UF IFAS Extension UNIVERSITY of FLORIDA

ENH 153

Environmental Stresses and Your Florida Lawn[1]

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Florida lawns are subject to many environmental stresses. These can include nutrient deficiency, salinity, temperature extremes, over- or under-watering, soil problems, and prolonged exposure to shade or traffic.

Environmental stresses are not the same as problems caused by insects or disease, although they may occur in conjunction with insects or disease. You may see an insect or disease and assume that treating for the biological pest will take care of the problem. However, if there is an underlying environmental stress or if management practices are not done correctly, it is necessary to correct or manage for those problems to make the site less conducive to the pest. For example, certain weeds such as dollarweed and sedges are often found in overwatered lawns. Controlling the weeds is one step in remediating the problem, but without adjusting irrigation practices, the problem will likely recur. Similarly, lawns that are over fertilized will often be more likely to have disease issues and applying a fungicide may arrest the development of the disease, but if excess fertilization continues, the problem will persist.

Regardless of what environmental stress is causing problems, there are some basic management strategies that will help a lawn sustain. The use of proper cultural practices will help keep your lawn healthy, sometimes even despite environmental stress. These practices should always be followed to maintain a healthy, more stress-tolerant lawn.

1. Choose the most appropriate grass for your site conditions (right plant, right place).

It may not always be practical or affordable to replace a lawn if you have a grass that is not well suited for your site, but there are times when that option may provide the best solution. For example, if you have heavy shade in a part of your lawn, the grass may thin out and not do well over time. In this case, it is best to look for an alternative ground cover that will do well in shade, or think about mulch or hardscape for this area.

2. Fertilize appropriately.

The nutrients in fertilizer are needed for healthy lawn maintenance, but it is very important for the health of your lawn and for the environment that fertilizers be applied at the appropriate time and rate. When nitrogen (first number in ratio on the fertilizer bag) is applied in excess of recommended amounts, the resulting growth surge consumes much of the grass's stored energy reserves. This can leave the grass in a weakened condition to cope with stress, so the turf has a harder time recovering and staying healthy in the long term.

If excess nitrogen fertilizer is applied late in the growing season, especially in any part of Florida where the grass is dormant over the winter—such as sometimes occurs in north Florida (north of Ocala) and, less often, in central Florida (south of Ocala to Vero Beach on the east coast or Tampa on the west coast—spring growth can be delayed or reduced. Turf density will also decrease in such cases,

1. This document is ENH 153, one of a series of the Environmental Horticulture Department, UF/IFAS Extension. Original publication date September 2000. Revised August 2000 and January 2016. Visit the EDIS website at http://edis.ifas.ufl.edu.

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giving weeds a greater chance to invade. Potassium (third number in the ratio on the bag) can help impart stress tolerance in many situations and can help grass maintain a healthy condition. You might consider looking for a fertilizer with equal amounts of nitrogen and potassium, particularly for the last fertilizer application of the year.

3. Mow at the recommended height for your grass species.

All landscape grasses should be maintained at the highest mowing heights for that species and cultivar. Higher mowing heights produce deeper root systems. Deep roots increase the ability of the grass to survive stresses, including drought stress. Mowing below the recommended height reduces the grass's ability to photosynthesize and forces the grass to put energy reserves into regrowth. Refer to Table 1 for recommended mowing heights for your grass species.

4. Irrigate appropriately for your lawn's needs.

Turfgrass water requirements vary based on a number of factors, including turf species, season, geographical location in the state, soil type, shade, root depth, etc. In general, apply irrigation at ½ to ¾" when 30–50% of the lawn is showing visible signs of wilt. If rain is forecast, postpone irrigation. Incorrect irrigation practices account for a majority of lawn problems. For more information on irrigation, please refer to ENH114, *Frequently Asked Questions about Landscape irrigation for Florida Friendly Landscaping Ordinances* (http://edis.ifas.ufl.edu/wq142) or ENH9, *Watering Your Florida Lawn* (http://edis.ifas.ufl.edu/lh025).

Table 1. Recommended mowing heights for lawngrass species.

Grass Species	Mowing height (inches)
Bahiagrass	3–4
Centipedegrass	1.5–2.5
St. Augustinegrass – standards*	3.5–4
St. Augustinegrass – dwarfs**	2–2.5
Zoysiagrass	2–2.5

*Standards include Floratam, BitterBlue, Classic, DeltaShade, and others
**Dwarfs include Captiva, Delmar, Seville, and others

A Healthy Lawn is a Hardy Lawn

To maintain a healthy lawn, which can better withstand drought, traffic, and cold temperatures and better resist invasion by weeds, insects, and diseases, follow the guidelines found on the Your Florida Lawn website—http://hort.ifas.ufl.edu/yourfloridalawn/ and in *The Florida Lawn Handbook,* http://edis.ifas.ufl.edu/features/handbooks/floridalawn.html. (And for detailed information on caring for your lawn during drought, see EDIS Publication ENH157, *Managing Your Florida Lawn under Drought Conditions*, http://edis.ifas.ufl.edu/EP078.)

A healthy lawn is not only functional, it also requires fewer applications of herbicides, insecticides, and fungicides. That important difference will benefit your lawn and the environment.

Figure 1. A lawn showing nitrogen deficiency symptoms.
Credits: L. Trenholm, UF/IFAS

Figure 2. St. Augustinegrass showing drought stress symptoms.
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