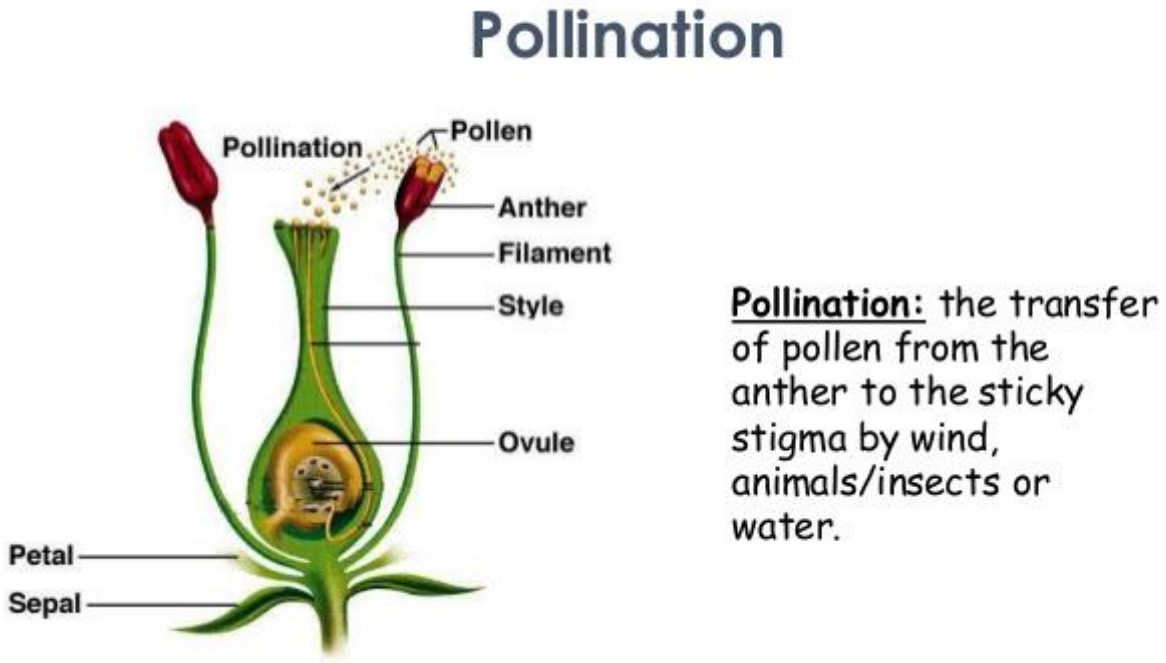

Yankton
Seed Library

Ready, Set, Go

- Presented by Missouri Valley Master Gardeners

Pollinators

- Bees
- Butterflies
- Moths
- Beetles
- Flies
- Birds
- Bats



Bees

- Bumble Bee

- Sweat Bee

- Carpenter Bee

- Digger Bee

- Mason Bee

- Cactus Bee

Butterflies

- Brush footed

- Gossamer

- Swallowtail

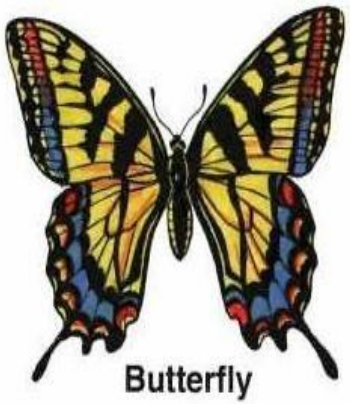
- Parnassian

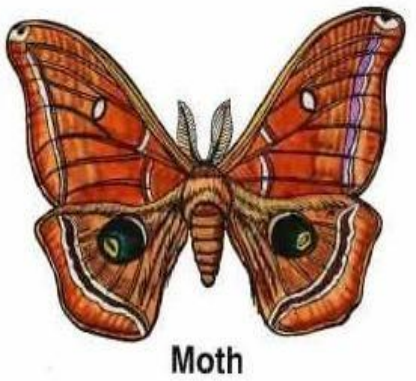
- Skipper

- White

Moths vs Butterflies

- Moth
  - Antennae-simple to feathered with no swelling
  - Active at night
  - Bodies hairy and more stout
  - Attracted to blossoms that are strong sweet smelling, opening in late afternoon and white or pale color
- Butterfly
  - Antennae-simple with swelling at the end
  - Active during day
  - Bodies not very hairy
  - Attracted to bright blossoms





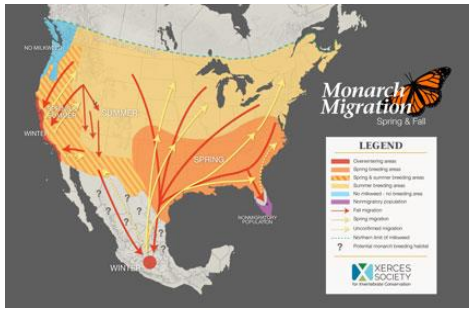
Humming Birds

- Bright color tubular flowers
- Their long beaks and tongues draw nectar
- Beaks and feathers carry pollen
- Can see the color red

Bats, Beetles and Flies

Monarch

- SD on migration route



- Population has dropped 90% since 1999
- Milk weed is host plant

- Milk week is a deciduous perennial

- Seeds need stratification 3 weeks to 3 months in cold moist environment

What to Plant for Pollinators

- Nectar and pollen-rich plants
- Wildflowers
- Old-fashioned varieties of flowers
- A succession of blooming annuals, perennials and shrubs
- Plants like dill, fennel and milkweed that butterfly larvae feed on

Plants for Butterflies

- Alyssum
- Aster
- Bee balm
- Butterfly bus
- Calendula
- Cosmos
- Daylily
- Delphinium
- Dianthus
- Fennel
- Globe thistle
- Goldenrod
- Hollyhock
- Lavender
- Liatris

- Marigold
- Musk mallow
- Nasturtium
- Oregano
- Phlox
- Purple coneflower
- Queen Anne's lace
- Sage
- Scabiosa
- Shasta daisy
- Stonecrop
- Verbena
- Yarrow
- Zinnia

For Butterfly Larva

- Borage
- Fennel
- Grasses
- Hollyhocks
- Lupine

- Milkweed
- Nettle
- Thistle
- Willow

Plants for Hummingbirds

- Ajuga
- Bee balm
- Begonia
- Bleeding heart
- Butterfly weed
- Canna
- Cardinal flower
- Century plant
- Columbine
- Coral bells (heuchera)
- Cleome
- Crapemyrtle
- Dahlia
- Dame's rocket
- Delphinium
- Fire pink
- Four o' clocks
- Foxglove
- Fuchsia
- Gilia
- Geranium
- Gladiolus
- Hollyhocks
- Impatiens
- Iris
- Lantana
- Liatris
- Lily
- Lupine
- Nasturtium
- Nicotiana
- Paintbrush
- Penstemon
- Petunia
- Phlox
- Sage
- Salvia
- Scabiosa
- Scarlet sage
- Sweet William
- Verbena
- Yucca
- Zinnia

Plants for Bees

- Allium
- Aster
- Basil
- Bee balm
- Blanket flower
- Borage
- Cosmos
- Flax
- Four o'clock
- Gaillardia
- Geranium
- Giant hyssop
- Globe thistle
- Goldenrod
- Hyssop
- Joe-pye weed

- Lavender
- Lupine
- Marjoram
- Mint
- Paint brush
- Poppy
- Rosemary
- Sage
- Skullcap
- Sunflower
- Thyme
- Verbena
- Wallflower
- Wild rose
- Zinnia

Soil Preparation

- ‘No-till’ gardening, once the bed is established it is never disturbed
- Digging into the bed can interfere with disturb the natural growing environment
- It can also cause soil compaction and erosion, and bring dormant weed seeds to the surface where they will sprout
- Amendments such as compost, manure, peat, lime and fertilizer are ‘top dressed’, added to the top of the bed where they will be pulled into the subsoil by watering and the activity of subsoil organisms
- Worms and other soil life tunnels providing aeration and drainage, and their excretions bind together soil crumbs
- More balanced soil population allowed to build up in undisturbed environment by encouraging the buildup of beneficial soil fungi

Mulch

- Mulch is an essential part of no-till gardening
- A thick layer of mulch will keep the soil from drying out and crusting over, which restricts nutrient and water flow to the subsoil
- It also reduces water loss due to evaporation
- Mulch will provide cover for soil insects and often dramatically increases the earthworm population
- Use straw instead of hay because fewer weed seeds are found in straw, leaves from deciduous trees add valuable nutrients to the soil but should not be layered too thickly, thick layers of leaves can form ‘mats’ which restrict water penetration

Seed Starting

- Lets you get a jump on spring
- You know how your plants started, keep it organic
- Allows you to experiment with more varieties
- Cost

Seeds

- Consult the seed packet or Garden Planner for when to start seeds
- Best choices are plants native to warmer climates
- May need to use more seeds if the seeds were packaged for prior years

Containers

- Anything goes
- Drainage is important
- Clean containers and sterilize them in a solution of 1 part bleach to 9 parts water
- Large volume gardeners often do a two-step: They closely sow seeds in a shallow tray until they sprout, or germinate. Then they gently pick the small sprouts out and transplant them to larger containers
- A cover keeps the seeds moist

Soil

- Start seeds in a fresh, sterile seed-starting mix that is light and fluffy to hold just enough moisture
- Do not use soil from your garden or re-use potting soil from your houseplants
- A general formula you can make
  - 4 parts compost
  - 1 part perlite
  - 1 part vermiculite
  - 2 parts fiber

  Or equal parts of perlite, vermiculite, and peat. Add 1/4 teaspoon of lime to each gallon of mix to neutralize the acidity of the peat

  Moisten mixture before you put in container

Light

- Most critical for maximum, success 16 hours is ideal
- Uncover and put seedlings in bright light as soon as they sprout
- Most gardeners use artificial lights make sure seedlings get enough light
- fluorescent lights can be used
  - two sets of double 48-inch tubes topped by metal reflector shades and hung on chains above the seedlings, no more than 4 inches away
  - rotating my seedling collection so each tray receives 12 hours of light daily

Warmth

- Germination is the sprouting stage, when the embryo of the plant emerges from the seed
- You will need gentle warmth (not harsh heat)
  - by setting the containers on top of a refrigerator or dryer
  - by propping them a few inches above (not on) a radiator
  - or by using special heating mats sold for the purpose

Water

- Check daily
- Use mister or a small watering can to keep the soil moist but not soggy
- Let the soil dry slightly between watering
- Set up a fan to ensure good air movement and prevent disease
- Feed the seedlings regularly with liquid fertilizer, mixed at the rate recommended on the package

Hardening off

- Getting your seedlings acclimatized to life outdoors
- Start 2 to 3 weeks before the estimated last frost date
- During the days place in a protected out door location
- Increase their exposure to the elements a little more each day, but bring them in overnight
- Eventually they stay out 24/7
- When conditions are favorable, plant everything in prepared garden beds or containers