

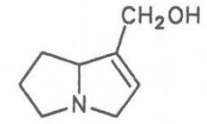
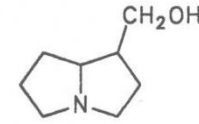
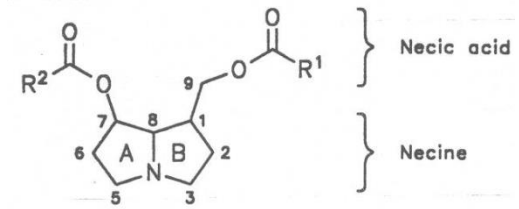


Dr. Cindy Sanders, UF/IFAS Alachua County Extension

What makes plants poisonous?

- **Some plants naturally produce toxic compounds.**
- **Sometimes produced as a defense mechanism**
- **Other times specific events such as weather can make non-toxic plants poisonous**

Alkaloids



- **Examples: morphine, atropine, nicotine, and strychnine**
- **Affect gastrointestinal tract and central nervous system**
- **Symptoms: nausea, colic and diarrhea and also act on the central nervous system to produce blindness, muscular weakness, convulsions and death**

Prussic acid (cyanide)

- **Prussic acid interferes with oxygen transfer**
- **Symptoms: muscle tremors, difficult, rapid respiration and convulsions**
- **Highly toxic, can cause death quickly**



Nitrates

- **All mammals use hemoglobin to transfer oxygen in blood**
- **Nitrates chemically bind to hemoglobin, making it unable to release oxygen**
- **Causes blood to turn chocolate brown**
- **Acute symptoms: trembling, staggering, rapid breathing, and death.**
- **Chronic poisoning may result in poor growth, poor milk production and abortions**

Bracken Fern (*Pteridium aquilinum*)



- **Coarse perennial fern**
- **Toxic compounds: thiaminase and aplastic anemia factor**
- **High fever, labored breathing, drooling hemorrhaging from nostrils, blood in urine and feces, convulsion blindness**
- **Control: Remedy at 1-2% solution, Banvel 4 % solution, Milestone 0.25% solution**

Johnsongrass (*Sorghum halpense*)

- Perennial grass, up to 2M in height
- Toxic compounds: Prussic acid and nitrates
- Under periods of drought, frost, or secondary growth, prussic acid accumulates in tissue
- Heavy fertilization in droughts can cause a build up of nitrates in tissue
- Control with glyphosate at 2-3%



Lantana (*Lantana camara*)



Perennial shrub, often used as ornamental

Toxic compound: lantantin

Acute symptoms:

gastroenteritis, watery, bloody feces, paralysis and death

Chronic symptoms: jaundiced mucous membranes, photosensitization, ulcerations in the mouth and nose

Lantana (*Lantana camara*)

- Difficult to control with herbicides
- Best to manually remove



Sicklepod (*Senna obtusifolia*)

Coffee Senna (*Senna occidentalis*)

- Seeds highly toxic
- Effects, skeletal muscles, kidney and liver
- Symptoms
 - Diarrhea, Muscle tremors
 - Dark coffee color urine
 - Inability to rise, Death with 12 hrs
- Control: 2,4-D 2-4 pints/A, WeedMaster 1-2pints/A, spot spray glyphosate 1-2%



Showy Crotalaria (*Crotalaria spectabilis*)

- Toxic compound: alkaloid
- All parts toxic, seeds most toxic, still toxic if dried, poisoning occurs in contaminated hay and dried seeds in harvest grain
- Symptoms
 - Bloody diarrhea, edema, jaundice
 - Chronic poisoning most common, acute possible poisoning
 - Control: 2,4-D 2-4 pints/A, WeedMaster 1-2 pints/A, spot spray glyphosate 1-2%



Chinaberry (*Melia azederach*)



- Small to medium tree
- Toxic compounds: saponin, alkaloids, tetranortriterpene neurotoxin
- Symptoms
 - Rapid heartbeat at first, restlessness, vomiting, extremely weak heartbeat
 - Causes kidney and liver damage
 - Control: Basal treatment with 5% Remedy

Black nightshade (*Solanum nigrum*)

- Toxic compound: solanine (alkaloid)
- Green berries most toxic, leaves less so
- Symptoms
 - Gastrointestinal effects: vomiting diarrhea
 - Difficulty breathing
 - Dilated pupils
 - Convulsions and paralysis
 - Control: 2,4-D 2-4 pints/A, WeedMaster 1-2 pints/A, spot spray glyphosate 1-2%



Virginia Tech Weed ID Guide



Castor bean (*Ricinus communis*)

- Perennial shrub
- Toxic compound: ricin
- Seeds most toxic, leaves less
- Symptoms
 - Profuse bloody vomiting and diarrhea
 - Control: Cut stump or basal with 10% Remedy (triclopyr) solution



Chinese tallow (*Sapium sebiferum*)



- Small to medium size tree
- Invasive
- Toxic compound: saponin
- All plant parts poisonous
- Symptoms
 - Diarrhea, green feces, weakness, and dehydration
 - Control: Basal bark applications with 15-30% Remedy (triclopyr) solution

Tung oil tree (*Aleurites fordii*)

- Perennial
- Toxic compound: saponin
- All plant parts poisonous
- Symptoms
 - Hemorrhagic diarrhea
 - Labored breathing
 - Progressive emaciation
 - Death
 - Control: Basal bark applications with 20% Remedy

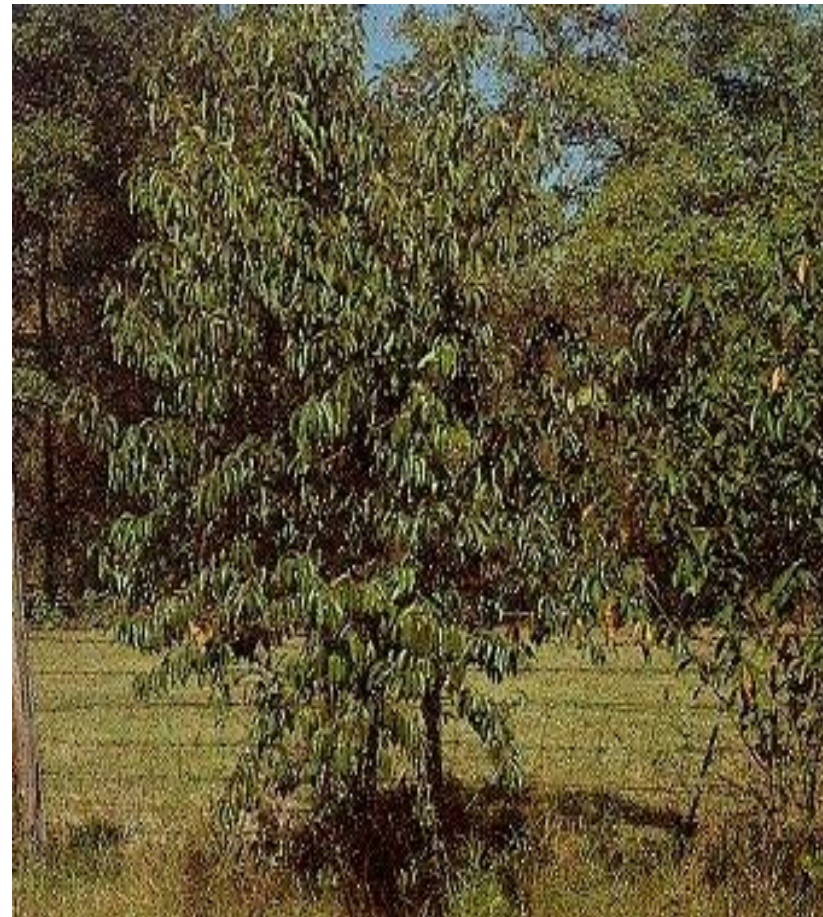


Tung oil tree
Aleurites fordii
Photo by Karen Brown
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Carolina laurel cherry (*Prunus carolina*)

Black cherry (*Prunus serotina*)

- Toxic compound: cyanide
- All plant parts poisonous
- Symptoms
 - Symptoms: muscle tremors, difficult, rapid respiration and convulsions
 - Death
 - Control: Basal- 25%
Remedy, Cut stump- 25%
Remedy, glyphosate 50-100%



Coral ardesia (*Ardisia crenata*)

- Perennial herb
- Toxic compound: unknown
- All plant parts believed poisonous
- Poisoning symptoms are unknown
- Control: spot spray leaves with Remedy at 5% solution



Creeping Indigo (*Indigofera spicata*)



- *3-nitropropionate*. 3-NPA is a highly toxic compound produced by the plant primarily as defense against destruction by herbivores.
- Weight loss, high heart and respiratory rates, labored breathing, high temperature, hypersalivation (ptyalism) or foaming from the mouth, dehydration, pale mucous membranes, halitosis, watery discharge from the eyes (epiphora), squinting (blepharospasm), light sensitivity, corneal opacity, corneal ulceration and neovascularization, severe ulceration of the tongue and gums
- GrazonNext HL applied at 24 oz/A, Banvel, Weedmaster, Remedy

Questions

