

Boxelder (*Acer negundo*) Seed Toxicosis in Horses

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It is the time of year when horses may become poisoned by seeds from boxelder trees. Boxelder trees, also called box elder or ash-leaved maples, are type of maple tree common throughout the Midwest, northeastern states and eastern Canada and may be found south as far as central Florida and west through parts of Texas. The seeds, which generally fall between September and March, are winged in appearance and often found in clusters on the trees. The seeds of the boxelder tree contain hypoglycin A, a toxin linked to seasonal pasture myopathy (SPM) in horses. The disease occurs in the fall once seeds have fallen but does not normally occur after snow is present.

Seasonal pasture myopathy is an equine muscle disease, which can be fatal in up to 75 percent of affected horses. Affected horses develop severe necrosis of the respiratory and postural muscles resulting in muscle weakness, stiffness, tremors, difficulty walking, and an inability to rise after lying down. Other signs include a rapid or irregular heart rate and rapid breathing. Urine is dark brown in color and indicates muscle damage. Hospital care is essential for survival.



It is important to understand that most horses will not willingly eat boxelder seeds. Several risk factors have been identified for those horses that may be exposed to boxelder seeds. Adequate feed and limiting exposure are the cornerstones of prevention. Pastures should not be overgrazed, and hay provided to horses on pastures that have been overgrazed. Horses should not be introduced to a new or different pasture containing boxelder trees in the fall when seeds are present and turnout time for horses limited to 12 hours a day during the high-risk period. Trimming branches and raking up seeds is another means of limiting exposure. Permanently removing boxelder trees from pasture is a final option, especially if there are several boxelder trees on a sparse pasture.

Scientific evidence linking equine exposure to boxelder seeds with SPM was first published by veterinarians at the University of Minnesota's College of Veterinary Medicine in 2013 in an article by Dr. Stephanie Valberg, et al. (Seasonal pasture myopathy/atypical myopathy in North America associated with ingestion of hypoglycin A within seeds of the box elder tree, *Equine Veterinary Journal*). If you suspect your horse or patient could be at risk for boxelder intoxication, please contact Pet Poison Helpline immediately.

PET POISON HELPLINE

Pet Poison Helpline, an animal poison control center based in Minneapolis, is available 24 hours, seven days a week for pet owners and veterinary professionals that require assistance treating a potentially poisoned pet. The staff provides treatment advice for poisoning cases of all species, including dogs, cats, birds, small mammals, large animals and exotic species. As the most cost-effective option for animal poison control care, Pet Poison Helpline's fee of **\$59** per incident includes follow-up consultation for the duration of the poison case. Pet Poison Helpline is available in North America by calling 800-213-6680. Additional information can be found online at www.petpoisonhelpline.com.