USDA United States Department of Agriculture

Illinois Grazing Manual Fact Sheet
SPECIES • POISONOUS PLANTS

Potato


Photo by: Richard A. Howard
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Plants of fencerows, roadsides, barnyards, fields, and waste places

Description

Solanum tuberosum L.: The potato is a plant with weak, smooth or hairy stems that arise from a tuber. The odd-pinnate leave (4 to 10 inches long), has 3 or 4 pairs of pointed, egg-shaped leaflets, with numerous smaller leaflets standing between the larger ones. A few bluish-white flowers (1 to 1 ½ inches across), grow in clusters at the tips of long stalks. The fruits, which are infrequently produced, are yellowish or green globular berries about ¾ inch across.

Occurrence

Potato is a plant of the temperate belts of the Andes of South America. It is commonly cultivated in the United States, and occasionally escapes, persisting for only a year or two.

Conditions of Poisoning

Animals may browse potato plants or eat sprouted potatoes. The poisonousness of the plant apparently varies with the soil, climate, and other conditions. Most cases of poisoning occur in sheep, goats, calves, pigs, chickens, and ducks.

Control

Animals should not be grazed in pastures infested with potato plants. 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 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 form respiratory paralysis.

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Necropsy

Variable degrees of inflammation ranging from hyperemia to hemorrhage and ulceration are found in the alimentary tract. 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.

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.