

Understanding the Risk

Johnes's disease is caused by *Mycobacterium avium* subspecies *paratuberculosis* (MAP), a tough bacterium that can survive in the environment for months. Managing contaminated manure and forage is essential to prevent continued infection and spread within your herd.

MAP Survival in Manure and Soil

- Persistence: MAP can survive **6 months to 1 year** in contaminated manure spread on pastures or hayfields.
- Environmental Factors:
 - Dry, hot weather shortens MAP survival.
 - Soil pH: MAP is less likely to survive in neutral to high-pH soils (pH 7 or above).
 - Soil management: Liming fields to raise pH can help inactivate MAP.

Reducing Risk of Reinfection

- Do not graze or harvest forage from contaminated fields for at least **6 months** after spreading manure.
- Avoid feeding contaminated hay or grazing livestock on affected areas.
- Plan to ensure clean pastures or hayfields are available during this waiting period.

Manure Management Options:

Land Application and waiting

- Spread manure on land and allow **at least 6 months** for natural inactivation.
- Simplest method but may limit land use temporarily.

Proper Composting

- Composting can destroy MAP if done **thoroughly and at the right temperatures**.
- **Steps for Effective Composting:**
 - Start with fresh, well-bedded manure.
 - Use a base layer of wood chips for aeration.
 - Maintain thermophilic temperatures (131–160°F) for at least 15–40 days.
 - Turn the pile at least 5 times during this phase.
 - Allow a curing period of 6–8 months for full breakdown.
- Composting can also handle **carcass disposal**, but it must be done **carefully and correctly**.

Water Trough Management

- MAP can form biofilms that protect it on surfaces.
- Concrete troughs are more prone to harboring MAP biofilms.
- Stainless steel troughs are less conducive to MAP survival and are easier to clean when contaminated with manure. Troughs should then be sanitized with an MAP identified sanitation product.

Summary for Producers

Management Area	Key Recommendation
Manure on fields	Wait at least 6 months (preferably 1 year) before grazing or harvesting
Soil management	Lime soil to raise pH above 7
Composting	Maintain 131–160°F for 15–40 days with 5 turns
Water troughs	Use stainless steel instead of concrete or plastic

By implementing these strategies, producers can reduce Johnes's disease risk and protect herd health long-term.

For more information on Johnes Disease Manure Management
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