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POISONOUS PLANTS OF THE MIDWEST



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POISONOUS PLANTS
OF
THE MIDWEST

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POISONOUS PLANTS OF THE MIDWEST

University of Illinois
Department of Landscape Architecture
September 1983

This pamphlet was produced by the students in the senior planting design studio, Landscape Architecture 253, in conjunction with a project to design a poisonous plant garden for the College of Veterinary Medicine. The purpose of this pamphlet is to inform people about the effects of the most common poisonous plants to humans and animals found in the Midwest.

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DRY OPEN PASTURES OR MEADOWS

BRACKEN FERN / *Pteridium*

A perennial growing 1'-4' tall. It is found in upland pastures, abandoned fields, and open woodlands. All parts, particularly the rhizome, are poisonous. Thiaminase and other poisonous constituents are found in this plant. Poisoning frequently occurs, in horses and cattle from the growing plant or when it has been harvested green. Symptoms are a vitamin B deficiency and over time damage to the bone marrow.



CORN COCKLE / *Agrostemma githago*

An erect, silky stemmed annual herb growing to 3 feet tall which produces a large seed capsule, this plant is found in disturbed soils such as grain fields. The toxins githagin and saponin are found in all parts of the plant, but are highly concentrated in the seeds. While smaller amounts may produce colic, inability to stand, and rapid breathing, animals may die from eating 1/4 - 1 pound of ground cockle seed per 100 lbs. of body weight. Chickens and hogs are affected most frequently from eating ground cockle seed which is mixed in with feed grain.



COW COCKLE / *Saponaria vaccaria*

An annual herb growing 1-2 feet tall and producing a capsule containing numerous large, black, rounded seeds, this plant prefers loose soils of cultivated fields and waste areas. All parts, but especially the seeds, contain the toxin saponin, which can easily be ingested with grain by livestock.



COCKLEBUR / *Xanthium*

An annual, 1'-3' high, found in sandy bottomland pastures, cornfields, and barn lots. The young plant and seeds are poisonous containing the toxic glucoside, xanthostrumarin. Cocklebur can be fatal to cattle, pigs, sheep, horses, and chickens.



HOGWORT / *Croton capitatus*

An annual growing 1-4 feet tall and occurring on dry soil in the eastern U.S., this plant contains croton oil. It is said that ten drops of this oil can kill a dog, and cattle are sometimes poisoned by hay contaminated by this plant. However, most animals will leave hogwort alone, as its taste is disagreeable and external contact causes blistering and irritation.



LOBELIA or BLUE CARDINAL FLOWER/*Lobelia inflata* or INDIAN TOBACCO

An annual or perennial found in meadows, pastures, and cultivated fields. The leaves, stems and fruits contain the alkaloids, lobeline and lobelidine. Animals have been poisoned by feeding on the herbage. Symptoms are nausea, vomiting, exhaustion, dilation of pupils, coma, convulsions, and death.



NETTLE (HORSE or BULL) / *Solanum carolinense*

A perennial that grows 1'-4' tall. It is found in sandy fields and waste ground. The roots and fruit contain a poison known as solanin. It causes gastro-intestinal disturbances and could be fatal.



WILD CABBAGE and RAPE / *Brassica oleracea* B. napus

A biennial growing to 2'. It grows on waste ground, but mainly cultivated as a fodder crop. Possibly all parts are poisonous containing glycosides. Symptoms are digestive upset, respiratory disorder, nervous system disorder, and urinary disorder. Poisoning occurs more commonly in wet seasons and after early frost.

STAR OF BETHLEHEM

A perennial from a bulb growing to 1' tall. It is cultivated occasionally and is also found in waste places, along roadsides and lawns. Various alkaloids are found in the bulb and above-ground parts. They cause nausea and intestinal disorders to animals.



HORSE TAIL MILKWEED / *Asclepias verticillata*

A perennial growing 1-2 feet tall found throughout the U.S. in meadows, pastures and waste places. The juice of the plant is milky and contains a resinous substance causing loss of muscular control, staggering, violent spasms, labored respiration and paralysis and death. Although distasteful to animals, sheep forced to forage on milkweed may die after consuming only 2-3 ounces of green vegetation.

SWEET WHITE CLOVER / *Melilotus alba*

A member of the bean family, this plant has been widely introduced into the U.S. and Canada and in the Northwest is extensively grown for pasture hay and nitrogen replenishment. Poisoning may occur when cattle are fed an exclusive ration of sweet clover hay, but not when fed alternately with timothy or prairie hay. Not all sweet clover is poisonous, and farmers have tested their clover on rabbits before feeding it to cattle.

MOIST OPEN OR SWAMPY PASTURES AND
PLANTS OF STREAMS, DITCHES, PONDS,
AND SPRINGS

LOBELIA or BLUE CARDINAL FLOWER/*Lobelia inflata*
or INDIAN TOBACCO

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BUTTERCUP (TALL CROWFOOT, /	<i>Ranunculus acris</i>
SMALL-FLOWERED, BULBOUS	R. abortivus
CREEPING, SWAMP and	R. bulbosus
HOOKED)	R. repens



The *Ranunculus* species is either a perennial or annual growing 1'-3' and found in pastures, meadows, and open woodlands. Creeping Buttercup is common in low wet pastures. Buttercups contain an acrid volatile constituent, anemol, which is strong enough to produce an irritation if it comes into contact with the skin. Often the leaves are eaten by cattle which experience severe inflammation of the intestinal tract and blistering in the mouth.

COCKLEBUR / *Xanthium*

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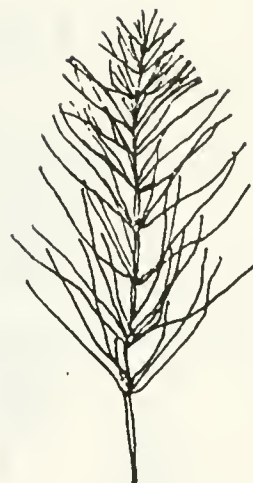
ERGOT / *Claviceps purpurea*

A fungus that lives as a parasite of grasses, this plant appears commonly on rye but also on wheat, oats, blue grass, quakgrass, meadow fescue and smooth brome when the grass flower head matures. Ergot contains several alkaloids, including ergotoxin, which when foraged in large quantities at one time can cause trembling, incoordination, convulsions, painful muscle contractions and in fatal cases the animal may become delirious. The poison is also cumulative, with continued feeding of smaller amounts causing the animal to become depressed and to develop gangrene of tail, feet, ears and teats.



HORSETAILS / *Equisetum arvense*

Native perennial herbs growing to 4 feet tall, these plants thrive in wet soils and infertile areas. The entire plant is poisonous, especially when abundant in hay. *E. arvense* is rarely if ever fatal, but *E. palustre* may be lethal to cattle. Sheep are more susceptible than horses. Horsetail extracts possess thiaminase activity, producing unthriftfulness, staggering, diarrhea, difficulty in breathing and emaciation. Death is preceded by convulsions and coma.

LOBELIA or BLUE CARDINAL FLOWER/*Lobelia inflata*
or INDIAN TOBACCO

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MAYAPPLE / *Podophyllum peltatum* L.

A perennial that grows 12" to 18" tall. It is found in moist, rich woodlands and pastures. The rootstocks are the most poisonous part of the plant, containing podophyllin. Overdoses are fatal.

POISON HEMLOCK / *Conium maculatum*

A 5' biennial or perennial growing on wasteland and near streams. The poison is a volatile alkaloid, comine, which is found especially in the leaves and fruits, but in some concentration in all parts. Poison Hemlock is probably the most well-known poisonous plant, it being administered to Socrates by the Greeks. The seeds can be mistaken for anise, the leaves for parsley, or the roots for parsnips; also from blowing whistles made from the hollow stems. It is most poisonous to stock in spring when it offers an early green pasture. The toxin is an alkaloid destroyed by drying and heat. Symptoms for animals are loss of appetite, salivation, bloating, loss of muscular power, and rapid feeble pulse.



SNEEZEWEED / *Helenium autumnale*

A perennial growing 1'-6' high. It is found around waterholes, ditches and low, wet meadows. All parts of the plant contain an acrid bitter substance, though it is most concentrated in the mature flower-heads. Sheep, cows, and horses have been poisoned by feeding on large quantities of the flowering tops. Symptoms are accelerated pulse, labored breathing, staggering and if fatal preceded by spasms and convulsions.

WATER HEMLOCK / *Cicuta maculata*
or COWBANE

A perennial which grows 2'-6' tall. They occur mainly in wet meadows, pastures, along ditches, and streams. The roots and rootstocks are the most poisonous parts of the plant, but all parts may contain some of the poison, which is a resin-like substance, called cicutoxin. Leaves and fruits of *Cicuta* may be eaten green or in hay without danger of poisoning. Water



WOODED OR OLD WOODLAND PASTURES

BLACK LOCUST / *Robinia Pseudo-Acacia*

A small tree growing 30'-40' high. It is widely planted and used for ornamental landscaping. The seeds, leaves, and bark of this tree are responsible for animal poisoning. Numerous cases have been reported from cattle grazing on young shoots, or horses gnawing bark or eating leaves when tied to a Black Locust. Symptoms are stupor, depressed heart action, weakened pulse, and gastro-enteritis.



HORSECHESTNUT and / *Aesculus octandra* / *A.* *pavia* BUCKEYE / *A.* *hippocastanum*

Woody trees or shrubs growing from 15-50'. Grown in eastern and central U.S., occurring in rich woodlands and along streams. All parts may be poisonous, but animals tend to forage mostly on new sprouts and nuts/seeds. Toxins include several glucosides affecting the cerebral nervous system.



BUTTERCUP (TALL CROWFOOT, / *Ranunculus acris* SMALL-FLOWERED, BULBOUS *R.* *abortivus* CREEPING, SWAMP and *R.* *bulbosus* HOOKED) *R.* *repens*

..... PAGE: 4

CHERRY: PIN /Prunus pennsylvanica
 WILD BLACK /P. serotina
 CHOKE CHERRY/P. virginiana

All the cherries are trees. The Pin Cherry grows 25' - 40'. They are found in dry rocky woods and old fields mainly in the Northeastern states. The Wild Black Cherry reaches 50'-60'. They are adaptable, being found in moist areas or dry uplands in most of the U.S. except the Western states. The Choke Cherry grows to 20'-30', and is common in thickets and along fence rows in Central and Eastern U.S. All these cherries along with Apricot, Peach, Plum, and Bitter Almond (the Prunus Species) contain cyanogenetic glycosides which break down into prussic acid. The kernels contain the toxin which causes excitement, convulsions, and respiratory distress.



BITTERSWEET (CLIMBING) / Celastrus scandens

A woody twining vine common along fencerows and thickets. The fruits and leaves are reported to contain evonymin. Horses have been poisoned by eating the leaves. Symptoms are nausea and perspiration.



DUTCHMANS BREECHES / Dicentra cucullaria

A delicate perennial wildflower found in woodland pastures in early spring. The leaves and bulbs are poisonous to cattle. Horses are rarely poisoned and sheep are not affected. The alkaloids in this plant cause trembling, convulsions and death in cattle.

LARKSPUR (ANNUAL, / Delphinium ajacis
 DWARF) D. tricorne

Dwarf Larkspur is a perennial growing to 12". It is found in open or exposed places. Annual Larkspur is a cultivated annual variety that grows 2' tall. The seeds and foliage are poisonous containing alkaloids. Usually cattle are poisoned by Larkspur early in the season when grazing on green plants. Except for Locoweed, Larkspurs cause greater loss of cattle than any other poisonous plants. Symptoms are a loss of appetite, uneasiness and staggering gait.

**LOBELIA or BLUE CARDINAL FLOWER/Lobelia inflata
or INDIAN TOBACCO**

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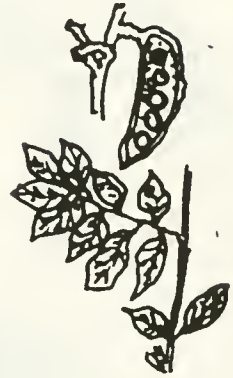
**JACK IN THE PULPIT or / Arisaema triphyllum
INDIAN TURNIP**

A perennial growing to about 12" in woodlands. Calcium oxalate is probably the toxic agent, but as yet unproven. All plant parts are poisonous, but symptoms usually follow chewing of the leaves, and sometimes corms. Symptoms are sharp pain, numbness and irritation of the mucous membranes.



KENTUCKY COFFEE TREE / Gymnocladus dioica

A large tree growing 60'-75' in height. The fruit and leaves contain an alkaloid, which is poisonous to animals. The symptoms in humans are narcotic. Animals will eat seeds and pods in winter and sprouts in spring. The experience abdominal pain, diarrhea, and straining.



MAYAPPLE / Podophyllum peltatum L.

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**NIGHTSHADE (BLACK, BITTER)/Solanum americanum
S. dulcamara**

Annual herbs, mostly less than 2' tall. Black Nightshade is found in barnyards and waste ground. Bitter Nightshade is common in yards, thickets, and marshes. All parts are poisonous, containing a glyco-alkaloid (Solanin) causing gastro enteritis and haemolysis of the red cells. People experience loss of sensation while animals experience progressive apathy leading to unconsciousness. Nightshade can be found in hay or grain.



OAK / *Quercus*

A large tree found in most parts of the U.S., common in a broadleaf forest. Oak sprouts and leaves are eaten following winter or short rations. Symptoms include, loss of appetite, trembling of muscles, diarrhea, milk flow may stop in cows, and death may occur.

POKEWEED or / *Phytolacca americana* L. or
POKEBERRY / *Phytolacca decandra* L.

A tall perennial herb growing 3'-9' high. It is common in recent clearings and open places in woods and along borders of woods especially in the Eastern part of the U.S. Sometimes it occurs in pastures. All parts are poisonous, especially the roots and fruit. This plant contains small amounts of the alkaloid, phytolaccine, and a substance similar to saponin. The animal's nerves and muscles are affected and death can occur. People are also affected by the toxins in this plant.

WHITE SNAKEROOT / *Eupatorium rugosum*

A perennial that grows 1'-3' tall. It is found in woodlands, pastures and wasteland. This plant needs shade. The leaves and stems contain a poison, tremetol, which causes the disease known as "trembles" in cattle and horses. Tremetol can be transmitted through milk to other animals and humans. The disease in humans is called "milk sickness." Symptoms in animals are trembling muscles, especially in the nose and legs. Eventually they are unable to stand.



YEW (ALL SPECIES) / *Taxus canadensis* (American)
T. *cuspidata* (Japanese)
T. *baccata* (English)

Evergreen shrubs growing from 3' to 50'. They are commonly used as ornamental landscape plants, but are also found in wooded lots, and open pastures. The wood, bark, leaves, and seeds contain the alkaloid toxin, taxine. Taxine is a heart depressant. Symptoms are vomiting, diarrhea, convulsions, slowing of the heart which ultimately stops. Death is sudden and survival after poisoning is uncommon. Animals may eat yew when there is little other vegetation available (winter).



FENCES OR ROADSIDES OR BARNYARDS

ASLIKE CLOVER / *Trifolium hybridum*

A perennial growing 2'-3' tall. It is found in woodlands, pastures, and timber areas. All parts are possibly poisonous containing the toxin cyanogenetic glycoside, which is prussic acid. In animals, sudden death may occur after rapid breathing and short-lived spasms.



BLACK LOCUST / Robinia Pseudo-Acacia
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NIGHTSHADE (BLACK, BITTER)/Solanum americanum
S. dulcamara
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BOUNCING BET / *Saponaria officinalis*

A perennial herb growing from 1 to 3 feet tall which produces pink to white flowers from July to Sept. Found in waste areas, ditch banks and sandy soil conditions. All parts, but especially the seeds, contain Saponin, which when ingested by livestock can produce dizziness, nausea, vomiting, rapid pulse and diarrhea.

BUFFALO BUR / *Solanum rostratum*

An annual growing to 3 feet with ~~spiny~~ leaves, stems, and berries, this plant grows in loose soils of overgrazed pastures, waste areas and roadsides. The toxic principle is Solanine, which yields several alkaloids that can produce nausea, vomiting, anorexia, abdominal pain, apathy, dry mouth, labored breathing, trembling, prostration and unconsciousness. Death results from respiratory paralysis. Poisoning is generally attributed to consumption of unripen berries and foliage, as the mature plant is virtually harmless.



BITTERSWEET (CLIMBING) / *Celastrus scandens*
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COCKLEBUR / Xanthium
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ST. JOHNSWORT / *Hypericum perforatum*

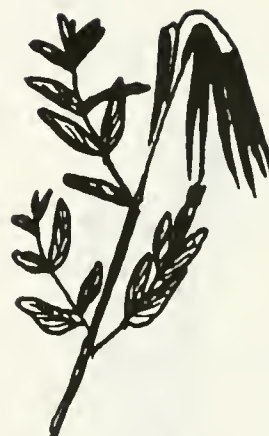
An erect perennial herb growing 1-3 ft. tall and found in sandy or infertile soils, overgrazed pastures and abandoned fields. Although basically unpalatable, an animal forced to graze on it may show signs of photo hypersensitivity caused by the toxic agent, hypericin. Redness of the skin occurs, followed by edema, peeling of the skin and possibly blindness.

CORN COCKLE / *Agostemma githago*

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DOGBANE / *Apocynum cannabinum*

A perennial herb growing 1-5 feet tall, this plant is most often found in open woodlands, pastures, and infrequently tilled fields. Dogbanes contain the resin apocynin, the glucosides apoccynein and cymarin, which is possibly hydrolized to cynamarigenin (probably the principle poison). Ingestion may occur when normal forage is not available or when mixed with hay. Signs of poisoning include rising body temperature, sweating, strong pulse, dilated pupils, discoloring inside the mouth, and refusal to eat; bowel action is frequent and death is likely to occur.

ERGOT / *Claviceps purpurea*

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HEMP / *Cannabis sativa*

A coarse annual herb growing to 9 feet, hemp resembles giant ragweed in general appearance and is now commonly found on roadsides, drainage ditches and along row crops of the Midwest. The toxins cannibidiol, cannibidol and the resin tetrahydrocannabinol are found in greatest concentration in the flower parts. The seed is an important part of bird seed mixtures, and small amounts may cause birds to sing more readily. Depression and derangement of the central nervous system are other symptoms in animals.

HORSETAILS / *Equisetum arvense*

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LOBELIA or BLUE CARDINAL FLOWER/*Lobelia inflata*
or INDIAN TOBACCO

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JIMSONWEED or THORN-APPLE/*Datura stramonium*

An annual growing to 3' in height. It is found in cultivated fields and waste places. The leaves, unripe capsules and especially the seeds are poisonous containing alkaloids not destroyed by drying or storage. Children are attracted to the capsules, which are fatal. Animals usually avoid this plant because of its strong odor and unpleasant taste, but consume it when mixed with hay and are poisoned. Symptoms are nausea, thirst, nervous confusion, loss of sight, voluntary motion and sometimes convulsions, mania, and death.

SUDAN GRASS /*Sorghum vulgare* var. *sudanense* piper
JOHNSON GRASS/*Sorghum nalepense* L. pers.

Sudan grass is an annual, while Johnson grass is a perennial. Both will get 3'-6' tall and are grown as a fodder crop. Hogs are not affected, but sheep and cattle are poisoned when they graze on drought-stricken, stunted, or frosted plants. Second growth sorghum is very dangerous. The toxin involved is prussic or hydrocyanic acid, which appears to be rendered innocuous by drying. So, it should remain in the silo at least 6 weeks before being fed. Symptoms include difficult breathing, slow pulse, drowsiness, dilation of the pupils, running at the eyes, later convulsions, unconsciousness and death.

MORNING GLORY / *Convolvulus arvensis* L.

A creeping perennial that is widespread. Poisoning occurs in swine who were feeding on roots and rootstocks. It seems to be only slightly poisonous.

PIGWEEED / *Amaranthus hybridus*

An erect annual herb growing to 7 feet tall and found in cultivated fields and roadsides. The entire plant is poisonous, and when pigs are allowed to graze on it there is a rapid onset of weakness, trembling and incoordination.



POISON HEMLOCK / *Conium maculatum*
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POKEWEED or / *Phytolacca americana* L. or
 POKEBERRY / *Phytolacca decandra* L.
 PAGE: 10

IRISH POTATO / *Solanum tuberosum*

Cultivated plant in temperate regions rising from a tuber and growing 2-3 feet tall. The leaves and sprouted potatoes contain solanine which can cause anorexia, nausea, vomiting, trembling, and even death from respiratory paralysis.

SUDAN GRASS / *Sorghum vulgare* var. *sudanense* Piper
 JOHNSON GRASS / *Sorghum nalepense* L. Pers.
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CHERRY: PIN / *Prunus pennsylvanica*
 WILD BLACK / P. *serotina*
 CHOKE CHERRY / P. *virginiana*
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FLOWERGARDEN AND ORNAMENTAL

AUTUMN CROCUS / *Colchicum autumnale*

An ornamental perennial. Its bulb is the source of colchicine, an alkaloid which interferes with the process of cell division. They can cause death in humans and in livestock from bulbs that have naturalized in pastures and fields.

AZALEA / *Rhododendron* spp.

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BLEEDING HEART / *Dicentra spectabilis*

A perennial found in upland wooded pastures of the East and Central states. Poisoning occurs most frequently in spring when cattle graze woodland pastures and after a rain when tubers can be easily pulled up. The tuber contains toxic alkaloids and can cause death.

BURNING BUSH / *Euonymus alatus*

A shrub or small tree with winged stems which produces a reddish capsule fruit containing seeds covered by a red aril. Cultivated throughout eastern North America, it prefers rich moist soils. The leaves and fruits of burning-bush are reported to possess purgative properties, and poisoning of sheep, goats and children has typically produced nausea, prostration and cold sweat.

CALADIUM / *Caladium* spp.

A commonly grown ornamental. Biting or chewing the leaves or stem has caused irritation and burning of the mouth and throat of humans and livestock. The toxic agent includes needle-like crystals of calcium oxalate, although other toxins have also been suspected



CASTOR OIL PLANT / *Ricinus communis*

An annual growing to 8'. It grows as a cultivated variety in temperate regions. This plant is toxic to all animals and poisoning occurs from either the seeds or residue left from seeds. The seeds contain the toxin, phytotoxin which causes unsteady walk, muscle spasms, purgation, convulsions and death.

CHRYSANTHEMUM / *Chrysanthemum* spp.

Colorful garden plant grown throughout the U.S. which can cause minor dermatitis in humans and reportedly can effect flavor of milk in dairy cattle.



DAFFODIL / Amaryllidaceae

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ENGLISH HOLLY / *Ilex aquifolium*

An ornamental evergreen shrub or tree growing to 40'. It is used as a landscape plant in the U.S., but is native to England. The red berries are poisonous causing violent vomiting and diarrhea in animals and children.

COMMON FLAX / *Linum usitatissimum*

An annual which grows to 2'. Introduced from Europe, it is cultivated in north-western states and Canada. The leaves and seed husk contain the toxin, cyanogenetic glycoside. Poisoning occurs especially in cattle and pigs which eat linseed cake or feed containing flax screenings. The symptoms are respiratory stimulation, followed by excrement, convulsions, paralysis, and death.

FOUR-O'CLOCK / *Mirabilis jalapa*

A perennial herb 1-3 feet tall, this plant occurs in the southern U.S. growing along roadsides, gardens and meadows. The roots and seeds cause acute stomach pain, vomiting and diarrhea in children, but this plant is not usually troublesome in cultivated land.

FOXGLOVE / *Digitalis purpurea*

A biennial herb (flowers 2nd year) growing to 1-2 in. high. Grown in most parts of U.S., occurring locally in rich lowland areas and woodlands. All parts are poisonous, containing the cardioactive glucosides digitoxin, digitalin and digitonin. Animals usually become poisoned by dry foxglove found in hay.

**MAIDENHAIR TREE / *Ginkgo biloba***

A now frequently planted ornamental tree introduced from Asia, the female of this species produces a drupe-like fruit which can cause dermatitis.

**GOLDEN CHAIN TREE / *Laburnum x watereri***

A small tree growing 12'-15'. There are wild species, but most are cultivated and used as ornamental trees. All parts are poisonous, though the bark and seeds are particularly so. Animals may eat fallen pods and seeds. Children eat the seeds, mistaking them for peas. The toxin is an alkaloid causing vomiting, convulsions, and death from respiratory failure.

HORSECHESTNUT and / *Aesculus octandra*

/ *A. pavia*

BUCKEYE / *A. hippocastanum*

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HYDRANGEA / *Hydrangea* spp.

Native and cultivated shrubs found over eastern and central U.S., occurring locally in both moist and dry areas. Leaves and flowers contain hydrangin, a glucoside yielding prussic acid, a cyanogenic.

YELLOWFLAG IRIS / *Iris pseudacorus*
 STINKING IRIS / *Iris foetidissima*
 WILD IRIS / *Iris versicolor*

Herbs found in wet meadows of east and central U.S. The leaves and especially the rhizomes (root) contain irisin, a glycoside causing gastroenteritis. Poisoning most often occurs from consumption of hay which has been contaminated with iris.



JERUSALEM CHERRY / *Solanum pseudocapsicum*

An introduced houseplant. Bright orange berries contain solanine, which can cause severe poisoning.

LANTANA / *Lantana camara*

Shrub found in eastern and central U.S., yellow, orange, or red flowers and blue-black berries. Found in dry woodlands. The poisonous part is the fruit, especially when green and unripened, which contains lantanin and lantadene; both cause stomach and intestinal irritation and even death. Acute symptoms resemble atropine poisoning.



LILLY OF THE VALLEY / *Convallaria majalis*

Perennial herbs with running rootstocks. Native to high mountains of Virginia-South Carolina. All parts are poisonous and cause liver injury which could lead to death.



LOCOWEED / *Oxytropis lambertii*

A perennial herb preferring sandy soils, this plant occurs mostly in the drier western U.S. The toxic principle, barium, is found in both green plants and the dried tops. Plants found growing on the Cretaceous shales of Wyoming are much more toxic than the same species grown on other soils. When other forage is available, animals will not generally eat the locoweeds, but once forced to, they frequently acquire the habit, often with fatal results. Other symptoms include loss of muscular coordination and nervous sensibility and, in later stages, loss of flesh.



LUPINE or 'WILD BEAN' / *Lupinus* spp.

Annual as well as perennial herbs and a few shrubs. *Lupinus perennis* is most common. All parts, especially seeds, are poisonous, but not all lupines are toxic, and even trained botanists have trouble distinguishing species.



MONKSHOOD or / *Aconitum napellus* or
ACONITE / *Aconitum columbianum*

A perennial growing to 4'. It is found in wet meadows and along streams and shady places. All parts of the plant contain the alkaloids, aconitine and aconine. Horses and sheep tend to eat it on ranges. Some symptoms are muscular weakness, irregular breathing, bloating, belching, attempts to swallow frequently and dilated pupils. Animals usually recover.



MORNING GLORY / *Convolvulus arvensis* L.

A creeping perennial that is widespread. Poisoning occurs in swine who were feeding on roots and rootstocks. It seems to be only slightly poisonous.

MOUNTAIN LAUREL / *Kalmia latifolia* L.

A broadleaf evergreen shrub growing 3'-9'. Found in rock, hillside woodlands and pastures, especially in Eastern U.S., probably used as an ornamental in the Mid-West. The poisonous compound found in the leaves is andromedotoxin. Because the land that Mountain Laurel grows on is more suited to sheep, there are more cases of sheep poisonings. But cattle, horses and goats are also susceptible. Poisoning can lead to paralysis of the limbs.

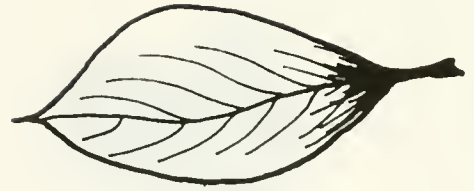


NARCISSUS, DAFFODIL / *Amaryllidaceae*

Ornamental perennial bulbs, common all over the U.S. The bulbs are toxic to animals and people causing severe gastro-enteritis, vomiting and convulsions.

PAWPAW / *Asimina triloba*

A small tree or large shrub growing in the eastern U.S. on rich soil along stream banks. Although the fruit is edible, susceptible persons have developed a dermatitis from handling them.

**RED MAPLE / *Acer rubrum***

A large tree found throughout eastern North America, this maple prefers very moist soils. Two cases of death in cattle and horses have been reported, but further details are lacking.

**RHODODENDRON, AZALEA / *Rhododendron* spn.**

Shrubs of the heath family, these plants prefer deep acid soils, especially in the Pacific Northwest and eastern U.S. The toxic principle appears to be andromedotoxin. Although seldom eaten by animals, poisoning has been reported in sheep, causing weakness, nausea, salivation and vomiting.

**RHUBARB / *Rheum rhaponticum***

A perennial that grows to 4'. It is a cultivated plant grown for its tasty stems. The leaves are poisonous, however. They contain soluble oxalates. Livestock, particularly sheep, are affected when they eat large quantities. Then, staggering, prostration, coma, and death can result.

**ROSARY PEA / *Abrus precatorius***

A twining woody stem growing to 9'. It is widespread in the tropics, and has been introduced to Florida where it is grown for the seeds which are used for rosaries. Abrin is a toxin that is concentrated in the seed. One seed when chewed will kill a person. Two to four oz's will kill a horse.

SNOW ON THE MOUNTAIN / *Euphorbia marginata*

A native weed in the Mid-West south to Texas and introduced in the East as an ornamental. It is also commonly used as an ornamental in the Mid-West. It will grow in grasslands, pastures and roadsides. The plant contains a milky acrid juice which contains euphorbon. People experience dermatitis, if there is contact with the milky sap. Animals feed on the weed which can be included in the hay, dried. If they feed on it long enough, they will die.



SOUR DOCK or COMMON SORREL / *Rumex acetosa*

A perennial growing to 2'. It occurs in meadows and pastures, particularly with acid soil and is found world wide. The leaves are poisonous, which contain soluble oxalates. Livestock and sheep are affected by this poison when their diet is low in calcium. The symptoms are abdominal pain, delirium, convulsions and death from asphyxia.

WILD ONION / *Allium canadense*

A native of rich woodlands and pastures of the eastern U.S. Consumption or even inhalation of the volatile substances from the fresh tops causes a garlic odor and flavor in milk of dairy cattle.

WISTERIA / *Wisteria floribunda*

A stout vine climbing by twining stems and growing to 30 feet. Prefers deep, moist, well drained soil and full sun. Toxic parts include seeds and pods which can cause stomach and intestinal disturbances, vomiting and diarrhea.

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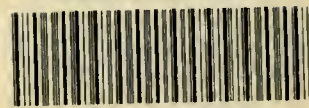
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