

## Weeds in the News 2012 Jimsonweed or Moonflower

By Robin Kusske

### Datura Sp.



*Datura metel*

Image from K. R. Robertson, Illinois Natural History Survey



A Datura seed pod

Image from Wikipedia India

Datura species, often known as Jimsonweed, Devil's weed, or Moonflower, is a member of the Solanaceae family. Daturas are related to other poisonous plants such as mandrake, henbane and deadly nightshade, having a long history of causing delirium and death. All Datura species are toxic containing tropane alkaloids such as scopolamine, hyoscyamine, and atropine. Most if not all of the plant is toxic, including pollen, leaves, flowers and seed pods. Children are the most likely to suffer from Datura poisoning, as they are drawn to pick the showy, trumpet-like flowers and play with the seed pods, also known as thornapples.

Datura are adaptable to many situations, the same species able to change size of plant, size of leaf, and size of flowers, all dependent on light, nutrient and moisture conditions. As such a plants toxicity level may also change, up to a 5:1 difference. This variation makes *Datura* exceptionally hazardous as it is very hard to determine how lethal or detrimental exposure may be and effects are unpredictable. Children are especially vulnerable to atropine poisoning, and their prognosis is likely to be fatal. From 1950–1965, the State Chemical Laboratories

in Agra, India, investigated 2,778 deaths that were caused by ingesting Datura. Datura toxins cross the blood-brain barrier and inhibit acetylcholine (the main neurotransmitter used by the parasympathetic nervous system).

Symptoms likely to be produced by tropane alkaloids such as scopolamine, hyoscyamine, and atropine include urinary retention, dry mouth, throat, and skin, blurred vision, headache and nausea, dizziness, convulsions, fever, euphoria, hallucinations, short-term memory loss, delirium, hyperthermia, rapid heartbeat, agitation, including bizarre, inexplicable, and possibly violent behavior, and severe hyper-dilation of the eye pupil, with resultant painful photophobia that can last several days. Pronounced amnesia is another commonly-reported effect. The sap may cause contact dermatitis. If not fatal, the effects of Datura poisoning may last several days.

Datura species generally have dark grayish-green heart-shaped leaves, forming mounds that sprout striking 6 inch long trumpet-like flowers with 5 petals that may range in color from white to pinkish purple, with some varieties being bright golden yellow and red. Flowers will bloom March through November, only in the evening, and will only bloom for one night. Blooms will exude a tantalizingly strong scent, especially at night. Seed capsules are typically the size of a walnut with thorns that may become quite sharp. Each capsule will break open to reveal 4 chambered segments.

Datura reproduces by seed, with one plant able to produce up to 30,000 seeds. The seed may remain dormant in the soil for several decades. Single plants can be removed by hand pulling, with long sleeved shirts and gloves recommended. Remove plants before fruit has formed to prevent reseeding. If fruit is present, securely bag the plant to prevent seed recontamination. Large infestations may be controlled through cultivation. Cultivation in the seedling stage is best with repeated cultivation as new seedlings emerge is essential. If the infestation has been present for a number of years, the seed density may be high. Repeated control measures will need to be implemented for a number of years.

For more information on Datura contact the Franklin County Noxious Weed Control Board or your local extension agent.