

PROTECTING YOUNG CATTLE AT PASTURE

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In last month's bulletin, we explored strategies to protect newborn calves, especially valuable breeding stock, from Johne's Disease (JD). This month, our focus shifts to safeguarding young cattle from JD risk while at pasture.

Newborn calves are highly susceptible to *Mycobacterium avium* subspecies *paratuberculosis* (MAP), the bacteria responsible for Johne's Disease. This is why the Irish Johne's Control Programme (IJCP) places significant emphasis on providing a clean, hygienic environment for young calves. MAP can be present in dung and slurry and is a hardy, persistent organism. Once introduced to pasture, either through slurry application or grazing by infected cattle, MAP can survive for up to a year, making land management critical to reducing exposure risk.

Effective pasture management can play a major role in minimising the chances of young stock encountering viable MAP bacteria. Two main factors determine the risk of MAP infection: animal susceptibility and the infective dose.

Calves are most vulnerable during their first year of life. As they grow, their susceptibility to MAP decreases, making the infection risk lower (though not eliminated) for yearlings and adult cattle. Young stock fall into a middle-risk category, necessitating careful grazing and pasture decisions.

Pasture contamination occurs via infected cattle or the application of contaminated manure or slurry. Since younger animals are at higher risk, contaminated pastures present a significant infection threat. Although MAP bacteria begin to die off over time, they can persist in Irish pastures for up to 12 months under typical weather conditions. To protect young stock, it's essential to avoid using slurry from other farms, especially on land intended for young cattle, and to ensure proper cleaning and disinfection of contract slurry spreading equipment.

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Practical Strategies for Reducing MAP Risk at Pasture

While the ideal scenario is to graze young stock only on pasture that hasn't been exposed to slurry or adult cattle for over a year, this is often impractical for most Irish farms. Instead, the goal should be to manage grazing in a way that minimises exposure to MAP and parasitic threats such as gut worms and coccidiosis.

One approach is to designate specific paddocks for calves. This limits MAP exposure from adult cattle but may lead to increased parasitic load in those paddocks. Co-grazing with sheep should also be avoided, as they are susceptible to MAP and can contribute to pasture contamination, especially on farms where MAP is known to be present.

Using both the principles of age susceptibility of stock and reduction in MAP bacteria on pasture with time (along with not concentrating young stock on the same pasture continuously) the leader/follower grazing system provides a good management option for farmers. With this system calves graze the fresh paddocks of grass first but are moved quickly on, followed by older stock, typically yearlings, to graze the remaining grass. This minimises the risk of exposure to high levels of parasites and to MAP, especially on fresh paddocks early in the year when the parasites and MAP will be at low levels after the winter period and when the grazing calves are most susceptible. It also enables the yearlings or adults, which are more resistant than the calves to both parasites and MAP, to further reduce the pasture levels of worm larvae. Then when the calves are rotated back, they will be exposed to reduced parasite load and be more resistant by age to MAP and worms.

To further enhance protection:

- Rotate calves through multiple paddocks to delay re-grazing and allow pasture contamination levels to drop.
- Follow calves with yearlings rather than adult cattle, as yearlings are less likely to shed high levels of MAP.
- Use reseeded fields or land previously used for silage, which typically have lower MAP and parasite loads.

By aligning grazing practices with the principles of animal age-related susceptibility and the environmental persistence of MAP, farmers can take meaningful steps to reduce Johne's Disease risk for young cattle at pasture.

For more information on the Irish Johne's Control Programme (IJCP) see Animal Health Ireland Website and for practical advice 'A guide to Johne's Disease' - [click here](#).