

Salmonella Dublin in Ontario

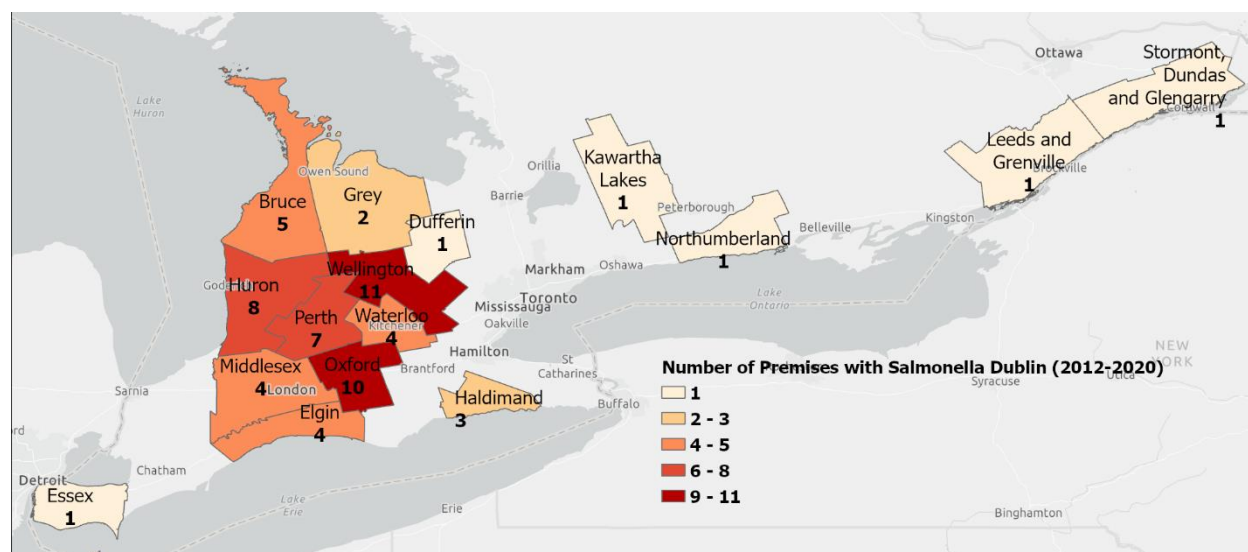
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Salmonella Dublin (*S. Dublin*) is a bacterium that has been on the radar of researchers, veterinarians, and producers for years, and poses a large threat to Canadian cattle industries and human health. The reason we are more concerned about *S. Dublin* than other bacteria is that it is zoonotic (spread between animals and humans), is multi-drug resistant, and can cause a wide variety of symptoms in infected cattle.

So, what are the effects on your herd? When first introduced into a herd, *S. Dublin* can cause up to a 50% death rate in calves. After the initial infection, herds that are *S. Dublin* positive can expect to have a higher risk of calf mortality, and a reduction in milk yield for the next 7 – 15 months.

Calves that are sick with *S. Dublin* are normally under 6 months of age, with the most affected group being between 2 and 12 weeks old. While common strains of *Salmonella* cause severe diarrhea, *S. Dublin* has a different presentation. Affected calves can present with sudden death, or they may have a severe pneumonia accompanied by a high fever that is non-responsive to treatment. *S. Dublin* calves can also have swollen joints or meningitis (inflammation in the brain), which are all signs of a violent infection. However, it is important to note that not all infected calves will have severe signs, and they can survive the infection. Those that do survive the infection may shed the bacterium to herd mates for the rest of their lives. The main modes of transmission are manure, colostrum, urine, saliva, and other bodily secretions. In adult animals, infection with *S. Dublin* may cause abortions.

Recently, there have been more studies conducted trying to assess how common *S. Dublin* is in herds across Ontario. This map from www.calfcare.ca shows the number of dairy and veal premises with *S. Dublin* reported between the years of 2012 to 2020. In the next year, we should see more recent data released that will further our understanding of *S. Dublin*'s prevalence in Ontario.



So, how do you prevent this disease?

Biosecurity

- Strict hygiene protocols prevent the spread of S. Dublin between farms. All visitors should wear clean clothes and boots, and a boot wash station should be provided.
- On-farm hygiene should be maintained, with a focus on critical areas such as trailers, calf pens, calving areas, and feeding equipment. It is important to use appropriate disinfectants such as chlorine dioxide or accelerated hydrogen peroxide.
- Open herds can test animals before purchase, quarantine them, and re-test 5 – 7 weeks later.
- Limit transportation of animals. When it is necessary to transport cattle, ensure that the trailer is properly cleaned and sanitized between uses.
- Personal hygiene is also very important, as S. Dublin can be passed to humans.

Nutrition and Immunity

- Feeding calves at a high plane of nutrition supports calves natural immune system.
- Feed colostrum from proven S. Dublin negative dams.
- Administration of vitamin E and selenium at birth can support immune function.

Salmonella Dublin is a disease that is unlikely to be forgotten any time soon. If you have participated in one of the recent studies, and have found out your farm is positive, I encourage you to contact your herd veterinarian so you can discuss ways to minimize the impact of this disease. If you have not participated, but are interested in knowing, there are options for testing on your farm. These range from bulk tank to individual animal testing.