USDA United States Department of Agriculture

Illinois Grazing Manual Fact Sheet

SPECIES • POISONOUS PLANTS

Buffalo Bur

Photo by: Robin R. Buckallew
Hosted by the USDA-NRCS PLANTS Database

Plants of fencerows, roadsides, barnyards, fields, and waste places.

Description

Solanum rostratum Dunal: Buffalo-bur is an annual plant that grows up to 3 feet tall, with spiny, widely branched stems clothed with minute, branched or star-shaped hairs. The egg-shaped leaves are pinnately lobed, covered on both sides with hairs like those on the stem, and have prickles on the principal veins. The flowers are from ¾ to 1-¼ inches across and have yellow petals and a spiny calyx. The berry, measuring up to ¼ inch in diameter, is clothed with numerous yellow spines.

Occurrence

Buffalo-bur is a native of the western plains but has become an aggressive weed through most of the eastern and northern states.

Conditions of Poisoning

Animals are likely to eat buffalo-bur plants if turned out to graze where these plants are abundant. The poisonousness of the plant apparently varies with the soil, climate, and other conditions. The berries, especially, become less poisonous as they mature, and the ripe berries are almost harmless. The poisoning of animals, then, is to be attributed to the browsing of foliage and green berries. Most cases of poisoning occur in sheep, goats, calves, pigs, chickens, and ducks.

Control

Animals should not be grazed in pastures infested with buffalo-bur. If the plant is mowed, dried, and burned as soon as blossoms appear, seeds will not be produced, and it will be easier to keep pastures from becoming heavily infested.

Toxic Principles

The toxic principle is solanine, a glycoalkaloid. When hydrolyzed, this compound yields several alkaloids.

Clinical Signs

The alkaloids, which are readily absorbed, are responsible for the major nervous signs. The clinical signs in a given case depend upon the balance between the irritant effect of the intact glycoalkaloid

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and the nervous effects of the released alkaloids. The irritant action of the solanine may vary in severity, causing anorexia, nausea, vomiting, abdominal pain and diarrhea. The effect on the nervous system causes apathy, drowsiness, dry mouth, labored breathing, trembling, progressive weakness or paralysis, prostration, and unconsciousness. The pupils are usually dilated. Death results from respiratory paralysis.

Necropsy

Variable degrees of inflammation ranging from hyperemia to hemorrhage to ulceration are found in the alimentary tracts. Edema in the perirenal tissues and ventral abdominal wall has been reported in some animals.

Treatment

Administration of a parasympathomimetic drug (pilocarpine) will usually relieve most of the clinical signs.

For a description and discussion of other solanum plants, see black nightshade and deadly nightshade, and potato.

References

Evers, Robert A., and Roger P. Link. Poisonous Plants of the Midwest and Their Effects on Livestock, 1972. Special Publication 24, College of Agriculture, University of Illinois at Urbana-Champaign.