

Selecting a Turfgrass for Florida Lawns¹

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The lawn is an integral part of the landscape and provides many important benefits in our increasingly urbanized environment. A lawn not only elevates the land's aesthetic and economic value, but it also creates a recreational surface, controls erosion, filters pollutants, supplies oxygen, and decreases temperatures in urban settings. This publication is intended for Florida homeowners, landscape maintenance professionals, builders and developers, and Extension agents to help select the best turfgrass species for their situation.

Florida turfgrasses vary widely in their adaptive abilities, so choose your turfgrass species wisely. Table 1 provides information to assist in your selection, and the following questions may serve as guidelines.

What lawn do you want?

Lawns require different levels of maintenance (e.g., mowing, irrigating, fertilizing, etc.). Do you want a lawn that is highly manicured and carefully tended? Or are you looking for an average lawn that will require a moderate work input? Perhaps you are interested in an alternative approach to your lawn that is not a monoculture of turfgrass but rather a combination of species adaptable for management as a lawn.

Most turfgrass will respond to a range of maintenance levels, but there is an optimum level for each grass. A zoysiagrass or St. Augustinegrass lawn does not perform as well without supplemental irrigation during dry periods. Conversely, bahiagrass may be able to survive without supplemental irrigation, but it may not form a dense, lush, dark-green lawn comparable to other species.

Maintenance levels are closely related to cost and time. High-maintenance turf costs the most and takes the most time to maintain. Whether you do the work yourself or pay to have it done, you should realistically assess your ability to maintain your lawn before choosing a grass.

What are your site's limitations?

- **Irrigation:** Water quantity and quality are factors to consider. Do you have an irrigation system? Will you rely on a hose and sprinkler or only rainfall? Does your water have elevated salt levels? Are you using fresh (potable) water or reclaimed wastewater?

- **Mowing:** Is the area easy to mow, or is it sloped? Are there areas or obstructions (e.g., narrow fence gates) that limit the size of mower you can use?
- **Soil Type, pH, Drainage, and Other Soil Characteristics:** It is important to soil test before planting a lawn. The information that you need includes soil pH (see Table 1), soil nutrient availability, and the amount of compaction, which can affect drainage. It is also important to know your soil type. Is it sandy (will not hold water long), or does it contain more clay or organic matter (has more water- and nutrient-holding capacity)?
- **Shade:** The amount of shade the turf will receive can limit the selection of suitable grasses. In general, most warm-season turfgrasses need a moderate amount of sunlight to grow well.

With answers to these questions in mind, use Table 1 and the following descriptions to select the proper turfgrass for your Florida lawn.

Please also remember: The cost of installation and establishment should not be the primary reason for your choice. A lawn is a long-term investment, and the grass you choose for your lawn should be one you can commit to maintaining.

Region of Adaptation

Grasses grown in Florida are maintained in a totally different way from those grown in the northern regions of the United States. Northern-grown grasses (such as fescue, bluegrass, and ryegrass) will grow in north and central Florida only during the fall, winter, and early spring months and will not survive Florida's hot, humid summers. Some turfgrasses grow well statewide, while others perform best in the panhandle and north Florida regions.

Soil Conditions

Soil conditions vary widely within Florida. Many of our coastal regions tend to have sandy, high-pH soils. In central Florida, soil pH will generally be lower, and soil types may range from sand to muck. In north Florida, soils tend to have more clay and low soil pH.

- Some turfgrasses grow in a wide range of soil conditions. St. Augustinegrass can do well in either

sand or heavier soils and can tolerate a range of pH levels, from acidic to mildly alkaline.

- Others, such as centipedegrass and bahiagrass, grow best in acidic soils. Micronutrient deficiencies can be a problem if these grasses are grown in high-pH (alkaline, >8) soils.

Environmental Stress Tolerances

Environmental stress can affect all grasses, and no environment is completely free from stress. It is important to reduce as many of these stresses as possible for healthy turfgrass growth and to consider these limitations when selecting a grass type (see Table 1).

- **Drought Response:** Grasses use physiological and morphological adaptations to survive periods of water scarcity. These responses can include deeper root growth, reduced leaf expansion, dormancy (where the grass turns brown but remains alive), and changes in leaf structure (e.g., rolling or folding to minimize water loss). Some grasses, such as St. Augustinegrass and bahiagrass, retain green color longer during drought conditions. Others, like zoysiagrass and centipedegrass, quickly lose green color during drought.
- **Salt Tolerance:** In coastal areas, turf can be subjected to salt stress. Salt stress comes from irrigation water, saltwater intrusion, and salt spray from the ocean. Most grasses will not grow well in this type of environment, but seashore paspalum thrives in a salt-affected site. Zoysiagrass, bermudagrass, and St. Augustinegrass all tolerate moderate to high levels of salinity, while bahiagrass and centipedegrass have less salt tolerance.
- **Shade Tolerance:** Turfgrasses vary widely in their shade tolerance. Both St. Augustinegrass and zoysiagrass have good shade tolerance compared with other warm-season grasses but still require daily sunlight for most cultivars.
- **Wear Tolerance:** Wear tolerance is a measure of how well a grass continues to grow after being walked or played upon. Wear tolerance indicates whether a grass can survive in an area of moderate traffic. Zoysiagrass and bermudagrass have good wear tolerance.

Major Pest Problems

All grasses have some pest problems, although bahiagrass and centipedegrass are generally less affected by pests than other species. Cultural practices such as proper fertilization, irrigation, and mowing can manage some of these pests, while other pests may need chemical controls. Each turfgrass has a major pest that could limit its use. Proper management practices can help keep most pest problems to a minimum.

- **Major Insect Pests:** The most common pests are chinch bugs, white grubs, mole crickets, ground pearls,

webworms, armyworms, spittlebugs, and billbugs.

Most Florida grasses have at least one insect pest that may cause problems. Fertilization, irrigation, temperature, season, and other factors may affect insect pressure. For more information, refer to the EDIS topic [“Insect Management in Your Florida Lawn.”](#)

- **Major Turf Diseases:** The major turf diseases include large patch (*Rhizoctonia*), dollar spot (*Sclerotinia*), root rot (*Pythium*), take-all root rot (*Gaeumannomyces*), and gray leaf spot (*Pyricularia*). Disease pathogens are often present in the soil, but populations may only become elevated in the presence of a susceptible host and favorable conditions, such as excess moisture or fertilizer. For more information, refer to EDIS publications SS-PLP-1, [“Key for Identification of Landscape Turfgrass Diseases,”](#) and PP-233, [“Homeowner's Guide to Fungicides for Lawn and Landscape Disease Management.”](#)
- **Nematodes:** Nematodes are microscopic worms that live in moist sandy soil environments. They feed on grass roots and can severely limit turf growth and health if present in large quantities. Chemical control options for nematodes in home lawns are often very costly, so proper cultural practices and selection are important. For more information, refer to EDIS publication ENY-006, [“Nematode Management in Residential Lawns.”](#)

Leaf Texture

Leaf texture is a relative measure of the leaf blade width. Leaf textures may be coarse, medium, or fine.

- Texture choice is merely a visual preference unless the grass is important for a sport, such as golf.
- Most southern lawn grasses are coarser in leaf texture than those grown further north (e.g., bluegrass and ryegrass). This is especially true of three lawn grasses in Florida—St. Augustinegrass, bahiagrass, and centipedegrass.
- Many of the zoysiagrasses now available for home lawn use have finer leaf textures than St. Augustinegrass.

Turf Density

Turf density represents the number of leaves or shoots per area of the ground.

- Species with a **high density** and **finer leaf texture** generally produce higher aesthetic lawns.
- Turf with a **lower density** and **coarser leaf texture** often require a higher mowing height to produce an acceptable quality lawn.
- Higher-density varieties include hybrid bermudagrasses and zoysiagrasses. Bahiagrass has low density, while other warm-season grasses have medium density.

Maintenance Level

Some grasses, typically those that are mowed at lower heights and have fine leaf textures, require more maintenance than other grass species. This is due to their growth rate and susceptibility to pests. For more information on lawn fertilization and maintenance, refer to EDIS publication ENH979, "[Homeowner Best Management Practices for the Home Lawn](#)."

- Turfgrass species grow at different rates.
- Each grass has its optimum level of fertilization, mowing, and irrigation.
- As more water and fertilizer are applied to the turf, mowing and pest control needs also increase.
- **Low-maintenance turf** may be fertilized one to two times a year, may be mowed as needed (often just to remove seedheads), and may or may not be irrigated. Bahiagrass and centipedegrass are examples of low-maintenance turfgrasses.
- **High-maintenance turf** should be fertilized throughout the growing season and mowed weekly. In some cases, excess fertilization may result in increased pest pressure, but adequate fertilization is needed to maintain a healthy turf.

Mowing

- Taller mowing heights allow for more leaf surface for photosynthesis, deeper root systems, and better drought and shade tolerance.
- Mowing turf below its recommended height can stress the grass and subject it to invasion by weeds, insects, and diseases.
- Turf mowing frequency will vary seasonally and will depend somewhat on the species.
- Lawn clippings should be left on the lawn rather than bagged. This will add both organic matter and nutrients back into the soil and may reduce the need for fertilization throughout the year. Lawn clippings do not typically contribute to thatch.

Establishment Methods

- All grasses can be established as sod. This is the preferred method of establishment because it provides an "instant" lawn, with fewer chances of weed invasion or other grow-in problems.
- It is also possible to "plug" or "sprig" a lawn. "Plugging" refers to planting a potted turf section with intact roots and shoots. Plugs are spaced at a specified distance from one another and grown together by lateral stems. "Sprigging" is a planting technique that uses shredded sod. Individual pieces of stems are spread over the soil surface and then partially inserted into the soil.
- St. Augustinegrass is not available in seed and must be planted using sod, plugs, or sprigs. The seeding of some other species is also limited to certain cultivars

(varieties of species). Seeding can be a time-intensive process for many of the warm-season grasses.

- Proper preparation and planning are key to establishing a good lawn by any method. For more information, please refer to EDIS publications ENH 02, "[Preparing to Plant a Florida Lawn](#)," and ENH-03, "[Establishing Your Florida Lawn](#)."

Additional Resources

For more information on each turfgrass species, please refer to the following EDIS publications:

- ENH6, "[Bahiagrass for Florida Lawns](#)"
- ENH19, "[Bermudagrass for Florida Lawns](#)"
- ENH8, "[Centipedegrass for Florida Lawns](#)"
- ENH5, "[St. Augustinegrass for Florida Lawns](#)"
- ENH11, "[Zoysiagrass for Florida Lawns](#)"

Table 1. Comparison of lawn grasses available for use throughout Florida.

Environment	Bahiagrass	Bermuda-grass	Carpet-grass	Centipede-grass	Seashore paspalum	St. Augustine-grass	Zoysia-grass
Area adapted to	Statewide	Statewide	Wet areas	North Florida and Panhandle	Statewide	Statewide	Statewide
Mowing height (inches)	3–4	0.5–2	1.5–2.5	1.5–2	1–2	2–4 (Cultivar dependent)	0.25–2.5 (Cultivar dependent)
Soil	Acid, sandy	Wide range	Acid, wet	Acid, infertile	Wide range	Wide range	Wide range
Leaf texture	Coarse–medium	Fine–medium	Medium	Medium	Fine–medium	Coarse–medium	Fine–medium
Drought tolerance ¹	Excellent	Excellent	Poor	Good	Good	Good	Excellent
Salt tolerance	Very poor	Good	Poor	Poor	Excellent	Good	Good
Shade tolerance	Fair	Poor	Fair	Fair	Poor	Good–excellent (cultivar dependent)	Good–excellent (cultivar dependent)
Wear tolerance	Poor	Excellent	Poor	Fair	Good–excellent	Poor–fair	Good–excellent
Nematode tolerance	Excellent	Poor	Poor	Poor	Good	Good	Good
Maintenance levels	Low	Medium–high	Low	Low	Medium	Medium	Medium
Establishment methods	Seed, sod	Sod, sprigs, plugs, some seed	Seed, sprigs	Seed, sod, plugs	Sod, sprigs, plugs	Sod, plugs	Sod, sprigs, plugs, some seed

¹Species designated as “Excellent” have very good dormancy mechanisms, which will allow for better survival of longer-term drought periods. This does not necessarily equate to reduced irrigation since the grass will still need water to maintain its green color and quality.

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