KIRKTON BOVINE SERVICES

XL Vets

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Salmonella dublin – An emerging disease in Ontario

- *Salmonella dublin* causes pneumonia and death in calves that is unresponsive to antibiotics
- Carrier animals can appear healthy, but will intermittently shed bacteria
- *Salmonella dublin* can have a significant economic impact if your herd becomes infected
- Keep your herd negative by knowing the status of any purchased animals and ideally operate as a closed herd

A new threat is emerging on Ontario dairy farms. *Salmonella dublin* bacteria was first detected in the Southwestern United States decades ago, but since the early 2000's has been found in New York state and more recently, Ontario and Quebec.

Salmonella dublin causes severe septicaemia, pneumonia and often death in calves. Classic presentation is sudden onset of pneumonia in group-housed calves from 1 week to 8 months of age. It typically results in a high fever that is unresponsive to antibiotics and sudden death. Treated animals that survive are often permanently stunted or unproductive due to organ damage. Survivors may also become carriers for life. Carrier calves and cows can appear healthy but can shed bacteria periodically, spreading infection from animal to animal or farm to farm. Unlike other types of Salmonella, *S. dublin* can be spread via manure, milk, urine and vaginal excretions from infected carrier cows. Older animals typically do not show illness, but may shed *S. dublin* in their milk or even abort pregnancies. *S. dublin* is broadly resistant to antibiotics and can be transmitted to humans via bodily excretions or consuming contaminated foods such as raw milk.

Economics of *S. dublin* in a 200 cow herd:

Herd Management Level	**Losses in 1st year**	**Losses over 10 years**
Very good management	$57.00 per stall	$378 per stall
Poor management	$9.50 per stall	$218 per stall

If you do not know whether *S. dublin* is present on your farm, a good screening method is to test your bulk tank 4 times over a 6-12 month period. It can also be tested via blood samples from calves aged 4-6 months old to test for *S. dublin* antibodies they may have been exposed to earlier in life. These testing procedures are highly recommended if you are considering transitioning from individually-housed milk-fed calves into a group-housed setting as this disease can cause major death losses in group-housed calves. If you think you are in the midst of an outbreak, consider conducting post mortems on dead calves and try to culture *S. dublin* out of the lungs, liver and kidney. Your herd veterinarian can recommend a herd-specific testing strategy if you are concerned about *S. dubin* being present on your farm.

The most important thing to remember is if your herd is negative for *S. dublin* KEEP IT THAT WAY! First line of defense is to PREVENT ENTRY of *S. dublin* into uninfected herds. Critical control points are to operate as a closed herd. If purchasing animals, it is strongly recommended to perform blood tests BEFORE they arrive on your farm. You may also want to ask the herd of origin to test their bulk tank for *S. dublin* to see if they have this disease present on their farm.