Growing Turfgrass in the Shade[1]

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The amount of sunlight needed by lawn grasses varies by species and, in some cases, by cultivar within species. The amount of shade present in a landscape varies over time as trees mature and can also vary seasonally. Sunlight also varies within a yard, so portions of a lawn may be in full sunlight all or most of the time, while other portions may be shaded throughout part or most of the day. Grass that does not receive enough sunlight has long, spindly leaf blades and stems because it is working hard to obtain sunlight. This tissue elongation depletes the plant's carbohydrates, which can reduce the lawn's overall health and vigor. Other groundcover sources or mulch should be used on sites where there is insufficient sun. Consult the local county Extension office for information on alternative groundcovers for shaded environments.

A plant's light needs can be described in terms of both hours of sunlight and percent of full sun. Most of Florida's grasses should receive at least six hours of sunlight each day for optimal turfgrass growth and health. Some of this light may be partially filtered by trees. Research has shown that most St. Augustinegrass cultivars actually grow best if up to 30% of full sunlight is filtered throughout the day. Grass growing in some shade has less heat and drought stress and maintains a darker green color than grass growing in continual full sunlight.

In areas that receive *moderate* amounts of shade, certain species and cultivars of grass persist, while other less shade-tolerant species may not perform well over time. In these areas, choosing the right turfgrass species is important. It is also important to follow specific management practices that can encourage better turfgrass performance in shade.

Species Suitable for Use in Shade

St. Augustinegrass has some cultivars with very good tolerance for shade and that also grow well in full sunlight. The most shade-tolerant cultivars are 'Seville', 'Delmar', and 'Captiva', all of which can sustain with five to six hours of sunlight. 'Floratam', which is the most widely used St. Augustinegrass cultivar, has relatively poor shade tolerance and requires a minimum of six to eight hours of sunlight daily.

Zoysiagrass cultivars such as 'Empire' have good shade tolerance, performing best with six to eight hours of sunlight per day.

Bahiagrass and centipedegrass tolerate moderate shade. **Seashore paspalum** and **bermudagrass** are sun-loving species that do not do well in shaded conditions.

Management Practices for Growing Turfgrass in the Shade

Because turfgrass grown in the shade is already suffering from effects of stress (lack of sufficient light), it is important to follow specific management practices.

- **Increase the mowing height.**

Mow grass at the highest recommended height for the species. The increased mowing height allows for more leaf area.

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The more leaf area, the more light the grass can absorb. Higher mowing heights promote deeper rooting, which is one of the key mechanisms of stress management.

- **Reduce fertilizer applications.**

Grass grows more slowly in a shaded environment and needs less fertilizer. Too much nitrogen fertilizer depletes carbohydrates and produces a weaker turf system. Use a slow-release nitrogen fertilizer so as to minimize growth, and look for a fertilizer that has equal (or close to equal) amounts of nitrogen (the first number of the fertilizer analysis) to potassium (the third number of the fertilizer analysis). Recent research has indicated that higher levels of potassium may help the grass sustain better under shaded conditions.

- **Irrigate shaded grass less than grass growing in full sun.**

Turf growing in the shade needs less water than that growing in full sun. If an irrigation zone covers an area that is partially shaded and partially sunny, consider removing the sprinkler heads from the shaded areas and irrigating by hand in those areas. Watering shaded grass on the same schedule as that growing in full sun can increase disease presence because of greater soil moisture, increased humidity, and reduced air circulation. Monitor closely for disease in shaded conditions.

- **Avoid heavy traffic.**

Grass growing in shade is more easily injured by traffic and may recover from damage slowly. Please refer to *Minimizing Traffic Damage to Your Florida Lawn* (http://edis.ifas.ufl.edu/EP071) for more information.

- **Monitor for weeds.**

Weeds are able to invade turf under stressful conditions. In a shaded environment, the ground area covered by the grass is reduced, leaving bare ground that is vulnerable to weeds. Treatment with a pre- or postemergence herbicide may be necessary. Preemergence herbicides are applied prior to weed germination; postemergence herbicides are applied after germination. For more information on weed control in the home lawn, please refer to *Weed Management in Home Lawns* (http://edis.ifas.ufl.edu/ep141).

- **Consider a different ground cover for areas under heavy shade.**

If shade is too severe, such as under the base of a large oak tree, turfgrass may not be the best option for a ground cover. Consider a mulch bed with shade-tolerant ground covers or flowers.

Watch for Competition from Trees

Grasses growing under trees are subject to more than just shade stress. These grasses must compete with tree roots for soil space, water, oxygen, and nutrients. Tree roots may extend far from the canopy line (beyond the tree's actual branches and leaves), so these competitive effects can also occur at some distance from the tree. In some cases, removal of trees or trimming of lower branches may be necessary for continued grass growth.

Conclusion

Growing some species and cultivars in partial shade is certainly possible. Most warm-season grasses perform well as long as they receive six to eight hours of sun each day. If a lawn site receives less than this, look for a dwarf St. Augustinegrass cultivar or consider a ground cover other than turfgrass. St. Augustinegrass can generally perform well with mild filtering of sunlight, but shade should not exceed about 30% for best performance. Reduce irrigation and fertilization in shaded areas. Follow the management strategies outlined in this fact sheet to enhance lawn growth under shaded conditions and optimize grass health.