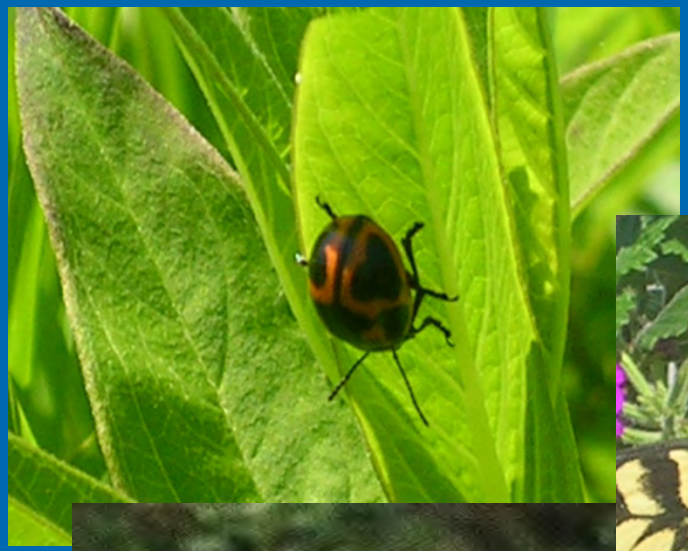
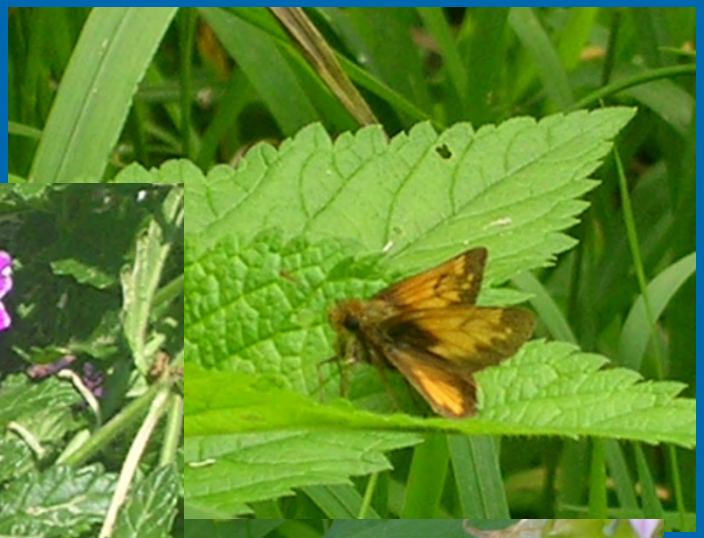
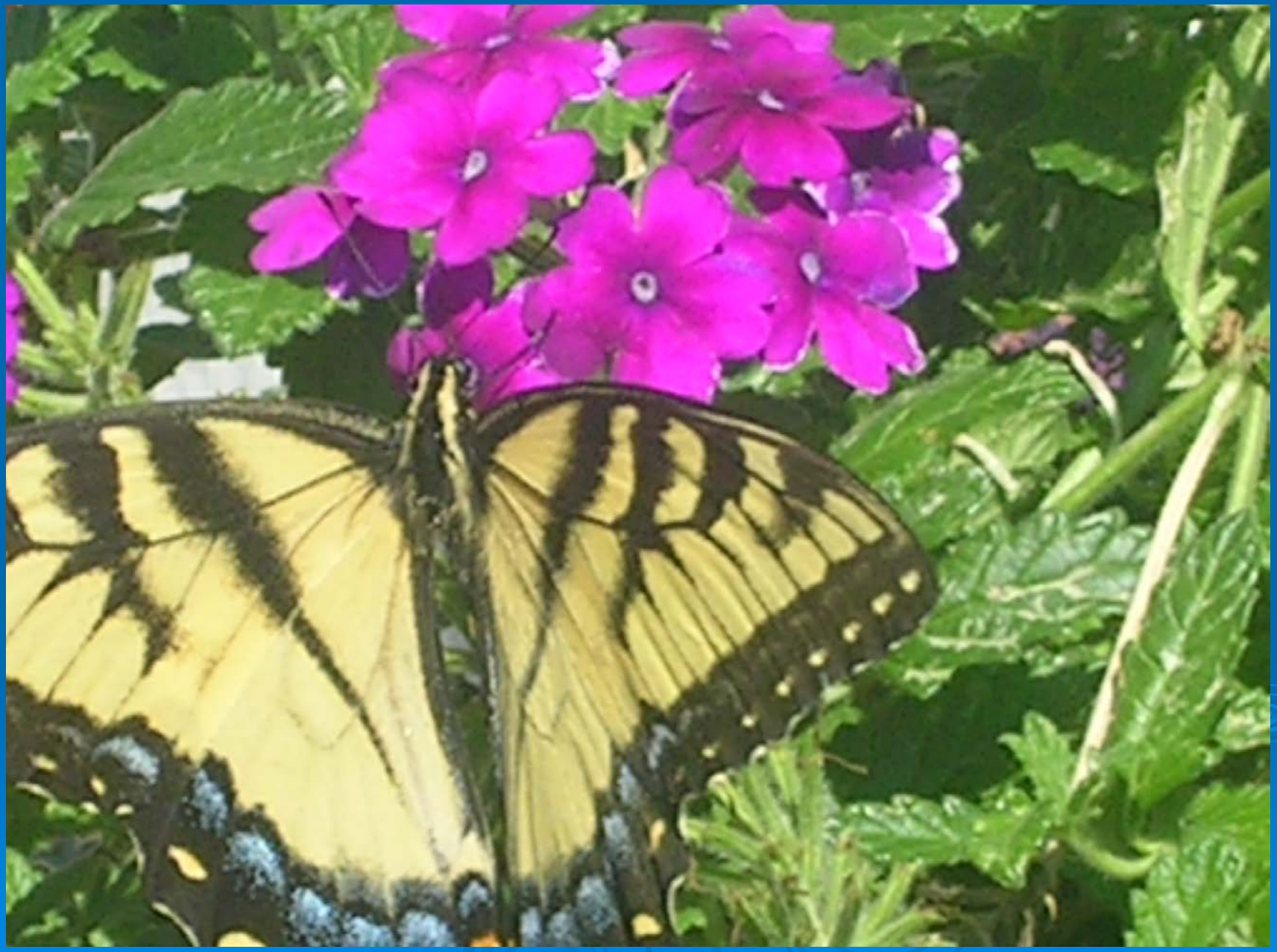
Create a Native Plant Wildlife Garden







Raingardens and Wildlife Gardens are Conservation Practices

- Every conservation practice is multiplied many times over to save our environment.

Keeping Our Soils Healthy

THE OHIO STATE UNIVERSITY EXTENSION

SUMMIT COUNTY COMMUNITIES FOR CLEAN STORM WATER

SUMMIT Soil & Water Conservation District

Healthy soil performs many functions-it can serve as a:

- Sponge, soaking up excess rainwater and slowing down runoff.
- Spigot, turning water flow on and off by storing and releasing water for plants.
- Snare, trapping urban pollutants such as oil, metals, and pesticides.
- Strainer, filtering and purifying the air and water that percolate through it.
- Supermarket, supplying valuable nutrients and antioxidants to plants.

Native soils can easily perform these functions.

Disturbed Soils Need Help!

Best Management Practices-(BMP's), During Construction

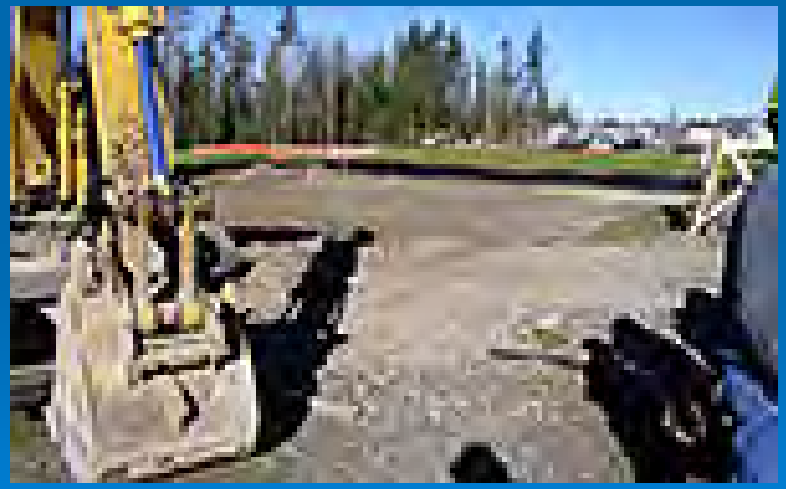
Retain and protect native topsoil and vegetation where practical.

Restore disturbed soils:

- Stockpile and reuse good quality site soil.
- Till 2-3" of compost into poor site soils.
- Bring in 8" of compost-amended topsoil.
- Loosen compacted subsoil by ripping to 12."
- Mulch landscape beds after planting.
- Protect restored soils from erosion or re-compaction by heavy equipment.

Successful BMPs

- Preserving vegetation
- Stockpiling topsoil



- Amending existing soil with topsoil.

What you can do to keep your own soil healthy.

Invest In Your Own Backyard

Don’t Guess

Soil Test

Know Your Own soil

- Know the soil types on your property-use the county soil maps and soil test.
- Know the fertility and organic content ratio-provided by the soil test.
- Know prior land use-county records.
- Summit county soil maps are available in book form, on cd's, and on-line.

Fertility Can Fluctuate

- Quantity and quality of available nutrients are altered by:

  Leaching-(downward movement of materials in solution).

  Addition of fertilizers, manure, compost, mulch, lime, and sulfur.

  Mineral nutrients are removed by plant growth and development.

  Mineral nutrients are removed by harvesting of vegetable gardens.

Ph Is Important

- Ph is an indication of the acidity of the soil.
- Ph 7 is neutral. Below 7 is acid. Above 7 is basic.
- Your soil tests provides the ph information.

Know Your Soil PH

- Most turf grasses, flowers, ornamental shrubs, vegetables, and fruits, grow best in slightly acid soils.

More About PH

- Plants such as rhododendron, azalea, mountain laurel, and blueberries, require a more acidic soil to grow well.

PH Influences Soil Nutrients

- Most soil nutrients are available when ph is 6.5.
- When ph is above 6.5, phosphorus, iron, manganese, copper, and zinc will become less available.
- When soil ph drops below 6.5, manganese and aluminum can reach a toxic level for some sensitive plants, and important microbial activity is greatly reduced.

Keeping a Healthy Soil PH

- If your soil is acidic, you can add lime in the fall to raise the ph to be more alkaline.
- If your soil is alkaline, you can apply sulfur in the spring to lower the ph to be more acidic.

All lawn and garden care programs should begin with a soil test

- A soil test tells you which nutrients are deficient in your soil.
- The test provides specific fertilizer recommendations.
- The test will help to avoid over-fertilization.
- Fertilizers are one source of non-point source pollution, which accounts for 60% of the water quality problems in Ohio.
- When it rains, excess fertilizer runs off into the storm sewers, and ends up in our rivers and lakes.

Excess Fertilizer Can Cause Eutrophication

Problems resulting from excess fertilizers in our waterways:

- Poor storm water quality
- Dead fish and aquatic animals
- Loss of habitat and species richness
- Weed-choked lakes and recreation sites
- Flooding

This is how it works.

- Excess nutrients cause algal blooms.
- Sunlight is cut off, stopping photosynthesis in underwater plants.
- Nesting and habitat sites are fouled.
- Decomposing algae use up all the oxygen.
- Fish and other aquatic creatures have no oxygen, no food, and no place to nest and reproduce.
- Dead zones are created in our lakes and oceans.

Know Your Fertilizer

The fertilizer label is important because it tells you the percentage of nutrients in the bag.

- Nitrogen is for greeness-promotes leafy top growth.
- Phosphate gives phosphorus for root growth.
- Potash gives potassium which promotes winter hardiness, disease resistance, and general plant durability.

Ways to Improve Your Soil

- Composting

- Mulching
- Using organic fertilizer

Composting

- Recycle yard waste

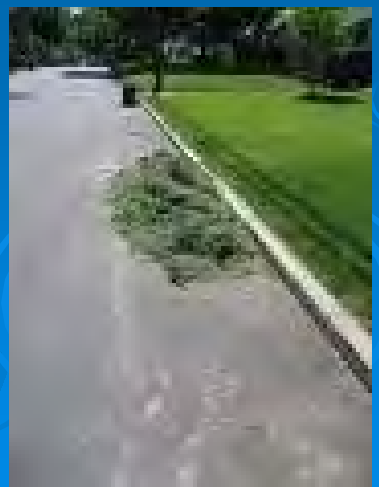
  Leaves, chopped stalks, flowers, and grass, make great compost.

  Instead of raking clippings and leaves in the street to go down the storm drain, put them in a pile, add water, turn frequently, and make great compost.

  Turning over frequently will speed up the process.

This

Not this



Mulching

- Mulch feeds the soil, conserves water and prevents weed growth.
- Add a layer of organic material such as leaves, wood chips, compost or grass clippings around your plants, (keeping it an inch away from stems,) in the spring or fall.
- Spread one to two inches over garden beds, sprinkle one-half to three-fourth inch on lawns , and till one to four inches into new garden beds and lawns.

Mulching

Healthy Lawn Practices Improve Soil

- Mow high-makes stronger, healthier grass.
- Fewer insect problems.
- More leaf surface for photosynthesis.
- Thicker, deeper roots, for drought survival.
- Keep blades sharp and mow often.
- Never mow more than 1/3 of height.
- Leave short clippings on the lawn.
- Clippings add nitrogen, reducing nitrogen needs by 25%-50%.
- Saves on fertilization costs.
- Saves 20% on solid wastes collected.

More healthy practices

- Aerate your lawn to prevent thatch, usually in the fall.
- Thatch creates impervious ground cover.
- Use smart watering with rainbarrels and stormwater.
- Use manual power tools.
- Create wildlife habitat.
- Plant native plants.
- Install a raingarden.
- Use integrated pest management.
- Save money-little or no use of synthetic fertilizer, pesticide, or herbicide.

Healthy Lawn Practices

If you must fertilize, choose wisely

- Organic fertilizers are slow-release. These are best used where the soil is moist and warm and promotes microbial activity. Fast release fertilizers are useful because their nutrients are immediately available to plants but plants only take up what they can use and the unused fertilizer ends up in the lake. Fewer applications are needed with slow-release fertilizers.

Timing is Everything

- Begin lawn fertilization in early October, not early May.
- Spring application can harm a lawn by promoting too much top growth.
- Shallow root systems are not able to sustain a lawn through a drought or harsh winter.

Autumn Fertilizing

- Begin applying when temperature drops to 50 degrees f.
- To calculate the average daily temperature, add the daily high and the daily low, and divide by 2.
- Fertilizer rates should be based on soil test results.
- Fall nitrogen fertilizers should be water-soluble and contain nitrate or ammonia forms of nitrogen, such as urea.

- Smart watering:
- Plants do best if the soil is allowed to dry out between waterings.
- A loss of shine on the ground, or lack of footprints, indicates that it is time to water.
- Vegetables and other annuals should be watered at the first sign of wilting.
- Perennials are tougher, and need water only if they stay droopy after it cools off in the evening.
- Trees and shrubs usually don’t need any watering once their roots are fully established, (two to five years,) except in very dry years.

Who Benefits From Healthy Soil? We All Do!