

Rich Affeldt, Agronomist, COSI

# Weed Basics

# Definition of a weed

- “a weed is a plant whose virtues have not yet been discovered.”  
Ralph Waldo Emerson
- Any plant growing where it is not wanted



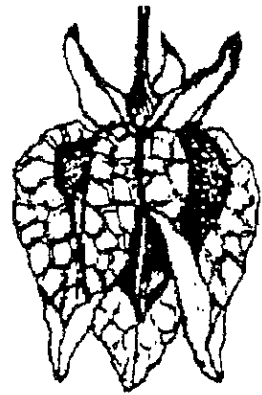
# Goal: Simplify Recognition



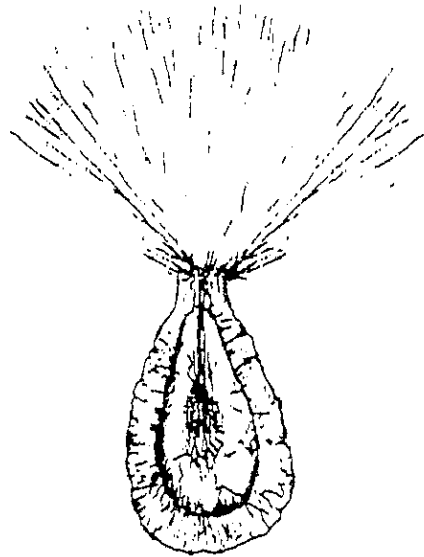


# How weeds spread

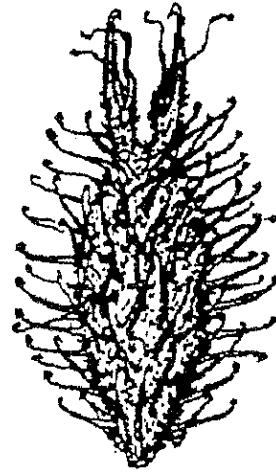
- Weeds spread when seeds or growing parts are moved or carried into new territory



Curly Dock  
-water-



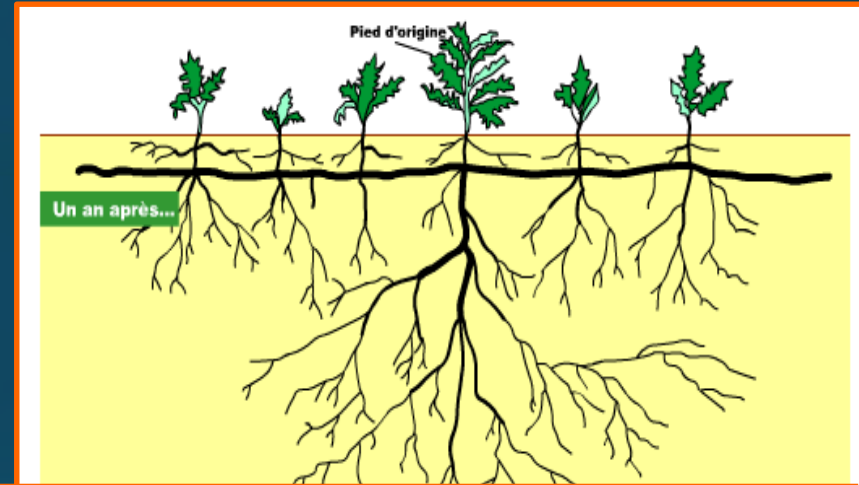
Common  
Milkweed  
-air-



Common  
Cocklebur  
-animals-

# How weeds spread

- Rhizomatous or stoloniferous growth
  - A.k.a vegetative reproduction
- Relocation of vegetative parts
  - Topsoil, mulch, etc.
  - Equipment



# Weed lifecycles

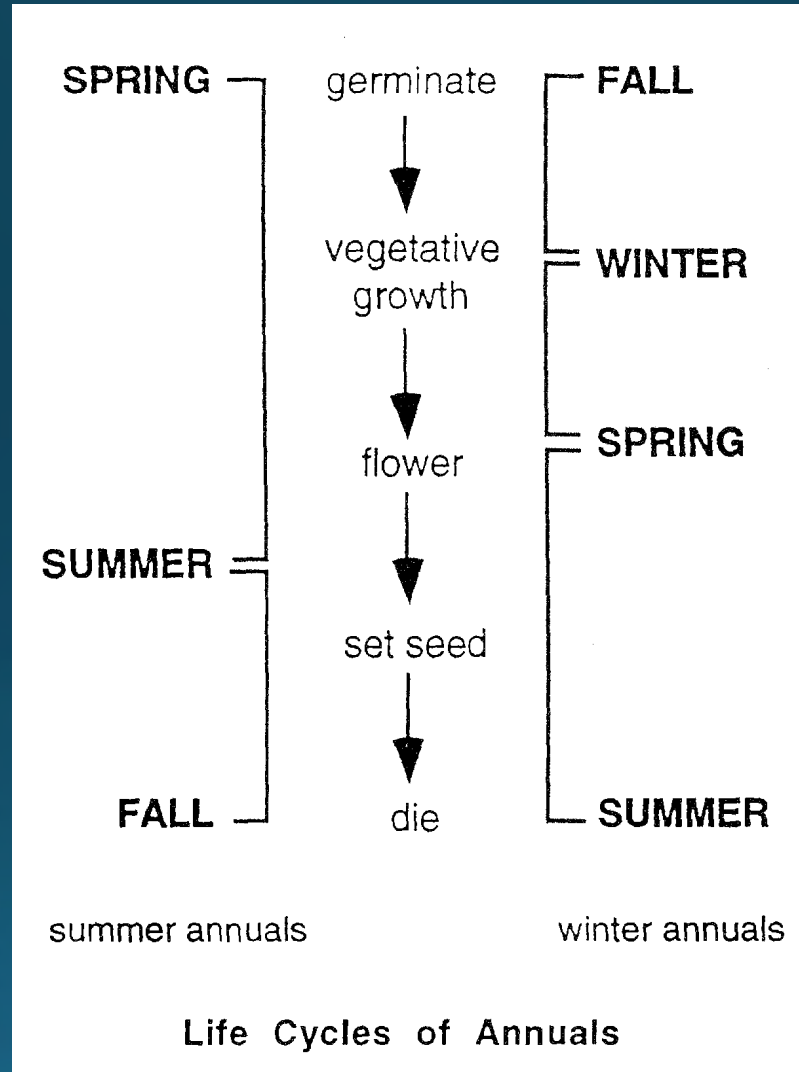
- Annuals – complete their life cycle in less than one year
- Biennials – take up to two years to complete their life cycle
- Perennials – live more than two years

# Two types of annual weeds

- Warm-season annuals
  - germinate late spring through summer
- Cool-season annuals
  - germinate fall through early spring
- Exceptions
  - some weeds are adaptable to either growth period

# Two types of annual weeds

e.g.  
kochia



e.g.  
tumble  
mustard



# Biennials

- The first year the vegetative stage of the plant is formed, usually a rosette of basal leaves along with a large root system (taproot)
- The second year the biennial plant develops flowers, sets seed, matures and dies
- Common mullein



# Perennials

- Typically has a life cycle of more than two years
- Herbaceous perennials die back to the ground during winter, and then resume growth from buds on the rootstock the next spring
  - Vs. Woody perennials
- Most perennials reproduce by seed and many reproduce vegetatively also

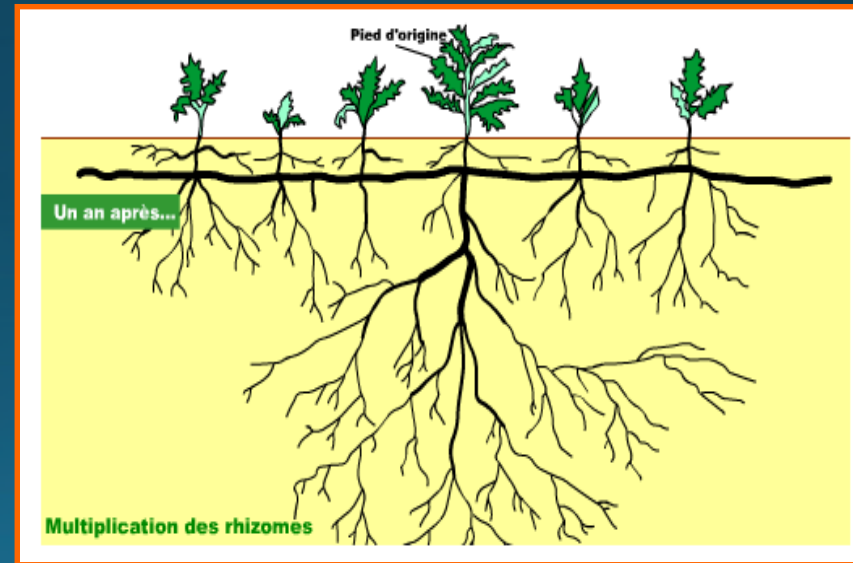
# Perennials

- Perennials can be classified as simple; having a taproot, re-sprouting from crown buds on the taproot, and spreading by seed
- Dandelion



# Perennials

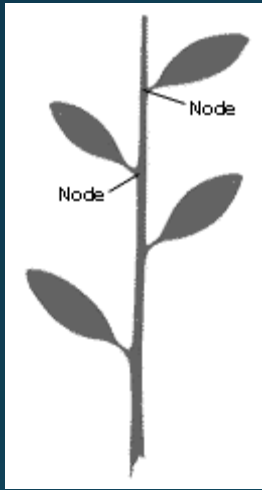
- Also creeping; having creeping roots or creeping stems (rhizomes/stolons), and can reproduce by seed
- Canada thistle



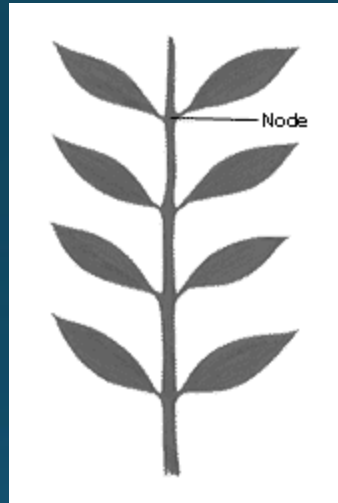




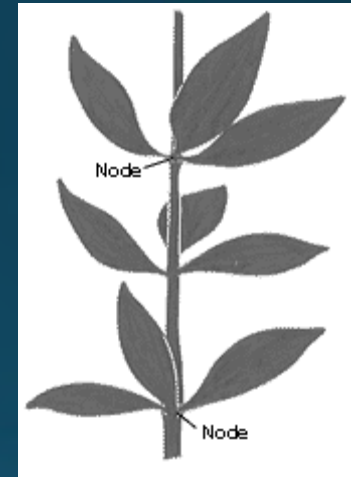
# Leaf Arrangement



Alternate

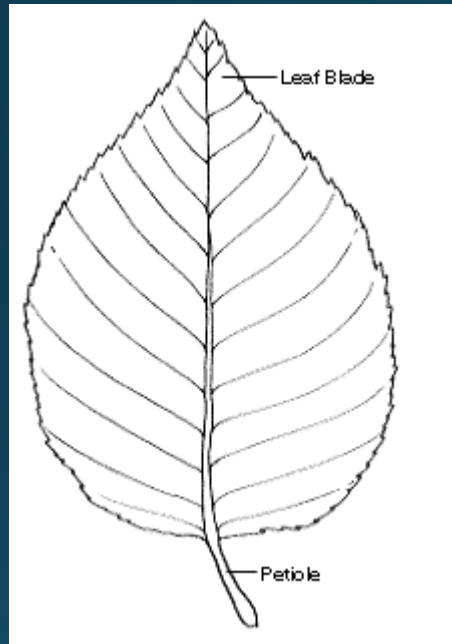


Opposite

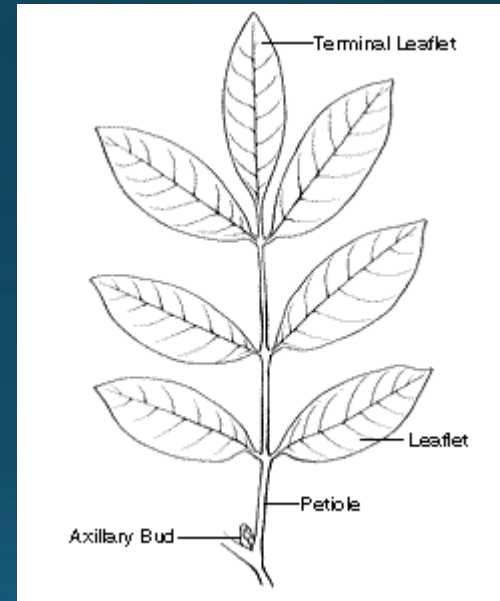


Whorled

# Leaf Type



Simple

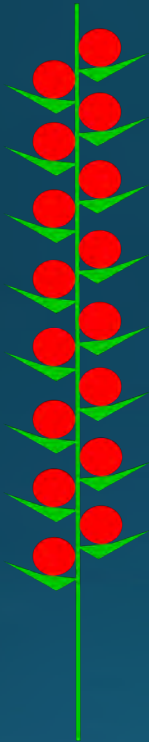


Compound

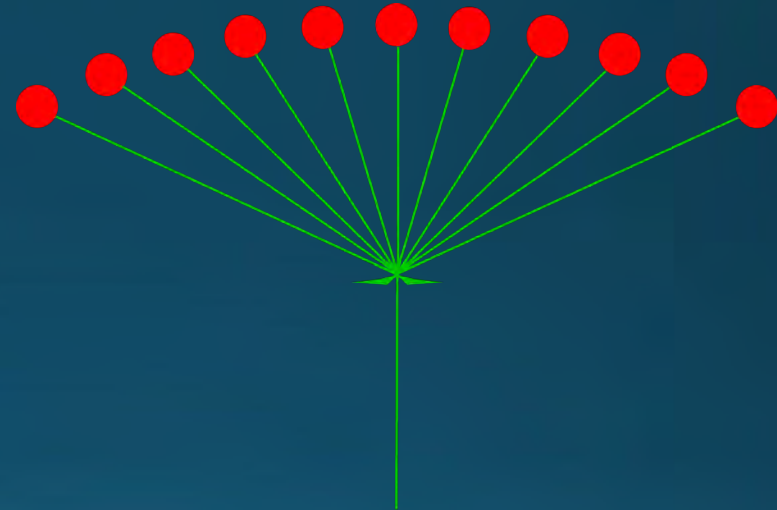
# Inflorescence Type



Raceme



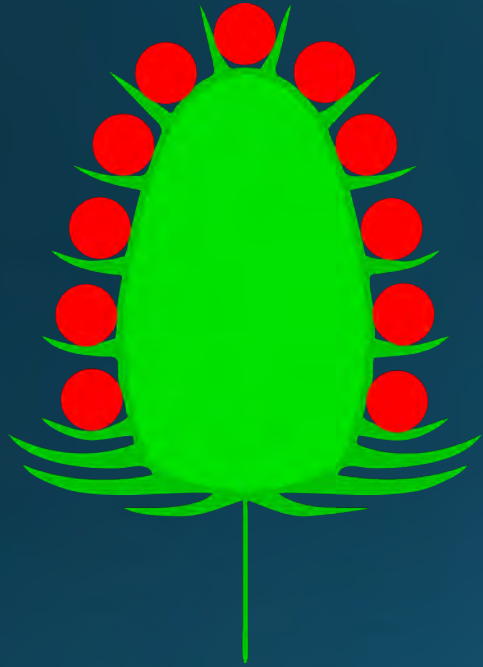
Spike



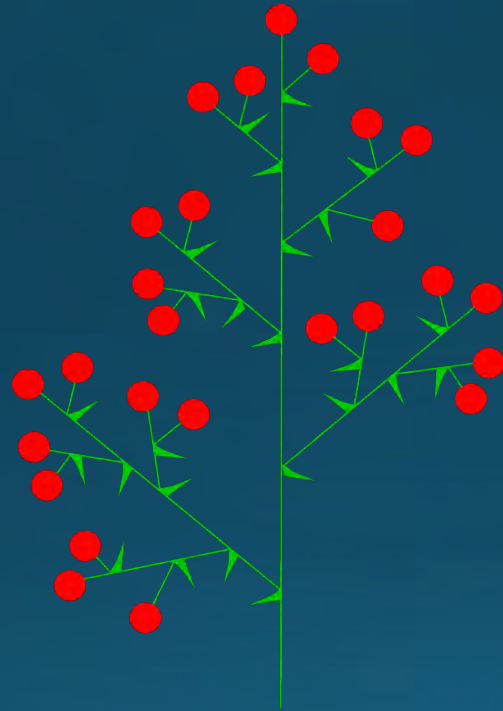
Umbel



# Inflorescence Type



Head



Panicle

Several  
Others

# Resources

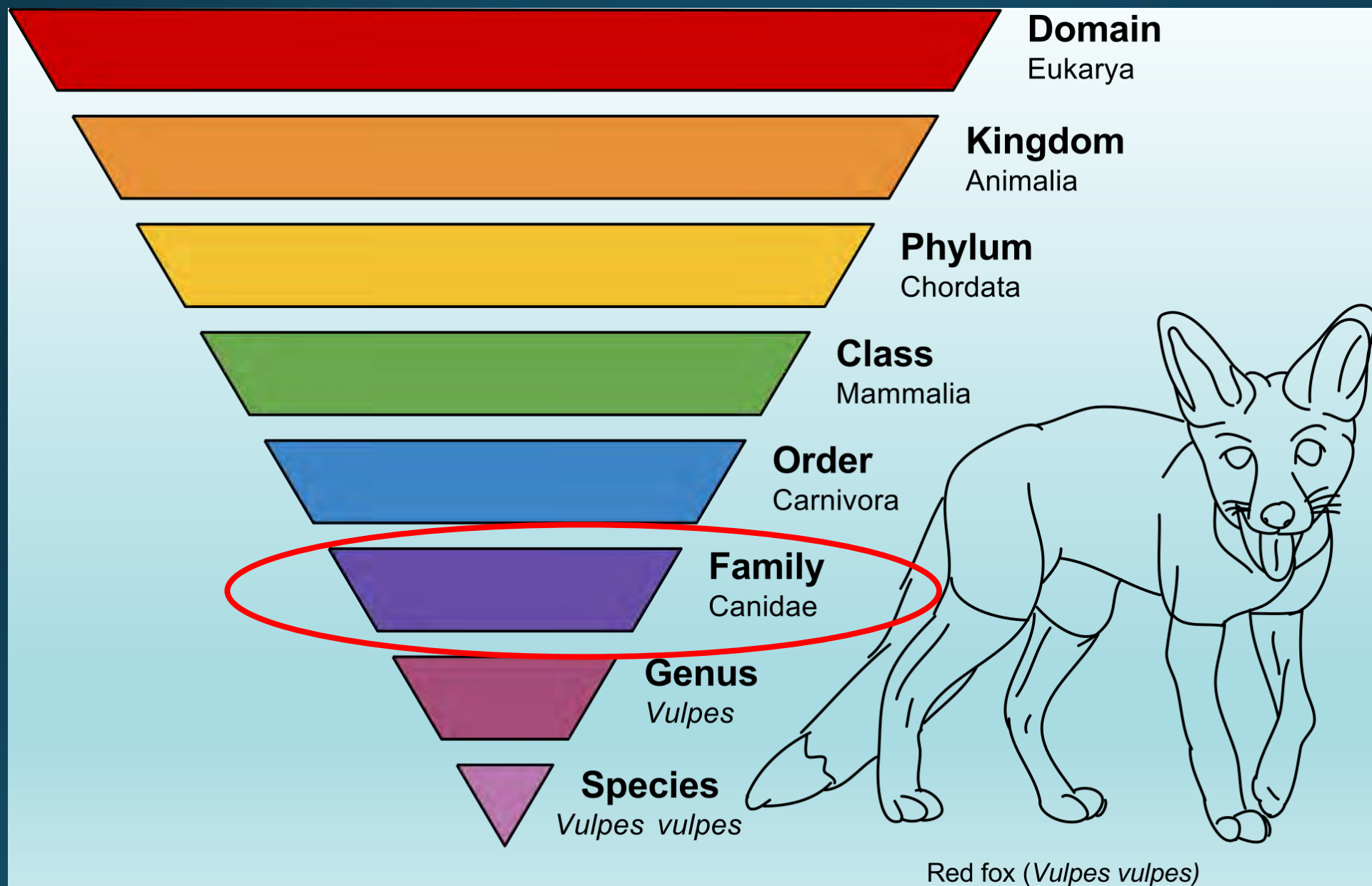
- County weed list
  - <https://www.jeffco.net/publicworks/page/weed-control-and-abatement>
- OSU Extension
  - 850 NW Dogwood Lane



# Noxious Weeds in Jefferson County

- Class A: Highest priority for eradication
    - 22 species
  - Class B: Found in abundance, need to be localized
    - 16 species
  - Class C: Eradication not likely, needs control
    - 9 species
- 
- 47 total



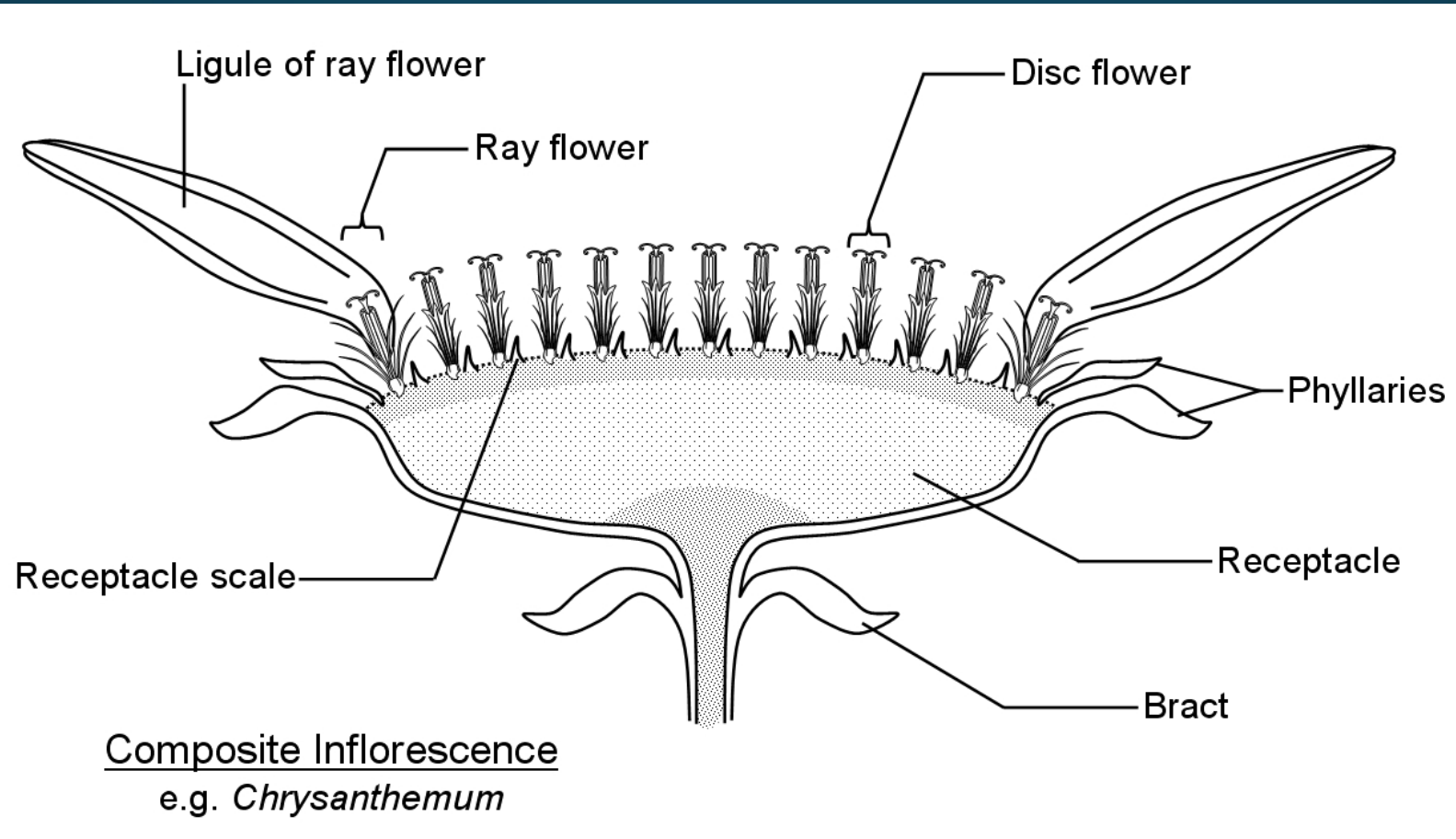


Red fox (*Vulpes vulpes*)

# Asteraceae (Sunflower)

- Largest family of vascular plants, huge variability
- True thistles, knapweeds, dandelion, daisy, chrysanthemum, marigold, lettuce, artichoke, yarrow, etc.
- Characterized by numerous small flowers in a head resembling a single large flower.
- Many spp. have tufted or bristled fruit to aid in distribution.
- Stems may often have milky juice
- Below the head is a series of bracts

# Asteraceae Inflorescence



# Asteraceae spp. Jefferson Noxious

- 16 out of 47
- Class A
  - Purple starthistle, Meadow knapweed, musk thistle, rush skeletonweed, scotch thistle, spotted knapweed, squarrosa knapweed, tansy ragwort, yellow starthistle
- Class B
  - Canada thistle, Canada goldenrod, common groundsel, diffuse knapweed, maretail, Russian knapweed
- Class C
  - Western salsify



# Scotch thistle



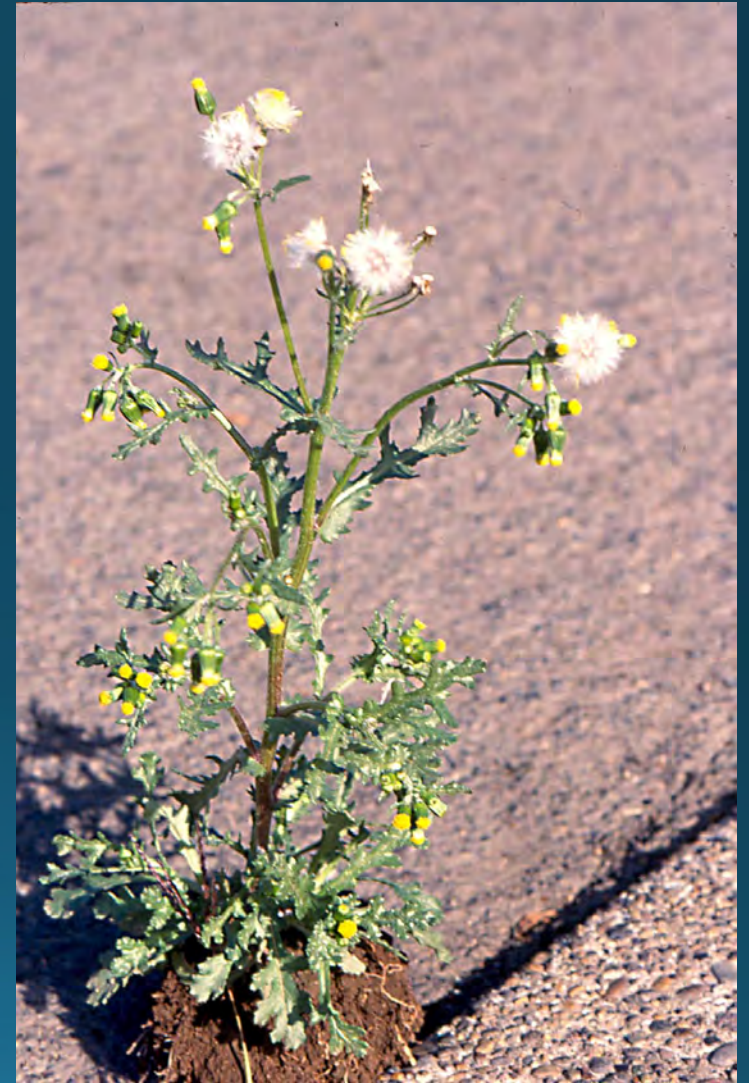


# Canada thistle





# Common groundsel





# Tansy ragwort





# Knapweeds



Spotted



Diffuse



Russian

Diffuse



Spotted

Russian



# Knapweeds



Spotted and Diffuse



Russian

# Yellow starthistle





# Marestail





# Western salsify



# Poaceae (Grass)

- Corn, rice, wheat, turfgrass, bunchgrass, etc.
- Leaves have parallel veination and are composed of blade and sheath.
  - Sheath may be open or closed
- Stem (culm) is usually hollow with conspicuous nodes.

# Poaceae spp. Jefferson Noxious

- 8 out of 47
- Class A
  - Jointed goatgrass, slender false brome, ventenata\*
- Class B
  - Quackgrass
- Class C
  - Medusahead, rattail fescue, wild oat

\*class varies depending on location



# Jointed goatgrass



# Ventenata





# Medusahead





# Quackgrass





# Wild oat





# Rattail fescue





# Brassicaceae (Mustard)

- Broccoli, cauliflower, cabbage, canola, radish, etc.
- Leaves are usually alternate, simple, lobed
- Inflorescence is a raceme
- Four petals on flowers
- Seeds are borne in short, round pods or long, slender pods

# Brassicaceae spp. Jefferson Noxious

- 5 out of 47
- Class A
  - Perennial pepperweed
- Class B
  - Flixweed, tumble mustard, white top (hoary cress)\*
- Class C
  - Purple mustard

\*class varies depending on location

# Perennial pepperweed





# Whitetop (hoary cress)





# Flixweed





# Tumble mustard





# Chenopodiaceae (Goosefoot)

- Spinach, beet, Swiss chard, quinoa
- Leaves are alternate or opposite with goosefoot shape
- Stems are grooved or angular, often with red or light green stripes
- Flowers are small and inconspicuous

# Chenopodiaceae spp. Jefferson Noxious

- 2 out of 47
- Class B
  - Kochia, Russian thistle

# Kochia





# Russian thistle



# Euphorbiaceae (Spurge)

- Poinsettia, rubber tree, castor oil
- Leaves are simple or compound
- Stems exude milky latex when broken
- Flowers are small, may be subtended by sharp bracts
- Many are poisonous



# Euphorbiaceae spp. Jefferson Noxious

- 2 out of 47
- Class A
  - Leafy spurge
- Class B
  - Myrtle spurge

# Leafy spurge



# Fabaceae (Pea)

- Pea, bean, clover, alfalfa, lentil, peanut, trefoil
- Leaves are alternate and compound
- Flowers are composed of a free banner, two lateral wings, and keel
- Fruit is a legume pod

# Fabaceae spp. Jefferson Noxious

- 2 out of 47
- Class A
  - Scotch broom
- Class B
  - Yellow sweet clover



# Scotch broom



# Polygonaceae (Buckwheat)

- Buckwheat, rhubarb, common sorrel
- Leaves are alternate and simple
- Stems have swollen nodes with a prominent sheath surrounding the stem
- Flowers are small and inconspicuous; no petals
- Fruit is triangular or lens shaped

# Polygonaceae spp. Jefferson Noxious

- 2 out of 47
- Class A
  - Japanese knotweed
- Class B
  - Curly dock



# Japanese knotweed





# Curly dock



# Scrophulariaceae (Figwort)

- Snapdragon, penstemon, foxglove
- Wide variation in family characteristics
- Flowers are mouth-like, arranged in spike or raceme



# Scrophulariaceae spp. Jefferson Noxious

- 2 out of 47
- Class A
  - Dalmation toadflax
- Class C
  - Common mullein

# Common mullein



# Solanaceae (Nightshade)

- Potato, tomato, tobacco, eggplant, peppers
- Leaves are alternate
- Inflorescence has 5 petals
- Many members contain alkaloids



# Solanaceae spp. Jefferson Noxious

- 1 out of 47
- Class A
  - Buffalobur



# Apiaceae (Parsley)

- Carrot, parsley, celery, coriander/cilantro, dill, etc
- Leaves are alternate or all basal, simple to compound, often odoriferous
- Stems are often hollow
- Inflorescence is composed of simple or compound umbel of flowers



# Apiaceae spp. Jefferson Noxious

- 1 out of 47
- Class A
  - Wild carrot





# Convolvulaceae (Morningglory)

- Sweet potato
- Leaves are alternate often heart-shapes or arrowhead-shaped.
- Twining growth habit
- Inflorescence is showy, with 5-petaled trumpet-shaped flowers

# Convolvulaceae spp. Jefferson Noxious

- 1 out of 47
- Class B
  - Field bindweed



# Lamiaceae (Mint)

- Peppermint, spearmint, catnip, basil, rosemary, sage, oregano, thyme, lavender, marjoram, etc.
- Leaves are opposite or whorled
- Stems are square
- Often odoriferous
- Inflorescence is solitary, arranged in heads; flowers are mouth-like, borne in leaf axils.



# Lamiaceae spp. Jefferson Noxious

- 1 out of 47
- Class C
  - Henbit



# Other single spp. families

- Haloragaceae (Watermilfoil)
  - Class A: Eurasian watermilfoil
- Hypericaceae
  - Class C: St Johnswort
- Iridaceae (Iris)
  - Class A: Yellow flag iris
- Lythraceae
  - Class A: Purple loosestrife
- Zygophyllaceae (Caltrop)
  - Class B: Puncturevine



# Purple loosestrife





# Puncturevine

