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This chart may be used as a guide to preventing pet exposure to poisonous plants. Call your veterinarian immediately if you suspect your pet has been exposed to any poisonous substance.

Agave Americana (Agavaceae): Century Plant, American aloe
 CHARACTERISTICS: Clumps of thick, long-shaped blue/green leaves with hook (margin) and pointed spines (tip). Central flower stalk with small tubular flowers in clusters.
 TOXIC PRINCIPLES AND EFFECTS: Sap contains calcium oxalate crystals; saponins and acid volatile oil in leaves and seeds. On ingestion, causes dermal and oral mucosal irritation and edema.
 TREATMENT: Symptomatic.

Alcaena modestum (Asteraceae): Chinese evergreen, Painted drop tongue
 CHARACTERISTICS: Central stem with solid medium green or spotted gray/green leaves; small greenish flowers.
 TOXIC PRINCIPLES AND EFFECTS: The entire plant contains calcium oxalate crystals. On ingestion, causes oral mucosal irritation and edema.
 TREATMENT: Symptomatic.

Cannabis sativa (Cannaaceae): Mary Jane, Marijuana, Grass, Pot, Hashish, Indian hemp, Reefer, Weed
 CHARACTERISTICS: Annual herb grown from seeds 6 ft. tall. Leaves opposite or alternate, palmately compound with 5-7 linear, coarsely dentate leaflets; small green flowers at tip (male) or along entire length (female) of branch; fruits achenes. Grown for its fiber; legally cultivated under federal license only.
 TOXIC PRINCIPLES AND EFFECTS: Leaves, stems, and flower buds of mature plants contain tetrahydrocannabinol (THC) and related compounds. THC concentrations vary with plant variety (1-65%) parts (female flowers have highest concentrations). Processing (extracts have as much as 28%) sex and growing conditions. Lethal dose for dogs >30 mg/kg body wt. Pets exposure usually from accidental access to this plant being used for in-home treatment of cancer patient or for illegal recreational uses by owners (dogs primarily) show ataxia, vomiting, mydriasis, prolonged depression, tachycardia or bradycardia, salivation, hyperexcitability, tremors and hypothermia. Death results when vital CNS regulatory centers are severely depressed.
 TREATMENT: Remove animal from source. Effectiveness of emetics limited by antiemetic effect of THC. Oral tannic acid, activated charcoal followed by saline cathartics have been recommended. Stimulants (cardiac and respiratory) along with supportive therapy essential in severely depressed animals. Recovery slow at best.

Digitalis purpurea (Scrophulariaceae): Foxglove
 CHARACTERISTICS: Erect biennial with simple petioled (long on lower; short or sessile on upper), alternate, toothed, hairy, ovate to lanceolate leaves. Purple, pink, red, white or yellow tubular flowers (with spots) in terminal racemes; fruit is a capsule with many seeds.
 TOXIC PRINCIPLES AND EFFECTS: Cardiac glycosides (digitoxin, digitalin, digoxin, and others), saponins and alkaloids found throughout plant. Potency not affected by drying. Generally, acute abdominal pain, vomiting, bloody diarrhea, frequent urination, irregular slow pulse, tremors, convulsions, and rarely death.
 TREATMENT: Symptomatic.

Dracaena spp. (Agavaceae): Dragon tree
 CHARACTERISTICS: Robust palm-like house plant with lance-shaped, thin, variegated, alternate, nonpetioled leaves. Yellow, red, or green stripes along leaf margins in some species. Lower leaves are lost, leaf scars remain and clearly demarcated, terminal leaves retained as plant matures.
 TOXIC PRINCIPLES AND EFFECTS: Alkaloids, saponins, and resin found in leaves. Vomiting and severe diarrhea indicative of GI irritation expected. Clinical cases have not been reported.
 TREATMENT: Symptomatic, to correct fluid and electrolyte imbalance.

Lilium longiflorum; L. tigrinum (Liliaceae): Easter lily, Trumpet lily
 CHARACTERISTICS: Plants grown from bulbs; leaves alternate or whorled, sessile, linear or lanceolate blades; large showy funnel-form flowers. Fruits capsules with numerous, flat seeds.
 TOXIC PRINCIPLES AND EFFECTS: Unknown toxin found throughout plants. Renal failure in cats 2-4 days post ingestion. Not reported toxic in other species. Vomiting, depression, loss of appetite within 12 hr post-ingestion. Elevated creatinine, BUN, phosphorus, and potassium indicate toxicity.
 TREATMENT: Emetics, activated charcoal, saline cathartic, and nursing care as for renal failure within hours of ingestion. Delayed treatment is associated with poor prognosis.

Phoradendron flavescens (Vaccaceae): Mistletoe
 CHARACTERISTICS: Parasitic shrub that grows on deciduous trees. Evergreen, ovoid, opposite leaves on round, highly branched, green stem. White berries with single seed. Brought into homes during Christmas season.
 TOXIC PRINCIPLES AND EFFECTS: Amines (B-phenylethylamine, acetylcholine, choline and tyramine), toxic proteins (viscotoxins), and unknowns in all parts. Vomiting, profuse diarrhea, dilated pupils, rapid labored breathing, shock and death from cardiovascular collapse within hours of ingesting toxic dose.
 TREATMENT: Symptomatic.

Zamia pumila (Zamiaceae): Coontie, Florida arrowroot, Seminole bread, Cycad
 CHARACTERISTICS: Palm-like plant with thick under ground fleshy, tuberous stem from which grow few pinnately compound, palm-like leaves ~2 ft. long; cones containing inch-long, shiny orange-red seeds.
 TOXIC PRINCIPLES AND EFFECTS: The glucoside cycasin in its active methylglucosylmethanol (a colon-specific carcinogen in mice) found in leaves, seeds, and stem. Ingestion associated with hepatic and GI disturbances and ataxia. Clinical signs are persistent vomiting, diarrhea, abdominal pain, depression, and muscular paralysis. A neurologic condition characterized by hindleg paralysis (hyperextension followed by incomplete extension) has been reported in cattle.
 TREATMENT: No specific therapy; IV fluids and symptomatic care recommended.

Taxus spp. (Taxaceae): Yew
 CHARACTERISTICS: Evergreen tree or small erect shrub with alternate, needle-like, glossy (upper surface), dull (lower surface) leaves. Seeds (generally 1 per fruit), black-brown or green, rarely enclosed in a cup-shaped fleshy, red, covering (aril).
 TOXIC PRINCIPLES AND EFFECTS: The alkaloids (taxines and ephedrine), cyanide, and volatile oils found throughout plant except the fleshy aril. Nervousness, trembling, ataxia, dyspnea, collapse, bradycardia progressing to cardiac standstill and death without struggle. Empty right side of heart; dark, tarry blood in left side of heart; limited nonspecific postmortem lesions.
 TREATMENT: Symptomatic at best; usually futile once clinical signs appear. Atropine may be helpful.

Allium cepa; A. canadense: Onions (cultivated and wild)
 HABITAT/DISTRIBUTION: Cultivated and grown on rich soils throughout USA.
 AFFECTED ANIMALS: Cattle, horses, sheep, dog.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Biennials and perennials, bulb plants, onion odor. Leaves basal, green, hollow, cylindrical (A. cepa), lustrous green, flat (A. canadense). Flowers on hollow flowering stalks, terminal umbels of many small blooms. Fruits 3-celled capsule with many seeds.
 TOXIC PRINCIPLES AND EFFECTS: N-propyl disulfide, an oxidant, in all parts. Livestock readily consume bulb or overproduced onions, with anemia developing within days of exposure. Toxicosis in cattle associated with prolonged ingestion of large amounts of onions. N-propyl disulfide inhibits RBC glucose-6-phosphate dehydrogenase, leading to hemolysis and formation of Heinz bodies. Observed clinical signs are hemoglobinuria, diarrhea, loss of appetite, jaundice, ataxia, collapse, and possible death if untreated. Hemolytic anemia reported in livestock ingesting wild onions. Heinz body anemia; swollen, pale necrotic liver; hemosiderin in liver, kidneys, and spleen are reported in pathologic lesions.
 TREATMENT: Clinical presentation similar to that of toxicity induced by S-methylcysteine sulfoxide (a rare toxic amino acid in Brassica spp.) in livestock. Susceptibility to onion poisoning varies across animal species; cattle more susceptible than horses and dogs, which are more susceptible than sheep and goats. Remove animals from source and prevent future access to cut onions. Symptomatic and supportive care essential.

Solanum spp. (Solanaceae): Nightshades, Jerusalem cherry, Potato, Horse nettle, Buffalo Bur
 HABITAT/DISTRIBUTION: Fence rows, waste areas, grain and hay fields; throughout North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Fruits small, yellow, red, or black when ripe; structurally like tomatoes; clustered on stalk arising from stem between leaves.
 TOXIC PRINCIPLES AND EFFECTS: Glycoalkaloid solanine (leaves, shoots, unripe berries). Acute hemorrhagic gastroenteritis, weakness, excess salivation, dyspnea, trembling, progressive paralysis, prostration, death.
 TREATMENT: Pilocarpine, physostigmine, GI protectants. Seeds may contaminate grain.

Cestrum diurnum, C. nocturnum: Day-blooming Jessamine and Night-blooming Jessamine, respectively
 HABITAT/DISTRIBUTION: Open woods and fields; Gulf Coast states (Florida, Texas) and California.
 AFFECTED ANIMALS: Cattle, horses and dogs (ingesting cholecalciferol-based rodenticides).
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Evergreen shrubs or tall bush. Leaves alternate, ovate smooth-edged. Flowers white, tubular, small clusters, fragrant by day. Fruit a greenish white to lavender (immature), becoming dark-purple to black (mature), fleshy berry, with several small, black oblong seeds, dispersed by birds in droppings. Leaves longer; flowers fragrant at night, white fruits at maturity (C. nocturnum).
 TOXIC PRINCIPLES AND EFFECTS: Atropine-like alkaloids (fruit), saponins (fruit and sap), and glycosides of 1,25-dihydroxycholecalciferol (leaves primarily, stems, fruits, and roots) are found. Gastroenteritis develops on ingestion of fruits. Vomiting, depression, anorexia, chronic weight loss with normal appetite, droopy, stiff, or increased pulse, persistent hypercalcemia and hyperphosphatemia, calcinosis (aorta, carotid and pulmonary arteries, tendons, ligaments, and kidneys), parathyroid atrophy, thyroid (C-cell) hyperplasia, and osteoporosis reported with chronic ingestion of leaves.
 TREATMENT: Prevent further access of animals to plants. In early stages, treatment might be effective and cost-effective. Correct fluid and electrolyte imbalances in cases with persistent vomiting or diarrhea. Reduce or prevent hypercalcemia (calcium, diuretics, steroids, calcitonin). Maintenance therapy with diuretics and steroids may be necessary.

Sorghum vulgare: Sorghum, Sudan grass, Kafir, Durra, Milo, Broomcorn, Schroek, etc
 HABITAT/DISTRIBUTION: Forage crops and escapes; throughout North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Coarse grasses with terminal flower cluster. Some to 8 ft. tall.
 TOXIC PRINCIPLES AND EFFECTS: Hydroxyanic acid (drought, trampling, frost, second growth) and nitrate (heavy in vegetative parts). Acute course. Difficult breathing, bloating, staggering, convulsions, death. Blood bright red (cyanide) or chocolate brown (nitrate).
 TREATMENT: Hay safe for cyanide (volatile), not safe for nitrate (non-volatile).

Conium maculatum: Poison hemlock
 HABITAT/DISTRIBUTION: Roadsides, ditches, damp waste areas; throughout North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Purple-spotted hollow stem. Leaves resemble parsley, parsnip odor when crushed. Tap root. Flowers white, in umbels.
 TOXIC PRINCIPLES AND EFFECTS: Piperidine alkaloids (conine and others) in vegetative parts. Acute course. Dilated pupils; weakness; staggering gait; slow pulse, progressing to rapid and thready. Slow irregular breathing; death from respiratory failure. Teratogenic in cattle.
 TREATMENT: Conine excreted via lungs and kidneys, mousy odor of breath and urine diagnostic. Administer saline cathartics; neutralize alkaloids with tannic acid, together with stimulants.

Gelsemium sempervirens: Yellow Jessamine, Evening trumpet flower, Carolina jessamine
 HABITAT/DISTRIBUTION: Open woods, thickets; southeast.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Climbing or trailing vines. Evergreen, entire, opposite leaves. Yellow tubular flowers, very fragrant.
 TOXIC PRINCIPLES AND EFFECTS: Alkaloids (gelsemine and others, related to strychnine) in all parts. Acute course. Weakness, incoordination, dilated pupils, convulsions, coma, death within 48 hr. Limberneck in fowl.

Kalmia spp.: Laurel, Ivybush, Lambkill
 HABITAT/DISTRIBUTION: Rich moist woods, meadows, or acid bogs eastern and northwestern North America.
 AFFECTED ANIMALS: All, often sheep.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Woody shrub. Evergreen, glossy leaves. Flowers pink to rose, showy.
 TOXIC PRINCIPLES AND EFFECTS: Resinoid (andromedotoxin) and a glycoside (arbutin) in vegetative parts. Acute course. Incoordination, excess salivation, vomiting, bloating, weakness, muscular spasms, coma, death.
 TREATMENT: Undigested rumen contents and ingesta in lungs at necropsy. Laxatives, demulcents, nerve stimulants, atropine.

Nerium oleander: Oleander
 HABITAT/DISTRIBUTION: Common ornamental in southern regions of North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Evergreen shrub or tree. Leaves whorled and prominently, finely, pinnately veined beneath. Flowers showy, white to deep pink.
 TOXIC PRINCIPLES AND EFFECTS: Digoxin-type glycosides (oleandroside, nerioside and others) in all parts fresh or dry. Acute course. Severe gastroenteritis, vomiting, diarrhea, increased pulse rate, weakness, death.
 TREATMENT: No specific treatment. Atropine in conjunction with propranolol reported helpful.

Alcaena modestum (Asteraceae): Chinese evergreen, Painted drop tongue
 CHARACTERISTICS: Central stem with solid medium green or spotted gray/green leaves; small greenish flowers.
 TOXIC PRINCIPLES AND EFFECTS: The entire plant contains calcium oxalate crystals. On ingestion, causes oral mucosal irritation and edema.
 TREATMENT: Symptomatic.

Capsicum annuum (Solanaceae): Cherry pepper, Chili pepper, Ornamental pepper, Capsicum
 CHARACTERISTICS: Annual shrub; branched, erect stem; dark glossy, ovate, entire margin leaves; white flowers. Fruits shiny berries of various colors, shapes, sizes.
 TOXIC PRINCIPLES AND EFFECTS: Capsaicinoids (capsaicin) in the mature fruits, solanine and scopoletin in foliage; irritating to the GI tract, with vomiting and diarrhea. Not likely to be lethal.
 TREATMENT: Symptomatic irritation relief cool water irrigation, topical or oral mineral or vegetable oil. Rarely topical anesthetics.

Euphorbia pulcherrima (Euphorbiaceae): Poinsettia, Christmas flower, Christmas star
 CHARACTERISTICS: Perennial shrub with milky white sap throughout. Leaves alternate, petioled, distinctly veined, entire or lobed, and conspicuously bright red, pink or white (terminal leaves), lower leaves remain green. Flowers small and inconspicuous.
 TOXIC PRINCIPLES AND EFFECTS: Milky sap contains unknown toxic principle(s); irritates mucous membranes and causes excessive salivation and vomiting but not death. Toxicity (hybrid species) not supported experimentally. Toxic diterpenes (ingenol derivatives) found in other Euphorbia spp. have not been found in this species.
 TREATMENT: Symptomatic gastric lavage, activated charcoal, and saline cathartics should be considered.

Persea Americana (Lauraceae): Avocado pear, Alligator pear
 CHARACTERISTICS: Tree or shrubs with long branches arising from terminal buds, widely cultivated for its fruits. Three commonly cultivated races (Mexican, Guatemalan, and West Indies). Leaves ovate-elliptical, entire, alternate, veined, dark-green above and paler below, papery to the feel. Flowers inconspicuous yellow-green in axillary or terminal panicles; fruit berry, ovoid to pyriform in shape with thick, leathery, glossy dark green skin over lime-green to yellow flesh and a smooth, ovoid, solitary seed.
 TOXIC PRINCIPLES AND EFFECTS: All above-ground parts (leaves in particular) reported toxic to cattle, horses, goats, rabbits, canaries, ostriches, and fish. Responsible toxin a monoglyceride. Oil found in fruits used for cosmetic purposes. Toxicity associated with noninfectious agalactia (cattle, rabbits, goats), pulmonary congestion, cardiac arrhythmia, submandibular edema, acute death (rabbits, cage birds, goats), respiratory distress, generalized congestion, subcutaneous edema, and hyperpericardium (suggestive of cardiac failure [caged birds]). In caged birds, clinical signs may be seen within 24 hr (usually after 12 hr), with death 1-2 days after exposure.
 TREATMENT: Primarily symptomatic and supportive.

Rhododendron spp. (Ericaceae): Azalea, Rhododendron
 CHARACTERISTICS: Evergreen or deciduous shrub with simple, alternate, entire leaves; funnel-shaped flowers in terminal umbel-like clusters or solitary and of various colors; fruits are capsules with many seeds.
 TOXIC PRINCIPLES AND EFFECTS: Andromedotoxins (grayanotoxins) found in all parts, including pollen and nectar. Within hours of ingestion of toxic dose (100 mg), salivation, lacrimation, vomiting, diarrhea, dyspnea, muscle weakness, convulsions, coma, and death. Signs may last several days, but toxin is not cumulative.
 TREATMENT: Symptomatic gastric lavage, activated charcoal, saline cathartics, calcium injection, and antibiotics to control possible pneumonia suggested.

Schefflera spp. (Araliaceae): Schefflera, Umbrella tree
 CHARACTERISTICS: Fast-growing evergreen with glossy, palmately compound leaves that hang and spread, appearing like an umbrella. Depending on the species, leaflets increase with plant maturity and become more compact; veins pronounced; margins entire to slightly crenate.
 TOXIC PRINCIPLES AND EFFECTS: Oxalate found in the leaves. Mucous membrane irritation, salivation, anorexia, vomiting, and if severe enough, diarrhea.
 TREATMENT: Symptomatic.

Cuta spp.: Water hemlock
 HABITAT/DISTRIBUTION: Open, moist to wet environments; throughout North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: White flower, umbels. Veins of leaflets end at notches. Stems hollow except at nodes. Tuberous roots from chambered rootstock.
 TOXIC PRINCIPLES AND EFFECTS: Resinoids (cicutin, cicuto) in roots, stem base, young leaves. Toxicity retained when dry except in hay. Rapid onset of clinical signs, with death in 15-30 min. Salivation, muscular twitching, dilated pupils, violent convulsions, coma, death. Poisoning in humans common.
 TREATMENT: Sedatives to control spasm and heart action. Prognosis is good if alive 2 hr after ingestion.

Sesbania (Glottidium) vesicaria: Bladderpod, Rattlebox, Sesbane, Coffeebean
 HABITAT/DISTRIBUTION: Mostly open, low ground, abandoned cultivated fields; southeastern USA coastal plain.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Tall annual. Legume pods flat, tapered at both ends, 2-seeded. Leaves pinnate, divided, flowers yellow.
 TOXIC PRINCIPLES AND EFFECTS: Unknown (green plant and seeds). In ruminants, hemorrhagic diarrhea, shallow rapid respiration, fast irregular pulse, coma, death. Lesions include hemorrhages in abomasums and intestines, dark tarry blood.
 TREATMENT: Green seeds are more toxic. Remove animal from source immediately. General supportive treatment: saline purgatives, rumen stimulants, IV fluids.

Apocynum spp.: Dogbanes
 HABITAT/DISTRIBUTION: Open woods, roadsides, fields; throughout North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Erect, branching, perennial herb with milky sap arising from creeping underground root stock. Leaves opposite. Flowers white to greenish white in terminal clusters. Fruit long, slender, paired with silky haired seeds.
 TOXIC PRINCIPLES AND EFFECTS: Solanocapsine and related alkaloids found in leaves and fruits. Anorexia, abdominal pain, vomiting, hemorrhagic diarrhea, salivation, progressive weakness or paralysis, dyspnea, bradycardia, circulatory collapse, dilated pupils, and convulsions reported.
 TREATMENT: Symptomatic gastric lavage, activated charcoal, electrolytes and fluids, and anticonvulsants suggested.

Asclepias spp.: Milkweeds
 HABITAT/DISTRIBUTION: Dry areas, usually waste places, roadsides, streambeds.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Perennial erect herbs with milky sap. Seeds silky-hairy from elongated pods.
 TOXIC PRINCIPLES AND EFFECTS: Steroid glycosides and toxic resinous substances (all parts), green or dry. Staggering, titanic convulsions, bloating, dyspnea, dilated pupils, rapid and weak pulse, coma, death.
 TREATMENT: Sedatives, laxatives, and IV fluids suggested.

Agrostemma githago: Corn cockle
 HABITAT/DISTRIBUTION: Mostly open, low ground, abandoned cultivated fields; southeastern USA coastal plain.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Green winter annual with silky-white hairs, opposite leaves, purple flowers, black seeds.
 TOXIC PRINCIPLES AND EFFECTS: Saponin (githagenin) in seeds. Acute course. Profuse watery diarrhea, vomiting, dullness, general weakness, tachypnea, hemoglobinuria, death.
 TREATMENT: Oils and GI protectants. Neutralize toxin (dilute acetic acid PO). Blood transfusions may be necessary.

Datura stramonium: Jimson weed, Thorn apple
 HABITAT/DISTRIBUTION: Fields, barn lots, trampled pastures, and waste places on rich bottom soils; throughout.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Leaves wavy; flower large (4in.), white, tubular. Fruit a spiny pod, 2 to 3 in. (5cm.), long.
 TOXIC PRINCIPLES AND EFFECTS: Tropane alkaloids (atropine, scopolamine, hyoscyamine) in all parts, seeds in particular. Acute course. Wobsey rapid pulse and heart beat; dilated pupils, dry mouth, incoordination, convulsions, coma.
 TREATMENT: All parts, mainly in hay or silage. Urine from affected animal dilutes pupils of laboratory animals (diagnostic). Treatment nonspecific; cardiac and respiratory stimulants (physostigmine, pilocarpine, atropine).

Ricinus communis: Castor bean
 HABITAT/DISTRIBUTION: Cultivated in southern regions.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Large, palmately lobed leaves. Seeds resembling engorged ticks, usually 3 in somewhat spiny pod.
 TOXIC PRINCIPLES AND EFFECTS: Phytotoxin-ricin in all parts (seeds especially toxic). Acute to chronic course (death or recovery). Violent purgation, straining with bloody diarrhea, weakness, salivation, trembling, incoordination.
 TREATMENT: Diagnosis based on presence of seeds, RBC agglutination, precipitin test. Specific antiserum, ideal antidotes: sedatives, atropine hydrobromide, followed by saline cathartics suggested.

Brufelsia pauciflora var floribunda (Solanaceae): Yesterday-today-and-tomorrow, Lady-of-the-night
 CHARACTERISTICS: Evergreen shrubs to small trees with alternate, undivided, toothless, thick rather leathery lustrous leaves. Winter-blooming large showy sometimes fragrant flowers, clustered or solitary at the branch ends, with 5-lobed tubular calyx, 5 petals, and funnel-shaped corolla. Fruits berry-like capsules.
 TOXIC PRINCIPLES AND EFFECTS: Alkaloid components (atropine, scopolamine, hyoscyamine) found in the flowers, leaves, bark, and roots. On ingestion, animals show tachycardia, dry mouth, dilated pupils, ataxia, tremors, depression, urinary retention, and sometimes coma (deep sedation). Not reported to cause death.
 TREATMENT: In severely depressed animals, stimulants (respiratory and cardiac), along with supportive therapy recommended.

Colchicum autumnale (Liliaceae, Colchicaceae): Autumn crocus, Crocus, Fall crocus, Meadow saffron, Wonder bulb
 CHARACTERISTICS: Popular house or yard plant, perennial herb, ovoid under ground corm covered with brown membrane or scales. Leaves large, lanceolate, basal, ovate, smooth, ribbed, appear in spring and die back before flowering. Flowers tubular, solitary, pale purple or white appearing in fall; ovoid capsule with numerous seeds.
 TOXIC PRINCIPLES AND EFFECTS: Colchicine and related alkaloids found throughout plant. These alkaloids are heat stable and not affected by drying. Colchicine is used experimentally in genetic investigations, and medically in the treatment of gout in humans. It is cumulative and slowly excreted. Milk of lactating animals is a major excretory pathway. Observed clinical signs are thirst, difficult swallowing, abdominal pain, profuse vomiting and diarrhea, weakness, and shock within hours of ingestion. Death from respiratory failure.
 TREATMENT: Prolonged course due to slow excretion of colchicine. Gastric lavage; supportive care for dehydration and electrolyte losses (fluid therapy); CNS, circulatory, and respiratory disturbances. Analgesics and atropine recommended for abdominal pain and diarrhea.

Chlorophytum spp. (Liliaceae): Spider plant, St Bernard's lily, Airplane plant
 CHARACTERISTICS: Rhizomatous herbs with leaves slightly glossy, succulent, narrow strap-like greensome with a broad yellow or white band down the middle long, cream, hanging stems with small white flowers developing into plantlets. Often grown in hanging baskets.
 TOXIC PRINCIPLES AND EFFECTS: More commonly grown today for its filtering ability. Pet animals (especially cats) reach these plants either by climbing or when plantlets fall from mature stems. Unknown toxin(s) found in leaves and plantlets. Vomiting, salivation, retching, and transient anorexia seen in cats within hours of ingestion. Deaths and diarrhea not reported.
 TREATMENT: Symptomatic.

Convolvulus majalis (Liliaceae): Lily-of-the-valley, Conval lily, Mayflower
 CHARACTERISTICS: Herbaceous perennial from slender running rhizome; stem leafless, bearing a 1-sided raceme of nodding, white, aromatic, bell-shaped flowers; leaves 2 or 3 basal to 1 ft. long. Fruit a red berry but seldom formed.
 TOXIC PRINCIPLES AND EFFECTS: Cardiac glycosides (convallarin, convallamarin, convallatoxin), irritant saponins found in leaves, flowers, rhizome, and water in which flowers have been kept. Variable latent period depending on dose. GI signs (vomiting, trembling, abdominal pain, diarrhea), progressive cardiac irregularities (irregular heart beats, A-V block) and death. Hyperkalemia in acute cases. Gastroenteritis, petechial hemorrhages throughout.
 TREATMENT: Aimed at gut decontamination (gastric lavage) and at correcting bradycardia (atropine), conduction defects (phenytoin) and electrolyte imbalance such as hyperkalemia (IV electrolytes). Electrocardiographic and serum potassium monitoring necessary.

Hyacinthus spp. (Liliaceae): Hyacinths
 CHARACTERISTICS: Garden ornamentals that grow from bulbs (close resemblance to onion bulbs) and flower in early spring. Bulbs harvested and stored in fall for replanting in spring.
 TOXIC PRINCIPLES AND EFFECTS: Calcium oxalate crystals and alkaloids (their toxic potential yet to be defined) found in bulbs. After ingestion of toxic dose (bulbs), vomiting, diarrhea, and rare deaths reported. Bulbs in storage may be accessible to pets.
 TREATMENT: Symptomatic.

Sansiveria spp. (Agavaceae): Sansevieria, Snake plant, Mother-in-law's tongue
 CHARACTERISTICS: Hardy, succulent house plant. Leaves erect, elongate, lanceolate, and flat or cylindrical, dark green with or without a yellow stripe along the margins, and horizontal gray bands throughout; many yellow star-like flowers on tall central raceme or spike.
 TOXIC PRINCIPLES AND EFFECTS: Hemolytic saponin and organic acids found in leaves and flowers. Vomiting, salivation, diarrhea, and hemolysis related to GI activity of these compounds.
 TREATMENT: Symptomatic; fluids and electrolytes may be necessary.

Xanthium spp.: Cocklebur
 HABITAT/DISTRIBUTION: Fields, waste places, exposed shores of ponds or rivers; throughout North America.
 AFFECTED ANIMALS: All animals, more common in pigs.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Spring and occasionally fall.** Coarse annual herb. Fruit covered with spines, 2 beaked with 2 compartments.
 TOXIC PRINCIPLES AND EFFECTS: Carboxyatractylolide (seeds and young seedlings). Anorexia, depression, nausea, vomiting, weakness, rapid weak pulse, dyspnea, muscle spasms, convulsions. Lesions include GI inflammation, acute hepatitis, nephritis.
 TREATMENT: Seedlings or grain contaminated with seeds. Oils and fats PO may be beneficial; warmth, stimulants, IM.

Ilex aquifolium (Aquifoliaceae): English holly, European holly
 CHARACTERISTICS: Evergreen shrub with leaves leathery, glossy upper surface, spiny toothed, alternate, and petioled; fruits red to yellow berries with many seeds and aromatic taste.
 TOXIC PRINCIPLES AND EFFECTS: Saponins; an alkaloid (theobromine), triterpene compounds, and unknown compounds with digitalis-like cardiotoxic activity have been found in leaves, fruits, and seeds. Abdominal pain, vomiting, and diarrhea seen after ingestion of 2 berries. Death rare.
 TREATMENT: Symptomatic (at best).

Philodendron spp. (Araceae): Philodendron
 CHARACTERISTICS: Climbing vines with aerial roots; leaves (major attraction as a houseplant) are large, unlobed or pinnately lobed and heart-shaped; rarely flowering.
 TOXIC PRINCIPLES AND EFFECTS: Calcium oxalate crystals and unidentified proteins throughout entire plant. On ingestion, immediate pain, local irritation to mucous membranes, excessive salivation, edematous tongue and pharynx, dyspnea, and renal failure. Excitability, nervous spasms, convulsions, and occasional encephalitis reported in cats.
 TREATMENT: Symptomatic.

Kalanchoe spp. (Crassulaceae): Kalanchoe, Airplant, Cathedral-bells
 CHARACTERISTICS: Winter flowering, herbaceous, succulent, non-hardy annuals or perennials. Fleshy, serrate or crenate, opposite, petioled leaves. Bright red, orange, or pink flowers in umbel. Stems become woody and untidy with age.
 TOXIC PRINCIPLES AND EFFECTS: Calcium glycosides found in leaves. Within hours of ingesting toxic dose, depression, rapid breathing, teeth grinding, ataxia, paralysis, opisthotonos (rabbit), and death (rat).
 TREATMENT: Symptomatic; atropine has been effective in rabbits.

Cyclamen spp. (Primulaceae): Cyclamen, Snowbread, Shooting star
 CHARACTERISTICS: Herbaceous plants, grown from rhizomes or tubers. Petioled, heart-shaped, deep green intermixed with lighter green coloration (same leaf), serrated leaves; stems upright with a terminal pink or white butterfly-like flower.
 TOXIC PRINCIPLES AND EFFECTS: Triterpenoid saponins found in tuberous rhizomes cause GI irritation, thereby increasing systemic absorption and severe toxicity. Anorexia, diarrhea, convulsions, and paralysis are observed clinical signs. Pets have greater access to these plants over winter months (both pets and plants are indoors).
 TREATMENT: Symptomatic.

Lilium longiflorum; L. tigrinum (Liliaceae): Easter lily, Trumpet lily
 CHARACTERISTICS: Plants grown from bulbs; leaves alternate or whorled, sessile, linear or lanceolate blades; large showy funnel-form flowers. Fruits capsules with numerous, flat seeds.
 TOXIC PRINCIPLES AND EFFECTS: Unknown toxin found throughout plants. Renal failure in cats 2-4 days post ingestion. Not reported toxic in other species. Vomiting, depression, loss of appetite within 12 hr post-ingestion. Elevated creatinine, BUN, phosphorus, and potassium indicate toxicity.
 TREATMENT: Emetics, activated charcoal, saline cathartic, and nursing care as for renal failure within hours of ingestion. Delayed treatment is associated with poor prognosis.

Dracaena spp. (Agavaceae): Dragon tree
 CHARACTERISTICS: Robust palm-like house plant with lance-shaped, thin, variegated, alternate, nonpetioled leaves. Yellow, red, or green stripes along leaf margins in some species. Lower leaves are lost, leaf scars remain and clearly demarcated, terminal leaves retained as plant matures.
 TOXIC PRINCIPLES AND EFFECTS: Alkaloids, saponins, and resin found in leaves. Vomiting and severe diarrhea indicative of GI irritation expected. Clinical cases have not been reported.
 TREATMENT: Symptomatic, to correct fluid and electrolyte imbalance.

Persea Americana (Lauraceae): Avocado pear, Alligator pear
 CHARACTERISTICS: Tree or shrubs with long branches arising from terminal buds, widely cultivated for its fruits. Three commonly cultivated races (Mexican, Guatemalan, and West Indies). Leaves ovate-elliptical, entire, alternate, veined, dark-green above and paler below, papery to the feel. Flowers inconspicuous yellow-green in axillary or terminal panicles; fruit berry, ovoid to pyriform in shape with thick, leathery, glossy dark green skin over lime-green to yellow flesh and a smooth, ovoid, solitary seed.
 TOXIC PRINCIPLES AND EFFECTS: All above-ground parts (leaves in particular) reported toxic to cattle, horses, goats, rabbits, canaries, ostriches, and fish. Responsible toxin a monoglyceride. Oil found in fruits used for cosmetic purposes. Toxicity associated with noninfectious agalactia (cattle, rabbits, goats), pulmonary congestion, cardiac arrhythmia, submandibular edema, acute death (rabbits, cage birds, goats), respiratory distress, generalized congestion, subcutaneous edema, and hyperpericardium (suggestive of cardiac failure [caged birds]). In caged birds, clinical signs may be seen within 24 hr (usually after 12 hr), with death 1-2 days after exposure.
 TREATMENT: Primarily symptomatic and supportive.

Rhododendron spp. (Ericaceae): Azalea, Rhododendron
 CHARACTERISTICS: Evergreen or deciduous shrub with simple, alternate, entire leaves; funnel-shaped flowers in terminal umbel-like clusters or solitary and of various colors; fruits are capsules with many seeds.
 TOXIC PRINCIPLES AND EFFECTS: Andromedotoxins (grayanotoxins) found in all parts, including pollen and nectar. Within hours of ingestion of toxic dose (100 mg), salivation, lacrimation, vomiting, diarrhea, dyspnea, muscle weakness, convulsions, coma, and death. Signs may last several days, but toxin is not cumulative.
 TREATMENT: Symptomatic gastric lavage, activated charcoal, saline cathartics, calcium injection, and antibiotics to control possible pneumonia suggested.

Schefflera spp. (Araliaceae): Schefflera, Umbrella tree
 CHARACTERISTICS: Fast-growing evergreen with glossy, palmately compound leaves that hang and spread, appearing like an umbrella. Depending on the species, leaflets increase with plant maturity and become more compact; veins pronounced; margins entire to slightly crenate.
 TOXIC PRINCIPLES AND EFFECTS: Oxalate found in the leaves. Mucous membrane irritation, salivation, anorexia, vomiting, and if severe enough, diarrhea.
 TREATMENT: Symptomatic.

Cuta spp.: Water hemlock
 HABITAT/DISTRIBUTION: Open, moist to wet environments; throughout North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: White flower, umbels. Veins of leaflets end at notches. Stems hollow except at nodes. Tuberous roots from chambered rootstock.
 TOXIC PRINCIPLES AND EFFECTS: Resinoids (cicutin, cicuto) in roots, stem base, young leaves. Toxicity retained when dry except in hay. Rapid onset of clinical signs, with death in 15-30 min. Salivation, muscular twitching, dilated pupils, violent convulsions, coma, death. Poisoning in humans common.
 TREATMENT: Sedatives to control spasm and heart action. Prognosis is good if alive 2 hr after ingestion.

Sesbania (Glottidium) vesicaria: Bladderpod, Rattlebox, Sesbane, Coffeebean
 HABITAT/DISTRIBUTION: Mostly open, low ground, abandoned cultivated fields; southeastern USA coastal plain.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Tall annual. Legume pods flat, tapered at both ends, 2-seeded. Leaves pinnate, divided, flowers yellow.
 TOXIC PRINCIPLES AND EFFECTS: Unknown (green plant and seeds). In ruminants, hemorrhagic diarrhea, shallow rapid respiration, fast irregular pulse, coma, death. Lesions include hemorrhages in abomasums and intestines, dark tarry blood.
 TREATMENT: Green seeds are more toxic. Remove animal from source immediately. General supportive treatment: saline purgatives, rumen stimulants, IV fluids.

Apocynum spp.: Dogbanes
 HABITAT/DISTRIBUTION: Open woods, roadsides, fields; throughout North America.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Erect, branching, perennial herb with milky sap arising from creeping underground root stock. Leaves opposite. Flowers white to greenish white in terminal clusters. Fruit long, slender, paired with silky haired seeds.
 TOXIC PRINCIPLES AND EFFECTS: Solanocapsine and related alkaloids found in leaves and fruits. Anorexia, abdominal pain, vomiting, hemorrhagic diarrhea, salivation, progressive weakness or paralysis, dyspnea, bradycardia, circulatory collapse, dilated pupils, and convulsions reported.
 TREATMENT: Symptomatic gastric lavage, activated charcoal, electrolytes and fluids, and anticonvulsants suggested.

Asclepias spp.: Milkweeds
 HABITAT/DISTRIBUTION: Dry areas, usually waste places, roadsides, streambeds.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Perennial erect herbs with milky sap. Seeds silky-hairy from elongated pods.
 TOXIC PRINCIPLES AND EFFECTS: Steroid glycosides and toxic resinous substances (all parts), green or dry. Staggering, titanic convulsions, bloating, dyspnea, dilated pupils, rapid and weak pulse, coma, death.
 TREATMENT: Sedatives, laxatives, and IV fluids suggested.

Agrostemma githago: Corn cockle
 HABITAT/DISTRIBUTION: Mostly open, low ground, abandoned cultivated fields; southeastern USA coastal plain.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Green winter annual with silky-white hairs, opposite leaves, purple flowers, black seeds.
 TOXIC PRINCIPLES AND EFFECTS: Saponin (githagenin) in seeds. Acute course. Profuse watery diarrhea, vomiting, dullness, general weakness, tachypnea, hemoglobinuria, death.
 TREATMENT: Oils and GI protectants. Neutralize toxin (dilute acetic acid PO). Blood transfusions may be necessary.

Datura stramonium: Jimson weed, Thorn apple
 HABITAT/DISTRIBUTION: Fields, barn lots, trampled pastures, and waste places on rich bottom soils; throughout.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Leaves wavy; flower large (4in.), white, tubular. Fruit a spiny pod, 2 to 3 in. (5cm.), long.
 TOXIC PRINCIPLES AND EFFECTS: Tropane alkaloids (atropine, scopolamine, hyoscyamine) in all parts, seeds in particular. Acute course. Wobsey rapid pulse and heart beat; dilated pupils, dry mouth, incoordination, convulsions, coma.
 TREATMENT: All parts, mainly in hay or silage. Urine from affected animal dilutes pupils of laboratory animals (diagnostic). Treatment nonspecific; cardiac and respiratory stimulants (physostigmine, pilocarpine, atropine).

Ricinus communis: Castor bean
 HABITAT/DISTRIBUTION: Cultivated in southern regions.
 AFFECTED ANIMALS: All.
 IMPORTANT CHARACTERISTICS: **Dangerous Season: Fall and Winter.** Large, palmately lobed leaves. Seeds resembling engorged ticks, usually 3 in somewhat spiny pod.
 TOXIC PRINCIPLES AND EFFECTS: Phytotoxin-ricin in all parts (seeds especially toxic). Acute to chronic course (death or recovery). Violent purgation, straining with bloody diarrhea, weakness, salivation, trembling, incoordination.
 TREATMENT: Diagnosis based on presence of seeds, RBC agglutination, precipitin test. Specific antiserum, ideal antidotes: sedatives, atropine hydrobromide, followed by saline cathartics suggested.

Brufelsia pauciflora var floribunda (Solanaceae): Yesterday-today-and-tomorrow, Lady-of-the-night
 CHARACTERISTICS: Evergreen shrubs to small trees with alternate, undivided, toothless, thick rather leathery lustrous leaves. Winter-blooming large showy sometimes fragrant flowers, clustered or solitary at the branch ends, with 5-lobed tubular calyx, 5 petals, and funnel-shaped corolla. Fruits berry-like capsules.
 TOXIC PRINCIPLES AND EFFECTS: Alkaloid components (atropine, scopolamine, hyoscyamine) found in the flowers, leaves, bark, and roots. On ingestion, animals show tachycardia, dry mouth, dilated pupils, ataxia, tremors, depression, urinary retention, and sometimes coma (deep sedation). Not reported to cause death.
 TREATMENT: In severely depressed animals, stimulants (respiratory and cardiac), along with supportive therapy recommended.

Colchicum autumnale (Liliaceae, Colchicaceae): Autumn crocus, Crocus, Fall crocus, Meadow saffron, Wonder bulb
 CHARACTERISTICS: Popular house or yard plant, perennial herb, ovoid under ground corm covered with brown membrane or scales. Leaves large, lanceolate, basal, ovate, smooth, ribbed, appear in spring and die back before flowering. Flowers tubular, solitary, pale purple or white appearing in fall; ovoid capsule with numerous seeds.
 TOXIC PRINCIPLES AND EFFECTS: Colchicine and related alkaloids found throughout plant. These alkaloids are heat stable and not affected by drying. Colchicine is used experimentally in genetic investigations, and medically in the treatment of gout in humans. It is cumulative and slowly excreted. Milk of lactating animals is a major excretory pathway. Observed clinical signs are thirst, difficult swallowing, abdominal pain, profuse vomiting and diarrhea, weakness, and shock within hours of ingestion. Death from respiratory failure.
 TREATMENT: Prolonged course due to slow excretion of colchicine. Gastric lavage; supportive care for dehydration and electrolyte losses (fluid therapy); CNS, circulatory, and respiratory disturbances. Analgesics and atropine recommended for abdominal pain and diarrhea.

Chlorophytum spp. (Liliaceae): Spider plant, St Bernard's lily, Airplane plant
 CHARACTERISTICS: Rhizomatous herbs with leaves slightly glossy, succulent, narrow strap-like greensome with a broad yellow or white band down the middle long, cream, hanging stems with small white flowers developing into plantlets. Often grown in hanging baskets.
 TOXIC PRINCIPLES AND EFFECTS: More commonly grown today for its filtering ability. Pet animals (especially cats) reach these plants either by climbing or when plantlets fall from mature stems. Unknown toxin(s) found in leaves and plantlets. Vomiting, salivation, retching, and transient anorexia seen in cats within hours of ingestion. Deaths and diarrhea not reported.
 TREATMENT: Symptomatic.

Convolvulus majalis (Liliaceae): Lily-of-the-valley, Conval lily, Mayflower
 CHARACTERISTICS: Herbaceous perennial from slender running rhizome; stem leafless, bearing a 1-sided raceme of nodding, white, aromatic, bell-shaped flowers; leaves 2 or 3 basal to 1 ft. long. Fruit a red berry but seldom formed.
 TOXIC PRINCIPLES AND EFFECTS: Cardiac glycosides (convallarin, convallamarin, convallatoxin), irritant saponins found in leaves, flowers, rhizome, and water in which flowers have been kept. Variable latent period depending on dose. GI signs (vomiting, trembling, abdominal pain, diarrhea), progressive cardiac irregularities (irregular heart beats, A-V block) and death. Hyperkalemia in acute cases. Gastroenteritis, petechial hemorrhages throughout.
 TREATMENT: Aimed at gut decontamination (gastric lavage) and at correcting bradycardia (atropine), conduction defects (phenytoin) and electrolyte imbalance such as hyperkalemia (IV electrolytes). Electrocardiographic and serum potassium monitoring necessary.

Hyacinthus spp. (Liliaceae