

Sod Solutions, Inc.

PO Box 460

Mt. Pleasant, SC 29466

E-mail: info@sodsolutions.com

Web: www.sodsolutions.com



Description

EMPIRE Zoysia is a Brazilian *Zoysia japonica* developed by turfgrass breeders Minoru Ito and Roberto Gurgel that offers specifiers, landscapers, golf course designers, sportsturf managers and homeowners exceptional performance with low maintenance across a wide spectrum of applications. EMPIRE is a blue-green turfgrass that has a wider blade than most other zoysias (slightly broader than Meyer Zoysia) and grows in a wide variety of soil and climate conditions. EMPIRE performs well in sandy and clay type soils throughout the southern U.S. and has tough runners, rhizomes, and deep roots that provide excellent sod strength, wearability, and improved drought tolerance. EMPIRE performs well in hot, arid, sandy areas of the southwest U.S., and has proven itself drought tolerant in many challenging applications. Shade tolerance research is ongoing, as EMPIRE has performed well in field and homeowner sites, and exhibits shade tolerance typical of most Zoysias. EMPIRE is the first Zoysia to demonstrate improved tolerance to brown patch as compared to Meyer Zoysia in side-by-side plantings. Additionally, EMPIRE is highly tolerant of most herbicides making it easier to control weeds during production and for the end user.

Production and Quality Control

Genetic purity and preservation of the EMPIRE Zoysia variety is of primary importance to Sod Solutions. Only turfgrass producers licensed by Sod Solutions are authorized to grow EMPIRE for sale. All licensed EMPIRE production is monitored by Sod Solutions through ongoing quality control and quality assurance programs. Additionally, producers can choose to certify their EMPIRE through local state crop certification agencies that provide rigid standards and regulations for production, harvesting, and handling, that when adhered to, ensure a genetically pure, high quality, “certified” product.

Best Management Practices

To ensure optimum quality and performance of EMPIRE, users must accomplish necessary care and maintenance. This care and maintenance has been formalized below in the Best Management Practices (BMPs) for EMPIRE Zoysia. These BMPs are written as a guide and should be modified as local climate, soil, and environmental conditions dictate. It is important to note that no “magic fertilizer” or “super-chemical” will solve all problems or make any turfgrass perfect. Through consistent application of the BMPs and on-going evaluation, education, and modification of these practices, however, users will greatly enhance the quality and performance of EMPIRE Zoysiagrass.

Installation and Establishment

Installation and the care taken during the initial days that follow are the most critical factors in determining the long-term quality and performance of EMPIRE Zoysia. Harvesting and transplantation are extremely stressful to any turfgrass and precautionary measures should be taken to help reduce further cultural and environmental stresses. EMPIRE is a tough, hardy turfgrass that once established, produces a beautiful lifetime lawn, landscape, sportsturf or golf course. **Proper care, including pre-installation soil preparation and limiting time on the pallet to less than 24 hours, yields positive results (see www.sodsolutions.com/installation/index.shtml). Improper care, however, can cause death of the turfgrass or damage that results in lengthy recovery and additional expense.**

Irrigating Newly Installed EMPIRE: Proper watering upon installation is essential to successful establishment:

- Prior to installation, ensure irrigation systems are working properly and covering all areas to be planted
- Water thoroughly upon installation ensuring that both the EMPIRE is wet and the soil is moist to a depth of 3”
- In hot weather, water within a few hours of installation to mitigate severe damage or loss due to heat / dehydration stress
- To promote root establishment, water as needed to maintain moist soil to a depth of 3” for the first 1-2 weeks
- Shaded areas and heavy soils require less water than full-sun areas and sandy soils
- When proper rooting is evident, alter irrigation program accordingly (see Post Establishment Irrigation on page 2)
- Visit www.sodsolutions.com/research/research_water.shtml for more information on proper irrigation

Mowing: New installations are often uneven and care should be taken not to scalp high spots:

- Mow within 10 days of installation and bag clippings for the first few mowings
- See Post Establishment Mowing on page 2 for more information

Fertility: Use a transplant-friendly regimen that will help reduce shock and minimize disease:

- Use a starter fertilizer that is low in Nitrogen and higher in Phosphorous and Potassium

Post Establishment



Mowing: Mowing is a critical and often underappreciated cultural practice:

- Maintain EMPIRE at 1-2" (1" is optimal)
- Heights above 2" will reduce quality
- Can be maintained at heights of ½" if regularly mowed with a reel mower
- Rotary mowers are preferred for heights 1" or higher
- Reel mowers are preferred for heights below 1"
- Mow every 7-10 days during the active growing season
- Mow every 10-14 days, or as needed, during cooler weather
- Never cut more than 1/3 of the total length of the blade at any one mowing
- If a scheduled mowing is missed and clippings clump on top of the EMPIRE, bag or vacuum clippings to reduce shade-out
- Vertical mowing (verticutting) may be performed to renovate EMPIRE

Insecticides: Avoid stress from insects by performing insecticidal applications as needed:

- **For any insecticide application, always read and follow label directions carefully**
- Early identification and treatment of insect stress minimizes inputs and injury
- Make routine observations of the landscape, and be aware of seasonal pests like billbugs, armyworms and webworms
- Apply Bayer Advanced Lawn® Season-Long Grub Control Ready-to-Spread Granules annually to control billbug larvae/grubs.
- Control armyworms and webworms with Sevin, Orthene, Diazinon or Permethrin-based products
- Control billbugs with Sevin (adults), Talstar (adults), DeltaGuard (adults), Merit (larval/grub form), Mach2 (larval/grub form)
- Consult with local experts and view www.sodsolutions.com/problem_solving/index.shtml for insecticide recommendations

Herbicides: Proper mowing, irrigation and fertilization of EMPIRE will reduce weed problems. If a weed problem persists:

- **For any herbicide application, always read and follow label directions carefully**
- **Improper use of herbicides can severely damage or kill EMPIRE**
- Make routine observations of the landscape being aware of seasonal weeds
- Identify the type of weed causing the problem before using any chemical controls
- EMPIRE is tolerant of most commonly used herbicides
- Consult with local experts and view www.sodsolutions.com/problem_solving/index.shtml for herbicide recommendations

Fungicides: EMPIRE has shown resistance to most fungal problems and controls should be used only as needed:

- **For any fungicide application, always read and follow label directions carefully**
- Early identification and treatment of disease stress minimizes inputs and injury
- Make routine observations of the landscape being aware of unusual symptoms
- Consider a broad-spectrum fungicide application if predictable seasonal problems are noted
- Ask your EMPIRE grower to apply fungicide 1-2 weeks prior to harvest during times of high, disease-inducing stress
- Consult with local experts and view www.sodsolutions.com/problem_solving/index.shtml for fungicide recommendations

Irrigation: Established EMPIRE exhibits drought tolerance due to improved plant genetics and growth characteristics:

- Watering requirements are greatly dependent on soil type, season, geography and other factors
- Ensure irrigation systems are working properly and covering all areas covered by EMPIRE
- Make routine observations of the landscape and learn the signs (i.e., wilting) that indicate when irrigation is required
- Shaded areas and heavy soils require less water than full-sun areas and sandy soils
- Encourage deep root growth by watering until the soil is moist to a depth of 3", shallow watering encourages shallow roots
- Infrequent deep watering maximizes drought resistance and tolerance
- Visit www.sodsolutions.com/research/research_water.shtml for more information on proper irrigation

Fertility: Proper fertility practices will encourage healthy, disease and insect free EMPIRE:

- Perform soil tests to understand your soil type(s) and condition and best determine your specific fertility needs
- Generally EMPIRE requires 3 fertilizer applications/year: spring, summer and fall
- Make routine observations and fertilize according to what the landscape indicates
- Understand what and how much fertilizer you are applying
- Avoid disease and insect inducing growth flushes by reducing Nitrogen rates
- Improve color and limit growth surges by utilizing Iron sources
- Higher Nitrogen rates should only be applied in the spring, for injury recovery, or for planned "peaking" of EMPIRE

- Apply balanced fertilizers with lower rates of Nitrogen in the summer and fall