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Frequently Asked Questions about Florida-Friendly Landscaping[1]

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These days, water quality and quantity are important issues that are on everyone's mind. These Frequently Asked Questions address common concerns related to irrigation and fertilizer. These FAQs draw on extensive UF/IFAS research, and were created to help guide government officials in developing local regulations based on science.

1. What are Florida-Friendly Landscapes?

Florida-Friendly Landscapes protect Florida's unique natural resources by conserving water, reducing waste and pollution, creating wildlife habitat, and preventing erosion. Any landscape can be Florida-Friendly if it's designed and cared for according to the nine Florida-Friendly Landscaping principles, which encourage individual expression of landscape beauty. Make your landscape a Florida-Friendly Landscape—do your part to create a more sustainable Florida!

Nine Florida-Friendly Landscaping Principles

1. Right Plant, Right Place
2. Water Efficiently
3. Fertilize Appropriately
4. Mulch
5. Attract Wildlife
6. Manage Yard Pests Responsibly
7. Recycle
8. Prevent Stormwater Runoff
9. Protect the Waterfront

2. Does a Florida-Friendly Landscape look a certain way?

No. Florida-Friendly Landscapes can be designed to almost any taste, as long as they incorporate the Florida-Friendly Landscaping principles. Your Florida-Friendly Landscape can incorporate native and non-native plants, turfgrass, flowering plants, trees, or any combination of these.

3. What are the best ways to prevent water pollution?

Florida is covered with water. The state boasts over 10,000 miles of rivers and streams, about 7,800 lakes, more than 700 freshwater springs, and the second-longest coastline in the United States. Even if you do not reside on a waterfront, the land you live on is directly connected to a nearby water body. What you do in your yard has further-reaching consequences than you might imagine.

Fertilizer

Fertilizer can help plants thrive if used appropriately. If applied incorrectly, it can not only harm plants, but also the environment. Excess nutrients like nitrogen and phosphorus can upset the delicate balance of aquatic ecosystems. These nutrients can fuel algal blooms and invasive exotic species, harming native plants and animals.

Use these tips as guidance when fertilizing your lawn or landscape. They'll help you prevent water pollution caused by nutrient leaching (when excess nutrients wash through the soil into the groundwater system) and runoff (when excess nutrients are carried away from the landscape by water):

- Always follow UF/IFAS fertilizer recommendations.
- Choose products that contain slow-release nutrients.
- Avoid "weed and feed" products.
- Apply fertilizers only when plants are actively growing (many plants, including most turfgrasses, go dormant in the winter).
- Apply an iron source instead of additional fertilizer in the summer to keep grass green without increasing growth.
- Keep fertilizer off hard surfaces, such as driveways and sidewalks.
- If you spill fertilizer, pick it up instead of watering it into the lawn.
- Do not fertilize if heavy rain is predicted in the next twenty-four hours.
- Fertilize at least 3 or 10 feet away from a water body. (The minimum should be 3 feet when either a drop spreader, rotary spreader with deflector shield, or handheld hose sprayer is used. The minimum should be 10 feet when a rotary spreader without a deflector shield is used.)
- Make adjustments for reclaimed and recycled water, which may contain some nutrients.

Irrigation

Overwatering can contribute to water pollution by causing fertilizers to leach, or seep underground, where pollutants can reach the aquifer and flow to lakes, rivers, and streams. Excess water can also carry potential pollutants like pesticides, soil and grass clippings.

To make sure you're fertilizing only your landscape, water fertilizers in with only a small amount of water– ¼ inch or less. When irrigating your lawn, apply only ½–¾ inch water at a time. Consider installing a microirrigation system in your landscape to ensure water is applied only to the roots of plants (microirrigation is not appropriate for turf, however).

Runoff

When it rains, water flows down our streets, sidewalks, and driveways. Everything that's on the pavement, like grass clippings, fertilizer, and car oil, gets washed into storm drains. Most storm drains empty directly into the closest body of water—the nearest pond, creek, or lake. The water is not filtered or cleaned first.

So use pesticides and fertilizers correctly and responsibly. Pick up after your pets. Clean up oil spills and leaks with kitty litter instead of water. To prevent runoff from leaving your landscape, create rain gardens (shallow planted areas) and swales (shallow depressions) in the low points of your landscape to slow and capture rain. Aim downspouts at a porous surface and use pervious (porous) materials for pathways, driveways, and patios to allow water to soak into the ground.

4. How do I use less water in my landscape?

The overwatering of landscapes is a serious problem, depleting water supplies, making plants more prone to disease and pests, and potentially contributing to water pollution.

- Make sure you choose the right plant for the right place.
- Group plants with similar water needs together within the same irrigation zone so that they can be irrigated similarly.
- Mulch plantings to keep moisture in the soil.

- Water plants early in the morning—watering during the day can increase water loss due to evaporation and watering at night can encourage plant disease.
- Incorporate a microirrigation system to apply water directly to plant roots.
- Use a shut-off device to detect when a certain amount of rain has fallen or when a certain level of moisture is present in the soil.
- Perform regular irrigation system maintenance.
- Make sure your irrigation system is calibrated so you know how much it's applying each time.
- Mow at the proper height for your grass to promote a healthy root system, which makes grass less thirsty.
- Use the weather to your advantage—don't irrigate if it's rained in the past twenty-four hours or if rain is forecast in the next twenty -four hours.

5. Does mulch help me save water?

Yes, mulch helps keep moisture in the soil around your plants. Choose from many different kinds of mulch and apply around trees and other plantings. Maintain a 2- to 3-inch layer of mulch, avoiding "volcano mulching," or piling mulch up, around trees. Mulch to the drip lines of trees, and regularly rake mulch to prevent matting, which can keep water and air from seeping through.

6. What kind of mulch is the most Florida-Friendly?

All of the different kinds of mulch available in Florida have benefits and drawbacks. Cypress, melaleuca, and pine bark are the longest lasting types of mulch but they don't offer plants many nutrients when they break down. Soil pH may be reduced by pine bark and pine straw, which would be excellent for acid-loving plants like azaleas, but not for plants that require high-pH soil. The kind of mulch you choose depends on your priorities and taste. Here's an overview of the most popular mulches:

Pine bark is a byproduct of the forest industry. It comes in ground and nugget forms, and has a rich brown color.

Pine straw (pine needles) comes from pine plantations, which produce paper and wood products, and is sold in bales. Unlike some mulches, pine needles are not likely to wash away, because they knit together.

Fallen leaves (including grass clippings) can be raked up for free in your landscape. This type of mulch is high in nutrients, but decomposes quickly.

Melaleuca mulch is made from the invasive exotic trees. The product is cured at a high temperature to kill seeds.

Mixed hardwood mulch is produced from scrap lumber, recycled pallets, or tree stems that are too small to be used for paper or wood production.

Eucalyptus mulch typically comes from plantations in South and Central Florida where the trees are grown specifically for mulch. They grow quickly, so this mulch is considered renewable.

Utility mulch is sold or given away for free by many utility companies. This mulch comes from trimming trees and other plants that get in the way of power lines, but can come with weed seeds.

Cypress mulch is composed of both wood and bark. Cypress trees, which grow in Florida's forested wetlands, are often harvested for lumber used in fencing, flooring, furniture and other wood products. Cypress mulch is often made from the waste wood generated in the manufacture of these products, but it may also be produced from whole trees cut from wetlands. The Florida-Friendly Landscapes program does not recommend the use of cypress mulch, as the origin of the mulch may be difficult to determine.

Gravel or pebbles can be used as mulch, but they won't contribute to the soil's nutrient and organic content or water-holding capacity. If you choose to use these products, make sure to first install a woven ground cloth to keep them from sinking in sandy soils. These mulches last a long time, but will need to be cleared of debris to look their best.

7. Do I have to use all drought-tolerant plants for my yard to be Florida-Friendly?

No. Follow the "right plant, right place" concept by choosing low-maintenance plants whose needs match the conditions in your landscape. Select plants from the UF/IFAS Florida-Friendly Plant List, and group plants according to their water needs.

8. Are native plants "better" than exotic plants?

No. The best principle to keep in mind in your landscape is "right plant, right place." A plant's indigenous status does not affect its fertilizer or irrigation requirements. There is no scientific evidence that native plants require less fertilizer and water than plants not native to Florida. To put it another way, residential and commercial landscapes are often very different from the native conditions where a plant originated, even if they are found in the same state. Additionally, a plant that was previously indigenous to a site may not be adapted to the location any longer, depending on the way the site has been altered. In a recent research study, Florida native shrubs required the same irrigation as non-natives. Fertilizer requirements have not been tested.

9. What should I look for in maintenance professionals?

Landscape maintenance professionals can take many kinds of trainings and display many different certifications, but there are only a few that UF/IFAS recommends. Ask if any of a landscape maintenance company's employees have any of the following licenses or certifications:

- Florida-Friendly Best Management Practices (Florida Department of Environmental Protection and UF/IFAS)
- International Society of Arboriculture certification (for tree work)
- Limited Commercial Landscape Maintenance Certification (Florida Department of Agriculture and Consumer Services)
- Pesticide Applicator License (if pesticides will be applied) (Florida Department of Agriculture and Consumer Services)
- Any Florida Nursery, Growers & Landscape Association certifications
- Limited Commercial Maintenance certification (Landscape Maintenance Association)

10. Can I save water by selecting one type of turfgrass over another?

Many studies have been conducted on water use of turfgrasses. Most of these studies are conducted under "well-watered" conditions (i.e., no stress due to lack of water) and should not be confused with drought studies where water is withheld and the physiological responses of grasses are studied.

All turfgrasses need water to remain green, whether it comes from rainfall or supplemental irrigation. Drought-tolerant grasses will go into dormancy during dry periods, growing more slowly or turning brown until conditions are favorable for growth. When enough soil moisture returns, these grasses can usually recover from drought-induced dormancy, rather than dying. For example, bahiagrass is drought-tolerant, but if it is not supplied with adequate water, the drought response of this grass will result in dormancy and a "dead" appearance.

Much of the literature seems to indicate that there may be differences in water use between different warm season grasses. These disparities likely stem from natural differences in mowing heights (e.g., St. Augustinegrass lawns versus bermudagrass golf turf), fertility, leaf architecture, etc. However, these differences have not been clearly documented in Florida work.

In one study, it was found that when maintained under UF/IFAS recommendations, bahiagrass had 11 percent higher water use rates than St. Augustinegrass when well watered, but that the two grasses had similar transpiration rates when under continual stress. A current UF/IFAS study is exploring the water use rates, under well watered conditions, of several grasses including St. Augustinegrass and bahiagrass.

11. I understand fertilizer may be needed for my landscape to be healthy. What fertilizer should I use? How often and at what rates?

Landscapes

If you're happy with the color and appearance of your landscape plants (shrubs, flowers, trees, etc.), you don't need to fertilize them. Many established plants don't need fertilizer, and many trees will thrive without it. Remember that fertilizer applied to turf will reach the roots of plants nearby, so if you fertilize your lawn, your plants may already be getting all the nutrients they need.

Even when plants show signs of nutrient deficiencies, keep in mind that fertilizer might not help—these plants may not be suited for their location or their roots may be damaged in some way. Consider removing high-maintenance plants from your landscape and substituting lower-maintenance choices.

In the early spring, mixtures containing a higher percentage of soluble than slow-release fertilizer materials should be used, e.g., 70 percent water-soluble and 30 percent slow-release.

Palms & Cycads

Palms and cycads have more complex nutritional requirements than other landscape plants. The ideal fertilizer for palms and cycads has an analysis of 8-2-12-4 Mg; all of its N, K, and Mg should be in slow-or controlled–release form. Since palms are prone to several potentially fatal micronutrient deficiencies, this fertilizer should also contain 1–2 percent iron (Fe) and manganese (Mn), plus trace amounts of zinc (Zn), copper (Cu), and boron (B). Using fertilizers with ratios other than the one given may cause or intensify nutrient deficiencies.

Lawns

A properly maintained lawn filters stormwater runoff, reduces air temperatures, and helps prevent pollution and stabilize soil. Grass that receives appropriate levels of fertilizer—not too little and not too much—might also require fewer cultural or chemical controls for weeds, insects, and diseases, since it grows more vigorously and is strong and healthy.

On the other hand, over-fertilizing can aggravate pest problems, stimulate excessive growth, and require frequent watering. In addition, when too much nitrogen fertilizer is used on lawns, it can leach through the ground, past the root zones of grass, plants, and trees, and into the aquifer, where almost all of the freshwater used in Florida comes from. It can also be washed off by rainfall directly into surface water or stormwater systems.

No matter what kind of grass you have and where in the state you live, you should apply up to 1 pound of nitrogen for every 1,000 square feet of lawn each time you apply fertilizer, if that fertilizer has 30 percent or more slow-release content. If the fertilizer has 15–30 percent slow-release content, apply up to .5 pound of nitrogen per 1,000 square feet.

Specifically how much fertilizer is needed depends on the percentage of nitrogen in your fertilizer and the size of your landscape. To calculate how much fertilizer to apply to your lawn, see use Tables 1a and 1b (see below).

12. What is the Florida-Friendly Green Industries BMP Educational Program?

The Florida-Friendly Green Industries Best Management Practices (BMP) educational program was developed by the Florida Department of Environmental Protection (FDEP), UF/IFAS, industry representatives, and others to guide commercial lawn-care and landscape industry professionals in the use of sound horticultural practices. The goal of implementing the BMPs is to reduce potential environmental impact resulting from landscape maintenance. BMP practices use horticultural and environmental science-based information. UF/IFAS Extension offices and other venues statewide deliver the program via training to Green Industry workers. Many cities and counties have enacted local fertilizer ordinances which require lawn-care professionals to become certified in the BMPs. A written BMP Manual is available at the trainings or by contacting your county Extension office.

13. Who should become BMP certified—every worker, or just supervisors and foremen?

BMP training is recommended for all Florida landscape industry workers, including installers, designers, mowers and pruners, fertilizer and pesticide operators, managers, and sales representatives. Individuals who successfully finish the training will receive a certificate of completion upon passing the course.

Those who are unable to pass the written test due to literacy issues should still attend a training to improve their knowledge about environmental protection. The course and the written test are compliant with the Americans with Disabilities Act and are offered in both English and Spanish.

14. Is a BMP training from one county good in another county?

The BMP training program is a state educational program. There are strong incentives, both regulatory and financial, for local governments to accept the state program if they require training, but under their constitutional rights of Home Rule, it is not required.

15. Is a BMP Certificate of Completion good forever, or are updates required? If updates *are* required, how often?

Training updates will be provided on a regular basis. At this time, individuals should plan to obtain additional training every one to three years if training is mandatory in their area, depending on their local ordinances. Instructors are required to be up to date at all times and are required to attend refresher courses every two years.

Tables

Table 1a. Recommended application rates for turfgrass fertilizers to Florida lawns: 30% or more slow-release nitrogen.

In the table below, match the size of your lawn to the percentage of nitrogen (N) in your fertilizer to find the amount of fertilizer you need to apply. If you have a bahiagrass lawn, apply this amount of fertilizer about twice a year no matter where you live in the state. For centipedegrass, apply about once a year in North Florida and once or twice a year in Central and South Florida. For St. Augustinegrass or zoysiagrass, apply about two or three times a year in North and Central Florida and three or four times a year in South Florida. UF/IFAS recommends soil testing for phosphorus content before any P fertilizer is applied.

	6% N	10% N	12% N	15% N	16% N	23% N	27% N
1,000 ft^2	16.5 lbs	10 lbs	8.5 lbs	6.5 lbs	6 lbs	4.5 lbs	4 lbs
1,100 ft^2	18.5 lbs	11 lbs	9.5 lbs	7 lbs	7 lbs	5 lbs	4 lbs
1,200 ft^2	20 lbs	12 lbs	10.5 lbs	8 lbs	7.5 lbs	5 lbs	4.5 lbs
1,300 ft^2	22 lbs	13 lbs	11.5 lbs	8.5 lbs	8 lbs	5.5 lbs	5 lbs
1,400 ft^2	23.5 lbs	14 lbs	12.5 lbs	9 lbs	9 lbs	6 lbs	5 lbs
1,500 ft^2	25 lbs	15 lbs	13.5 lbs	10 lbs	9.5 lbs	6.5 lbs	5.5 lbs
2,000 ft^2	33.5 lbs	20 lbs	17 lbs	13 lbs	12 lbs	9 lbs	8 lbs
2,500 ft^2	41.5 lbs	25 lbs	21 lbs	16.5 lbs	15.5 lbs	11 lbs	9.5 lbs
3,000 ft^2	50 lbs	30 lbs	25.5 lbs	19.5 lbs	18 lbs	13 lbs	12 lbs
3,500 ft^2	58 lbs	35 lbs	30 lbs	23 lbs	21.5 lbs	15.5 lbs	13.5 lbs
4,000 ft^2	66 lbs	40 lbs	34 lbs	26 lbs	24 lbs	18 lbs	16 lbs
4,500 ft^2	74 lbs	45 lbs	38 lbs	29.5 lbs	27.5 lbs	20 lbs	17.5 lbs
5,000 ft^2	82 lbs	50 lbs	42.5 lbs	33 lbs	31 lbs	22 lbs	19 lbs

*These recommendations assume use of a properly calibrated spreader. See http://yourfloridalawn.ifas.ufl.edu for instructions on calibrating your spreader.

Table 1b. Recommended application rates for turfgrass fertilizers to Florida lawns: 15–30% slow-release nitrogen.

In the table below, match the size of your lawn to the percentage of nitrogen (N) in your fertilizer to find the amount of fertilizer you need to apply. If you have a bahiagrass lawn, apply this amount of fertilizer about four times a year no matter where you live in the state. For centipedegrass, apply about twice a year in North Florida and two to four times a year in Central and South Florida. For St. Augustinegrass or zoysiagrass, apply about four to six times a year in North and Central Florida and six to eight times a year in South Florida. UF/IFAS recommends soil testing for phosphorus content before any P fertilizer is applied.

	6% N	10% N	12% N	15% N	16% N	23% N	27% N

1,000 ft^2	8.25 lbs	5 lbs	4.25 lbs	3.25 lbs	3 lbs	2.25 lbs	2 lbs
1,100 ft^2	9.25 lbs	5.5 lbs	4.75 lbs	3.5 lbs	3.5 lbs	2.5 lbs	2 lbs
1,200 ft^2	10 lbs	6 lbs	5.25 lbs	4 lbs	3.75 lbs	2.5 lbs	2.25 lbs
1,300 ft^2	11 lbs	6.5 lbs	5.75 lbs	4.25 lbs	4 lbs	2.75 lbs	2.5 lbs
1,400 ft^2	11.75 lbs	7 lbs	6.25 lbs	4.5 lbs	4.5 lbs	3 lbs	2.5 lbs
1,500 ft^2	12.5 lbs	7.5 lbs	6.75 lbs	5 lbs	4.75 lbs	3.25 lbs	2.75 lbs
2,000 ft^2	16.75 lbs	10 lbs	8.5 lbs	6.5 lbs	6 lbs	4.5 lbs	4 lbs
2,500 ft^2	20.75 lbs	12.5 lbs	10.5 lbs	8.25 lbs	7.75 lbs	5.5 lbs	4.75 lbs
3,000 ft^2	25 lbs	15 lbs	12.75 lbs	9.75 lbs	9 lbs	6.5 lbs	6 lbs
3,500 ft^2	29 lbs	17.5 lbs	15 lbs	11.5 lbs	10.75 lbs	7.75 lbs	6.75 lbs
4,000 ft^2	33 lbs	20 lbs	17 lbs	13 lbs	12 lbs	9 lbs	8 lbs
4,500 ft^2	37 lbs	22.5 lbs	19 lbs	14.75 lbs	13.75 lbs	10 lbs	8.75 lbs
5,000 ft^2	41 lbs	25 lbs	21.25 lbs	16.5 lbs	15.5 lbs	11 lbs	9.5 lbs

*These recommendations assume use of a properly calibrated spreader. See www.yourfloridalawn.ifas.ufl.edu for instructions on calibrating your spreader.

Footnotes

1. This document is ENH1113, one of a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date December 2008. Revised January 14, 2009. Visit the EDIS Web site at http://edis.ifas.ufl.edu.

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