University of Minnesota
EXTENSION
Horse Program

Plants Poisonous or Harmful to Horses

Common Cocklebur

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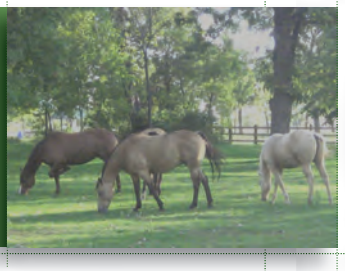

Providing research-based information to Minnesota horse owners

Seedling

Mature plant

Scientific Name: *Xanthium strumarium.*

Origin: Native to North America.

Lifecycle: Annual, reproducing by seed.

Identification: Cocklebur seedlings have long, narrow, fleshy cotyledons (first leaves) which taper to a point at the tip. Stems are hairy, rough, frequently spotted with red, and reach two to four feet in height. Leaves are triangular shaped, hairy, and rough to the touch. Flowers are green and mature into burs that are hard and covered with hooked spines.

Distribution: Found throughout the United States, but is less common on the Atlantic cost.

Habitat: Found in cultivated fields, pastures, roadsides, and around farm sites.

Control: Annual weeds, like common cocklebur, can be controlled with timely mowing and proper pasture management. Several herbicides exist that provide adequate control of common cocklebur. Most weeds are better controlled by herbicides when they are small or seedlings. Larger common cocklebur plants may need to be removed by hand pulling, as stems become woody and adequate control with mowers and herbicides will be difficult. When using a herbicide, be sure to carefully follow all grazing restrictions and other pertinent information stated on the herbicide label.

Toxin: Carboxyatractyloside with possible minimal contributions from diterpene glycosides such as atractyloside. Carboxyatractyloside is found in the seed at about 0.46% and in the cotyledons at about 0.12%. The toxin is not found in significant amounts in the mature plant.

When Toxic: Toxicity normally occurs in the spring, or during an extended, warm fall when germination occurs, and animals ingest the common cocklebur seedling, or very rarely if animals ingest the mature bur.

Close-up of mature plant

Toxicity: A specific toxic dose of the plant has not been reported. Carboxyatractyloside and atractyloside interfere with the ability of cells to make energy (specifically, ATP production in the mitochondria).

Signs and Effects of Toxicosis: Depression, weakness, a "tucked up" abdomen, muscle twitches, and recumbency may be seen within a few hours of eating common cocklebur seedlings. Clinical signs may progress to paddling, coma and death within a few hours to a few days as the liver damage progresses.

Treatment: Treatment is not always possible due to the rapid nature of the toxicosis. Activated charcoal may be given to reduce further absorption of the toxin. Muscle relaxants may be useful if the animal has muscle twitching.

Common cocklebur bur

Other Information: Burs of common cocklebur are considered a nuisance because they become tangled in horse's manes and tails. The burs of common burdock are often confused for common cocklebur burs. However, common burdock burs are circular with a reddish center, compared to common cocklebur burs that are oblong, brownish, and spiny (see photo).

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