

Environmentally Friendly Landscape Practices

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Georgia Homeowners spend thousands of dollars each year on fertilizer, water and pesticides for their landscapes. Much of this is applied incorrectly or unnecessarily, wasting money and polluting our environment. With proper planning, planting and maintenance, a healthier landscape can be created with less expense, less work and less damage to the world around us.

Planning

Planning is the first step to a better landscape. Plants that are suited to a site need less fertilizer, water and pesticides. There are four essential components of planning:

Site Analysis

- Check a site's sun, wind and drainage before choosing a plant. A plant that needs shade will do poorly in the sun, becoming stressed and insect-prone. A plant that needs good air circulation will likely need a fungicide to control disease if it is planted in an area with no air movement. During rainy periods, control water runoff by diverting downspouts, planting across a slope to give water a chance to soak into the ground, or using a groundcover on steep areas to prevent erosion.

Size

- A common mistake is to choose plants that will quickly outgrow a site and either need constant pruning or replacement in a few years. Crowded plants grow poorly, and are more prone to insects and diseases.

Water Needs

- Follow the water-efficient principles below to create an attractive landscape that requires less water, fertilizer and maintenance than a traditional lawn.
- Group plants with similar moisture needs together. Many established shrubs and trees can go several weeks without supplemental water, while annual flowers may need more than an inch of irrigation per week.

- Plan practical turf areas such as a play space or an area near the home's front entrance to contrast with planted beds. Use mulch, shrub borders or ground covers in other areas.
- Flower beds need more water than other parts of the landscape. Plan your flower beds where they will provide the most impact for the least effort. Use flowering shrubs and trees for color instead of annuals and perennials.

Plants

- Choose the right plant for the right place.
- Pest- and disease-resistant plants require fewer pesticides and fungicides.
- Learn about your area's hardiness zone and choose plants suited to your area. Hardiness zone maps show the average low temperature. Heat zone maps show how many days per year the temperature exceeds 86 degrees.
- Use native plants that are adapted to Georgia's weather extremes. Create an environment similar to their natural habitat so they can thrive in your landscape.
- Before buying a plant, check it carefully for insect pests. Also look for good color and strong growth. Avoid plants with spots, mildew or other defects. Inspect the root system for possible damage by inverting the plant and gently pulling the pot from the rootball. Dead and decayed roots mean the plant was not well cared for and will not grow well.



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Did You Know?

The cooling effect from the average lawn is equal to more than 8 tons of air conditioning; the average home central-air unit produces only 3 to 4 tons.

Planting

Proper planting is the key to healthy plants that can resist drought, insects and diseases. A well-prepared planting bed, dug to a depth of 12-15 inches and enriched with organic matter, encourages strong root development for shrub masses, islands and flower borders.

- Dig the bed and remove rocks and clods. Add lime, if indicated by a soil test. Incorporate approximately 2 inches of coarse organic matter such as bark mini nuggets or chips plus 2 inches of fine organic material such as compost. Peat moss by itself is not recommended because it breaks down quickly in Georgia's climate and is difficult to rewet once it dries. Thoroughly mix the organic matter with the native soil.
- When planting individual trees and shrubs, omit the organic matter and break up the native soil in a wide area around the planting hole. The planting hole should be at least twice the diameter of the root ball.
- Loosen and spread apart root balls to encourage roots to grow outward and to allow water to penetrate into the root mass.
- Before planting, check sub-surface drainage by filling the hole with water and allowing it to drain. If water stays in the planting hole for more than an hour, drainage is poor and needs to be corrected before planting. A slope is no guarantee of good sub-surface drainage. Raised beds or drainage tile may need to be incorporated to improve the site.

Grouping plants together in a mulched bed instead of planting in individual holes keeps larger root areas cool and moist, providing better conditions for plant growth. It's also easier to mow around large areas than small ones.

After planting, mulch immediately with organic materials that slowly release nutrients and improve soil quality as they break down. Mulch moderates soil temperatures, reduces water needs and helps prevent weeds and erosion. Mulch also eliminates damage from string trimmers and lawn mowers.

- Apply mulch 2-4 inches deep and extend it past the drip line of your plants. To prevent disease and insect damage, pull mulch away from the plant stem or trunk.
- Do not use plastic under mulch. Plastic film severely limits water and oxygen movement to plant roots. Landscape fabrics may be used, but weed and grass seeds that blow onto the fabric and root through it make removal difficult.
- Two or three layers of newspaper may be dampened and placed under mulch. It will break down gradually and help suppress weeds and conserve moisture while your plants are getting established. Modern soy-based newspaper inks do not pose a threat to the environment.

Earthworms carry bits of organic mulch into the soil while bringing up nutrients from deep in the earth as they create channels for air and moisture, improving the soil. Earthworms can consume their own weight in organic matter each day.

- Suitable mulches include pine straw, pine bark nuggets, mini-nuggets, and shredded leaves, hardwood mulch and cypress. Shredded products and pine straw are less likely to wash away during rain.
- Avoid heavy applications of grass clippings, which mat and repel water. Peanut hulls are not recommended because they can carry pests. Wood chips should be aged since fresh chips may release toxic substances into the soil and absorb nitrogen in the break-down process.

Maintenance

Water according to plant needs. Newly planted trees and shrubs need frequent watering. Many established plants can survive weeks without supplemental irrigation.

- Sprinklers can waste up to 30-50 percent of water applied. Instead, use drip irrigation or soaker hoses that apply water to the roots of the plants.
- When using sprinklers, water after dew has fallen in the evening and before it begins to dry in the morning to avoid wet foliage, which is more susceptible to fungus and diseases.
- Wet the soil to a depth of 6-8 inches to promote deep root growth. Soil moisture sensors are available for automated systems to prevent over-irrigation. A rain gauge will help you determine supplemental watering needs.

- Check sprinkler heads at least once per season to ensure that they are applying water evenly and not wasting water on walks, drives and streets.
- Irrigate between 9 p.m. and 9 a.m. to reduce evaporation and discourage diseases.
- Water lawns only when they need it. Many turfgrasses such as bermuda can go dormant during times of low rainfall and will recover when rainfall returns to normal. You might need to water if you leave footprints when you walk across the lawn, or if the lawn has a blue cast.

Remember, clay soils take about an inch of water to moisten soil to an adequate depth (6 to 8 inches). If more than that is being applied by your sprinkler system, reset your timer cycle. Conversely, if your sprinkler is watering significantly less, have the cycle set longer.

On a still morning, if you see clouds of mist floating away above your sprinkler, water pressure to the sprinkler head may need to be adjusted. The atomized water is wasted.

- Check soil moisture at the root zone before watering. Some annual and perennial flowers and shrubs may wilt in the afternoon heat but will recover by morning if the soil is moist.

Fertilize according to soil test results and label recommendations. If soil pH is too high or low, plants will perform poorly. Excess fertilizer may burn plants, cause weak, spindly growth that is more susceptible to insects, or pollute lakes and streams.

- Slow-release fertilizers release nutrients according to temperature and moisture availability, allow more even plant growth and prevent nutrient loss from leaching and runoff.
- Many dry “organic” fertilizers slowly make nutrients available to the plant and are less likely to leach away than liquid fertilizers. They typically cost more than synthetic fertilizers and may be needed at higher rates to provide the same quantity of nutrients. However, they may contain needed micronutrients, and many add beneficial organic material to the soil.
- Calibrate your spreader before applying fertilizer. Improperly calibrated spreaders may apply too much fertilizer, which can damage plants and cause runoff and ground water pollution.
- Sweep up any fertilizer that spills onto walks, driveways and streets and can cause serious pollution problems when it runs off into storm drains, streams and lakes.

- Most mature trees and shrubs need little or no supplemental fertilizer. They get many nutrients from the breakdown of organic mulches.
- Avoid fertilizing during dry periods. Fertilizing stimulates new growth that requires more water.
- New-lawn fertilizers made of corn gluten meal provide nitrogen and may suppress some weeds.

Pruning – A properly spaced plant should not need heavy pruning for several years. If you prune to reduce size within five years of planting, you probably planted the wrong plant in the wrong place.

- Pruning may be needed to shape young plants, allow better air circulation in dense plants, or remove dead, diseased or damaged tissue.
- Avoid shearing, which increases a plant’s need for water. Instead, frequently thin branches selectively to give a more natural shape.
- In general, prune spring-flowering shrubs immediately after flowering, and prune summer-flowering shrubs before spring growth begins. Pruning spring-flowering plants in the fall and winter will remove flower buds and may decrease cold hardiness.
- Avoid pruning during drought. Pruning stimulates growth, which requires more water.

In grasscycling (letting grass clippings stay on the lawn), nitrogen fertilizer may be reduced with no reduction in turf quality.

Good landscape management practices **reduce insect and disease problems**. Walk around your landscape regularly to become familiar with your plants’ normal color and growth and look for abnormalities.

- Poor drainage, severe heat, cold, drought, mechanical damage, herbicide drift and overfertilizing are the most common causes of landscape problems.
- To help reduce weed, disease and insect problems, mow no more than one-third of the grass blade, fertilize according to soil test results and water deeply but infrequently.
- Check regularly for damaged or diseased plants. Shake branches to dislodge insects.
- Many times, insects do not cause plant damage. Less than 3 percent of the world’s insects are pests; the rest are neutral or are beneficial pollinators or predators of other insects.

- Preserve all the beneficial insects you can. Since beneficial insect populations rebound slower than pest populations, killing all insects may leave more severe problems than before.
- Catching a problem early allows for treatment before the disease or insect infestation becomes overwhelming. Many times, pruning the infected branch or dislodging insects with a strong jet of water is all that is needed.
- Contact your local Extension office for information on the best product to use and the proper time to apply it. Many insects and diseases are only vulnerable to pesticides at certain life stages. Consider using organic products that are less harmful to humans and the environment.
- Follow all label directions exactly. Pesticides are poisons that can be dangerous to people, pets and the environment if misused.

Suggested References

University of Georgia Cooperative Extension Publications

Care of Ornamental Plants in the Landscape. B-1065

Flowering Annuals for Georgia Gardens. B-954

Bulbs for Georgia Gardens. B-918

Flowering Perennials for Georgia Gardens. B-944

Ground Covers. C-928

Pruning Ornamental Plants in the Landscape. B-961

Soil Preparation and Planting Procedures for Ornamental Plants in the Landscape. B-932

Soil Testing for Home Lawns, Gardens and Wildlife Food Plots. C-896

Other Publications

Gardening with Native Plants of the South,
Wasowski and Wasowski, Taylor Publishing

Gardening 'Round Atlanta,
Aronovitz and Werner, Eldorado

Landscape Plants of the Southeast,
Halfacre and Shawcroft, Sparks Press

Manual of Woody Landscape Plants,
Michael Dirr, Stipes

Native Shrubs and Woody Vines of the Southeast,
Foote and Jones, Timber Press

A Southern Gardener's Book of Lists,
Lois Trigg Chaplin, Taylor Publishing

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