



Maryland Native and Beneficial Plants

Backyard Actions for a cleaner Chesapeake Bay

Flowering Perennials

(common and scientific name)

- Bee Balm (*Monarda fistulosa*)
- Butterfly Weed (*Asclepias tuberosa*)
- Cardinal Flower (*Lobelia cardinalis*)
- Eastern or Wild Columbine (*Aquilegia canadensis*)
- Foxglove Beardtongue (*Penstemon digitalis*)
- Goldenrod (*Solidago* spp.)
- Hollow Joe Pye Weed (*Eutrochium fistulosum*)
- New England Aster (*Symphotrichum novae-angliae*)
- Phlox (*Phlox* spp.)
- Spiderwort (*Tradescantia virginiana*)
- Virginia Bluebells (*Mertensia virginica*)
- Wild Geranium (*Geranium maculatum*)

Shrubs (common and scientific name)

- Arrowwood Viburnum (*Viburnum dentatum*)
- Black Haw (*Viburnum prunifolium*)
- Blueberry (*Vaccinium* spp.)
- Chokeberry (*Aronia* spp.)
- New Jersey Tea (*Ceanothus americanus*)
- Pinxterbloom, pink azalea (*Rhododendron periclymenoides*)
- Spicebush (*Lindera benzoin*)

Trees (common and scientific name)

- American Holly (*Ilex opaca*)
- Eastern Redbud (*Cercis canadensis*)
- Fringe Tree (*Chionanthus virginicus*)
- Ironwood (*Ostrya virginiana*)
- Red Buckeye (*Aesculus pavia*)
- Red Maple (*Acer rubrum*)
- Serviceberry (*Amelanchier canadensis*)



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HOME & GARDEN INFORMATION CENTER

extension.umd.edu/hgic

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Includes Climate-Friendly Gardening Tips



Like farmers, homeowners play an important role in protecting our soil and water resources—especially the Chesapeake Bay. Here are eight conservation measures—best management practices—that farmers use to produce healthy crops, combat climate change, and protect water

quality in the Chesapeake Bay and its tributaries. Homeowners can apply these same conservation measures to home, lawn, and garden projects. Working together, we can make a difference for the Bay and help fight climate change.



8 Conservation Tips *from Maryland Farmers*



1

try pesticide alternatives



Many farmers rely on a practice known as Integrated Pest Management (IPM) to control insects and weeds with fewer pesticides. IPM requires farmers to monitor their fields regularly to keep track of insects, diseases, and weeds. A range of management practices is used only if pests reach threatening levels or begin to cause serious crop or plant damage. Many of the options used in IPM are available through local garden shops and online seed and garden supply companies. Here are a few to consider:

Biological Controls

- ✿ Encourage beneficial insects (pollinators and natural enemies of insect pests) in your yard by planting flowers and herbs and avoiding the use of insecticides.
- ✿ Place bird or bat houses in the garden.
- ✿ Ladybugs and lacewings in your landscape help control aphids, mealy bugs, and some scales.

Physical Controls

- ✿ Remove weeds and insect pests by hand.
- ✿ Use a floating row cover to protect vegetables from insect pests. Remove the cover for insect-pollinated crops when they begin flowering.
- ✿ Wash away pests with water instead of spraying pesticides.

Cultural Controls

- ✿ Choose native plants or those that are resistant to pests and diseases.
- ✿ Select plants that flower and bear fruit at different times of the year.



- ✿ Rotate vegetables to help cut down on disease and insect problems.
- ✿ Remove diseased and dying plants during the summer and compost or discard garden residues in the fall.

If Necessary, Use Least Toxic Sprays

- ✿ Help protect humans, pets, wildlife, and beneficial insects by applying a pesticide only where it is needed. Do not blanket the spray over an area.
- ✿ Spray horticultural oils on plants during dormancy to kill overwintering insects and mites. Oils also may be used during the growing season to control spider mites, aphids, and whiteflies on ornamentals.
- ✿ Use insecticidal soaps to kill a variety of pests on contact, including spider mites, whiteflies, and scale insects.
- ✿ Use Bt (*Bacillus thuringiensis*) to control young caterpillars.



2 use fertilizers responsibly

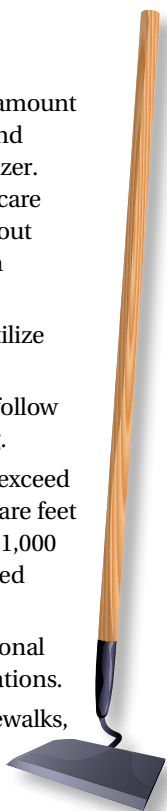


Every farmer knows that nutrients are essential for healthy crop and plant growth. Homeowners, too, have been quick to learn the benefits of fertilizers in sustaining beautiful lawns, gardens, and landscape plants. But over-applying fertilizers is not good for plants or the environment.

Maryland's Lawn Fertilizer Law

Maryland's Lawn Fertilizer Law limits the amount of nutrients that can be applied to lawns and restricts phosphorus content in lawn fertilizer. The goal is to help homeowners and lawn care professionals maintain healthy lawns without applying unnecessary amounts of nitrogen and phosphorus.

- ✿ Hire only certified professionals to fertilize lawns.
- ✿ If you are a do-it-yourselfer, read and follow all label directions on the fertilizer bag.
- ✿ A single fertilizer application may not exceed 0.9 pound total nitrogen per 1,000 square feet and 0.7 pound of soluble nitrogen per 1,000 square feet except when using enhanced efficiency fertilizer.
- ✿ Visit extension.umd.edu/hgic for seasonal and yearly lawn fertilizer recommendations.
- ✿ Keep fertilizer away from streams, sidewalks, and driveways. Clean up spills.
- ✿ Do not apply phosphorus to lawns unless a soil test indicates that it is needed or the lawn is being established, patched, or renovated.
- ✿ Do not apply lawn fertilizer between November 16 and March 1, when the ground is frozen, or if heavy rain is predicted.
- ✿ Do not use fertilizers to de-ice walkways and driveways.



Follow Maryland's Lawn Fertilizer Law

Farmers test their soil to determine the precise amount and type of fertilizer needed for a healthy crop. This helps prevent excess nutrients from polluting waterways. Visit extension.umd.edu/hgic for soil testing information and a video on how to take a soil sample.



Understanding Fertilizers

Fertilizer packages are labeled with three numbers that indicate the percentage by weight of the three main plant nutrients: nitrogen, phosphorus, and potassium (N, P, K). Nitrogen promotes leafy top growth, phosphorus encourages root, flower, and fruit production, and potassium fosters hardiness and disease resistance. Apply only the nutrients needed according to the soil test results and never exceed University of Maryland recommended rates.

When to Test



- ✿ New lawns: test after grading, but before seeding
- ✿ Vegetable gardens: test every three years
- ✿ Established lawns, landscape plants, and perennial gardens: test every three years



3 *control soil erosion*



Farmers use many methods to protect the soil from erosion. Grassed waterways, cover crops, and well placed buffers of trees, shrubs, or grasses help keep soil and nutrients on farm fields and out of local waterways. A well-planned backyard can help prevent soil and nutrients from entering creeks and streams in your neighborhood.

Best Practices to Control Erosion and Rainwater Runoff

- ✿ Cover bare soil as soon as possible with new vegetation.
- ✿ Use mulch or wood chips in heavy traffic areas where vegetation cannot be reestablished.
- ✿ Use a splash block at downspout outlets to reduce soil erosion by water.
- ✿ Place stones at pipe outlets to slow down rainwater runoff and promote infiltration.
- ✿ Stabilize steep hills with terraces made of wood, stone, or railroad ties.
- ✿ Plant trees, shrubs, and ground covers as a buffer around your yard and in bare areas to soak up nutrients and reduce runoff.
- ✿ Use raised beds for gardens. Build frames from wood, bricks, or blocks to help minimize soil erosion and runoff from your garden.



4 *try composting*



There are lots of ways to recycle. Farmers often recycle livestock manure as a safe and valuable fertilizer for their crops. Homeowners, too, can recycle leaves, grass, and non-meat kitchen scraps for use in the garden. Composting is easy, improves soil health, and makes a great fertilizer.

Getting Started

All organic matter will eventually decompose. Composting speeds up the process by providing an ideal environment for microorganisms to break down backyard wastes.



Microorganisms need three key elements to thrive: oxygen, moisture, and nutrients.

- ✿ Oxygen is supplied by turning the pile periodically with a pitchfork. This is one of the most important steps for making quick compost.
- ✿ Allow rain to provide moisture. Add water during dry spells and cover the heap during prolonged rainy periods. The compost should feel damp, not saturated.
- ✿ A good mix of nutrients is needed for proper decomposition. Mix browns, high in carbon, (leaves, straw, and sawdust) with greens, high in nitrogen, (grass clippings and vegetable scraps).

What to Compost

- ✿ Many materials can be added to a compost pile including leaves, grass clippings, straw, shredded wood, old plants, potting soil, coffee grounds, tea leaves, and non-meat kitchen scraps. Avoid using weeds with seed heads, diseased plants, and meat scraps that may attract animals. Do not compost pet waste.
- ✿ Depending on the yard waste used and how often you turn the pile, most composted materials should be ready for garden use by the next growing season. The final product will look and feel like fertile garden soil.

5 *conserve water*



Every farmer knows the importance of conserving water. Today's crop irrigation systems are designed to minimize evaporation and maximize the amount of water that reaches the crop. If you rely on the garden hose to keep your lawn green and your garden lush and attractive, consider the following water-saving measures:

Become a Water-Wise Gardener

- ✿ Use a rain gauge to monitor rainfall and apply additional water to plants or lawns only if needed.
- ✿ Let healthy, established lawns go dormant during hot, dry spells.
- ✿ Try to water in the early morning.
- ✿ Avoid wetting foliage in the evening. It encourages disease.
- ✿ Help prevent surface runoff. Don't apply water faster than it can be absorbed.
- ✿ Water newly seeded lawns with sprinklers. Trees, shrubs, and garden flowers can be watered with a soaker hose or drip irrigation system.
- ✿ Check the soil in your garden or flower bed before watering. Wilting plants aren't always thirsty—they could be getting too much water. Dig down 4 to 6 inches to see if the soil feels moist and cool. If so, leave it alone.

Give Landscape Plants a Fighting Chance

- ✿ Watch for signs of stress caused by drought. Wilted, curled, dull, yellowed, or brown leaves and undersized fruits and vegetables are signs of thirst.
- ✿ Use mulch to help plants retain moisture and reduce evaporation to the atmosphere.
- ✿ Use native and drought-tolerant plants that don't require extensive watering.



6 *plant cover crops*



Don't let your garden sit idle this winter. Follow the lead of Maryland farmers and plant hardworking cover crops in your garden this fall to control erosion, reduce nutrient runoff, and boost your garden's productivity.



Types of Cover Crops and What They Do

- ✿ Cereal grains (wheat, barley, spring oats) are cold tolerant and their roots help break up compacted clay soils. They are excellent at recycling nitrogen left over from summer crops.
- ✿ Annual ryegrass is easy to establish and helps reduce soil erosion and compaction.
- ✿ Buckwheat is a fast growing spring or early summer crop that serves as an excellent smother crop to control weeds and conserve soil moisture.
- ✿ Forage radish has a large taproot that can help penetrate compacted soils.
- ✿ Legumes (crimson clover, Southern peas, hairy vetch) take nitrogen from the air and convert it into a form that is used by plants.
- ✿ Mustards, kales, and rapeseed are fast growing and produce a beautiful canopy of golden flowers when mature.
- ✿ Cover crop blends combine the best features of different types of plants into a single planting.





7 attract pollinators to your garden

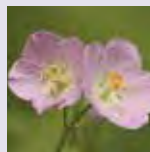


Worldwide, pollinators—including birds, bees, butterflies, moths, beetles, and flower flies—are in decline due to many factors, but mainly loss of habitat. Maryland farmers understand the importance of pollinators to our food supply. They are planting wildflower habitats on their farms that support pollinators. You can help, too—regardless of where you live—by planting a pollinator garden that supplies food, shelter, and water for adult insects and their offspring.

- ✿ Get your soil tested. Go to extension.umd.edu/hgic and click on soil testing information.
- ✿ Choose plants that are naturally adapted to your garden's conditions.
- ✿ Plant your garden where it can get at least six hours of sunlight a day.
- ✿ Plant a wide selection of native flowering trees, shrubs, and plants with different heights, growth habits, and colors to attract different pollinators.
- ✿ Aim to have at least three different species of flowering plants in bloom from early spring to late fall.
- ✿ Plant a variety of herbs including rosemary, mint, basil, parsley, sage, lavender, and anise hyssop.
- ✿ Allow cabbage family members such as broccoli, mustard, and kale to bloom.
- ✿ Avoid fertilizers—most native plants are hearty and do not require additional nutrients.
- ✿ Pesticides and herbicides are dangerous to pollinators and should only be used with extreme caution.
- ✿ Provide water for pollinators.

A Short List of Native and Beneficial Plants for Pollinators

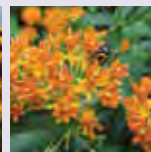
Flowering plants and pollinators depend on each other for survival. Over time, flowers have adapted to become more attractive to certain types of pollinators. They use color, scent, and petal shape to lure just the right type of pollinator to get the job done. The following plants are favored by different types of pollinators.



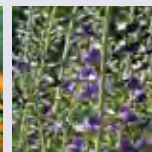
Wild geranium



Black-eyed Susan



Butterfly weed



Blue wild indigo



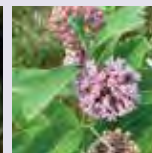
Green and gold



New England aster



Blazing star



Common milkweed

Let Your Lawn Get in on the Act

White clover that pops up in your lawn in early spring, along with dandelions, are a favorite source of nectar for many types of pollinators, including bumble bees, solitary bees, honey bees, beetles, and hover flies.

- ✿ Dandelions (*Taraxacum officinale*), white clover (*Trifolium repens*), common selfheal (*Prunella vulgaris*), and other flowering lawn plants provide nectar and pollen for many types of pollinators in early spring when food is scarce.
- ✿ Mow dandelions before they set seed. This will encourage pollinators to seek out garden flowers.
- ✿ Avoid lawn insecticides and fungicides. They are often applied unnecessarily or at the wrong time.
- ✿ Thicken your lawn to reduce weed growth by mowing high, over-seeding in late summer, and fertilizing in fall.





8 practice climate-smart gardening



Farmers, gardeners, and people who spend time outdoors are already familiar with climate change. Warmer winters and hotter summers have caused trees to bloom earlier and hang onto their leaves later. New and aggressive garden weeds are out-competing native plants for nutrients and sunlight while bird and animal migration patterns are changing. Farmers are using regenerative practices to make their farms more resilient while helping to slow climate change. You can do the same.

Reduce Your Lawn's Carbon Footprint

- ✿ Use a push reel, battery-powered, or electric mower to cut your grass.
- ✿ Don't over-fertilize. Follow Maryland's Lawn Fertilizer Law. Go to mda.maryland.gov/fertilizer.
- ✿ Plant lawn alternatives in areas where grass does not grow well.



Build Healthy Garden Soils

- ✿ Increase your soil's organic matter. Apply a thin layer of compost on top of your lawn or garden, a practice known as topdressing.
- ✿ Practice no-till gardening to improve your soil's health.
- ✿ Change where you plant your vegetables each year to cut down on pest and insect problems.
- ✿ Plant a cover crop in your garden this fall (*See Tip 6*).



Increase organic matter



Put away your tiller



Rotate crops each season



Plant a cover crop

Use Energy Efficient Landscaping

- ✿ Plant evergreen trees on the northwest side of your house to protect against winter winds.
- ✿ Plant deciduous trees on your home's west, east, and southwest sides to protect against heat and cold.
- ✿ Use plants to shade your air conditioning unit so that it does not work as hard. Leave at least 3 feet of space on all sides of the unit to allow good air circulation.



Other Ways to Reduce Your Carbon Footprint

- ✿ Start a vegetable garden.
- ✿ Buy locally grown foods.
- ✿ Compost food scraps to reduce methane emissions in landfills. Methane is a greenhouse gas that contributes to climate change.
- ✿ Plant a pollinator garden (*Tip 7*).
- ✿ Conserve water (*Tip 5*) and control soil erosion (*Tip 3*).