



Ticks and Your Horse:

Types of Ticks and Tick-Borne Diseases

Ticks are tiny spider-like creatures that grow through different stages (larva, nymph, and adult). At each stage they need to **feed on the blood of animals**, which can include people and horses. Tick bites may cause **skin irritation, or even blood loss**. Various types of ticks can also **transmit diseases** to people and animals. Because certain types of ticks are spreading into new areas of Canada, it's **important for horse owners to know the risks** and take steps to prevent bites. This guide will tell you about the ticks to watch out for, the problems they cause, how to prevent bites, and what to do if you find ticks on your horse.

1. Types of Ticks to Watch Out For:

Please refer to the photo guides “Tick species native to Canada” and “Tick species not native to Canada” to compare the different tick species.

Ticks come in two main types: **Hard ticks** and **Soft ticks**.

- **Hard ticks:** have a **hard shield on their back**. This shield covers about one-third of an unfed female tick's body and all of a male tick's body. Hard ticks go through three active life stages, and at each stage, they feed once for several days.
- **Soft ticks:** do not have a hard shield and look **wrinkled and leathery**. Their mouthparts are hidden underneath their body, so you can't see them from above. Most soft ticks have many nymph stages, and all stages feed multiple times for short periods, usually about 20 minutes.

Ticks native to Canada:

Hard Ticks:

- ***Ixodes* ticks** have a **brown shield with no pattern**. They are usually more oval than round and have **long mouthparts**. Both adult *Ixodes* ticks (about 3 mm long) and nymphs (about the size of a poppy seed) will feed on horses. There are two main *Ixodes* ticks that are a concern in Canada, and both can feed on many different types of animals.
 - **Black-legged Tick (*Ixodes scapularis*):** Also called the deer tick, this one is a **major concern in parts of Manitoba, Ontario, Quebec, New Brunswick,**



and Nova Scotia, and it's **spreading further**. Adults are most active in spring and autumn when temperatures are above 4°C. This tick is the main carrier of ***Borrelia burgdorferi***, the bacteria that causes **Lyme disease** in people, dogs, and horses.

- **Western Black-legged Tick (*Ixodes pacificus*)**: Found on Vancouver Island and along the Pacific coast in **British Columbia** and the United States. This tick also transmits **Lyme disease and anaplasmosis** to people, dogs, and horses.
- ***Dermacentor* ticks** have a shield on their back with **white or cream-coloured patterns**. They are **bigger than *Ixodes* ticks** (adults are about 3-6 mm long), and their mouthparts are wider than they are long. *Dermacentor* ticks to watch out for in Canada are:
 - **American Dog Tick (*Dermacentor variabilis*)**: Mostly found across **southern Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, and a small part of east-central Alberta**. Adults are usually active from April to August.
 - **Rocky Mountain Wood Tick (*Dermacentor andersoni*)**: Occurs in **southwestern Saskatchewan, southern Alberta, and British Columbia**. Adults are usually active from April to the end of June.
 - **Winter Tick (*Dermacentor albipictus*)**: While mainly found on moose, deer, and cattle, this tick **can also be on horses across Canada**. All three stages of its life cycle stay on the same animal. Nymphs and adults are usually seen on horses from late winter to early spring. **Heavy infestations (thousands of ticks)** can directly harm a horse's health, leading to **anaemia (low red blood cells)** because of blood loss from their feeding.

Soft Ticks:

- **Spinose Ear Tick (*Otobius megnini*)**: Adult spinose ear ticks don't feed, but their larvae and nymphs are found **inside the ears of animals, including horses**. This can make it hard to spot them. Having these ticks and their painful bites causes irritation and can make horses **shake their heads a lot**. This tick is only found in **southeastern British Columbia**, but horses can pick them up when travelling in dry areas of the western United States.

Ticks Not Native to Canada:

The following tick types are not established here but **have been found in Canada**. This usually happens when horses pick them up while **travelling to the United States**.



- **Amblyomma:** These are **hard ticks** that are common problems for horses in the eastern United States. These ticks have eyes and long mouthparts. Two types of *Amblyomma* have been found in Canada:
 - **Lone Star Tick (*Amblyomma americanum*):** This tick is widespread throughout the eastern United States, but has been found in Canada, especially **southern Ontario and Quebec**. The adult female is brown with a **white spot on her back shield**, while the male might have a few spots. Lone star ticks are more aggressive in finding hosts and like to attach to the **chest and belly of horses**. Their bites can cause local reactions and can spread human diseases, including tularemia.
 - **Gulf Coast Tick (*Amblyomma maculatum*):** Found in the southeastern United States, Mexico, and northern South America. This tick has been found in Canada, including **Alberta and Ontario**, usually because of travel outside the country. Adult ticks often infest the **ears of horses**, which can lead to swelling and changes in the ear's shape.
- **Longhorned tick (*Haemaphysalis longicornis*):** This tick recently arrived in the USA and quickly spread through many eastern states. There's a risk it could come to Canada through movement of infested wild animals, pets, and livestock. **Hundreds of these ticks can be on one animal**, causing bad irritation and **anaemia**. It's important to tell this tick apart from the rabbit tick (*Haemaphysalis leporispalustris*), which infests many birds and small mammals, and the grouse tick (*Haemaphysalis chordeilis*), which is already in Canada and can be on horses, but usually not in large numbers.

2. Diseases and Health Problems in Horses Caused by Ticks:

Tick bites can cause **local irritation, swelling, and possibly scabs or sores**. Your horse might show signs of **itching and discomfort**. A **large number of ticks**, especially winter ticks, can make a horse become **very thin**. More seriously, ticks can spread different disease-causing germs:

- **Lyme disease** is caused by the bacteria *Borrelia burgdorferi*, which is spread by the **black-legged tick** and the **western black-legged tick** in Canada.
 - Horses with Lyme disease might show a **nervous system problem causing them to walk like they're drunk (ataxia)**, **eye inflammation (uveitis)**, and **skin lumps all over their body (cutaneous pseudolymphoma)**. Other signs can include **lameness that moves from one leg to another**, **being sensitive to touch**, **changes in behaviour**, **problems with performance**, and **ongoing**



weight loss. Since other health problems can cause these signs, it's vital to have a vet examine your horse for a correct diagnosis.

- It's also possible for horses to be exposed to *Borrelia burgdorferi* and **not develop Lyme disease.**
- A vet can diagnose Lyme disease by looking at the **horse's clinical signs along with blood test results.** Sometimes, an extended course (few weeks) of **antibiotics** may be prescribed for treatment.
- **Anaplasmosis** (also called equine granulocytic anaplasmosis or EGA) is caused by the bacteria *Anaplasma phagocytophilum*. It's spread by the **black-legged tick (*Ixodes scapularis*) and the western black-legged tick (*Ixodes pacificus*).** In horses, it impacts blood cells, leading to **fever, tiredness, and swollen limbs** in the early stages. A few days later, you might see **yellow skin and eyes (icterus)** and small purple or red **spots on the gums** (petechiae). Less common signs include **abortion, severe muscle pain, and nerve problems.**
 - **Tests of whole blood and looking at blood cells under a microscope** can detect infection early on. **Blood tests done 2 to 4 weeks apart** can also confirm the infection.
 - **Early antibiotic treatment** can lead to quick improvement. Your horse might also need **supportive care.**
- **Equine piroplasmosis** is an infection of blood cells by the parasites *Theileria equi* or *Babesia caballi*. It causes **fever, tiredness, loss of appetite, and/or difficulty breathing** in more severe cases. Early on, horses might have **anaemia (low red blood cells) and yellowing of the skin/eyes.** In long-term cases, they might struggle with exercise, lose weight, have fevers on and off, or show no signs at all. Once a horse gets infected, they **remain carriers of the parasites for life.** While ticks (such as some *Ixodes*, *Dermacentor*, *Amblyomma*, and *Haemaphysalis* species) that can spread these parasites are found in Canada, **equine piroplasmosis has never been diagnosed in a Canadian horse.** You should consider this disease if bringing horses from areas where it is common, such as parts of Europe, Africa, South and Central America, the Middle East, and Asia. **Equine piroplasmosis does not affect humans.** It is a disease that **must be reported** to the Canadian Food Inspection Agency (CFIA) if suspected.
- **Tick paralysis** is a **serious and life-threatening nerve condition.** It's caused by a **toxin in the saliva of certain ticks**, not by a pathogen (e.g. bacteria). This toxin stops muscles from working, leading to **gradual paralysis that can be life-threatening.** The **Rocky Mountain Wood Tick (*Dermacentor andersoni*)** is the



most common cause of tick paralysis in horses in British Columbia and the western United States. The **paralysis goes away once the tick is removed**. Your horse might also need supportive care, like fluids for dehydration and being moved often if they can't move themselves.

5. References and additional resources:

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