

POISONOUS PLANTS OF KANSAS

“It is not possible to divide all known plants into two groups, poisonous and non-poisonous. Most plants are harmless. Many are poisonous under some conditions. A few are poisonous under nearly all conditions. Poisonous plants are those that contain or produce under natural conditions physiologically active or toxic substances in sufficient amounts to cause harmful effects in animals, including man. The quantity of a poisonous plant ordinarily consumed may contain enough of the toxic principle to cause death or only a diseased condition.

“The poisonous nature of a plant is caused by the presence of one or more of several kinds of substances: (1) Substances themselves toxic to the animal organism: e.g., the alkaloid, coniine, is the toxic principle in the poison hemlock. (2) Substances themselves harmless, but which may decompose to form toxic products either before or soon after they are eaten: e.g., the non-toxic glucoside, amygdalin, produced in the wild cherry, hydrolyzes to form the highly toxic prussic acid. (3) Substances formed by the action of microorganisms on plants or plant products: e.g., fungi under certain conditions produce moldy hay or ensilage, forming decomposition products, some of which may be toxic. (4) Substances absorbed directly from the soil and stored in harmful quantities in the tissues of certain plants: e.g., selenium in certain species of locoweeds; potassium nitrate in oats or amaranthus...

“Most cases of plant poisoning in man and animals are caused by the toxic principle entering through the digestive tract or, in some cases, by contact with the skin. The plants that cause poisoning by contact, dermatitis, are limited almost entirely to man. . . . Contact poisoning by plants is very rare in domestic animals. Most kinds cause poisoning only when eaten. Such plants are poisonous to man as well as to most domestic animals. However, the cases of poisoning from such plants are relatively few in man because he does not ordinarily eat them. . . Most cases of stock poisoning occur either in the early spring when the grass is still short and other forage is scarce, or in late summer when the grass is dried up. Some poisonous plants start to produce herbage early in the spring; others remain green long after the green grass is gone. Under such conditions of scarcity of forage, animals are frequently forced to eat poisonous plants which would otherwise be left untouched.” (Ref. 1, pp. 3-6)

“Potentially deadly plants grow everywhere--in the garden, in the home, in the woods and along the roadside. . . . (In the United States and Canada there are) more than 700 plants known to have caused illness or death. Fatalities occur most often among children. Recently the U. S. Public Health Service reported that about 12,000 children ingest potentially poisonous plants every year. In many cases, the children’s parents had no idea the plants were dangerous: many poisonous plants are so common and seemingly innocuous that you don’t suspect their toxic qualities. Often one part of a plant is perfectly edible while another is extremely poisonous. The foliage and vines of the potato and tomato, for example, contain alkaloid poisons

which cause digestive upset and nervous disorder. Peach tree leaves harbor hydrocyanic acid, one of the most dangerous poisons known. . . . The only safeguard, authorities agree, is to keep all plants away from very small children who may nibble on them, and to teach children never to eat or put in their mouths any plant or berry not commonly used as food. Adults, of course, shouldn't make 'medicinal' concoctions from plants or chew on plant stems. If someone does ingest a dangerous plant, call a physician immediately for his advice." (Ref. 2, pp. 3-4)

Common poisonous plants are listed below. The part containing the poisonous substance is given in parenthesis, and the nature of the poisoning is included.

VEGETABLE GARDEN PLANTS

Rhubarb (Leaf blade) Fatal. Large amounts of raw or cooked leaves can cause convulsions, and coma, followed rapidly by death.

FLOWER GARDEN PLANTS

Larkspur (Young plant, seeds) Digestive upset, nervous excitement, depression. May be fatal.

Monkshood (Fleshy roots) Digestive upset and nervous excitement.

Autumn crocus, Star-of-Bethlehem (Bulbs) Vomiting and nervous excitement.

Lily-of-the-valley (Leaves, flowers) Irregular heart beat and pulse, usually accompanied by digestive upset and mental confusion.

Iris (Underground stems) Severe, but not usually serious, digestive upset.

Foxglove (Leaves) One of the sources of the drug digitalis, used to stimulate the heart. May cause dangerously irregular heartbeat, digestive upset and confusion. May be fatal.

Bleeding heart (Dutchman's breeches) (Foliage, roots) May be poisonous in large amounts; has proved fatal to cattle.

HOUSE PLANTS

Hyacinth, Narcissus, Daffodil (Bulbs) Nausea, vomiting, diarrhea; may be fatal.

Oleander (Leaves and branches) Extremely poisonous. Affects the heart, produces severe digestive upset and has caused death.

Poinsettia (Leaves) Fatal. One leaf can kill a child.

Dieffenbachia (Dumb cane), Elephant ear (All parts) Intense burning and irritation of the mouth and tongue. Death can occur if base of tongue swells enough to block air passage.

Castor bean (Jequirity) (Seeds) Fatal. A single castor bean seed has caused death. One or two castor bean seeds are near the lethal dose for adults.

Mistletoe (Berries) Fatal. Both children and adults have died from eating the berries.

Jerusalem cherry (Fruit) The cherry-like, bright orange fruit may cause severe poisoning.

ORNAMENTAL PLANTS

Daphne (Berries) Fatal. A few berries can kill a child.

Wisteria (Seeds, pods) Mild to severe digestive upset. Many children poisoned by this plant.

Golden chain (Bean-like capsules in which the seeds are suspended) Severe poisoning. Excitement, staggering, convulsions and coma. May be fatal.

Laurels, Rhododendron, Azaleas (All parts) Fatal. Produces nausea and vomiting, depression, difficult breathing, prostration and coma.

Jessamine (Berries) Fatal. Digestive disturbance and nervous symptoms.

Lantana camara (red sage) (Green berries) Fatal. Affects lungs, kidneys, heart and nervous system. Grows in southern U. S. and moderate climates.

Yew (Berries, foliage) Fatal. Foliage more toxic than berries. Death is usually sudden without warning symptoms.

TREES AND SHRUBS

Wild and Cultivated Cherries (Twigs, foliage) Fatal. Contains a compound that releases cyanide when eaten. Gasping, excitement, and prostration are common symptoms that often appear within minutes.

Oaks (Foliage, acorns) Affects kidneys gradually; symptoms appear only after several days or weeks. Takes a large amount for poisoning. Children should not be allowed to chew on acorns.

Elderberry (Shoots, leaves, bark) Children have been poisoned by using pieces of the pithy stems for blowguns. Nausea and digestive upset.

Black locust (Bark, sprouts, foliage) Children have suffered nausea, weakness and depression after chewing the bark and seeds.

PLANTS IN WOODED AREAS

Jack-in-the-pulpit (All parts, especially roots) Like dumb cane, causes irritation and burning of the mouth and tongue.

Jimson weed (thorn apple) (All parts) Abnormal thirst, distorted sight, delirium, incoherence, and coma, Common cause of poisoning; has proved fatal. (Ref. 2, p. 4)

Moonseed (Berries) Blue, purple color, resembles wild grapes, but contains a single seed. (True wild grapes contain several seeds.) May be fatal.

Mayapple (Apple, foliage, roots) Contains at least 16 active toxic principles, primarily in the roots. Children often eat the apple with no ill effects, but several apples may cause diarrhea.

Nightshade (All parts, especially unripe berries) Fatal. Intense digestive upset and nervous symptoms.

PLANTS IN SWAMP OR MOIST AREAS

Buttercups (All parts) Irritant juices may severely injure the digestive system.

Poison hemlock (All parts) Fatal. Resembles a large wild carrot. Used in ancient Greece to kill condemned prisoners.

CONTACT POISONS

Poison ivy. It is the most widespread and well known contact poison among plants in Kansas. It can be very troublesome to sensitive persons.

Ladyslipper. The pink ladyslipper, Cypripedium, is occasionally somewhat poisonous.

Primrose. One greenhouse species, Primula obconica, is very irritating to some people.

Nettle. This plant has more nuisance value than true poisonous qualities. The stinging sensation is unpleasant but not long lasting.

Daffodils. The juice of these flowers is irritating to growers handling the flowers in quantity.

Snow-on-the-mountain. This and other Euphorbias are irritating to varying degrees to many persons. (Ref. 3, p. 974)

MUSHROOMS

“The two poisonous species most often eaten in mistake for the safe and edible meadow mushroom, or because of their attractive appearance, are the Destroying Angel or Death Cup (Amanita phalloides) and the so-called Fly Agaric, Fly Amanita, or Fly Mushroom (Amanita muscaria). If it appears that either of these plants has been eaten, a doctor should be called immediately, for 98% of those who eat the Destroying Angel die if not given immediate attention, and many hundred deaths are attributable each year to the eating of the Fly Mushroom. (Both of these mushrooms may be distinguished from the common meadow mushroom by the cup at the base and the white gills under the cap.)” (Ref. 3, pp. 974-5)

OTHER POISONOUS PLANTS

Bittersweet. Berries sometimes fatal.

Boxwood. All parts poisonous.

Christmas-rose. All parts poisonous, especially the leaves and root.

Dogwood. Fruit slightly poisonous.

English Ivy. Berries poisonous.

Holly. Leaves and berries somewhat poisonous.

Lupine. Seeds are poisonous.

Carolina jasmine (Gelsemium). Juice dangerously poisonous.

Henbane (Hyoscyamus). Juice is deadly poison. (Refs. 1 and 3)

LIVESTOCK POISONING

“The ‘alkali disease’ and the disease known as ‘blind staggers’ in cattle and horses have been traced to feeding on vegetation made toxic by the absorption of selenium. These two diseases are types of selenium poisoning. Some species are able to absorb this mineral from the soil, while others appear not to do so. The plants responsible for selenium poisoning include Wild aster, Woody aster, Two-grooved milk vetch, other species of vetch of the genus Astragalus, Salt-bush, Gumweed, Poverty weed, and Princes plume.

“Some plants, under some conditions, store considerable quantities of nitrate which, when eaten, is reduced to nitrite which is toxic. Nitrite affects the ability of the blood to transport oxygen and the animal suffocates. The amount of potassium nitrate stored in a particular kind of plant may be affected by the amounts of nitrogen and phosphorus in the soil and the amount of light. Cattle have even been poisoned by drinking water from ponds and sluggish streams containing quantities of blue-green algae; these water plants may contain nitrates sufficient to cause the death of animals. Weeds sprayed with the herbicide 2,4-D may store a potassium nitrate level well above the minimum lethal concentration and thus become dangerous to livestock. Some plants made poisonous by potassium nitrate absorbed from soil or water are Oats, Barley, Wheat, Corn fodder, Witch grass, Sorghum, Amaranth pigweed, Tumbling pigweed, Russian thistle, Pigweed (Goosefoot and Lambs quarters), Sugar beet, Turnip, Bindweed, Nightshade, Sunflower, and several genera of the blue-green algae, Cyanophyceae.” (Ref. 1, pp. 14-18)

REFERENCES:

1. Muenscher, Walter Conrad. POISONOUS PLANTS OF THE UNITED STATES. New York: The Macmillan Company, 1951.
2. “Poison in the Backyard.” Horticultural Society of New York, Bulletin Vol. 16, No. 5, May 1966.
3. Seymour, E.L.D., ed. THE WISE GARDEN ENCYCLOPEDIA. New York: Wm. H. Wise, 1951.

FOR MORE INFORMATION:

- Kingsbury, John M. DEADLY HARVEST. New York: Holt, Rinehart & Winston, 1965.
- Kingsbury, John N. POISONOUS PLANTS OF THE UNITED STATES AND CANADA. 3rd edition. Englewood Cliffs, N. J.: Prentice-Hall Book Co., 1964.

Many States and Canadian Provinces publish bulletins listing the stock-poisoning plants of their area. These free publications may be requested from the Agricultural Experiment Stations.

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