Ontario

VETERINARY ADVISORY

Animal Health and Welfare Branch/
Office of the Chief Veterinarian
Ministry of Agriculture, Food and Agribusiness

Veterinary advisory: Bovine Theileriosis

Current situation

On October 21, 2025, the Canadian Food Inspection Agency (CFIA) confirmed the presence of *Theileria orientalis* genotype Ikeda in a dairy cow located in Kawartha Lakes, Ontario. The cow had a history of regenerative anemia following import from the United States in July 2025; she has since clinically recovered. This is the first known case of *Theileria orientalis* genotype Ikeda in both Ontario and Canada.

Theileria orientalis genotype Ikeda is a blood protozoa affecting both red and white blood cells. Ikeda is the first genotype known to cause clinical bovine theileriosis in cattle, with cases spreading in Eastern USA since 2018. While *Theileria orientalis* includes at least 11 genotypes, not all of them cause severe clinical disease. This advisory focuses specifically on the Ikeda genotype detected in the affected cow, known to be a more severely pathogenic genotype.

Theileriosis is an immediately notifiable disease to the CFIA under the *Health of Animals Act* and requires laboratories to contact the CFIA upon suspicion or diagnosis. Theileriosis or detection of *Theileria* sp. is also an immediately notifiable hazard by laboratories to the Office of the Chief Veterinarian for Ontario under the provincial *Animal Health Act*.

OMAFA is working with the herd veterinarian to help in managing the disease on the farm.

There is no known risk to human health from *Theileria orientalis*. It is not a food safety or significant public health concern.

Clinical signs

Most cattle infected with *Theileria orientalis* genotype Ikeda are asymptomatic and can serve as reservoirs for disease transmission within the population. Theileriosis causes destruction of red blood cells, resulting in anemia. In naïve herds or areas, a small percentage of infected cattle may develop clinical signs. Once infected, cattle can carry the organism for life, contributing to ongoing transmission within the population.

Clinical signs of bovine theileriosis in cattle may include:

- pale or jaundiced mucous membranes
- a packed cell volume (PCV) less than 20%
- dullness or lethargy
- sudden death in acute cases

In addition to anemia-related signs, *Theileria orientalis* genotype Ikeda causes non-specific clinical signs such as:

- muscle weakness
- ataxia
- fever
- abortion in heavily pregnant cattle
- dyspnea

Stressors, such as late pregnancy or excessive heat, increase the risk of clinical disease.

Diagnosis

Veterinarians should consider theileriosis as a differential diagnosis in cattle presenting with anemia.

Appropriate diagnostic samples include a complete blood count and blood smear. A polymerase chain reaction (PCR) test for *Theileria orientalis* genotype Ikeda is available using EDTA blood or spleen tissue collected at postmortem.

Interpretation of positive PCR results should take into account whether the herd or region is considered endemic or naïve to *Theileria orientalis* genotype Ikeda and should consider ruling out other potential causes of clinical signs. Other diseases that may look similar include:

- copper toxicosis
- anaplasmosis
- bacillary hemoglobinuria (*Clostridium haemolyticum*)
- causes of hemolytic anemia (e.g. cold water intoxication)

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- babesiosis
- malignant catarrhal fever
- gastrointestinal parasitism

Treatment

Supportive care and symptomatic treatment should be provided for clinically affected cattle, in consultation with a veterinarian. Minimizing stress and movement is critical, as oxygen deprivation can lead to collapse. Blood transfusions from unaffected donor animals may be considered for cattle stable enough to tolerate the stress of handling and the procedure. Currently there is no effective treatment available for theileriosis, so prevention by strong biosecurity remains the most important strategy.

Biosecurity and Prevention

Theileria orientalis genotype Ikeda can be transmitted in the saliva of ticks, primarily by the Asian Longhorned Tick (ALHT), *Haemaphysalis longicornis*. The ALHT, is an invasive species that was first detected in the USA in 2017 and has since been spreading north through the eastern U.S towards the Canadian border. It has not been found in Canada to date.

As the threat of ALHT and *Theileria orientalis* genotype Ikeda increases, cattle introduced from endemic areas should be isolated and tested, thoroughly inspected for ticks, and treated for ticks prior to entry into Ontario herds. Use of an ectoparasiticide to treat or prevent ticks in cattle should be done in consultation with the herd veterinarian. For animals out on pasture, pasture management practices, such as regular mowing and clearing brush, can be used to reduce a tick's preferred habitat conditions.

Additionally, biting flies and lice can play a role in mechanically transmitting the infection within a cattle population, so control measures, such as fly traps and repellents, should be in place. Farm protocols and practices should aim to prevent blood-borne transmission by using single use needles, single use rectal palpation sleeves, and implementing strict equipment disinfection protocols for shared equipment.

For additional information

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- WOAH: Theileriosis
- CAHSS: Preparing in Canada for the Asian longhorned tick
- USDA: Emerging Risk Notice: Theileria orientalis

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