Extension Academy

Plant and Weed ID

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Warm Season

- Legume
- Grass

Cool Season

- Legume
- Grass

Weeds

Warm Season

Legume

Leucaena

Leucaena leucocephala

Common Name: Leucaena
Scientific Name: *Leucaena leucocephala*
Life Cycle: Perennial.
Morphology: Branching, upright growing small tree. In Florida, it grows mostly in South Florida.
Reproduction: Seed.
Ecological Adaptation: Adapted to cool humid seasons to subtropics and temperate areas. It grows well throughout North central and West Florida in sandy soils and clay soils if fertile.
Uses: Grazing or cut and carry.
Management: Leucaena is relatively free of diseases.

Leucaena. Photo credits: Guide to Poisonous Plants, Colorado State University; and J. Baniszewski.

Stylosanthes

Stylosanthes guianensis

Common Name: Stylo
Scientific Name: *Stylosanthes guianensis*
Life Cycle: Perennial in South Florida, annual in North Florida.
Morphology: Semierect to erect growing species. It has three leaves that are pronounced and pointed at the tip. Stylo can grow up to 4 ft. tall.
Reproduction: Seed.
Ecological Adaptation: Adapted to subtropical to tropical climates. It is not frost tolerant but can tolerate dry to wet climates. Stylo tolerates sandy soils with low pH and low fertility. It typically grows from April to November.
Uses: Grazing and hay.
Management: Stylo is not susceptible to any major insect problems but it is susceptible to anthracnose.

Stylo. Photo credits: Agrossol sementes, BRSEEDS, and Tropical Forages.

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Common Name: Rhizoma Peanut
Scientific Name: *Arachis glabrata*
Life Cycle: Warm-season perennial.
Morphology: Prostrate to semierect growing species. It has two pairs of leaflets per leaf. Rhizoma peanut produces yellow flowers.
Reproduction: Vegetative.
Ecological Adaptation: Adapted to humid to dry and subtropical to tropical climates. It grows mostly on sandy soils, and it is found in north, central, and west Florida. Rhizoma peanut grows from March to October.
Uses: Grazing, and hay.
Management: Rotational stocking that allows at least a three-week rest between grazing periods of 10 days or less in best, but continuous stocking to maintain a height of at least 4 inches can be used. Two to three hay cuts can be obtained per year. No cutting should be made five to six weeks before killing frost to allow replacement of rhizome food reserve.

Rhizoma peanut. Photo credits: University of Florida/IFAS, Agronomy, Forages of Florida.

Alyceclover

Alysicarpus vaginalis

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Common Name: Alyceclover
Scientific Name: *Alysicarpus vaginalis*
Life Cycle: Warm-season annual.
Morphology: Erectly branching plant growing up to 3 ft. It has thin stems with single leaflet per leaf. It has pink flowers and leaf marks in the mid-vein.
Reproduction: Seed.
Ecological Adaptation: Adapted to hot humid wet tropical climates. It typically grows in sandy to clay soils of moderate fertility. It grows throughout Florida, especially in moist but well drained soils. Alyceclover grows typically between May through September.
Uses: Grazing and hay. High nutritive value. Maintains quality well in late summer.
Management: Best adapted to well-drained, sandy soils. Grazing should begin at 12 to 15 inches. Hay should be cut at 18 to 24 inches. A second cutting of hay is possible under favorable growing conditions. Reseeding is not dependable.

Alyceclover. Photo credits: Doug Mayo and University of Florida/IFAS Agronomy. Forages of Florida.

Sunnhemp

Crotalaria juncea

Common Name: Sunnhemp
Scientific Name: *Crotalaria juncea*
Life Cycle: Warm-season annual.
Morphology: Branched, erect, shrubby, fibrous ridged stems that grow between 3 and 9ft tall. The leaves are oblong shaped, and are typically 5 inches long and up to 1.5 inches wide. It produces bright yellow flowers.
Reproduction: Seed.
Ecological Adaptation: Adapted to humid to dry and subtropical to tropical climates. It is adapted to a wide range of soils, and grows well on infertile sandy soils. It typically grows best on well-drained soils with pH ranging from 5.0 to 7.5.
Uses: Cover crop.
Management: Some species in the *Crotalaria* family contain toxic alkaloids. 'Tropic Sun' is non-toxic and it is resistant to rootknot and reniform nematodoes.

Sunnhemp. Photo credits: Erick Santos and Hancock Seed Company.

Aeschynomene

Aeschynomene americana

Common Name: Aeschynomene, American jointvetch, or deer vetch
Scientific Name: *Aeschynomene americana*
Life Cycle: warm-season annual.
Morphology: Erect growing, herbaceous and branching plant. It has pubescent stems with reddish color. There are usually 10-30 pairs of leaflets per leaf that are sensitive to touch.
Reproduction: Seed.
Ecological Adaptation: Adapted to humid subtropical to tropical climates. It grows from April to November in Florida and it grows best in moderate to poorly drained wet soils, and in both clay to sandy soils.
Uses: Grazing.
Management: There are very few pests or insect problems reported. Graze when plants reach 18 inches tall, and graze to 8-14 inch stubble in order to achieve maximum regrowth.

Aeschynomene americana. Photo credits: University of Florida/IFAS Agronomy. Forages of Florida. Right: Ravan Schneider (phytoimages.siu.edu, ref. DOL55585).

Hairy Indigo

Indigofera hirsuta

Common Name: Hairy Indigo
Scientific Name: *Indigofera hirsuta*
Life Cycle: Reseeding annual legume.
Morphology: Erect growing species. It has stems and petioles that are covered with reddish brown hairs. It also has red flowers on dense, long racemes.
Reproduction: Seed.
Ecological Adaptation: Adapted to humid to dry and subtropical to tropical climates. It can grow in sandy or clay soils with marginal to low fertility. Hairy Indigo is found throughout Florida, growing from April to October.
Uses: Grazing, silage, or soil improvement.
Management: Hairy Indigo is resistant to most pests and diseases.

Hairy Indigo. Photo credits: University of Florida/IFAS Algunas Malezas de Costa Rica y Mesoamerica.

Phasey Bean

Macroptilium lathyroides

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Common Name: Phasey Bean
Scientific Name: *Macroptilium lathyroides*
Life Cycle: Annual.
Morphology: Erect, branching species. Phasey beans is trifoliate with 3-8 cm long and 1-3.5 cm broad leaflets.
Reproduction: Seed.
Ecological Adaptation: Adapted to humid to dry, subtropical to tropical climates. It is adapted to infertile soils from sand to clay. It typically grows from April to October.
Uses: Wildlife feed and grazing.
Management: It should not be planted into soils infected with rootknot nematode.

Phasey bean. Photo credits: Sheldon Navie.

Carpon Desmodium

Desmodium heterocarpon

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Common Name: Carpon desmodium
Scientific Name: *Desmodium heterocarpon*
Life Cycle: Perennial.
Morphology: Semierect to prostrate growing species. It has three leaflets per lead with mottled leaflet marks and dense pink to purple racemes.
Reproduction: Seed.
Ecological Adaptation: Adapted to humid subtropical to tropical climates, and sandy to clayey soils of moderate pH. It grows mostly in South Florida from moderately well to poorly drained soils. It typically grows from April to October
Uses: Grazing and hay.
Management: It should not be planted in soils infected with rootknot nematode.

Carpon desmodium. Photo credits: Medical Plants.

Warm Season

Grass

Mulato

***Brachiaria* spp.**

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Common Name: Mulato
Scientific Name: *Brachiaria spp*.
Life Cycle: Perennial.
Morphology: Upright growth habit, large leaves, hairy leaves and ligule. It has a raceme-like panicle inflorescence.
Reproduction: Seed; should be planted in humid to wet season, June through August in Florida at a rate of 10 lbs per acre.
Ecological Adaptation: Humid wet tropical or subtropical; sand to clay soils. Adapted to well-drained to moist soil; not well adapted to poorly drained sites.
Uses: Grazing.
Management: As with any forage species, proper fertility and grazing management are very important for weed control. Weed management in Mulato, since it is a bunch-type grass, may be more challenging than for bahiagrass and bermudagrass.

Mulato. Photo credit: University of Florida/IFAS Agronomy. Forages of Florida.

Guineagrass

Panicum maximum

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Common Name: Guinea grass
Scientific Name: *Panicum maximum*
Life Cycle: Perennial.
Morphology: Bunch type semi-erect to erect. It has glabrous sheath, pubescent collar, white midrib and brown ligule.
Reproduction: Seeds or clones. Should be planted from May through August in Florida, at a rate of 2-5 lbs acre of viable seed.
Ecological Adaptation: Dry to wet subtropical to tropical. It does better in sandy to clayey soils with moderate to high fertility. Not grown extensively in Florida.
Uses: Grazing and green chop.
Management: Requires good soil fertility.

Guinea grass. Photo credits: Marangatu and NSWONG.

Limpograss

Hemarthria altissima

Common Name: Limpograss
Scientific Name: *Hemarthria altissima*
Life Cycle: Perennial.
Morphology: Erect to decumbent growth. It has long and simple grass leaves, membranous ligule, and spikelike raceme inflorescence.
Reproduction: Vegetative planting of stems tops or stolons from June-August at a rate of 1000 to 1500 lbs per acre.
Ecological Adaptation: Subtropical to tropical wet. Requires fertile of fertilized sand to clay soils, Tolerates poor drainage; moist to wet soils preferred. Usually the growth season is extended if no frost occurs, especially in South Florida.
Uses: Grazing, green chop, and hay.
Management: No less than 12 inches when rotationally grazing (stocking). When continuously stocking, no less than 16 inches of stubble height should be left to ensure adequate stand persistence regardless of where in the state it is planted.

Limpograss. Photo credits. University of Florida/IFAS Agronomy, Forages of Florida; and Erick Santos.

Bermudagrass

***Cynodon* spp.**

Common Name: Bermudagrass
Scientific Name: *Cynodon dactylon*
Life Cycle: Perennial.
Morphology: Hairy ligule. Seed head with three to five slender spikes. Hybrids are deep-rooted. Grows 15 to 24 inches tall.
Reproduction: Spreads by rhizomes, stolons, and (in some types) by seed.
Ecological Adaptation: Best adapted on sandy soils. Extremely drought-tolerant.
Uses: Pasture and hay.
Management: Hay should be harvested at four to six week intervals. With good management, hay yields of 5 to 7 tons/A can be obtained. Should be closely grazed to maintain quality. Annual clovers, small grains, and ryegrass should be overseeded in autumn in winter-spring production is desired.

Seven cultivar of bermudagrass: Photo credits: Dr. Dubeux, UF.

Bahiagrass

Paspalum notatum

Common Name: Bahiagrass
Scientific Name: *Paspalum notatum*
Life Cycle: Perennial
Morphology: Spreads by rhizomes and seed. Seed head two or occasionally three spikes. Forms a dense sod. Very aggressive. Deep rooted. Grows 12 to 20 inches tall.
Reproduction: Seed; plant seed at 15 to 20 lb/A in March to April.
Ecological Adaptation: Best adapted on sandy soils. Tolerant of drought and poor drainage.
Uses: Pasture, hay, and erosion control.
Management: Best used for pasture. Close grazing is desirable. Overseed with winter annuals if desired.



Photo credits: Flora of Zimbabwe, Flora of Zambia, and Wikimedia Commons.

Sorghum

Sorghum bicolor

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Common Name: Sorghum
Scientific Name: *Sorghum bicolor*
Life Cycle: Annual.
Morphology: Coarse-stemmed. Erect, 4 to 15 feet tall. Grain types are short with large seed heads. Forage types are tall with small seed heads.
Reproduction: Seed; Seed are drilled in wide rows at 4 to 6 lb/A or broadcast at 15 to 20 lb/A in May-June.
Ecological Adaptation: Very drought-tolerant. Not tolerant of highly acid soils.
Uses: Silage. Nutritive value is 85 to 90 percent of corn silage. Nitrate accumulation or prussic acid can cause toxicity under some circumstances.
Management: Harvested for silage when seed are in early dough stage.

Sorghum. Photo credits: King's AgriSeeds Inc.

Pearlmillet

Pennisetum glaucum

Common Name: Pearl Millet
Scientific Name: *Pennisetum glaucum*
Life Cycle: Annual.
Morphology: Erect, 3 to 8 feet tall. Leafy. Very wide leaves serrated at margins; hairy ligule. Seed head a large cylindrical spike.
Reproduction: Seed. Seed are drilled at 12 to 15 lb/A or broadcast at 25 to 30 lb/A in April-June.
Ecological Adaptation: Best adapted on sandy soils. Does not do well on calcareous soils. Tolerant of drought and soil acidity.
Uses: Pasture and silage. Difficult to make hay because of thick stems. High nutritive value if harvested at immature stage. Nitrate accumulation can cause toxicity under some circumstances.
Management: Requires high stocking rate, preferably with rotational stocking. Stems may need to be mowed after grazing. Should be cut for hay when plants are 30 to 40 inches tall.

Pearl Millet. Photo credits: University of Florida/IFAS Agronomy, Forages of Florid; and Alchetron

Cool Season

Legume

Alfalfa

Medicago sativa

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Common Name: Alfalfa
Scientific Name: *Medicago sativa*
Life Cycle: Perennial.
Morphology: It is an erect, upright-growing perennial with many leafy stems arising from large crowns at the soil surface. Also, has a long taproot, making it drought tolerant, and it may grow as tall as 24–36 inches.
Reproduction: Seed. Seed rate is 12 to 20 lb/A.
Ecological Adaptation: Alfalfa require more management than clovers, it requires K and P fertilizations after every harvest and favorable moisture conditions. It grows well in moderately- to well-drained sites.
Uses: Hay, haylage, green chop.
Management: For hay production, 4 to 7 cuttings can be made each year. It is recommended to harvest at the early bloom stage to obtain acceptable forage and nutrient yields. Grazing tolerant varieties can be continuously stocked.


Alfalfa. Photo credits: Erick Santos and Doug Mayo.

White Clover

Trifolium repens

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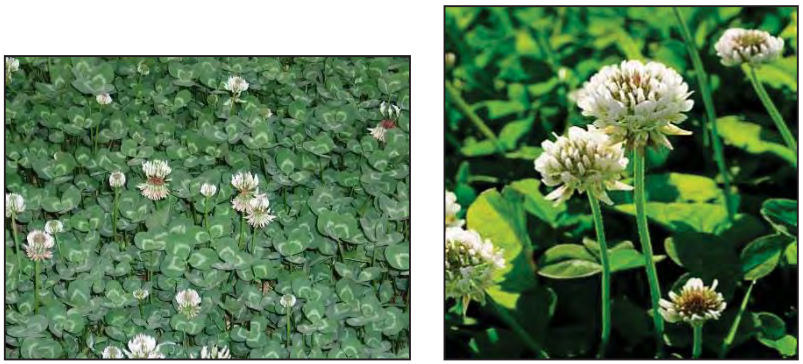
Common Name: White clover
Scientific Name: *Trifolium repens*
Life Cycle: Perennial, but could be annual under some management situations.
Morphology: It has a prostrate, stoloniferous growth habit. The leaves are composed of three leaflets, which may or may not have a "crescent" or "water mark" on the upper surface. Leaves and roots develop along the stolon at the nodes.
Reproduction: Seed.
Ecological Adaptation: White clover grows best under cool temperatures and on fertile, well-drained soils with good moisture holding capacity. It can be grown in combination with most grasses under good management.
Uses: Grazing, ground cover, soil improvement.
Management: Grass should be planted in wide rows and clover broadcast to reduce competition. Adequate potassium and phosphorus are important for good production. Grazing should be sufficient to maintain forage height at 1 to 4 in.



White clover. Photo credits: UniProt and Outsidepride.com.

Crimson Clover

Trifolium incarnatum

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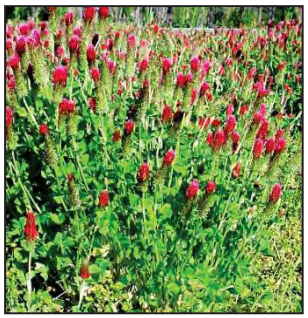
Common Name: Crimson clover
Scientific Name: *Trifolium incarnatum*
Life Cycle: Winter annual.
Morphology: Semierect to prostrate, and with a shallow taproot system. The leaves and petioles are dark green and covered with dense hairs. Leaflets with rounded to heart shape. The leaflets do not have leaf water marks. Inflorescence with terminal head with deep crimson red florets.
Reproduction: Seed.
Ecological Adaptation: Adapted to the heavier, well-drained soils of Florida, performing poorly on dry, sandy, and poorly drained sites. It adapts to cool humid seasons of subtropics and temperate areas in sand to clay, fertilized soils. Crimson clover grows well in mixtures with small grains, grasses and other clovers.
Uses: Graze and green chop.
Management: Can be grazed throughout winter but, if hay is desired the cattle must be removed by mid-March.



Crimson clover. Photo credits: Doug Mayo and West Coast Seeds.

Red Clover

Trifolium pratense

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Common Name: Red clover
Scientific Name: *Trifolium pratense*
Life Cycle: Biannual/short-lived perennial in temperate areas, winter annual in Florida.
Morphology: Semi-erect growth, with pointed leaflets with water marks. Red clover plants grow from crowns. Plants have hollow, hairy stems and branches. The taproot of red clover is extensively branched. Flowers are borne in compact clusters or heads and are usually rose-pink in color.
Reproduction: Seed.
Ecological Adaptation: Red clover grows best on well-drained loamy soils, but it will also grow on soil that is not as well-drained. Medium and fine textured soils are preferred by the plant over sandy or gravelly soils. It is best adapted to a pH of 6.0 or higher.
Uses: Grazing, green chop, hay and soil improvement.
Management: Hay should be cut in early bloom stage. Red clover will not tolerate continuous close grazing over long periods of time.

Red clover. Photo credits: Agronomator.

Arrowleaf Clover

Trifolium vesiculosum

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Common Name: Arrowleaf Clover
Scientific Name: *Trifolium vesiculosum*
Life Cycle: Cool-season annual.
Morphology: Semi-erect to prostrate growing species. The leaves tend to have pointed tips. There is no pubescence at the petiole, which marks the difference with red clover. Arrowleaf clover has white to cream-colored flowers.
Reproduction: Seed.
Ecological Adaptation: Adapted to cool humid seasons to subtropics and temperate areas. It grows well throughout North central and West Florida in sandy soils and clay soils if fertile. Arrowleaf clover grows best under well drained areas from November to May.
Uses: Grazing and hay.
Management: It should not be planted into soils infected with rootknot nematode. It is typically affected to root rots and several virus diseases.

Arrowleaf clover. Photo credits: Pasture Genetics.

Ball Clover

Trifolium nigrescens

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Common Name: Ball clover
Scientific Name: *Trifolium nigrescens*
Life Cycle: Annual
Morphology: Erect growth, similar in appearance to white clover but the blooms are smaller and more rounded. Ball clover has poor seedling vigor but excellent reseeding ability.
Reproduction: Seed.
Ecological Adaptation: Requires pH 6.5 and up and loam to clay-loam soils. Tolerates poor drainage. Prefers moist bottom lands but adapts to fairly dry sites also. Also, requires good moisture conditions, and it is poor drought tolerance.
Uses: grazing, pasture.
Management: Tolerates heavy grazing and will produce seedheads close to the ground.

Ball clover. Phot credits: Mountain Sweet Honey and MBS Seed.

Cool Season

Grass

Oat

Avena sativa

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Common Name: Oat
Scientific Name: *Avena sativa*
Life Cycle: Annual
Morphology: Prostrate to erect. The leaves are non-auriculate, green, and the sheaths rounded on the back; ligules are blunt and membranous. The inflorescence is a diffuse panicle with 2 – 3 florets.
Reproduction: Seed.
Ecological Adaptation: Require well drained soils, with moderate fertile or fertilized.
Uses: Grazing, grazing and grain production, green chop, grass silage or grain.
Management: Stocking rate should be adequate to utilize forage. If cut for hay or silage, the harvest should be made in the boot early heading stage. It could be planted as a companion crop with annual legumes to extend the production season and maintain forage quality.

Oat. Photo credits: Ann Blount and UF/IFAS EDIS.

Triticale

X Triticosecale

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Common Name: Triticale
Scientific Name: *X triticosecale spp.*
Life Cycle: Annual
Morphology: It is a bunch type grass with upright tillers. Triticale has a spike with one spikelet per node each containing several florets. The stems grow upright, have hollow internodes, and are smooth. The root system is fibrous.
Reproduction: Seed.
Ecological Adaptation: It is adapted to a wide range of soils and requires only moderate fertility and moisture. It does not tolerate flooding and is only slightly drought resistant.
Uses: Green chop, silage, grazing, and can be used for grain.
Management: Stocking rate should be adequate to utilize forage. If cut for hay or silage, the harvest should be made in the boot early heading stage. It could be planted as a companion crop with annual legumes to extend the production season and maintain forage quality.

Triticale. Photo credits: Doug Mayo.

Wheat

Triticum aestivum

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Common Name: Wheat
Scientific Name: *Triticum aestivum*
Life Cycle: Annual.
Morphology: Erect bunch grass, with hairy auricles, and the leaf sheet is not hairy. The open leaf sheaths are bluish or grayish green, glabrous, and sometimes glaucous. The ligules are short-membranous while the nodes are swollen and glabrous. The root system is fibrous.
Reproduction: Seed.
Ecological Adaptation: Requires well drained and fertile soils. Tolerate a wide range of temperature (from 4 to 27°C) and precipitation (from 190 to 2500 mm) and pH of 4.5 to 8.3.
Uses: Grazing, green chop or grain.
Management: Stocking rate should be adequate to utilize forage. If cut for hay or silage, the harvest should be made in the boot early heading stage. It could be planted as a companion crop with annual legumes to extend the production season and maintain forage quality.

Wheat. Photo credits: Feedpedia and UF/IFAS EDIS.

Rye

Secale cereale

Common Name: Rye
Scientific Name: *Secale cereale*
Life Cycle: Annual
Morphology: It is an erect bunch grass, with flat leaf blades, and auricles that are not hairy. The leaves are blue-green and it has dense flower spikes. Each large spike consists of many 2-flowered spikelets with long awns. The grain is relatively large, typically around ½ inch long.
Reproduction: Seed
Ecological Adaptation: It is adapted to sandy, or acid soils, as well as on poorly prepared land. It grows better on light loams and sandy soils than on heavy clay soils. Rye grows with pH of 5.6 to 5.8 or higher. It is also able to germinate in relatively dry soils, and is fairly tolerant to droughty conditions.
Uses: Grazing, forage and grain, hay, green chop, grass silage.
Management: Stocking rate should be adequate to utilize forage. If cut for hay or silage, the harvest should be made in the boot early heading stage. It could be planted as a companion crop with annual legumes to extend the production season and maintain forage quality.

Rye. Photo credits: Organic Gardening with a common sense approach.

Tall Fescue

Festuca arundinacea

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Common Name: Tall Fescue
Scientific Name: *Festuca arundinacea*
Life Cycle: Perennial
Morphology: Tall fescue does produce short rhizomes but has a bunch-type growth habit. It spreads primarily by erect tillers. Individual tillers, or stems, terminate in an inflorescence, reach 3 to 4 feet in height, and have broad, dark green basal leaves. Leaf blades are glossy on the underside and serrated on the margins. The leaf sheath is smooth and the ligule is a short membrane. The inflorescence is a compact panicle, with lanceolate spikelets.
Reproduction: Seed.
Ecological Adaptation: It is adapted to a wide range of soil and climatic conditions, but performs best on well drained clay soils.
Uses: Grazing and hay.
Management: If is endophyte-infected, will tolerate heavy grazing. Red clover or alfalfa can be growth with tall fescue. The first harvest of hay should be cut in the late boot stage for high quality.


Tall Fescue. Photo credits: University of Wyoming, Department of Plant Science.

Weeds

Introduction

- Major classification, the Angiosperms
- Monocots vs. Dicots
- What is a plant Family?
- Floral morphology and ovary position
- Fruit morphology
- Major plant family characteristics

Classification

- In this discussion, there are a few taxonomic categories that will be used.
- **Division-** Anthophyta (Angiosperms, or flowering plants)
- **Class-** Monocotyledons and Dicotyledons, and
- **Family-** frequently correspond to well-known groups, such as grasses (Poaceae), daisies (Asteraceae), bean (Fabaceae), or nightshades (Solanaceae).

Major Classification
The Kingdom Plantae

- The Kingdom **Plantae** has many **Divisions**, including distinct Divisions for the liverworts, mosses, ferns, and conifers.
- Our focus is on the **Angiospems** also known as the “flowering plants”
- Angiosperms are borne in an enclosed ovary

Angiosperms
the “flowering plants”

- Angiosperms are divided into two large subdivisions:
  - **Monocotyledons** (monocots)
  - **Dicotyledons** (dicots)
- When you look at a plant to identify, one of the first questions to determine is, which major division does it belong?

Monocots vs. Dicots

- Monocotyledons
- Flower parts usually in threes
- Leaf venation usually parallel
- ~65,000 species

- Dicotyledons
- Flower parts usually in fours or fives
- Leaf venation usually netlike
- ~170,000 species

Common Plant Families

Dicots

- Amaranthaceae
- Apiaceae
- Apocynaceae
- Asteraceae
- Brassicaceae
- Cactaceae
- Caryophyllaceae
- Chenopodiaceae
- Convolvulaceae
- Euphorbiaceae
- Fabaceae
- Lamiaceae
- Malvaceae
- Onagraceae
- Polygonaceae
- Portulacaceae
- Ranunculaceae
- Rosaceae
- Rubiaceae
- Scrophulariaceae
- Solanaceae
- Verbanaceae

Monocots

- Juncaceae
- Cyperaceae
- Liliaceae
- Orchidaceae
- Poaceae

Amaranthaceae (Pigweed)

- Herbs and shrubs
- Sepals: 4-5
- Petals: 0
- Stamens: 4-5, fused
- Carpels: 2-3, fused, superior ovary
- Fruit: utricle, pyxis
- Flowers subtended by papery bracts (similar to goosefoots)

Amaranthus hybridus
Pigweed

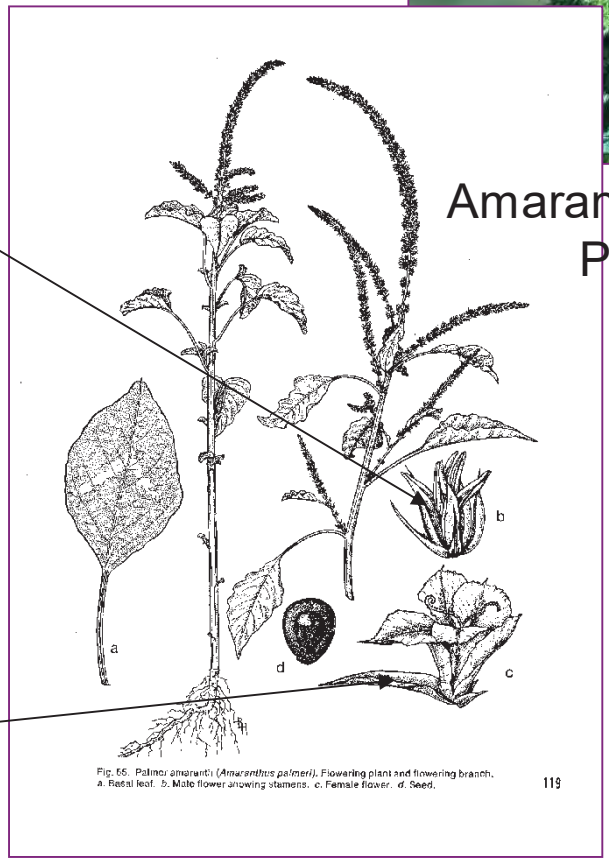
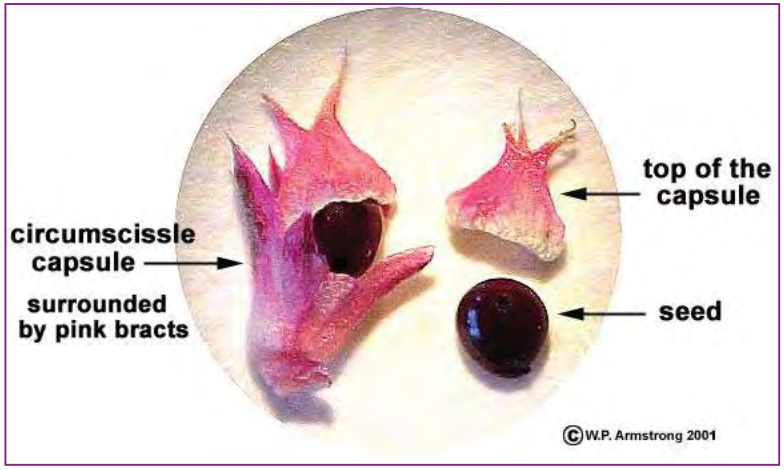


Fig. 55. Palmer amaranth (*Amaranthus palmeri*). Flowering plant and flowering branch. *a*. Basal leaf. *b*. Male flower showing stamens. *c*. Female flower. *d*. Seed.

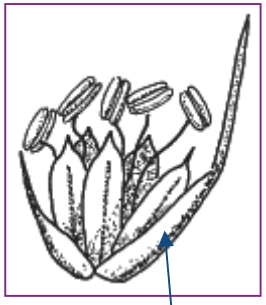
Amaranthaceae

- Opposite leaves
  - *Alternanthera*
- *Alternate leaves*
  - Amaranthus
- Leaves with watermark
- Stems usually green to red

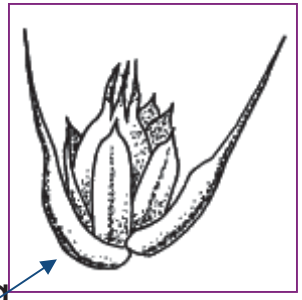
Amaranthaceae



Amaranthus palmeri
Carelessweed



Male flower with subtending bracts



Female flower with subtending bracts

Spiny Pigweed

Amaranthus spinosus

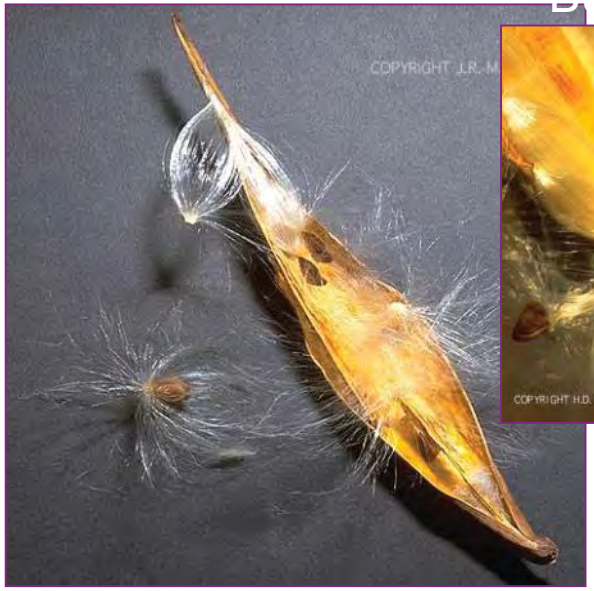
Apiaceae (Parsley)

- Herbs
- Sepals: 5
- Petals: 5
- Stamens: 5
- Carpels: (2),
- inferior
- Fruits: schizocarps
- Typically with a compound umbel, stems hollow, lvs compound, petioles sheathing at base

Apiaceae=Umbelliferae. The Latin word umbellula which means “a little shade” alludes to the flowers being produced in parasol shaped clusters

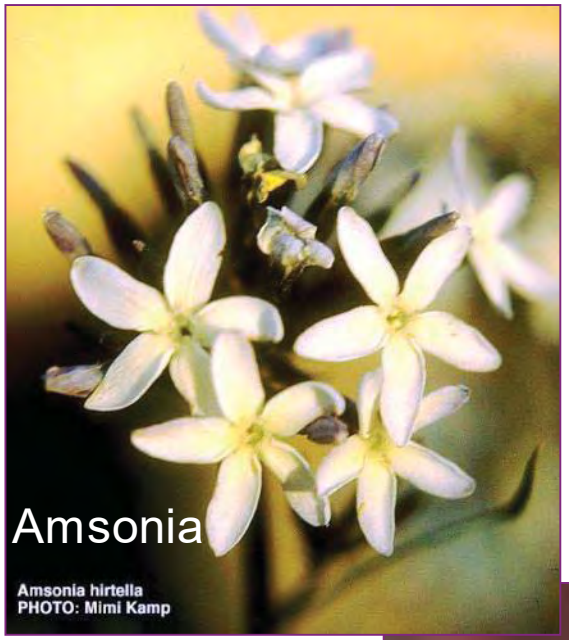
Apocynaceae (Milkweed)

- Herbs, shrubs and vines
- Sepals: 5
- Petals: (5)
- Stamens: 5, fused by upper parts
- Carpels: (5), fused by upper parts, superior
- Fruits: follicles
- Often with milky sap, lvs opposite or whorled, corona and other specialized parts



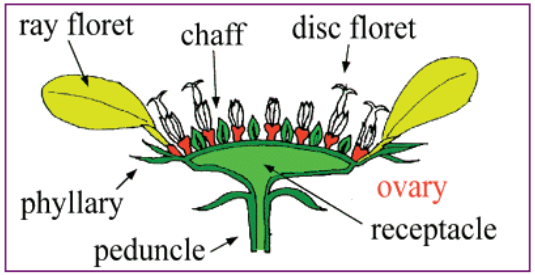
Apocynaceae (Dogbane)

- Herbs, shrubs and vines
- Sepals: (5)
- Petals: (5)
- Stamens: 5
- Carpels: (2), fused by upper parts, superior
- Fruits: follicles, berries, capsules
- Often with milky sap, leaves entire, opposite or whorled, carpels free at base, lacking specialized parts of milkweed



Asteraceae (Aster)

- Herbs and shrubs
- Sepals: low unstable number
- Petals: (5) or (5) zygomorphic
- Stamens: 5, fused by upper parts
- Carpels: (2), inferior
- Fruits: achenes
- Inflorescence in heads



Asteraceae

dogfennel

Horrible thistle

Flat-top goldenrod

dogfennel

Dogfennel

Eupatorium capillifolium

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Common Ragweed

Ambrosia artemisiifolia

Spanish Needle

Bidens alba

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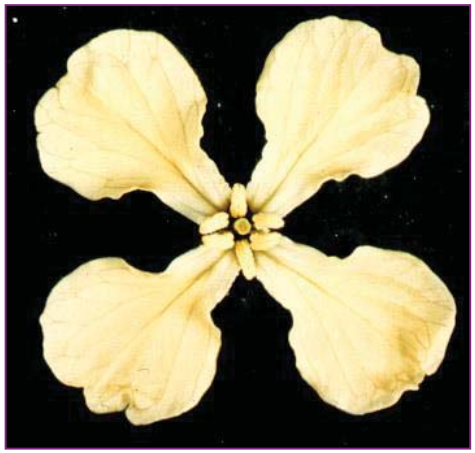
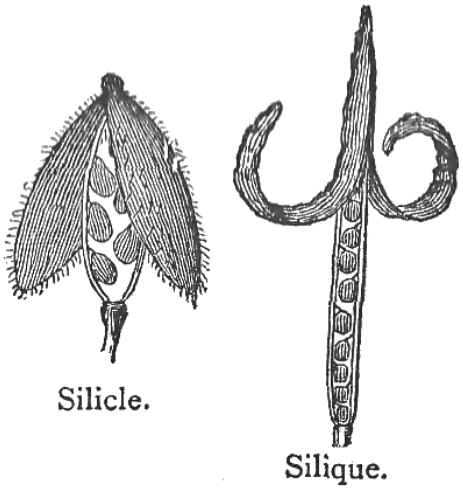
Brassicaceae (Mustards)

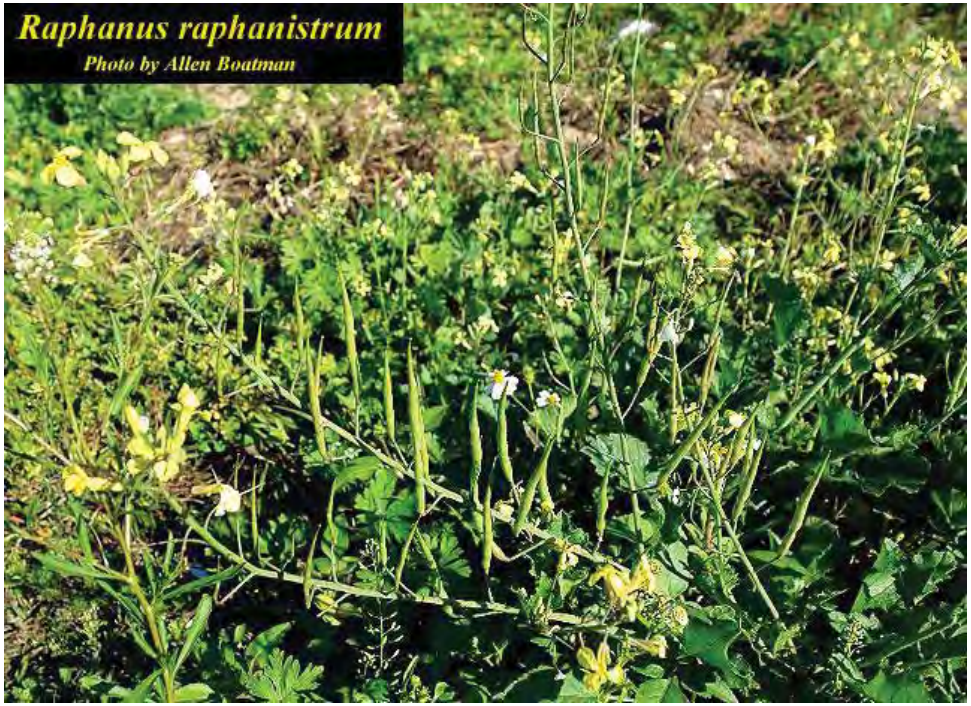
- Herbs and shrubs
- Sepals: 4
- Petals: 4, cruciform, often clawed
- Stamens: 4+2
- Carpels: 2, fused, ovary superior
- Fruit: silicles and siliques





Brassicaceae


Lepidium virginicum
Photo by Dan Tenaglia

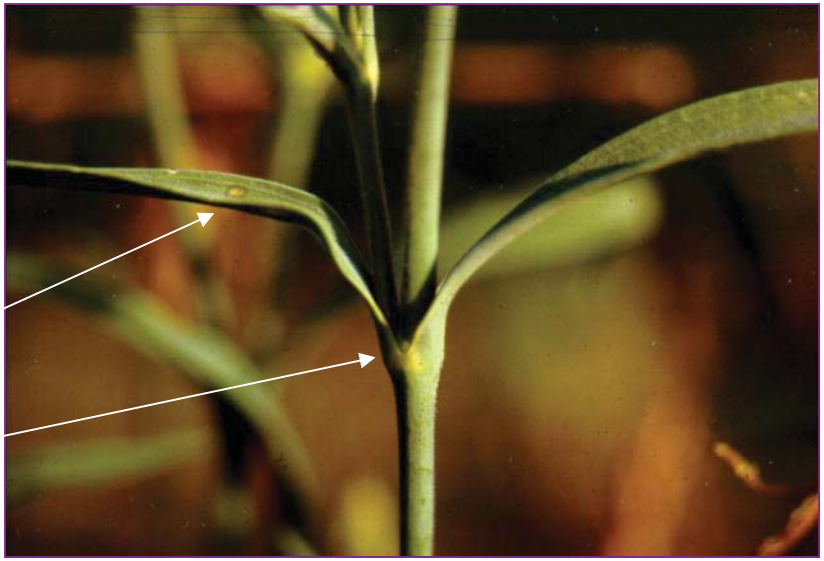

Raphanus raphanistrum
Photo by Allen Boatman

Cactaceae (Cacti)

- Herbs and shrubs
- Sepals: x
- Petals: ∞
- Stamens: ∞
- Carpels: (2-∞), inferior
- Fruits: berries
- Usually spiny succulents

Caryophyllaceae (Pink)

- Herbs
- Sepals: 5 or (5)
- Petals: 5[0] often notched (pinked)
- Stamens: 5-10
- Carpels: 2-5, ovary superior
- Fruit: capsule, utricle
- Leaves opposite, linear or lanceolate, stem nodes swollen



Caryophyllaceae

Common chickweed

West Indian chickweed

Chenopodiaceae (Goosefoot)

- Herbs and shrubs
- Sepals: 5
- Petals: 0
- Stamens: 5
- Carpels: 2, fused, superior ovary
- Fruit: nutlet
- Lvs alternate, simple, perianth green and inconspicuous

Chenopodiaceae

Common lambsquarters

Mexican tea/Jerusalem oak

Note: Some taxonomists have included this family within the Amaranthaceae family

Convolvulaceae (Morningglory)

- Herbs, shrubs and vines
- Sepals: 5
- Petals: (5)
- Stamens: 5
- Carpels: (2), superior
- Fruits: capsules, berries, nutlets
- Twining herbaceous vines in N Hemisphere, Petals plaited

Euphorbiaceae (Spurges)

- Herbs, shrubs and trees
- Sepals: 0 or 5
- Petals: 0-5
- Stamens: 1-∞
- Carpels: (3), superior
- Fruits: schizocarps
- Often with milky latex, fruit 3 nutlets, flowers unisexual usually much reduced

Popcorn tree/ Chinese tallow

Sapium sebiferum

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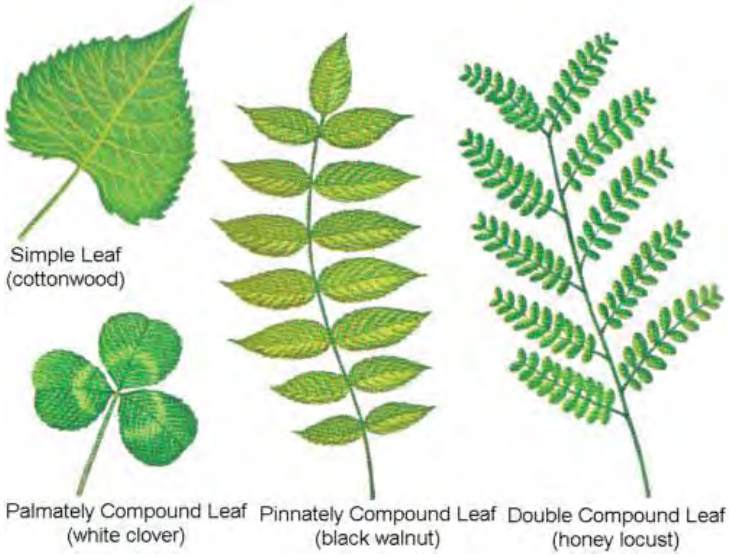
Fabaceae (Bean)

- Herbs, shrubs, trees and vines
- Sepals: 5, fused
- Petals: 5 or 5z
- Stamens: 5-∞
- Carpels: 1, superior
- Fruits: legumes
- Leaves alternate, mostly compound, stamens usually 10

Compound Leaves

- Palmate
- Pinnate
  - Odd
  - Even
- Bi-pinnate
  - Odd
  - Even
- Trifoliate?



Fabaceae

Smooth crotolaria

Coffee senna

bagpod

Showy crotolaria

Bagpod

Sesbania vesicaria

Showy Crotalaria

Crotalaria spectablis

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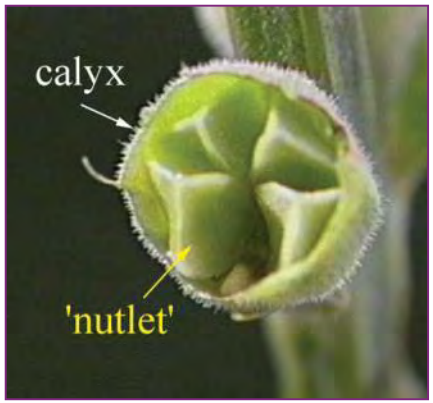
Lamiaceae (Mint)

- Herbs and shrubs
- Sepals: (5)
- Petals: (5) zygomorphic
- Stamens: 2 or 2+2
- Carpels: (2), superior ovary
- Fruits: drupes, nutlets
- Ovary 4-lobed, 4 angled stems, style bifid at apex with unequal lobes



Lamiaceae

Beauty berry

Florida betony

Lion's ear

bushmint

bushmint

Malvaceae (Mallows)

- Herbs, shrubs and trees
- Sepals: 3-5, lower parts fused
- Petals: 5
- Stamens: ∞, fused
- Carpels: (5-∞), superior
- Fruits: capsules, schizocarps
- Often with stellate pubescence, leaves alternate, palmately veined and/or lobed

Malvaceae

Heartleaf sida

Southern sida

Arrowleaf sida

velvetleaf

Sida

Common wireweed

Onagraceae (Evening primroses)

- Herbs and shrubs
- Sepals: 2 or 4
- Petals: 2 or 4
- Stamens: 4 or 8
- Carpels: (4), inferior ovary
- Fruits: capsules, berries, nutlets
- Hypanthium present, stigmas often 4 lobed

Onagraceae

Cutleaf evening primrose

Phytolacaceae

- Herbs, shrubs, vines, trees
- Flowers bisexual/unisexual
- Sepals – 4 or 5
- Petals – 0
- Ovary – superior (mostly)
- Fruit – berry, nut, or capsule

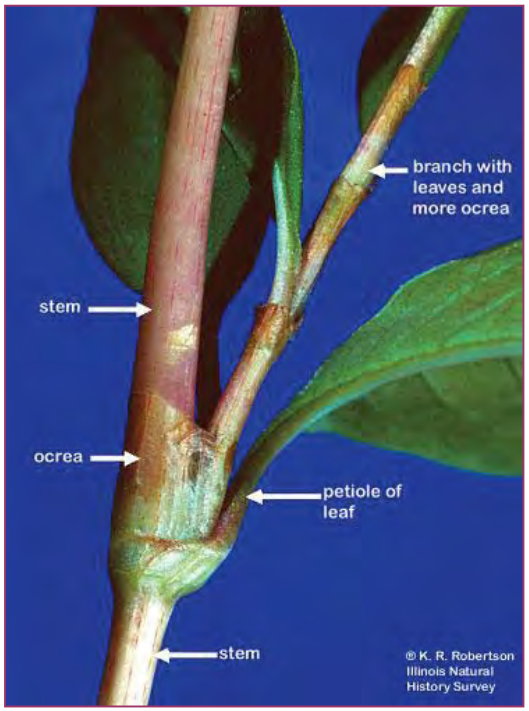
Common pokeweed
Phytolacca americana

Scrophulariaceae (Plantaginaceae)

- Herbs, Shrubs, vines, trees
- Sepals: 4/5
- Petals: 4/5
- Stamens: 4 (2 or 5)
- Carpels: 2, fused, superior ovary
- Fruit: capsule/berry
- Stems: round to 4-angled
- Leaves: alternate, whorled, or opposite

goatweed

Polygonaceae (Knotweed)

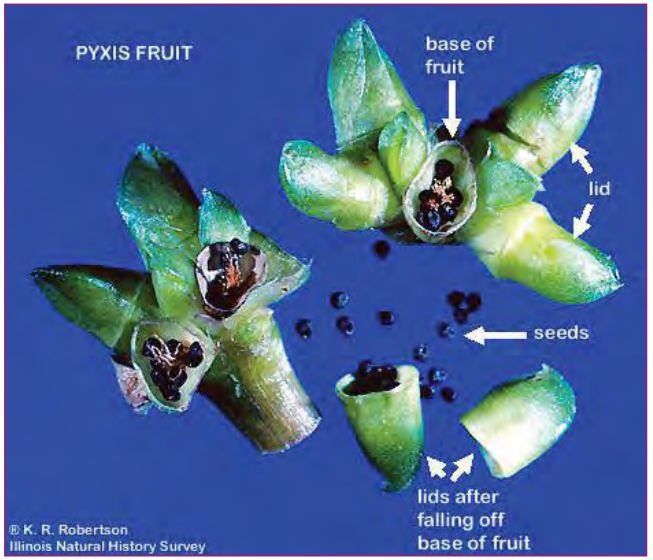


- Herbs and shrubs
- Sepals: 5 or 3+3
- Petals: 0
- Stamens: 3-9
- Carpels: 3, fused, superior ovary
- Fruit: achene
- Sepals often petaloid, achene often triangular, lvs alternate, ocrea present

Polygonaceae

Portulaceae (Purslanes)

- Herbs, fleshy
- Sepals: 2
- Petals: 4-6
- Stamens: 4-∞
- Carpels: 2-8, superior ovary
- Fruit: Capsule
- Capsules dehisces longitudinal or circumscissle



Portulacaceae

Portulaca amilis

Paraguayan purslane

Portulaca oleracea

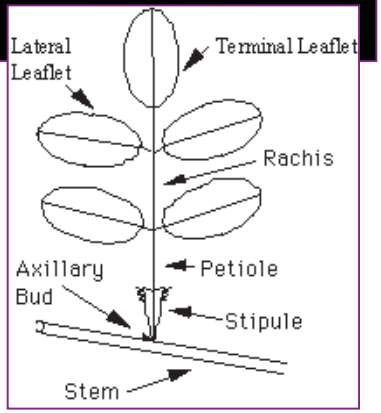
Common purslane

Portulaca pilosa

pink purslane

Rosaceae (Roses)

- Herbs, shrubs and trees
- Sepals: 5
- Petals: 5[0]
- Stamens: ∞
- Carpels: ∞ (5)1,
- Fruits: achenes, drupes, pomes, follicles
- Hypanthium present, lvs alternate, usually stipulate



Rosaceae

Blackberry Briars

Rubus fruticosus

Dewberry

Rubus trivialis

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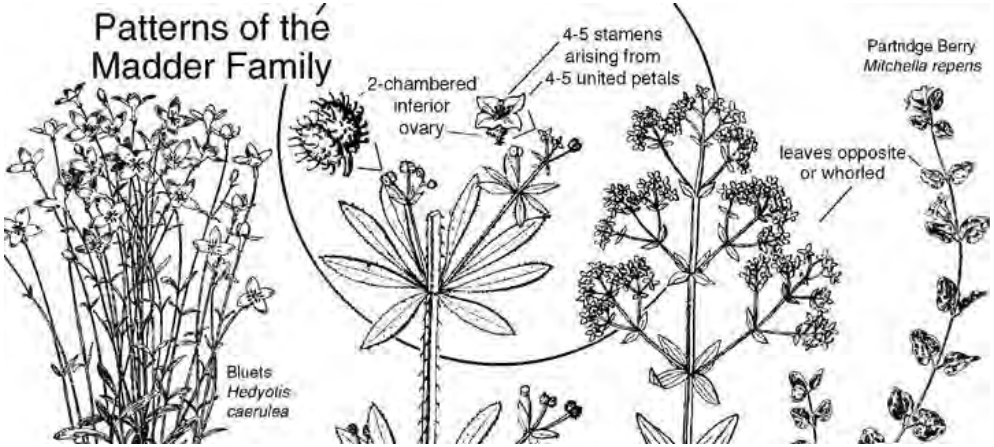
Rubiaceae

- Herbs, shrubs and trees
- Sepals: 4 or 5
- Petals: 4 or 5
- Stamens: 4 to 5
- Carpels: ~~(~~2)
- Fruits: drupe, capsule, berry, or nutlet
- Lvs opposite/whorled, stipules present and often leaf-like



Rubiaceae

Whitehead broom/
shrubby false buttonweed

Pusley species

Florida Pusley

Richardia scabra

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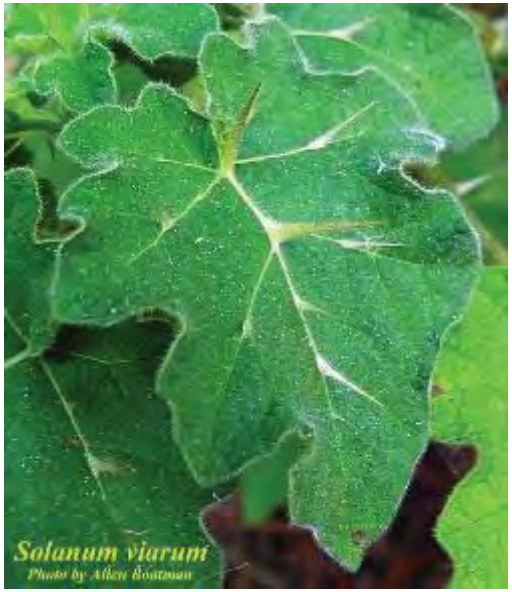
Solanaceae (Nightshade)

- Herbs, shrubs, vines and trees
- Sepals: (5)
- Petals: (5)
- Stamens: 5
- Carpels: (2), superior ovary
- Fruits: berries, capsules
- Leaves alternate



tropical soda apple

horsenettle

wetland nightshade

sticky nightshade

nightshade

Horsenettle

Solanum carolinense

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Chinese Latern

Physalis alkekengi

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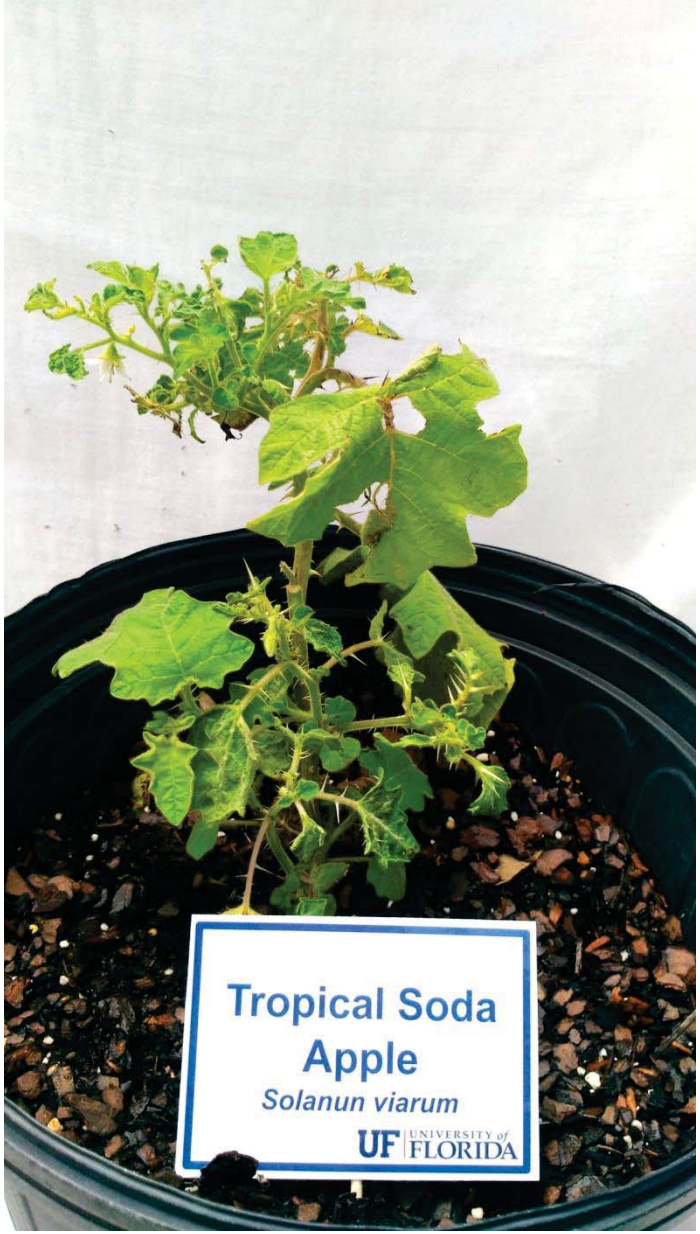

Tropical Soda Apple

Solanun viarum

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Verbenaceae (Vervain)

- Herbs, shrubs, trees
- Sepals: (5)
- Petals: (5) zygomorphic
- Stamens: 2+2
- Carpels: (2), superior
- Fruits: drupes, 2 or 4 nutlets
- Leaves opposite or whorled, single terminal style, stem often 4-angled

Verbenaceae

lantana

matchweed

Commelinaceae (Dayflower/Spiderwort

- Herbs
- Sepals: 3
- Petals: 3
- Stamens: 6; filaments hairy
- Carpels: 3, fused, ovary superior
- Fruit: capsule

Spiderwort Tradescantia

Tradescantia ohiensis

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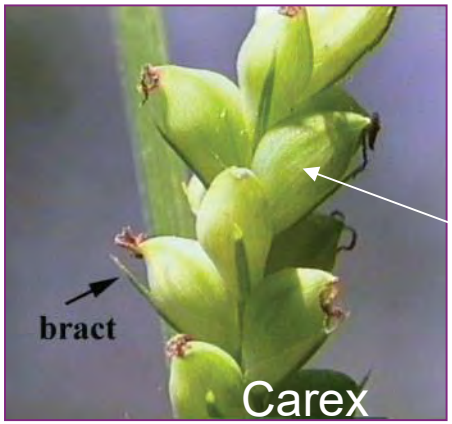
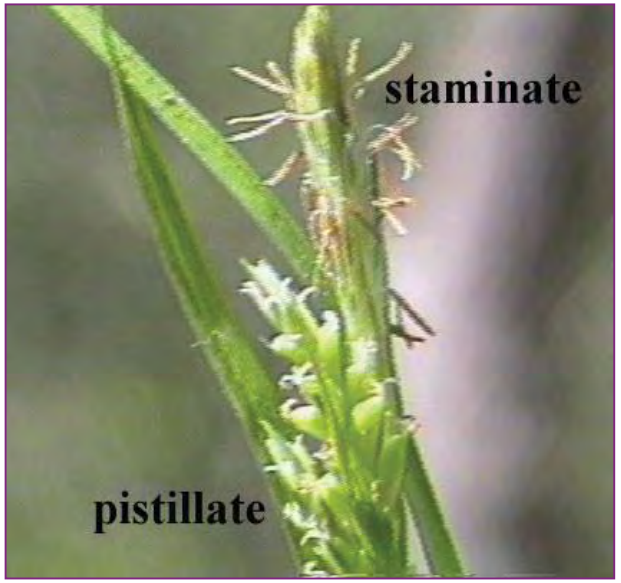
Cyperaceae (Sedges)

- Herbs
- Sepals: low, unstable number, often reduced to bristles or scales
- Petals: 0
- Stamens: 3
- Carpels: (2-3), superior ovary
- Fruits: achenes, nutlets
- Grass-like, stems often 3-sided, solid, nodes not apparent



Subtending bracts; one for male flowers and two for female, the second bract of the female flower a 'perigynium' which surrounds the pistil



Juncaceae (Rushes)

- Herbs (stems round)
- Perianth of tepals: 6
- Stamens: 6
- Carpels: (3),
- superior ovary
- Fruits: capsules
- Small grass-like herbs, 3-many seeded capsule, perianth scarious, green or brown

3 stigmas

Tepals

Stamens