

Nova Scotia Noxious Weeds

Jimsonweed, Thorn-Apple - *Datura* spp.

Date Published: January 20, 2003

There are a number of species of the *Datura* genus, which include annuals and perennials, all of which are very toxic to humans and livestock.

The most distinctive aspects of thorn-apples are the flowers and seedpods. The large, showy flowers are trumpet shaped with a flared opening that has 5 points. Flowers occur from June to September in a wide range of colours including white, purple, red, yellow, and orange. The flowers open fully by evening, and close again after dawn the next day. Many have a sweet, tropical fragrance. Both the flowers and seedpods form on a short stalk occurring in the angle between 2 or more stems and a leaf. The green, fleshy seedpods are 5 to 15 cm long and are often covered in spines, although some species have smooth pods. Later in the summer, the pods harden and dry out, widely scattering flat, black seeds.



Their stout, smooth stems may reach 2 m in height from a thick, fibrous taproot. Stems are often branched in the upper part of the plant. All parts of the plant have a distinctive, sour odour. The leaves are alternately arranged on the stem, with one leaf per node. Leaf edges vary from smooth to coarsely and sharply toothed. Leaves may be heart shaped, or elongated.

* * *

Thorn-apples are known by many other names, some of which hint at their poisonous nature. These names include angel's trumpet, devil's trumpet, thorn-apple, devil's apple, Peru apple, mad apple, Jamestown lily, dewtry, and fire weed. Jimsonweed, a shortened version of Jamestown weed, is the name given to *Datura stramonium* after a mass poisoning of soldiers occurred in Jamestown, Virginia in 1676.

* * *

Life Cycle

Thorn-apple spreads only by seed. The spiny seedpods are formed throughout the flowering period and eventually split into four sections, scattering the seeds. *Datura stramonium*, known as Jimsonweed, is commonly found in feed, birdseed, etc. Seeds of jimsonweed are very viable and can remain dormant in the soil for 60 or more years. Other species may spread by consumers who buy seed from catalogues, save and share seeds from year to year, or buy the plant at nurseries.

Habitat

Thorn-apples are plants of warm climates and will generally not persist in Nova Scotia. They can be found for sale in seed catalogues because of their attractive flowers. They are most commonly sold under the name "angel's trumpet".

Datura stramonium, or jimsonweed, is the species most commonly occurring as a weed. Jimsonweed occurs mostly in cultivated fields and wastelands. It prefers rich or sandy soils with full sun and warm temperatures.

Thorn-apples have been found at various locations throughout Nova Scotia.

Effects

All thorn-apples contain hyoscyamine, a sedative and hypnotic toxin, as well as dangerous levels of nitrates. A very small amount, 4 to 5 grams, is fatal to a child if ingested. Ingestion causes serious impairment of the central nervous system, producing severe hallucinations usually lasting for several days, extreme thirst, delirium, violent behaviour, and potentially a comatose state. Poisonings from ingestion of the plants are quite common. When handled, a skin rash may occur on some people.



It is extremely toxic to all livestock, including sheep, cattle, horses, pigs, and poultry. A small amount (0.06% of body weight) of this plant can kill an animal.

Thorn-apples will compete for nutrients and light, causing serious yield reductions, and are a nuisance during harvesting. Their roots release allelopathic chemicals, inhibiting the growth of other plants.

Control

Removal of plants prior to seed production is the most important aspect of controlling this weed because it will prevent spread. In agricultural settings, prevention of infestations is best achieved by purchasing clean seed and by cleaning equipment used in infested areas before using it in other areas. Mowing plants before flowering will prevent seed production. In small infestations or home gardens, pull plants by hand, wearing gloves to avoid skin irritations. Excess seed should be bagged and sent to local landfill sites.

Herbicides may provide control. For further information, consult your weed inspector or the most recent issue of the Guide to Weed Control (Publication 75).

pibw96-10