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Serving Landscape and Lawn Care Professionals



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BEST of Both Worlds

Wayne Hanna is the mastermind behind TifGrand bermudagrass, which performs well in shade and should be widely available in 2010.

New bermudagrass performs well in the sun and the shade

by Don Dale

Wayne Hanna has done it again. He's come out with a new bermudagrass, and this one goes where other bermudagrasses don't go—in the shade.

Dubbed TifGrand, the new bermudagrass from the University of Georgia Research Foundation, Inc. is a high-quality hybrid from a different line of crosses than the university's earlier releases, such as TifSport and TifEagle. This one has a number of good qualities, but the trait that is giving it rave reviews even before it has found commercial square footage is its adaptability to shade.

As a matter of fact, trials from Arizona to the Carolinas, as well as Hanna's observations from various plantings, show that TifGrand will perform well

under partial shade all day or heavy shade for much of the day, as well as in full sun. Hanna touts it as a grass that could be a boon to turfgrass managers on golf courses with a lot of trees and in sports stadiums with retractable roofs, though some of that hasn't been proven as yet. However, its biggest use could be much more plebeian.

"I think one of the biggest markets for this grass will be home lawns," says Hanna, University of Georgia professor and plant breeder at the Tifton campus. That's because one of the

drawbacks to the use of bermudagrass in residential and commercial situations is that there are often trees or buildings blocking the sun for much of the day. The same applies to parks and recreation uses, where lawns often extend right up to the tree lines, and then die a slow death in the shade.

It's another coup for Hanna, the one-time ag education major from a small town in Texas who surprised himself by going on to get a Ph.D. in plant breeding and working at Texas A&M and the University of Florida before coming to Georgia in 1971. He succeeded longtime Tifton plant breeder Glenn W. Burton, who originated the Tifway hybrid.

"He and I have about 100 man-years [at Georgia] between the two of us," Hanna says. Even as

TifGrand performs well in up to 60 percent shade ... but it will produce a thin lawn in up to 90 percent shade.

Best of Both Worlds

early as the 1960s, it was thought that the hybrid bermudagrasses had gone about as far as they could and the effort languished for a while, but in 1993, Hanna put out over 27,700 new hybrids with completely new parentage from the previous year's crossings of 24 parent combinations. The idea was to look at any promising characteristics that appeared. Even at that time, 30 of the new hybrids were set aside because their dense growth and good color set them apart from the other experimental hybrids.

Experimental variety ST-5 was one of those 30 promising crosses, and it turned out to be TifGrand. A cross between *Cynodon transvaalensis* and *Cynodon dactylon*, TifGrand is a triploid sterile hybrid, which requires vegetative propagation. It's pretty tough, being from one parent that is delicate and fine-bladed, and one parent that is rougher, but more adaptable. "You get the best of both worlds," he says.

TifGrand has proven to be finer textured than TifSport and Tifway at a lower than 1-inch mowing height, with dense growth and a dark green color. After being tested for 16 years in various settings, the dwarf-type hybrid has shown good quality throughout the southern tier of states. It has also performed well in the transition zone and as far north as Illinois and Kansas. It has not been tested for drought tolerance, but it does have mole cricket "non-preference." That means, Hanna says, that the persistent southern pest will eat it, but will eat other grasses around it first.

"We have had it all the way up to 1.5 inches and 2 inches, and down to 3/16 inch in mowing height," Hanna says, and it is currently being evaluated at a 5/16-inch height. In short, it "produces a beautiful turf" at heights that would be beneficial to both golf course superintendents and homeowners.

The shade tolerance of TifGrand is high. The University of Georgia says that TifGrand performs well in up to 60 percent shade, but Hanna notes that this is a conservative evaluation. Conditions vary widely, but it will produce a thin lawn in up to 90 percent shade.

Because of its naturally dense growth, TifGrand does not require heavy doses of nitrogen. A multiyear test in Roswell, Ga., has shown that nitrogen applications of 2 to 3 pounds per 1,000 square feet annually produce excellent turfgrass at a mowing height of 1.5 inches. In fact, under those conditions, Hanna would recommend removing clippings from the lawn. The cultivar is so dense and vigorous that there could be



One of the biggest uses of TifGrand may prove to be for tree-lined home lawns, such as this home in Georgia.

heavy thatch buildup, and core aeration would be a good management practice with high applications of nitrogen.

One of the attractive features of the Tifton hybrid bermudagrasses is that by the time they have been released they will have been thoroughly tested and evaluated. "We're cautious here at Tifton," says Hanna. It took 16 years to get TifGrand to its release date, and Hanna is confident that turfgrass managers and landscapers will find it to be a solid performer. It has been licensed by the University of Georgia Foundation, which owns the intellectual rights, to New Concept Turf, and The Turfgrass Group will be overseeing sod production. Hanna says there has been tremendous advance demand from sod growers across the country who want to produce TifGrand, which can be planted from sod, sprig or plug.

"In shaded areas we're recommending that they sod it," Hanna says. Growers are pushing a lot of acreage this summer, and TifGrand sod should be widely available from coast to coast in 2010.

This isn't the end of the line for the Tifton facility, though. Of those 27,700 experimental varieties, there are still a dozen that show promise in different areas that will be undergoing further evaluation. One, for example, called DT-1, is showing some drought tolerance beyond other hybrids. It stays green 14 days longer than Tifway when denied water and has high quality

as well, and this cultivar could be released within five years if tests prove it out.

Hanna notes that as of January, he has passed on his mantle of plant breeder to the new guy at Tifton, Brian Schwartz, and Molecular Geneticist Karen Harris has also been hired. He says the new team will be looking for new lines of



TifGrand is a fine-bladed hybrid that could be slated for use as far north as Illinois.

turfgrass that show promise in other areas, with water conservation being high on that list.

"The program is really going great," says Hanna, who left his USDA-Agricultural Research Service job in 2003 and currently works part time for the university. He is going on to look at breeding other types of plants, such as seedless tangerines and pomegranates.


Don Dale resides in Altadena, Calif., and is a frequent contributor to Turf. He has covered the green industry for more than 10 years.

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GCIA Certified Turf Certificate

The Georgia Crop Improvement Association "Blue Tag" certificate represents grass produced under an exacting protocol designed to ensure varietal purity and freedom from noxious weeds.

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| <div style="text-align: center; border: 1px solid black; padding: 2px; font-weight: bold;">GEORGIA CERTIFIED TURFGRASS</div> <p style="text-align: center; font-size: small;">Certification Warranty Disclaimer The grass this certificate represents was produced in accordance with the published standards of the Georgia Crop Improvement Association, Inc. (the "GCIA"). This GCIA makes no warranty of any kind, expressed or implied, including merchantability, or fitness for purpose. The grower whose name appears on this certificate is solely responsible for the information thereon and for the proper use of this certificate.</p> <div style="text-align: center;">  </div> <p>Kind: _____</p> <p>Variety: _____</p> <p>Quantity: _____</p> <p style="padding-left: 40px;">Sprigs: _____</p> <p style="padding-left: 40px;">Sod: _____</p> <p>Billing Invoice: _____</p> <p>Field #: _____</p> <p>Harvest Date: _____</p> <p>Grower Name & Address: _____</p> | <div style="text-align: center; border: 1px solid black; padding: 2px; font-weight: bold;">GCIA CERTIFIED TURFGRASS</div> <p style="text-align: center;">Georgia Crop Improvement Association, Inc. 2425 South Milledge Avenue Athens, GA 30606-1639 Phone 706-542-2351 Fax 706-542-9397</p> <p style="text-align: center; font-size: small;">Certificate Number: _____</p> <p>This grass was grown in accordance with a program designed to promote purity by adherence to published standards.¹</p> <p>This certificate must be completed and attached to each bill of lading or invoice representing certified sprigs or sod produced in accordance with the Georgia Crop Improvement Association rules and regulations for production of vegetatively propagated certified turfgrass or Bermuda grass.</p> <p>I certify the information provided is true and meets the Georgia Crop Improvement Association requirements for vegetatively propagated turfgrass certification.</p> <p>Authorized Representative of Grower: _____</p> <p>Copies: Original to Buyer (with each delivery) Pink to GCIA Office (at delivery) Yellow retained by Grower</p> <p style="font-size: x-small;">¹The GCIA Vegetatively Propagated Turfgrass Certification Standards are available upon request.</p> <div style="text-align: center; border: 1px solid black; padding: 2px; font-weight: bold;">MEMBER OF ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES</div> |
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GDA Live Plant Certificate

The Georgia Department of Agriculture "Live Plant" certificate represents grass inspected by the Department of Agriculture inspectors for "apparent freedom" from insects, diseases and other pests.

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|   | <div style="text-align: center; font-weight: bold;">LIVE PLANT CERTIFICATE</div> <div style="text-align: center;">GEORGIA DEPARTMENT OF AGRICULTURE</div> <p>This is to certify that the horticulture products which this certificate accompanies have been produced and maintained under a regular program administered by the Georgia Department of Agriculture in accordance with the Entomology Act of 1937 and regulations promulgated thereunder.</p> <p style="color: red; font-size: small;">This certificate expires December 31, 2001 999999</p> <p style="color: red; font-weight: bold; font-size: small;">PLANT MATERIAL PERISHABLE-NO DELAY</p> <p style="text-align: right;">Thomas T. Irvin Commissioner of Agriculture Mike Evans Director/Plant Protection</p> |
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TURF CERTIFICATES

Certificates are numbered, and will allow GCIA to have better control over their use, tracking of shipments, answering complaints, etc. Most other southern states use a similar certificate.

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| <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">GEORGIA CERTIFIED TURFGRASS</p> <div style="display: flex; justify-content: space-between; align-items: center;">  <div style="font-size: small;"> <p style="text-align: center; margin: 0;">Certification Warranty Disclaimer</p> <p style="margin: 0;">The grass this certificate represents was produced in accordance with the published standards of the Georgia Crop Improvement Association, Inc. (the "GCIA"). This GCIA makes no warranty of any kind, expressed or implied, including merchantability, or fitness for purpose. The grower whose name appears on this certificate is solely responsible for the information thereon and for the proper use of this certificate.</p> </div> </div> </div> | <div style="border: 1px solid black; padding: 10px; text-align: center;"> <h2 style="margin: 0;">GCIA CERTIFIED TURFGRASS</h2> <p style="margin: 5px 0;">Georgia Crop Improvement Association, Inc. 2425 South Milledge Avenue Athens, GA 30606-1639 Phone 706-542-2351 Fax 706-542-9397</p> <p style="text-align: right; margin: 5px 0;">Certificate Number: 0000001</p> <p style="margin: 10px 0;">This grass was grown in accordance with a program designed to promote purity by adherence to published standards.¹</p> <p style="margin: 10px 0;">This certificate must be completed and attached to each bill of lading or invoice representing certified sprigs or sod produced in accordance with the Georgia Crop Improvement Association rules and regulations for production of vegetatively propagated certified turfgrass or Bermuda grass.</p> <p style="margin: 10px 0;">I certify the information provided is true and meets the Georgia Crop Improvement Association requirements for vegetatively propagated turfgrass certification.</p> <p style="margin: 10px 0;">*Authorized Representative of Grower: <u>Joe Smith</u></p> <p style="margin: 10px 0;">Copies: Original to Buyer (with each delivery) Pink to GCIA Office (at delivery) Yellow retained by Grower</p> <p style="font-size: x-small; margin: 10px 0;">¹The GCIA Vegetatively Propagated Turfgrass Certification Standards are available upon request.</p> </div> |
| <p>Kind: <u>Bermuda</u></p> <p>Variety: <u>Tifway</u></p> <p>Quantity:</p> <p style="margin-left: 20px;">Sprigs: <u>500 bushels</u></p> <p style="margin-left: 20px;">Sod: _____</p> <p>Billing Invoice: <u>1234</u></p> <p>Field #: <u>1A</u></p> <p>Harvest Date: <u>4/01/2008</u></p> | |
| <p>Grower Name & Address:</p> <p><u>Greatest Turf on Earth</u> <u>Nunez, GA</u></p> | <div style="border: 1px solid black; padding: 5px; display: inline-block;"> MEMBER OF ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES </div> |

** Note the signature of the Authorized Representative will be the person or persons designated by the individual turf producer and who has also met the approval of the Georgia Crop Improvement Association.*



INSTALLATION

Step-by-Step Preparation

- 1 CLEAR THE SITE** of any and all debris, including rocks and sticks.
- 2 ROUGH GRADE** the entire area to prevent drainage problems and sloping from buildings.
- 3 INITIAL TILLING** of at least four to six inches is recommended. This should be done before adding any topsoil and will allow for adequate water movement.
- 4 ADD TOPSOIL** if your soil is not very nutritional, up to 4 inches in depth.
- 5 TEST THE SOIL PH** with a chemical soil test to determine if any pH changes are necessary. Acidic Soils (pH of 6 and below) can be improved with the addition of lime. The type of lime and amount can be determined by the level of acidity.
- 6 APPLY "STARTER FERTILIZER"** such as a 10-10-10 or 13-13-13, and lime, if necessary, to the soil and till that into the soil before laying the sod.
- 7 FINISH GRADE** the entire site, maintaining the rough grading contours and slopes.
- 8 ROLL THE AREA** with a lawn roller to firm and settle the soil on the surface. Low spots that are revealed should be filled in.
- 9 THE SITE IS NOW READY FOR TURFGRASS SOD.** Remember to water the sod as you lay it!



"The beauty is in the blades, but the 'action' is in the roots," is a good adage to remember when growing grass.



For optimum growth, turfgrasses need water, sunlight, air and nutrients. Reduce any of these and the plant may suffer and die. In the right proportions, the grass will flourish and provide a beautiful landscape that will last and benefit the environment.

NGTURF
800-273-8608

www.NGTURF.com

1487 Black Dirt Road, Whitesburg, GA 30185

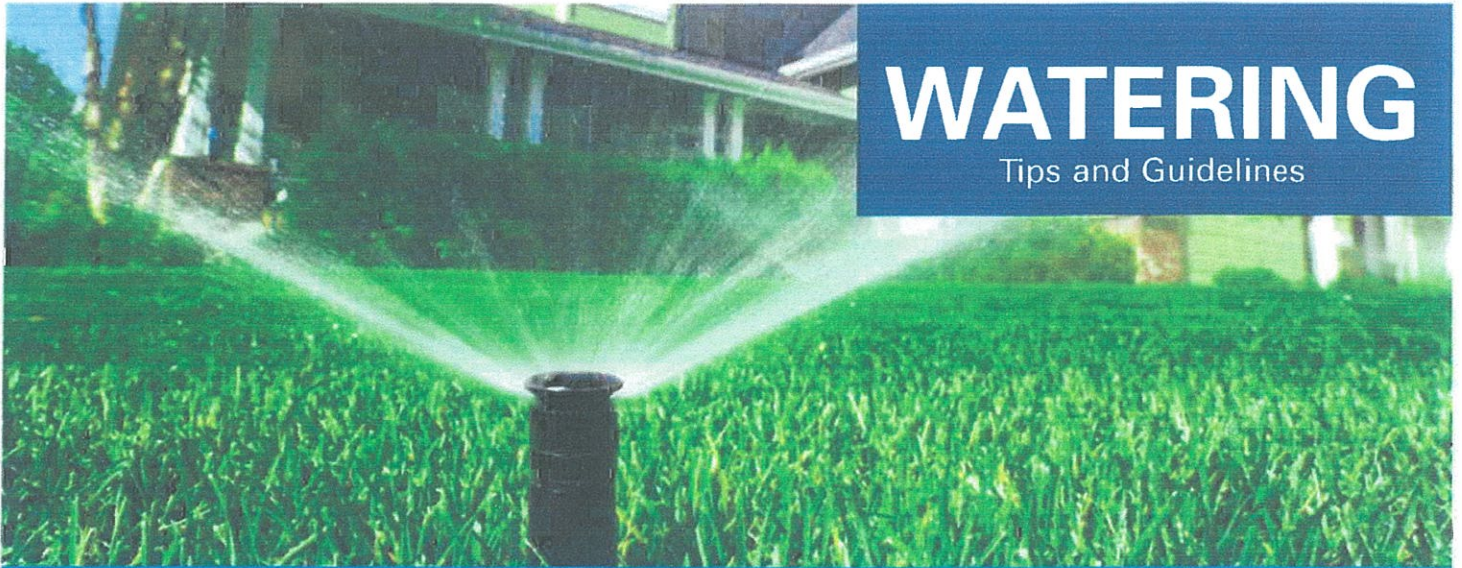
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WATERING

Tips and Guidelines



USE A SCREWDRIVER or other sharp tool to see if ground is penetrable. Pull back a corner and push the screwdriver or sharp object into the soil. It should push in easily and have moisture along the first 6 inches, or more water should be applied.



CORNERS AND EDGES are particularly vulnerable to drying out and are easily missed by many sprinklers. Areas near buildings also dry out faster. Make sure the entire lawn is receiving the same amount of water.



TO CONSERVE WATER when runoff occurs, turn off the water and wait thirty minutes to an hour. For the next two weeks, keep the soil below the turf moist with daily (or more frequent) waterings.



AS THE ROOTS of the turf begin to penetrate the soil, it will be difficult to pull back the corner to check underneath the sod. You can still use a sharp object to penetrate the soil by going all the way through the turf into the soil.



WATER IN THE MORNING anytime before 10 AM and in the evening after 4 PM. These times are ideal because of lower temperatures, lower wind speeds and less water is lost through evaporation.



INFREQUENT AND DEEP WATERING is preferred over frequent and shallow watering. Roots will only grow as deep as their most frequent available water supply.



DORMANT TURF STILL NEEDS WATER! Just because it is dormant does not mean it is dead! About 1/2 inch of water per week should be applied to dormant turf after establishment in winter periods when there is little to no rain. Winds and humidity levels can cause turf to be dry. Watering through the winter to keep soil moist will increase your chances of a healthy (and green) lawn in the spring!

It is essential to water the sod as you lay it. Do not wait until you are finished to start watering. Apply at least 1 inch of water so that the soil underneath is very wet. The amount of water your lawn requires and receives will determine its overall health, beauty and its ability to withstand use and drought. Keep in mind that too much water can ruin a lawn just as fast as too little. One inch per week is a watering "rule of thumb". It is suggested for most lawns, but will vary between different species.



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7

Making the Right Fertilizer Choice.

Now that you know the difference between fertilizers, it's time to figure out how to go about selecting the right fertilizer. Most fertilizer distributors sell a large variety of fertilizer products. So, how do you know which one is best for you?

Well you need to know how to read the fertilizer label. Every fertilizer bag must clearly display a label with the brand, grade, guaranteed analysis, name and address of the fertilizer manufacturer/company, directions for use and net weight. Some bags contain additional information such as the size of the granules or size guide number (SGN).

THE BRAND

The brand can be represented as an actual fertilizer brand like (XCU™, DURATION®, etc.) or as a batch number.

SGN (SIZE GUIDE NUMBER)

Describes the size of the granules in millimeters times 100 (i.e. a 250 SGN is 2.5mm in average particle size).

THE GUARANTEED ANALYSIS

This clearly states all nutrients that are being claimed and from which form they are derived (i.e. the percentage of Nitrogen derived from a polymer coated, sulfur coated urea).

DIRECTIONS FOR USE

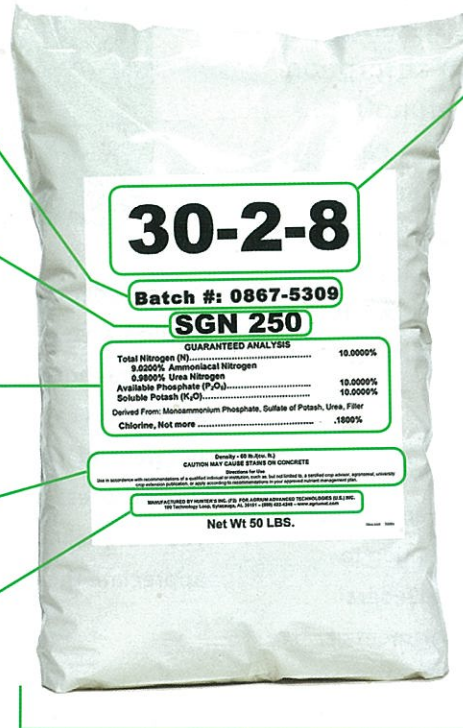
This information will tell you how to best use the product.

NAME & ADDRESS OF FERTILIZER MANUFACTURER/COMPANY

This information will tell you where the product was produced and what manufacturer/company produced it.

HOW TO CALCULATE HOW MUCH FERTILIZER YOU NEED.

If you wished to apply a rate of 1 pound of Nitrogen per 1,000 square feet, with this bag of fertilizer, you would need to apply 3.33 pounds of actual product (1.0 pound Nitrogen desired / 0.30 = 3.33). In doing so, you would be applying 0.07 pounds of Phosphate (3.33 x 2%) and 0.27 pounds of Potash (3.33 x 8%).



THE GRADE

The grade is considered the three numbers boldly displayed on a fertilizer bag that represent the percentages of Nitrogen (N), Phosphorus (P) and Potassium (K).

THE FIRST NUMBER

Represents Nitrogen. Therefore a fertilizer bag with a 30-2-8 on the label means it contains 30% Nitrogen.

THE SECOND NUMBER

Represents Phosphorus expressed as Phosphate (P₂O₅), which contains Oxygen.

THE THIRD NUMBER

The third number represents Potassium expressed as Potash (K₂O), which also contains Oxygen.