

## The New Kid on the Block – Managing the New Zoysia grasses

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Maybe you've seen them. They're shorter, finer textured, dark green and they don't succumb to chinch bugs. They're starting to appear, sometimes in whole neighborhoods, sometimes in individual lawns. Are they here to stay? Are they easy to manage? Are there herbicides labeled for use on them? Do they really not need water? Are we talking about a desert oasis? No, we're talking about the new zoysiagrasses and they are coming to a lawn near you soon. Empire is the best known of this new breed and managing it doesn't have to make you go gray.

### ***What are Zoysiagrasses?***

Zoysiagrasses originated in the Orient. There are three different species of zoysiagrasses, although only one, *Zoysia japonica*, is used for home lawns. This is the most broad-leaved of the zoysias, although when compared to St. Augustinegrass, the leaves are much smaller and finer. Other zoysia species include *Zoysia matrella* and *Zoysia tenuifolia*. There is a good bit of variation within the species, but general characteristics of zoysiagrass include good tolerance to shade, salinity, and wear. Some zoysiagrasses are adapted to northern areas of the United States, where they may provide a green lawn from late spring to fall. They have not been used much in Florida until now due to two main concerns: slow growth and nematodes. Some of the older japonica cultivars are very slow to establish, especially if plugged. These older cultivars have also traditionally suffered in nematode infested soils, making their use for lawns and landscapes in Florida very limited. Some of the newer cultivars don't appear to suffer adverse consequences from either of these pitfalls, although susceptibility varies among them.

### ***What are the New Cultivars?***

**Empire** Empire was introduced commercially around 2000 by Sod Solutions, a large sod grower from South Carolina. There are many Florida growers licensed to grow Empire and increasing sod acreage in Florida is being converted to Empire. It is used "wall to wall" in large developments such as the Villages and Lakewood Ranch. It performs well in the landscape, although it is not trouble free. Empire does not tolerate too many hours of shade and will perform best in an environment where it receives 6-8 hour of sunlight per day. This makes it about as shade tolerant as 'Floritam' St. Augustinegrass. Empire performs well in most lawns with less fertilizer than would be required by St. Augustinegrass, maintaining a deep green color and dense canopy. It will need about 2-4 lbs. of N per 1,000 square feet annually for best appearances and health. In research conducted in Manatee County and at the IFAS turfgrass research facility just south of Gainesville, 0.5 lbs. of water soluble nitrogen per application has provided a good response with minimal thatch buildup. For a slow-release N source, apply up to 1 lb. N per 1,000 square feet at each application. Apply other nutrients based on results of a soil test or sign of nutrient deficiency. Remember to use low amounts of phosphorus when

fertilizing any turfgrass. Potassium is a great general stress reducer for grasses, so look for a fertilizer with high K. Empire may green up later in the season than St.

Augustinegrass, so patience may be needed in the spring. Do not overfertilize during this time in an effort to produce an instantaneous green lawn.

Empire should be mowed at about 1.5 – 2 inches in height with a rotary mower. The frequency will be similar to St. Augustinegrass, or approximately once a week during the growing season. It may need to be watered with slightly less frequency than St.

Augustinegrass – of course, this frequency will vary depending on time of year, soil conditions, shade, etc. There are currently no research data available to show that Empire requires significantly less water than St. Augustinegrass.

Like many zoysiagrasses, Empire tends to develop excess thatch. It is also prone to attack by hunting billbugs and is susceptible to large patch disease.

**JaMur** JaMur is produced by Bladerunner Sod Farms in Texas. There is limited sod production of JaMur in Florida, so our information on how this grass may perform in Florida is somewhat limited. It has a medium textured leaf blade and tolerates moderate shade. It establishes more quickly than many zoysiagrasses and produces an attractive ground cover. Recommended mowing height is 2-3 inches. Fertilization recommendations for Texas are 1 – 2 lbs. N per 1,000 square feet annually. JaMur performed very well in the 1997-2000 National Turfgrass Evaluation Program (NTEP) study. This study provides research data on turfgrass performance from land-grant universities across the nation.

**UltimateFlora** This is a University of Florida release that is being marketed through Environmental Turf in Avon Park, Florida. It is in production around the state and is starting to appear as a home lawn option. It has slightly finer leaf blades than Empire and forms a dense canopy similar to the other zoysiagrasses. We planted this grass at our Gainesville area turf research facility last year and are just now starting to collect data on it. It establishes quickly laterally and will cover and fill in much more quickly than the older zoysiagrass cultivars. We will have more information on this and other new grasses in the coming year.

### *How Do I Manage Zoysiagrasses?*

**Fertilization** As stated previously, Empire requires less fertilizer than St. Augustinegrass to keep a healthy, nice looking lawn. Depending on where you are in the state, 2-4 lbs. of N per 1,000 square feet should provide good quality, color, and density. Less data are available on the other new cultivars, but a general guideline for fertilization would call for 2- 5 lbs of N per 1,000 square feet annually until we can fine-tune those rates. Again, remember to use low P and ample K.

**Irrigation** One question of considerable interest is water use of zoysiagrass compared to St. Augustinegrass. The comparison between water requirements of the two grasses is not documented with research data in Florida at this time, but it is probably fair to say that zoysiagrass will survive with “less” water than most St. Augustinegrass lawns. How much less is what we don’t know at this time. Research at Texas A&M University bears

this out. In a 60 day dry-down study, followed by a 60 day recovery, zoysiagrass cultivars Empire, Palisades, JaMur, and El Toro all ranked in the highest statistical category for percent living ground cover at the end of the study. Many of the bermudagrasses were also in this highest ranking, and just to really make us scratch our heads, so was Floratam St. Augustinegrass. Would we see similar results here in Florida? Given that Texas soils have better water-holding capacity than most of our sandy soils here in Florida, results would probably vary somewhat.

Until research data in Florida indicates otherwise, follow the same advice for irrigating both St. Augustinegrass and zoysiagrass. This is to irrigate on an as-needed basis, not on a specific time schedule. In general, water (whether from rainfall or irrigation) will be needed about every 3-4 days in the summer, 3-7 days in the fall, 5-14 days in the winter, and 3-7 days in the spring. These frequencies can vary greatly depending on where you are in the state, soil types, maturity of the grass and root depth, shade, and other factors. Apply ½ to ¾ inch of water every time you irrigate- this should not vary, only the frequency will vary.

**Mowing** Many of you reading this article have no control over the mowing of the grasses you manage, but perhaps you can help educate those who provide this service. These zoysiagrasses will do best mowed at about 2 inches. If mowed taller, thatch will increase, if mowed shorter, the rooting depth may be compromised. Mow with a rotary mower (only the fine textured species need a reel mower) and be sure the blades are kept sharpened, as zoysiagrass leaves are often tougher than other grasses. Mowing frequency is about the same as for St. Augustinegrass.

**Pest Control** The hunting billbug is the most damaging insect pest of zoysiagrass. These feed on the roots, which causes random brown patches in the shoot tissue. Damage is most prevalent in the spring and fall, especially in areas where fertilization or water is limiting. Other insect pests may include grubs or mole crickets.

As mentioned previously, large patch (kin to brown patch in St. Augustinegrass) may be a problem. This will be most severe in the fall and may affect spring green-up. Dollar spot may also affect zoysiagrasses and is most common in areas where nitrogen is limited. Weed pressure in zoysiagrass should not be severe in a well managed lawn due to the nature of zoysiagrass growth. The smaller leaf blades allow for a very dense stand of grass, which is a big defense in outcompeting weeds. A number of herbicide options exist for all weed types, which will certainly simplify control when compared with St. Augustinegrass.

Of course, sound agronomic practices are the key to reducing pest problems. Many of you control the fertilization, but do not often have a hand in the mowing or irrigation. There will never be a trouble free lawn of any type if all of these practices are not performed correctly.

### ***So, Does Your Business Want to Manage Zoysiagrass?***

I'm always a big proponent of trying new things. As a kid, this sometimes resulted in some interesting "science" experiments at my house, but fortunately nothing ever blew

up and all of our animals lived to ripe old ages. Now I get to conduct experiments as a profession and still have yet to blow anything up! So I say, go out there and take on a few zoysiagrass lawns. Yes, there will be a learning curve, but these grasses are not going to cause the headaches that a bermudagrass or seashore paspalum lawn would offer. I can't say that zoysiagrass will replace St. Augustinegrass in Florida, but it is claiming a big share of the turf for itself. Please feel free to contact me if you have questions about managing a zoysiagrass lawn or go to <http://yourfloridalawn.ifas.ufl.edu> for help.