <li>• Avoid lending or borrowing equipment.</li> <li>• Ensure any borrowed equipment is well maintained and thoroughly cleaned between each use, following standard dairy hygiene practices: cold rinse, hot wash, rinse and disinfectant.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure all borrowed equipment is clearly identifiable as to the farm of origin.</li> <li>• Ensure all equipment used at shows is thoroughly cleaned upon returning to the farm.</li> <li>• Maintain all equipment in a clean and 'ready to use state'.</li> </ul>