

Katherine Perry – 3MT® Presentation Transcript

If I asked you to name the first type of bacteria that comes to your mind, I have a feeling that many of you thought of Salmonellae. It makes sense because it's one of the leading causes of food poisoning in Canada!

But, salmonella refers to more than just one bacteria – in fact, there are over 2500 strains.

Today we're going to talk about just one: Salmonella Dublin.

This strain is specifically adapted to cattle – which means it typically survives and wreaks its havoc in cattle populations.

By wreak havoc, I mean that it can truly devastate herds of cattle. Animals are usually infected as young calves, either by consuming milk or fecal matter from an infected cow.

And I don't know how many of you have visited a dairy farm – but if you have, you'll know that there are lots calves drinking milk and LOTS of fecal matter!!!!

This is where the problem lies: S. Dublin spreads easily and is known for its severity of illness and deadliness.

What's even more concerning is that it has zoonotic potential – which means that us humans can become incredibly sick by consuming undercooked beef or unpasteurized milk.

And unfortunately, the S. Dublin that's circulating in Ontario is largely antibiotic resistant – which means, treatments for us and our cattle are pretty ineffective.

By now, you might be thinking: “Wow this sounds like a huge problem – why haven't I heard about it?”

That might be because S. Dublin has only been identified sporadically in Ontario!

It's known to be a problem in Quebec, as well as other countries that even have national control programs in place!

However, Ontario doesn't have anything like that yet, as it is a relatively new problem.

And that's where my research comes in:

This summer, I visited 100 dairy farms across Ontario. We collected blood from 20 younger animals as well as a sample from the massive bulk tanks that hold milk from every cow in the herd. We also interviewed the producer at each farm to better understand their daily practices.

Of the 100 farms we visited, 25 were positive – and we were able to identify some management practices that increased the risk S. Dublin being identified in the herd.

This included things like purchasing animals from another herd, allowing cattle to temporarily leave the herd for something like a cattle show, and practices that allowed for more manure contamination in maternity pens, where cows are giving birth.

Understanding risk factors like these is vital to reducing the number of Ontario dairy farms burdened by this bacteria.

It could even help control S. Dublin and prevent this from becoming a bigger issue in the future.
Thank you.