

Maple

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Providing research-based information to Minnesota horse owners



Red maple



Maple leaf

Scientific Name: *Acer* species.

Origin: The genus *Acer* consists of about 115 species of trees and shrubs widely scattered throughout the Northern Hemisphere. Of the 13 maples native to the United States, four are very common. They include sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), and boxelder (*Acer negundo*).

Lifecycle: Maples reproduce by seed and vegetatively by stump sprouts. Diameter and height varies by species as does longevity.

Identification: Leaves are deciduous (drop in fall) and are lobed with toothed margins.

Distribution: Most maple species are found throughout the eastern portion of the United States and Canada.

Habitat: Some species prefer wet sites; others grow mainly on uplands. Best growth is made on moist, rich, well-drained soils. Maples are a major component of many northern temperate forests.

Control: Maple trees in horse pastures should not be cut down, but branches should be kept out of reach of horses (i.e., trimmed above their reach). Young or small maple trees should be fenced for protection. Horses should be fenced out of areas where wilted maple leaves are plentiful. Wilted leaves can be a result of fall leaf shed, trimming, frost, and/or wind or storm damage.

Toxin: The toxin responsible for the red blood cell damage has not been identified, although a number of chemicals have been investigated. Most experimental studies have been done using the leaves from Red maple (*Acer rubrum*). The authors are aware of toxicosis in horses after ingestion of other species of *Acer* as well.

When Toxic: Ingestion of dried or wilted, but not fresh, maple leaves is associated with the toxicosis. Although dried leaves may remain toxic for 4 weeks, they are not generally believed to retain toxicity the following spring. Toxicosis



Fall Leaf Color

normally occurs in the autumn when normal leaf fall occurs. Although studies indicate that leaves collected after September 15 are more toxic, the authors are aware of cases of toxicosis in horses due to wilted leaves after summer storms.

Toxicity: Red cell damage has been reproduced in horses ingesting 1.5 to 3 pounds of dried leaves per 1,000 pounds of body weight.

Signs and Effects of Toxicosis: Horses are the only species for which maple leaf toxicity has been reported. Horses are often depressed, lethargic, and anorexic with dark red/brown urine after the first day of ingestion. They may progress to going down with labored breathing and increased heart rate before death.

Treatment: Activated charcoal followed by mineral oil may be given soon after ingestion. Fluids and whole blood transfusions may be required in many cases. Vitamin C, non-steroidal anti-inflammatory drugs, and corticosteroids may be used in some cases.

Thanks to the following fact sheet reviewers: Ron Genrick, Assurance Feeds and Harlan Anderson, DVM.
Photos provided by Krishona Martinson, PhD, University of Minnesota Extension and the University of Minnesota Strand Memorial Herbarium.

In Partnership...



This fact sheet was funded by the Minnesota Racing Commission

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