

TOP FARMERS KNOW-HOW AUDIO SALMONELLA IN CATTLE



WHAT IS SALMONELLA?

- Bacteria that live inside carrier animals (this is the main source of spread of Salmonella)
- Can survive in the environment for weeks to months
- Can infect all kinds of animals including humans (zoonotic disease)
- Many different strains, most prevalent in cattle:
 - › Brandenburg (primarily causes abortions)
 - › Typhimurium (primarily affects the gut)
 - › Bovismorbificans (primarily affects the gut)
- All types of Salmonella can cause outbreaks and deaths
- Once Salmonella is established in a herd, it cannot practically be eliminated

Salmonella Brandenburg (abortive)

- First outbreaks recorded in 1996
- Causes late term abortions, sickness and death
- Occurs in the late dry period (late winter/early spring)
- In naïve herds first calving heifers seem to be most affected
- Up to 35% of first calving heifers can abort
- In outbreaks, mortality rates vary (around 5%)
- As of 2019/2020 only seen in the South Island

Salmonella Typhimurium and Bovismorbificans (gut-affecting)

- Typhimurium has been in NZ since at least the 1950's
- Bovismorbificans is an emerging disease, causing outbreaks in dairy cattle since 2015
- Causes scours (often bloody), sickness and death
- Outbreaks tend to occur in times of stress (most often over calving) but can happen at any time of the year
- Affects all age groups including calves
- Case rates and mortality varies with herd immunity and management risk factors
- Occurs nationwide

SALMONELLA VACCINATION

- Salvexin[®]+B is the only Salmonella vaccination for cattle and sheep in New Zealand
- It contains four strains of Salmonella: Hindmarsh, Brandenburg, Typhimurium and Bovismorbificans
- For preventative vaccination give two shots in the first year (sensitiser & booster at least 4 weeks apart), 2nd shot should be at least 2-3 weeks before the risk period
- An annual booster is required for ongoing protection
- In the face of an outbreak, vaccination should be as early as possible to reduce stock losses (this strategy is not recommended for protection against *Salmonella* Brandenburg abortions in sheep)
- The most practical time for dairy farmers to vaccinate is around drying off

MANAGEMENT PRACTICES TO MINIMISE SALMONELLA RISK

- Reduce stress (gradually introduce diet changes, lower stocking densities)
- Avoid the use of a pelletised magnesium oxide (choose other sources of magnesium supplementation)
- Fence off feed bins to prevent animals from defecating in them
- Don't graze effluent paddocks around calving time
- Manage birds and pests to keep them from spreading Salmonella
- The most common way Salmonella is introduced to a farm is through healthy looking carrier animals (cattle, sheep etc.). Higher risk practices include:
 - › Off-farm grazing
 - › Intensive feeding
 - › Purchasing/leasing stock
 - › Shared boundaries/stock yards
- Farms at risk of Salmonella should consider preventative vaccination

TOP FARMERS KNOW-HOW AUDIO SALMONELLA IN CATTLE



MANAGING AN OUTBREAK

- Practice strict biosecurity between affected mobs and other groups of cattle on the property
- Involve your vet to take samples and confirm the diagnosis
- Isolate sick animals/herds
- Monitor at-risk groups closely
- Treat sick animals following vet advice
- Use strict hygiene practices when handling sick animals or working in their environment
- Prevent vulnerable (old, young, pregnant or sick) people from having contact with animals and their environment
- Use disinfectant and wear gloves, overalls and gumboots when handling at-risk animals
- Contain and/or destroy contaminated material e.g. limit sick animal movement and bury foetuses, placenta and carcasses as soon as possible
- Vaccinate all stock with Salvexin®+B as soon as possible under veterinary guidance (ensure a sensitiser & booster is given to previously unvaccinated animals and an annual booster given to all other animals)

Don't wait for Salmonellosis to strike.



Vaccination reduces the impact of an outbreak and minimises production losses. Protect your herd with Salvexin®+B

REFERENCES:

- ACVM. (2018). A007886 Salvexin+B Leaflet. <https://eatsafe.nzfsa.govt.nz/web/public/acvm-register>
- Baker et al. (2007). A recurring Salmonellosis epidemic in New Zealand linked to contact with sheep. *Epidemiol Infect.* 135:1. 76-83.
- Clark et al. (2004). Salmonella Brandenburg — emergence of a new strain affecting stock and humans in the South Island of New Zealand. *NZVJ.* 52:1. 26-36.
- Clark et al. (2002). Salmonella in animals in New Zealand: the past into the future. *NZVJ.* 50:3. 57-60.
- Daly, S. (2019). Salmonella Brandenburg on Canterbury dairy farms. *Proceedings of the Society of Dairy Cattle Veterinarians of the NZVA.* 29-30.
- Hulme-Moir, L. (2020). Emergence of Salmonella Bovismorbificans in New Zealand. *Grazing Gazette NZ: Official newsletter of the Sheep and Beef Cattle Veterinarians Branch of the NZVA.* 58:16-19.
- Gruenberg, W. (2020). Salmonellosis in Animals. *MSD Veterinary Manual Online.*
- Holschbach, CL & Peek, SM. (2018). Salmonella in Dairy Cattle. *Veterinary Clinics of North America: Food Animal Practice.* 34:1. 133-154.
- Morgan, P (2013). Salmonella outbreak case studies spring 2011. *Proceedings of the Society of Dairy Cattle Veterinarians of NZVA.* 165-176. <https://ahdc.vet.cornell.edu/programs/NYSCHAP/docs/SalmonellaTrifold.doc>

FOR MORE:

Visit [TopFarmers.co.nz](https://www.TopFarmers.co.nz)

Or find us on YouTube by searching: [TopFarmersNZ](https://www.youtube.com/TopFarmersNZ)

Or visit: soundcloud.com/TopFarmers

Or visit: msd-animal-health.co.nz

