

Garden Map St. Mary's Road Plot 12 Plot 11 Plot 10 Plot 13 Plot 14 Plot 9 Plot 8 Plot 15 Plot 16 Plot 7 Plot 5 Plot 18 Plot 19 Plot 4 Plot 3 Plot 20 Plot 2 Plot 21 Plot 1 Plot 22 Shed Bench

Important Information:

Thank you for visiting the Poisonous Plant Garden! We are happy that our hard work in making this garden its best can be enjoyed by many.

Please be respectful of this garden so that students and the community can use it as an educational resource.

Do NOT eat or pick any plants. While many of these plants are only toxic when eaten please so not touch any of the plants to prevent any unwanted reminders of your visit.

Do NOT touch the poison ivy that has conveniently been fenced off for your protection.

Take many pictures and share your experience to spread the word of this wonderful community resource!

Thank You to our Supporter!

We would like to say thank you to the Illinois SAVMA chapter at the veterinary college for supplying us with grant money to make it possible to maintain the garden!

Philodendron: Philodendron hederaceum

Toxic Compound - insoluble calcium oxalate crystals, raphides shoot out of crystals that will penetrate mucosa causing damage.

Clinical Signs - oral irritation/swelling, drooling, vomiting, self limiting

Treatment - GI protectant and antiemetics

Monstera: Monstera spp.

Same as philodendrons

Kentucky Coffee Tree: Gymnocladus dioicus

Toxic Compound - gymnocladosapponins, sheep and cattle effected

Clinical Signs - excessive salivation, colic, diarrhea, seizures, m.

spasms Treatment - supportive/symptomatic, activated charcoal,

cathartics

Poison Ivy: Toxicodendron radicans

Toxic Compound - urushiol oil

Clinical Signs - contact dermatitis, Glirritation, fluid filled blisters

Dermal Treatment - wash contact area, topical ointment to prevent itching. If ingested provide fluids and symptomatic/supportive care.

GI Treatment - GI protectant and antiemetics

Plot 2

Caladium: Calcadium bicolor

Toxic Compound - insoluble calcium oxalate crystals, raphides shoot out of crystals that will penetrate mucosa causing damage.

Clinical Signs - oral irritation/swelling, drooling, vomiting, self limiting

Treatment - GI protectant and antiemetics

Coleus: Coleus scutellarioides

Toxic Compound - essential oil, dogs, cats, and horses effected

Clinical Signs - V/D, dyspnea, and depression

Treatment - anti-emetics as vomiting can cause more harmful, IV fluids, activated charcoal, symptomatic support.

Smart Weed: Polygonum spp.

Toxic Compound - unknown, causes primary photosensitization

Clinical Signs - lacrimation, photophobia, erythema, skin sloughing

Treatment - remove plant, keep in shade, antibiotics for skin infection

Umbrella Tree: Schefflera arboricola

Toxic Compound - terpenoids, saponins, and insoluble oxalates, dogs and cats effected commonly

Clinical Signs - mild V/D, seizures

Treatment - washing animal with a detergent, gastric lavage, activated charcoal, diazepam to control seizures, and IV fluids.

Oleander: Nerium oleander

Toxic Compound - cardiac glycoside

Clinical Signs - arrhythmia, V/D, hyperkalemia, lethargy, dyspnea

Treatment - emesis, activated charcoal, IV LRS, monitor blood chem

Rye Grass: Lolium perenne

Toxic Compound - possible contamination with tremorgenic and/or trichothecene mycotoxins

Tremorgenic Clinical Signs - muscle tremors, stiffness, ataxia, hypermetria, seizures.

Trichothecene Clinical Signs - dermal or oral irritation/necrosis, V/D, weight loss, anemia, hypoproteinemia, weakness

Treatment - supportive care, remove from contaminated pasture

Azalea: Rhododendron spp.

Toxic Compound - grayanotoxin (rapidly absorbed)

Clinical Signs - bloat/abdominal pain, salivation, V, anorexia, depression, head pressing, ataxia, fine m. tremors, convulsions, sinus arrest

Treatment - emesis, activated charcoal, monitor HR/rhythm, symptomatic and supportive care.

Plot 4

Brome Grass: Bromus arizonicus

Toxic Compound - possible ergot fungus contamination containing toxic ergot alkaloids. Commonly seen ruminants and horses.

Clinical Signs - "summer slump" caused by vasoconstriction of small arteries preventing thermoregulation, rough hair coat, weight loss, lameness (hoof sloughing if untreated), fat necrosis, equine agalactia, shade/water seeking behaviors

Treatment - remove animals from the source, may recover if severe clinical signs are not present but once gangrene has set in around hooves little can be done. Grass itself is NOT toxic.

Other - ergot fungus can grow on various grasses including fescue.

Oxalis (Shamrock): Oxalis

Toxic Compound - soluble oxalate crystals (rapidly absorbed)

Clinical Signs - hypocalcemia, lethargy, rumen atony, bloat, ataxia, teeth grinding, seizures, tetany, bradycardia, hypersalivation, vomiting, azotemia

Treatment - fluids, remove from source, monitor/correct Ca deficits, 1:3 of dicalcium phosphate:NaCl may bind soluble oxalates in gut

Dumbcane: Dieffenbachia spp.

Toxic Compound - insoluble calcium oxalate crystals, raphides shoot out of crystals that will penetrate mucosa causing damage.

Clinical Signs - oral irritation, drooling, vomiting, swelling of oral cavity, usually self limiting

Treatment - GI protectant and antiemetics

Other - other plants that contain these same crystals that are not featured in the garden are peace lilies, Chinese and American evergreens, flamingo plant, and many other common household plants that have shiny think green leaves.

Elderberry: Sambucus

Toxic Compound - cyanide is produced when digested

Clinical Signs - death within an hour of ingestion if not treated, cherry red blood venous blood, burnt almond smell to stomach contents

Treatment - emesis if caught early, hydroxocobalamin, sodium nitrate, sodium thiosulfate, symptomatic and supportive treatment.

Plot 6

Lambs quarter: Chenopodium

Toxic Compound - soluble oxalate crystals (rapidly absorbed)

Clinical Signs - hypocalcemia, lethargy, rumen atony/bloat, ataxia, teeth grinding, seizures, tetany, bradycardia, hypersalivation, vomiting, azotemia

Treatment - fluids, remove from source, monitor/correct Ca deficits, 1:3 of dicalcium phosphate:NaCl may bind soluble oxalates in gut

Sago Palm: Cycas spp.

Toxic Compound - cycasin, BMAA, and unknown CNS toxin

Clinical Signs:

Dogs - vomiting, acute hepatic failure, depression, anorexia, seizures

Sheep - chronic hepatic failure

Cattle - neurologic signs

Treatment - emesis, activated charcoal, GI/liver protectants, fluids

Taro (Elephant Ear): Alocasia antiquorum or colocasia

Toxic Compound - soluble oxalate crystals (rapidly absorbed)

Clinical Signs - hypocalcemia, lethargy, rumen atony, bloat, ataxia, teeth grinding, seizures, tetany, bradycardia, hypersalivation, vomiting, azotemia

Treatment - fluids, remove from source, monitor/correct Ca deficits, 1:3 of dicalcium phosphate:NaCl may bind soluble oxalates in gut

Purple Foxglove: Digitalis purpurea

Toxic Compound - cardiac glycoside

Clinical Signs - arrhythmia, V/D, hyperkalemia, lethargy, dyspnea

Treatment - emesis, activated charcoal, IV LRS, monitor blood chem

Monkshood (Wolf's Bane): Aconitum

Toxic Compound - monobasic diterpenoid alkaloids

Clinical Signs - hypersalivation, bloat, m. weakness, staggering gait, and eventually in ability to stand due to m. paralysis

Treatment - remove from source, limit stress, symptomatic treatment, fluids, and gastric bloat relief.

Larkspur. Delphinium spp

Toxic Compound - diterpenoid alkaloids (blocks nicotinic receptors)

Clinical Signs - constipation, bloat, oral irritation, m. tremors, stiffness, weakness, convulsions, resp. paralysis, death within 3-4 hours

Treatment - physostigmine, neostigmine, relieve bloat in cattle (most susceptible species)

Wild Parsnip: Pastinaca sativa

Toxic Compound - furanocoumarins (primary photosensitization)

Clinical Signs - lacrimation, photophobia, erythema, skin sloughing

Treatment - remove plant, keep in shade, antibiotics for skin infection

Prairie Groundsel/Ragwort: Packera plattensis

Toxic Compound - pyrrolizidine alkaloid (secondary photosensitization)

Clinical Signs - lacrimation, photophobia, erythema, skin sloughing

Treatment - remove plant, keep in shade, antibiotics for skin infection

Plot 8

Cocklebur: Xanthium strumarium

Toxic Compound - carboxyatractyloside (sulfated diterpene glycoside)

Clinical Signs - acute liver failure, anorexia, depression, weakness, ataxia, m. spasms, conclusion, death (can occur w/n hours of ingestion)

Treatment - if symptoms are already present treatment may not be effective. Activated charcoal and mineral oil to prevent further absorption, symptomatic and supportive care.

Castor Bean: Ricinus communis

Toxic Compound - lectin called ricin (1oz of seeds can be lethal)

Clinical Signs - oral irritation, V/D, kidney failure, convulsions, progressive CNS depression, dyspnea

Treatment - symptomatic support

Bouncing Bet (Soapwort): Saponaria officinalis

Toxic Compound - saponins (glocosides)

Clinical Signs - oral irritation, nausea, V/D, heart rate irregularities, convulsions, paralysis, coma, death

Treatment - activated charcoal, fluids, Gl protectants, and pain management.

Horse Tail: Equisetum spp.

Toxic Compound - thiaminase

Clinical Signs - drooling, anorexia, weight loss, depression, ataxia, m. twitching, seizing, and neuro signs

Treatment - thiamine, remove for contaminated pastures

Pokeweed: Phytolacca americana

Toxic Compound - triterpenoid saponin and oxalates

Clinical Signs - fatal GI signs, V/D, inappetence, salivation, bloat, colic

Treatment - symptomatic and supportive care

Japanese Privet: Ligustrum ovalifolium

Toxic Compound - terpenoid glycosides

Clinical Signs - Gl upset, vomiting, diarrhea, loss of appetite, inc. heartrate, m. weakness, incoordination, fatal poisoning possible (rare)

Treatment - emesis, gastric lavage, activated charcoal, cathartics, fluids, and symptomatic support.

Plot 10

Bull Nettle: Cnidoscolus texanus

Toxic Compound - histamine

Clinical Signs - dermal contact will cause erythema, swelling, and itching. Ingestion causes salivation, V/D, dyspnea, m. twitching, and ataxia.

Treatment - antihistamine, wash the effected areas with cold water, if profuse V/D then give fluids as well to prevent dehydration

Jimsonweed: Datura stramonium

Toxic Compound - tropane alkaloids (anticholinergic)

Clinical Signs - tachycardia, urinary retention, dry mouth, ileus, mydriasis, delirium, excitation, and seizures

Treatment - emesis, activated charcoal, propranolol, physostigmine, symptomatic/supportive care

Bittersweet Nightshade: Solanum dulcamara

Toxic Compound - solanidine (AChE inhibitior)

Clinical Signs - severe GI irritation, hemorrhage, ulceration, salivation, lacrimation, urination, diarrhea, dyspnea, emesis.

Treatment - fluids, emesis if caught early, activated charcoal

Belladonna: Atropa belladona

Toxic Compound - tropane alkaloids (anticholinergic)

Clinical Signs - tachycardia, urinary retention, dry mouth, ileus, mydriasis, delirium, excitation, and seizures

Treatment - emesis, activated charcoal, propranolol, physostigmine, symptomatic/supportive care

Jack-in-the-Pulpit: Arisaema triphyllum

Toxic Compound - insoluble calcium oxalate crystals

Clinical Signs - oral irritation/swelling, drooling, vomiting, self limiting

Treatment - GI protectant and antiemetics

Red Maple: Acer rubrum

Toxic Compound - gallic acid and gallotannins

Clinical Signs - depression, anorexia, icterus, hemoglobinuria, brown mm./urine, tachypnea, dyspnea, tachycardia, cyanosis, anuric renal failure, anemia, Heinz bodies, elevated BUN/creatinine, and death

Treatment - activated charcoal if caught early, IV fluids, blood transfusion, oxygen, pain management, and ascorbic acid.

Bloodroot: Sanguinaria canadensis

Toxic Compound - sanguinarine

Clinical Signs - nausea, V/D, dilated pupils, weakness, fainting/collapse

Treatment - antiemetic, fluids, symptomatic/supportive care

Mayapple: Podophyllum peltatum

Toxic Compound - podopyllotoxin (glycoside)

Clinical Signs - V/D, hypersalivation, dermal irritation, lethargy

Treatment - emesis, activated charcoal, GI protectants, fluids

Japanese Yew: Taxus spp.

Toxic Compound - taxines and alkaloids

Clinical Signs - dizziness, dry mouth, excitement, difficulty breathing, trembling, V/D, cardiac failure, death

Treatment - atropine sulfate may be helpful but there is no effective treatment. Supportive and symptomatic support.

Plot 12

Morning Glory: Convolvulaceae

Toxic Compound - lysergic alkaloids (rapid absorption)

Clinical Signs - V/D, anemia, lethargy, liver failure, tremors, ataxia, dilated pupils, loss of appetite

Treatment - fluids, dark room with little stimulation, diazepam

Bracken Fem: Pteridium

Toxic Compound - thiaminase

Clinical Signs - depression, ataxia, m. twitching, seizing, and neuro signs

Treatment - thiamine, remove for contaminated pastures

Red Oak: Quercus rubra

Toxic Compound - tannins, "acorn toxicity"

Clinical Signs - hemorrhagic gastroenteritis, peritoneal/pleural edema, swollen kidneys, red urine

Treatment - fluids, calcium hydroxide

White Snakeroot: Ageratina altissima

Toxic Compound - tremetol (mixture of ketones)

Clinical Signs - CNS depression, ataxia, recumbency, m. stiffness/tremors

Horses - very sensitive, profuse sweating, inc. resp/pulse rates, arrhythmias, and cardiac necrosis.

Cattle - primarily CNS signs

Treatment - remove from source, activated charcoal, laxative

Lily of the Valley: Convallaria majalis

Toxic Compound - cardiac glycoside

Clinical Signs - arrhythmia, V/D, hyperkalemia, lethargy, dyspnea

Treatment - emesis, activated charcoal, IV LRS, monitor blood chem

Wild Chives: Allium spp.

Toxic Compound - propyl disulfide

Clinical Signs - hemolysis, Heinz bodies, inappetence, ataxia, lethargy, recumbency, tachycardia, tachypnea, dyspnea, pale mm, hemoglobinemia, hemoglobinuria, anemia

Treatment - blood transfusion, fluids, bicarb, and antioxidants.

Other - other *allium* spp. include onions, garlic, leeks, and shallots.

Ground Cherry: Physalis spp.

Toxic Compound - solanidine (AChE inhibitior)

Clinical Signs - severe Gl irritation, hemorrhage, ulceration, salivation, lacrimation, urination, diarrhea, dyspnea, emesis.

Treatment - fluids, emesis if caught early, activated charcoal **Other** - other plants that contain solanidine include potato plants, green potatoes, and tomatoes.

Plot 14

Curly Dock: Rumex

Toxic Compound - soluble oxalate crystals (rapidly absorbed)

Clinical Signs - hypocalcemia, lethargy, rumen atony, bloat, ataxia, teeth grinding, seizures, tetany, bradycardia, hypersalivation, vomiting, azotemia

Treatment - fluids, remove from source, monitor/correct Cadeficits, 1:3 of dicalcium phosphate:NaCl may bind soluble oxalat es in gut

Buttercup: Ranunculus spp.

Toxic Compound - protoanemonin formed from ranunculin (vesicant)

Clinical Signs - blistering of skin, mouth, lower GI, erythema, swollen of muzzle/lips, weakness, V/D, colic, tremors, seizures, paralysis, reddening and edema of GI.

Treatment - IV fluids, emesis, activat ed charcoal

Broadleaf Milkweed: Asclepias syriaca

Toxic Compound - cardiac glycoside

Clinical Signs - arrhythmia, V/D, hyperkalemia, lethargy, dyspnea

Treatment - emesis, activated charcoal, IV LRS, monitor blood chem

Holly: //ex spp.

Toxic Compound - ilicin (type of triterpenoid saponin)

Clinical Signs - Gl irritant, V/D, inappetence, salivation, bloat, colic

Treatment - symptomatic and supportive care

Lantana: Lantata spp.

Toxic Compound - lantadene A, B, and C(biotransformed in the liver)

Clinical Signs - intrahepatic cholestasis

Acute Clinical Signs - depression, Gl signs, weakness, cyanosis, labored breathing, jaundice, dilated pupils, ataxia, coma

Chronic Clinical Signs - photosensitization, crackling of skin, photophobia, clouding of comea, swollen orange liver, enlarged gallbladder

Treatment - remove plant, keep in shade, antibiotics for skin infection

Red Root Pigweed: Amaranthus retroflexus

Toxic Compound - soluble oxalated and nitrates

Clinical Signs - kidney tubular necrosis, dec. rumen activity, abdominal distension, m. weakness/tremors, ataxia, recumbency

Treatment - insulin, glucose, and fluids to correct hyperkalemia and supportive care

Prairie Dogbane: Apocynum cannabinum

Toxic Compound - cardiac glycosides (cynarin, apocynein)

Clinical Signs - abdominal pain, hemorrhagic gastroenteritis, vomiting

Treatment - symptomatic and supportive support

St. John's Wart: Hypericum perforatum

Toxic Compound - hypericin, causes primary photosensitization

Clinical Signs - lacrimation, photophobia, erythema, skin sloughing

Treatment - remove plant, keep in shade, antibiotics for skin infection

Plot 16

Rhubarb: Rrheum rhabarbarum

Toxic Compound - soluble oxalate crystals (rapidly absorbed)

Clinical Signs - hypocalcemia, lethargy, rumen atony, bloat, ataxia, teeth grinding, seizures, tetany, bradycardia, hypersalivation, vomiting, azotemia

Treatment - fluids, remove from source, monitor/correct Ca deficits, 1:3 of dicalcium phosphate:NaCl may bind soluble oxalates in gut

Lupine: Lupinus spp.

Toxic Compound - quinolizidine alkaloids and anagyrine (teratogenic alkaloid)

Clinical Signs - fetal skeletal deformities from dam grazing on lupine, acute respiratory failure, lupinosis (liver disease caused by fungus that grows on the pods or seeds)

Treatment - symptomatic and supportive support, no know treatment

Hyacinth: Hyacinth orientalis

Toxic Compound - allergenic lactones and calcium oxalate crystals

Clinical Signs - V/D (bloody), oral irritation, hypovolemia, depression, tremors, hypersalivation

Treatment - emesis, activated charcoal, fluids, GI protectants

Daffodil: Narcissus spp.

Toxic Compound - lycorine (alkaloid) and calcium oxalate crystals

Clinical Signs - V/D (bloody), oral irritation, hypovolemia, depression, tremors, hypersalivation, seizures

Treatment - emesis, activated charcoal, fluids, GI protectants

Chokechery: Prunus virginiana

Toxic Compound - Cyanogenic glycosides (prunasin and amydalin)

Clinical Signs - bright red mm., venous blood is cherry red, dyspnea

Treatment - sodium thiosulfate and sodium nitrite IV

Day Lily: Hemerocallis spp.

Toxic Compound - unknown water soluble toxin

Clinical Signs - acute renal failure, vomiting, inc BUN, creatinine, P and K, depression, anorexia, dehydration, kidney casts, swollen kidneys

Treatment - emesis, activated charcoal, IV fluids, dialysis until tubular regeneration can occur (10-14 days).

Other - Easter, tiger, rubrum, and Japanese show lilies are also toxic. Peace and Calla lilies contain insoluble calcium oxalate crystals

Plot 18

Buckthom: Rhamnus cathartica

Toxic Compound - anthraquinone and emodin

Clinical Signs - neurological symptoms, hepatic degeneration/necrosis, hepatocellular swelling, stomach cramps, laxative effects,

Treatment - symptomatic and supportive care

Rubber Plant: Ficus elastica

Toxic Compound - proteolytic enzyme ficin and psoralen ficusin

Clinical Signs - dermatitis, oral irritation, drooling, vomiting, depression

Treatment - emesis, washing out the mouth, activated charcoal,

White/Yellow Sweet Clover: Melilotus officinalis & alba

Toxic Compound - coumarins

Clinical Signs - hemorrhage (similar signs to anticoagulant rodenticides)

Treatment - clean feed, no stress/trauma, blood transfusion, vitamin K1

Alsike Clover: Trifolium hybridum

Toxic Compound - unknown, causes secondary photosensitization

Clinical Signs - lacrimation, photophobia, erythema, skin sloughing

Treatment - remove plant, keep in shade, antibiotics for skin infection

Red Clover: Trifolium pratense

Toxic Compound - infected with *rhizoctonia leguminicola* fungus that contains slaframine (cholinergic agonist)

Clinical Signs - severe salivation (gallons)

Treatment - atropine before signs, self limiting, fluids if dehydrated.

Field Pennycress: Thlaspi arvense

Toxic Compound - isothiocyanates

Clinical Signs - Colic, diarrhea, dermatitis

Treatment - symptomatic and supportive care

Crown Vetch: Securigera varia

Toxic Compound - beta-nitropropionic acid (3-NPA)

Clinical Signs - methemoglobinemia, dec. appetite, incoordination

Treatment - remove from source and feed high quality forage

Plot 20

Catnip: Nepeta cataria

Toxic Compound - nepetalactone

Clinical Signs - V/D, Gl upset, and lethargy

Treatment - fluids, self limiting

Poison Hemlock: Conium maculatum

Toxic Compound - nicotinic alkaloids

Clinical Signs - muscular weakness, tremors, ataxia, drooling, rapid pulse, dilated pupils, frequent urination/defecation, death

Treatment - activated charcoal, cathartics, gastric lavage, atropine, remove from contaminated pastures/hay source.

Other - often confused with water hemlock, this can be identified by the small purple spots located at the base of the stem

Kale: Brassica oleracea var. sabellica

Toxic Compound - tryptophan (biotransformed to P-450 in lungs)

Clinical Signs - dyspnea, rapid breathing, feet wide apart, head and neck extended and lowered, afebrile pneumonia, muffled lung sounds

Treatment - remove from source, NSAIDs, diuretics, bronchodilators, antihistamines, ionophores

Cabbage: Brassica oleracea var. capitata

Toxic Compound - high nitrate content

Clinical Signs - weakness, exercise intolerance, dyspnea, tachycardia, grey muddy mm, convulsions, death, abortion

Treatment - methylene blue slowly IV

Broccoli: Brassica oleracae

Toxic Compound - alucosinates and breakdown broducts

Clinical Signs - V/D, anemia, jaundice, and growth redardation

Treatment - symptomatic and supportive care

Tomatoes: Solanum lycopersicum

Toxic Compound - solanidine (AChE inhibitior)

Clinical Signs - severe Gl irritation/mucosa inflam., hemorrhage, ulceration, salivation, lacrimation, urination, diarrhea, dyspnea, emesis.

Treatment - fluids, emesis if caught early, activated charcoal

Other - ripe red tomatoes are safe to feed in small amounts. However, green tomatoes and other parts of the plant are poisonous.

Com: Zea mays

Toxic Compound - contaminated with aspergillus containing aflatoxins

Clinical Signs - acute = liver failure, chronic = reduced weight gain, rough hair coat, anemia, jaundice, anorexia, depression, ascites, elevated hepatic enzymes, diffuse fatty changes of liver

Treatment - non-specific treatment and remove from source

Plot 22

English lvy: Hedera helix

Toxic Compound - hederagenin (type of triterpenoid saponin)

Clinical Signs - fatal GI signs, V/D, inappetence, salivation, bloat, colic

Treatment - symptomatic and supportive care

Horse Chestnut Tree: Aesculus hippocastanum

Toxic Compound - aesculin (glycosidic saponin)

Clinical Signs - V/D, nausea, m. trembling, resp paralysis, bloat, death

Treatment - laxatives, fluids, Ca gluconate, dextrose

Buckeye Tree: Aesculs glabra

Toxic Compound - aesculin (glycosidic saponin)

Clinical Signs - mm. inflam., nervousness, twitching, weakness, V/D

Treatment - laxatives, fluids, Cagluconate, dextrose

Creeping Charlie: Glechoma hederacea

Toxic Compound - unknown

Clinical Signs - colic, sweating, excess salivation, death

Treatment - remove form source, fluids, activated charcoal/mineral oil