APPLICATION FOR RELEASE

APPLICATION FOR RELEASE OF (check one):

■ **CULTIVAR**	☐ **PARENTAL LINE**
☐ **ASSOCIATE CULTIVAR**	☐ **GENETIC STOCK**
☐ **GERMPLASM**	

1. Crop:
   Interspecific Hybrid Bermudagrass (*Cynodon transvaalensis* × *C. dactylon*)

2. Experimental no. or name:
   DT-1

3. Pedigree and history:
   In 1992, seven *C. transvaalensis* (T-572, T-573, T-573, T-574, T-575, T-576 and T-577) parents were crossed with four *C. dactylon* (T-90, T-110, 'Quickstand', and 'VaMont') parents in Tifton, GA. Cross pollinations were made in the field by surrounding each *C. transvaalensis* parent with a *C. dactylon* parent in 1.9 m^2 (6 ft^2) plots. All crossing blocks were in close proximity of each other, so intercrossing between and among plots cannot be ruled out. On 7 May 1993 over 27,700 progeny from the cross combinations were planted on 46 cm (18 in) centers in the field. Once established, plots were mowed 3× per week at 6.4 mm (¼ in). By the fall of 1994, 421 hybrids that maintained density under close mowing were selected and further evaluated in replicated tests until 1996. Ninety of these hybrids were selected based on turfgrass performance and planted on 30.5 cm (12 in) centers under a rainout shelter in 1999 and evaluated until 2001 under deficit irrigation. DT-1 was selected during 2001 because it maintained quality and green color longer than the other genotypes when under drought stress. At this point in time the pedigree was lost due to the close planting density of the rainout structure trial, but it has been further tested since 2002 as DT-1 in 19 drought-stress trials, two traffic-stress trials, and four irrigated, non-stress trials. These replicated field tests were carried out in Georgia, Florida, North Carolina, Oklahoma, and Texas under restricted testing agreements (RTAs) when applicable. DT-1 was entered into the 2013 National Turfgrass Evaluation Program (NTEP) trials where it will be evaluated in 20 locations across the United States until 2017. Additionally, DT-1 has been growing in un-replicated plantings under RTAs at the following: sod farms in Poteet, TX since 2011, in Marshallville, GA since 2012, in Perry, GA since 2012, and in Lakeland, GA since 2013; a residential lawn in Tifton, GA since 2012; golf courses in Tifton, GA since 2012, in Richmond Hill, GA since 2012, in Atlanta, GA since 2012, in Valdosta, GA since 2013, and in Savannah, GA since 2013.

4. Description of plant material:
   DT-1 has an inflorescence density that is greater than Tifway or TifSport, similar to Celebration, and less than TifGrand (Table 1). The inflorescence height is taller than found in Tifway or TifSport, and similar to TifGrand and Celebration. DT-1 has a similar number of racemes per flower as Tifway and TifSport, but typically more than

found for TifGrand and less than observed in Celebration. DT-1's raceme length is similar to that of TifGrand, and less than found in Tifway, TifSport, and Celebration. DT-1 has fewer florets per raceme than TifSport, Tifway, or Celebration, but is similar to TifGrand. DT-1 has a higher canopy height than Tifway, TifGrand, Celebration, and TifSport when left unmowed for more than three weeks (Table 2). The leaf widths of DT-1, TifSport, Tifway, and TifGrand are all similar, but less than that of Celebration. DT-1's terminal stolon internode lengths are similar to those of TifGrand and Tifway, but less than found on TifSport and Celebration.

DT-1 typically has a faster growth rate than Tifway, TifSport, TifGrand, and Latitude 36 when planted as plugs, but it may cover more slowly than Celebration depending on the environment (Tables 3 and 4). In regularly irrigated trials, the spring green-up of DT-1 is faster than observed in TifGrand and Celebration, but equal to that of TifSport (Table 3). In unirrigated stress trials, both Tifway and TifSport green-up later than DT-1 (Table 5). Color retention during fall dormancy in DT-1 is usually greater than for TifGrand, TifSport, Tifway, and Celebration (Tables 3 and 5).

The genetic color observed for DT-1, determined both by digital image analysis (Tables 3 and 6) and visual ratings (Table 7), in almost all non-drought stressed evaluations is lower than for Tifway, TifSport, TifGrand, Celebration, Patriot, and Discovery. In some instances of drought (Table 6), fall dormancy (Table 3), or management at higher mowing heights (Table 6), the genetic color of DT-1 is similar to that of TifSport and Tifway.

In environments where soil moisture and nutrient availability are not limiting, DT-1 requires a similar number of monthly mowing events as Tifway, TifGrand, Patriot, and Celebration, but more than for Discovery (Figure 1). At a 2.54 cm (1 in) mowing height, the turfgrass quality of DT-1 can be higher than for Tifway, TifGrand, Patriot, Celebration, and Discovery (Figure 2). Applications of the growth regulator trinexapac-ethyl (Primo) do not reduce the number of monthly mowing events required to maintain good turf quality at 2.54 cm (1 in) during July and August when irrigated, but DT-1's turf quality can be reduced by the growth regulator (Figure 2).

Replicated pesticide sensitivity screening trials have not been conducted on DT-1, although the following herbicides, insecticides, and fungicides have been used at different stages of the selection process during the past 14 years in field trials without note of injury:

Preemergence herbicides: atrazine (Aatrex), dithiopyr (Dimension), indaziflam (Spectacle), metolachlor (Pennant Magnum), oryzalin (Surflan), oxadiazon (Ronstar), prodiamine (Barricade), simazine (Princep), [sulfentrazone + prodiamine] (Echelon).

Postemergence herbicides: 2,4-D (Weedar), bentazon (Basagran), carfentrazone (Quicksilver), [carfentrazone + 2,4-D + MCPA + dicamba] (SpeedZone), flazasulfuron (Katana), foramsulfuron (Revolver), halosulfuron (SedgeHammer), imazaquin (Image), [MCPP + 2,4-D + dicamba] (Trimec Southern), metribuzin (Sencor), metsulfuron

(Manor), MSMA (Bueno), pronamide (Kerb), quinclorac (Drive), rimsulfuron (TranXit), sulfentrazone (Dismiss), [thiencarbazone + iodosulfuron + dicamba] (Celsius), trifloxysulfuron-sodium (Monument).

Insecticides: acephate (Orthene), bifenthrin (Talstar), carbaryl (Sevin), chlorpyrifos (Dursban), fipronil (Chipco Choice), hydromethylnon (Amdro).

Fungicides: azoxystrobin (Heritage), chlorothalonil (Daconil).

5. Need for and potential users of plant material:
Improvement of drought and traffic tolerance in turfgrass is always needed, especially as irrigation restrictions during drought become more common and as the public becomes more conscientious of athlete safety, especially that of minors. Potential users of DT-1 bermudagrass would first be the sod industry, and ultimately sports turf managers, landscape professionals, home owners, and golf course superintendents. DT-1 has been tested for broad adaptation in areas of the United States where warm-season grasses are grown and should benefit the above mentioned users in regions of the world between the latitudes of 36 N and 36 S.

6. Justification for release:
- DT-1 generally has superior turfgrass performance than many other cultivars (Tifway, Tifton 10, TifSport, Princess-77, Common, Celebration, and Latitude 36) when in short- and long-term drought environments (Tables 4, 5, 8, and 9).
- Research to date indicates that the mechanism of DT-1's drought tolerance may be reduced water use (Figure 3), particularly in soils with higher silt and clay content (Figure 4).
- DT-1 has at least equal turfgrass performance, if not superior, to many other cultivars (Tifway, TifSport, TifGrand, Patriot, Celebration, Latitude 36, and Discovery) when well-maintained with regards to irrigation, fertilization, and mowing frequency (Tables 3, 4, 5, and 6).
- DT-1 generally has superior traffic tolerance than many other cultivars (Tifway, TifSport, TifGrand, Patriot, Celebration, and Discovery) when subjected to wear (Figures 5 and 6).
- The mechanism of DT-1's traffic tolerance may be increased turf cover, particularly in the fall (Table 3 and Figure 6) and faster growth (Tables 2, 3, and 4; Figures 1 and 5).
- DT-1's sod strength is generally superior to that of Tifway, and at least equal to that of TifGrand (Figures 7, 8, and 9).
- A potential limitation of DT-1 is that it can scalp when mowing frequency is not regular in environments where soil water and nutrient availability are not limiting. DT-1's potential to scalp has not been an issue in stress environments.
- Included are pictures of Celebration and DT-1 bermudagrasses after sustained droughty conditions in a Linear Gradient Irrigation System (LGIS) evaluation during 2011 at the West Florida Research and Education Center (WFREC) in Jay, FL (Figure 10) and of DT-1 bermudagrass in an unirrigated lawn during 2014 in Tifton, GA (Figure 11).

APPLICATION FOR RELEASE

7. Participating scientists:
Brian M. Schwartz, Wayne W. Hanna, Paul L. Raymer, Alec R. Kowalewski, J. Bryan Unruh, and F. Clinton Waltz

8. Location(s) at which plant material was developed:
University of Georgia Tifton Campus

9. Recommended form of intellectual property protection and royalty:
Plant Patent

Cultivar and associate cultivar applications only provide the following information:

10. Method of propagation:
Vegetative (sprigs, plugs, and/or sod)

11. Amount of breeder seed stocks available (if applicable):
N/A

12. Amount of foundation seed stocks available if applicable:
N/A

13. Amount of cutting or bud material available for vegetatively propagated material for nursery distribution (if applicable):
1 acre of DT-1 will be available in August 2014 at the Coastal Plain Experiment Station

14. Describe any unusual difficulty anticipated in the production of any class of seed stocks:
None

15. Suggest up to three names for the cultivar, if appropriate:

TifXL	TifTough	TifElite
TifLegacy	TifBear	TifClassic
TifMerit	DT-1	TifSelect

16. Name approved by plant cultivar and germplasm release committee:

Table 1. Summary of inflorescence morphology of DT-1 bermudagrass compared to other bermudagrass genotypes measured during 2011 and 2012 in Tifton, GA[1].

Genotype	Inflorescences per m^2	Inflorescence peduncle length	Racemes per inflorescence	Raceme length	Florets per raceme
	number	mm	number	mm	number
93-175	285 c[1]	87 a	4.4 a	32 b	25.0 b
Celebration	3679 ab	66 b	3.6 b	36 a	38.3 a
DT-1	2940 b	67 b	2.9 c	22 d	13.2 d
TifGrand	4232 a	62 b	2.3 d	22 d	15.6 cd
TifSport	535 c	53 c	2.8 c	25 c	16.3 c
Tifway	407 c	48 c	2.8 c	25 c	16.8 c

[1]Field trial planted during 2010.
[2]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Table 2. Summary of vegetative plant morphology of DT-1 bermudagrass compared to other bermudagrass genotypes measured during 2011 in Tifton, GA[1].

Genotype	Turf canopy height[2]	Leaf width[3]	Stolon internode length[4]
	cm	mm	mm
93-175	12 b[5]	1.8 b	28 a
Celebration	9 b	2.2 a	25 ab
DT-1	17 a	1.8 b	17 c
TifGrand	9 b	2.0 ab	18 c
TifSport	10 b	1.8 b	25 ab
Tifway	9 b	1.9 b	21 bc

[1]Field trial planted during 2010.
[2]Turf canopy heights were measured from the ground to the top of the leaves.
[3]Leaf widths were measured on the first fully expanded leaf of a mature phytomer in the turf canopy.
[4]Stolon internode lengths were measured between the 3rd and 4th node of the apical meristem.
[5]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Table 3. Mean turfgrass cover and color of five bermudagrasses mowed at 3.8 cm (1.5 in) in an irrigated, non-stressed field trial during 2012 and 2013 in Tifton, GA[1].

	Turf cover[2]				Turf color[3]			
Genotype	Estab.	Green-up	Summer	Dormancy	Estab.	Green-up	Summer	Dormancy
	% green cover				DGCI			
Celebration	55 a[4]	62 b	89 a	26 c	0.86 a	0.65 a	0.72 a	0.74 a
DT-1	44 b	75 a	91 a	65 a	0.81 b	0.60 c	0.69 b	0.68 bc
TifGrand	26 c	46 d	85 a	47 b	0.85 a	0.63 b	0.72 a	0.70 b
TifSport	32 c	75 a	86 a	33 c	0.82 b	0.65 a	0.70 b	0.68 cd
T-11	48 ab	54 c	91 a	26 c	0.85 a	0.63 b	0.71 ab	0.66 d

[1]Field trial planted during 2009.
[2]Turf cover was determined by analyzing digital images taken in an enclosed photo box with a constant light source using SigmaScan Pro to measure the percentage of green pixels (0-100%) according to procedures developed by Richardson et al. (2001).
[3]Turf color was determined by analyzing digital images taken in an enclosed photo box with a constant light source using SigmaScan Pro to measure the hue, saturation, and brightness and then calculate the dark green color index according to procedures developed by Karcher and Richardson (2003).
[4]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Table 4. Mean establishment, non-stressed and stressed turfgrass quality of four bermudagrasses mowed at 5.1 cm (2.0 in) in field trials[1] at seven locations across the United States during 2011, 2012, and 2013.

	Establishment[2]			Turf quality[3]			Stress turf quality[4]		
Genotype	South[5]	North[6]	All	South	North	All	South	North	All
	% green cover			Visual rating			Visual rating		
Celebration	55 a[7]	66 ab	62 a	5.8 bc	6.1 b	5.9 c	3.4 b	4.2 b	3.9 b
DT-1	58 a	75 a	69 a	7.3 a	7.3 a	7.3 a	5.9 a	6.0 a	5.9 a
Latitude 36	26 b	59 bc	46 b	5.5 c	7.0 a	6.4 b	3.7 b	3.8 b	3.8 b
Tifway	31 b	48 c	42 b	6.2 b	7.1 a	6.7 b	4.2 b	4.3 b	4.2 b

[1]Field trials were planted in 2011. All trials were planted again in 2012 to repeat the experiments.
[2]Turfgrass establishment was visually rated on a 1-100% scale during year 1 of both trials.
[3]Turf quality was rated on a 1 to 9 scale with 1 = dead, 6 = acceptable, and 9 = excellent prior to the initiation of drought screening during year 2 in both trials.
[4]Stressed turf quality cover was rated on a 1 to 9 scale with 1 = dead, 6 = acceptable, and 9 = excellent after varying days of drought stress, depending on location and soil type, during year 2 in both trials.
[5]Testing locations were in College Station, TX, Gainesville, FL, and Tifton, GA.
[6]Testing locations were in Dallas, TX, Griffin, GA, Raleigh, NC, and Stillwater, OK.
[7]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Table 5. Mean turfgrass quality and cover of three bermudagrasses mowed at 3.8 cm (1.5 in) in a non-irrigated field trial during 2009, 2010, and 2011 in Tifton, GA[1].

	Turf quality[2]			Turf cover[3]			
Genotype	Summer Rain	Summer Stress	Fall Dorm.	Green-up	Summer Rain	Summer Stress	Fall Dorm.
	Visual rating			% green cover			
DT-1	6.6 a[4]	6.0 a	4.8 a	68 a	92 a	70 a	43 a
TifSport	4.4 b	3.6 b	2.8 b	50 b	87 ab	44 b	33 b
Tifway	4.0 b	4.0 b	2.8 b	49 b	82 b	48 b	32 b

[1]Field trial planted during 2006.
[2]Turf quality was rated on a 1 to 9 scale with 1 = dead, 5 = acceptable, and 9 = excellent.
[3]Turf cover was determined by analyzing digital images taken in an enclosed photo box with a constant light source using SigmaScan Pro to measure the percentage of green pixels (0-100%) according to procedures developed by Richardson et al. (2001).
[4]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Table 6. Mean turfgrass quality, cover, and color of three bermudagrasses mowed at 1.3 cm (0.5 in) and 3.8 cm (1.5 in) in an irrigated, non-stressed[1] field trial during 2010 and 2011 in Tifton, GA[2].

		Turf quality[3]			Turf cover[4]			Turf color[5]		
HOC[6]	Genotype	April	June	Oct.[1]	April	June	Oct.	April	June	Oct.
		Visual rating			% green cover			DGCI		
1.3 cm	DT-1	5.8 a[7]	7.3 a	7.7 a	87 a	88 a	59 a	0.71 b	0.71 b	0.76 a
	TifSport	6.3 a	6.7 a	6.0 a	82 a	79 b	22 b	0.74 a	0.75 a	0.76 a
	Tifway	5.8 a	7.8 a	6.3 a	80 a	86 ab	23 b	0.76 a	0.74 a	0.74 a
3.8 cm	DT-1	6.3 a	7.5 a	8.3 a	89 a	85 a	63 a	0.71 b	0.72 a	0.76 a
	TifSport	5.5 b	7.2 a	5.3 b	88 a	83 a	20 b	0.73 b	0.74 a	0.73 a
	Tifway	5.8 ab	6.0 a	6.0 b	80 a	83 a	25 b	0.76 a	0.75 a	0.73 a

[1]Field trial was irrigated to prevent stress from April 2010 through June 2011. The October ratings and measurements represent unirrigated field conditions from July 2011 through October 2011 in which the Coastal Plain Experiment Station received 40 cm (15.8 in) of rain.
[2]Field trial planted during 2008.
[3]Turf quality was rated on a 1 to 9 scale with 1 = dead, 5 = acceptable, and 9 = excellent.
[4]Turf cover was determined by analyzing digital images taken in an enclosed photo box with a constant light source using SigmaScan Pro to measure the percentage of green pixels (0-100%) according to procedures developed by Richardson et al. (2001).
[5]Turf color was determined by analyzing digital images taken in an enclosed photo box with a constant light source using SigmaScan Pro to measure the hue, saturation, and brightness and then calculate the dark green color index according to procedures developed by Karcher and Richardson (2003).
[6]Height of cut.
[7]Means within columns followed by the same letter at each HOC are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Table 7. Mean genetic turf color of six bermudagrasses averaged over control and trinexapac-ethyl (TE)[1] treatments mowed at 2.54 cm (1 in) in an irrigated field trial during 2011 and 2012 in Tifton, GA[2].

	2011	2012
Genotype	Turf color[3]	
	Visual rating	
Discovery	8.0 a[4]	8.9 a
Celebration	7.1 bc	7.1 cd
Patriot	7.4 b	6.9 d
Tifway	6.9 c	7.8 bc
Tifgrand	7.3 bc	8.3 ab
DT-1	6.1 d	6.0 e

[1]TE applications were made the first week of the month in June, July, August and September 2011 and 2012 at a rate of 0.15 kg ha^{-1}.
[2]Field trial planted during 2011.
[3]Genetic turf color assessed on a 1 to 9 scale with 1 = yellow, 6 = acceptable, and 9 = dark green 20 days after the August TE application.
[4]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

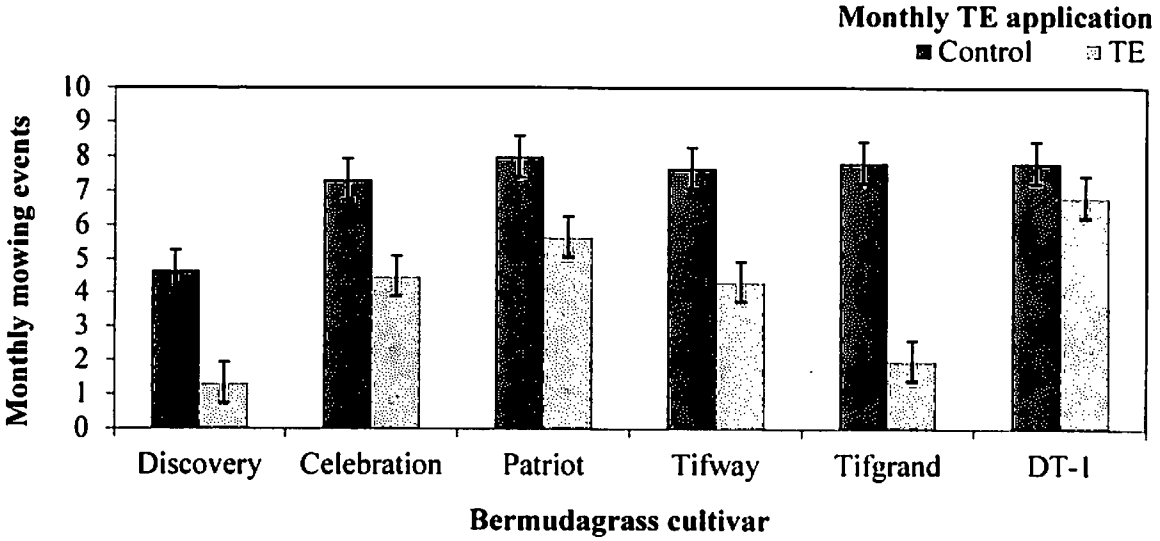

Figure 1. Average monthly mowing events necessary to maintain six bermudagrasses at a 2.54 cm (1.0 in) height with mowing frequency based on the one-third rule in July and August of 2012 in Tifton, GA. Trinexapac-ethyl was applied monthly from June to September 2012 at a rate of 0.15 kg ha^{-1}. Columns with overlapping error bars are not significantly different according to Fisher's LSD ($P \leq 0.05$). Field trial planted during 2011.

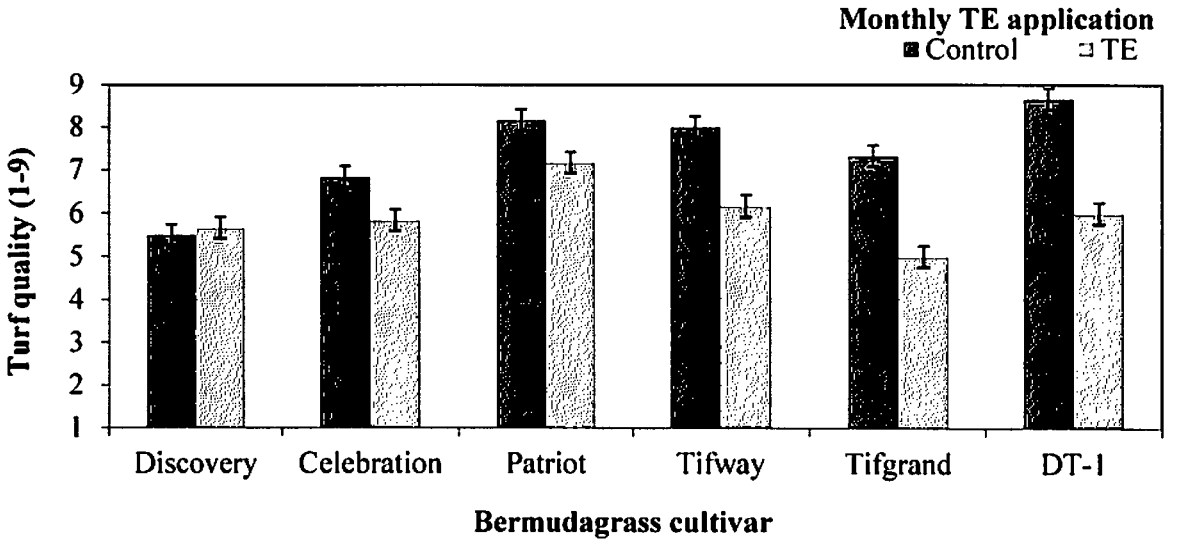

Figure 2. Mean turf quality of six bermudagrasses visually rated in July and August of 2012 in Tifton, GA. Trinexapac-ethyl was applied the first week of the month in June, July, August and September 2012 at a rate of 0.15 kg ha^{-1} and the mowing height was 2.54 cm (1.0 in). Turf quality was assessed on a 1-9 scale, 1 being dead, 9 being excellent and 6 or above acceptable. Columns with overlapping error bars are not significantly different according to Fisher's LSD ($P \leq 0.05$). Field trial planted during 2011.

Table 8. Mean turfgrass drought stress and quality of three bermudagrasses mowed at 3.8 cm (1.5 in) in a non-irrigated field trial during 2002, 2003, and 2004 in Tifton, GA[1].

	2002		2003				2004			
	4 Nov		7 Sept		19 Sept		16 Aug		31 Aug	
Genotype	Stress[2]	TQ[3]	Stress	TQ	Stress	TQ	Stress	TQ	Stress	TQ
					Visual rating					
DT-1	1.0 a[4]	7.5 a	1.0 a	9.0 a	3.3 b	7.0 a	1.0 a	8.8 a	2.5 b	8.0 a
TifSport	1.0 a	7.5 a	1.0 a	8.5 a	4.8 a	5.8 b	1.0 a	8.3 a	6.0 a	6.5 b
Tifway	1.0 a	7.5 a	1.0 a	8.5 a	5.0 a	5.8 b	1.0 a	8.3 a	6.0 a	6.5 b

[1]Field trial planted during 2002.
[2]Turf drought stress was rated on a 1 to 9 scale with 1 = no drought stress and 9 = high drought stress.
[3]Turf quality was rated on a 1 to 9 scale with 1 = dead, 7 = acceptable, and 9 = excellent.
[4]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Table 9. Mean turfgrass quality of five bermudagrasses mowed at 3.8 cm (1.5 in) averaged over four dates in 2010, 2011, and 2012 after sustained droughty conditions in the Linear Gradient Irrigation System (LGIS) evaluation at the West Florida Research and Education Center (WFREC) in Jay, FL[1].

	Irrigation level (% ET_0)								
Genotype	120	105	80	54	37	25	13	3	Average
	Visual rating[2]								
Celebration	4.7 b[3]	4.5 bc	4.3 b	3.9 bc	3.7 bc	2.8 c	2.1 c	2.2 c	3.5
Common	4.7 b	4.1 bc	4.1 b	3.8 bc	3.6 cd	2.9 c	2.4 c	2.2 c	3.5
DT-1	6.8 a	6.6 a	6.4 a	6.3 a	6.3 a	5.8 a	4.7 a	4.6 a	5.9
Princess-77	4.7 b	4.6 b	4.3 b	4.3 b	4.1 b	3.9 b	3.1 b	2.9 b	4.0
Tifton 10	4.2 c	4.0 c	3.9 b	3.6 c	3.3 d	2.7 c	2.3 c	2.2 c	3.3

[1]Field trial planted during 2010.
[2]Turf quality was rated on a 1 to 9 scale with 1 = dead, 5 = acceptable, and 9 = excellent.
[3]Means within columns followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

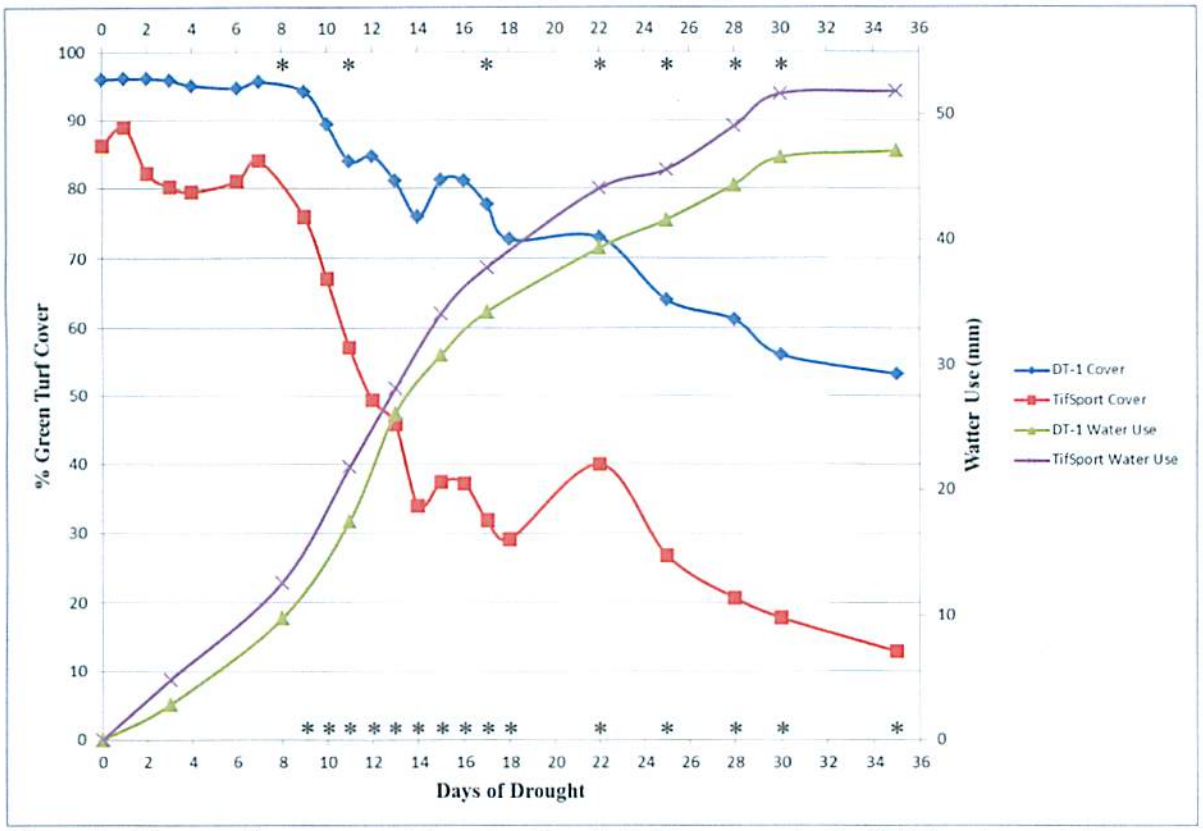

Figure 3. Mean turfgrass cover determined by digital image analysis (DIA) and cumulative water use using 60 cm soil moisture profile probes of two bermudagrasses mowed at 3.8 cm (1.5 in) over 35 d without irrigation in a field trial during 2011 in Tifton, GA. Mean turfgrass cover is significantly different according to Fisher's LSD ($P \leq 0.05$) where asterisks are present on the lower X-axis. Mean cumulative water use is significantly different according to Fisher's LSD ($P \leq 0.10$) where asterisks are present on the upper X-axis. Field trial planted during 2008.

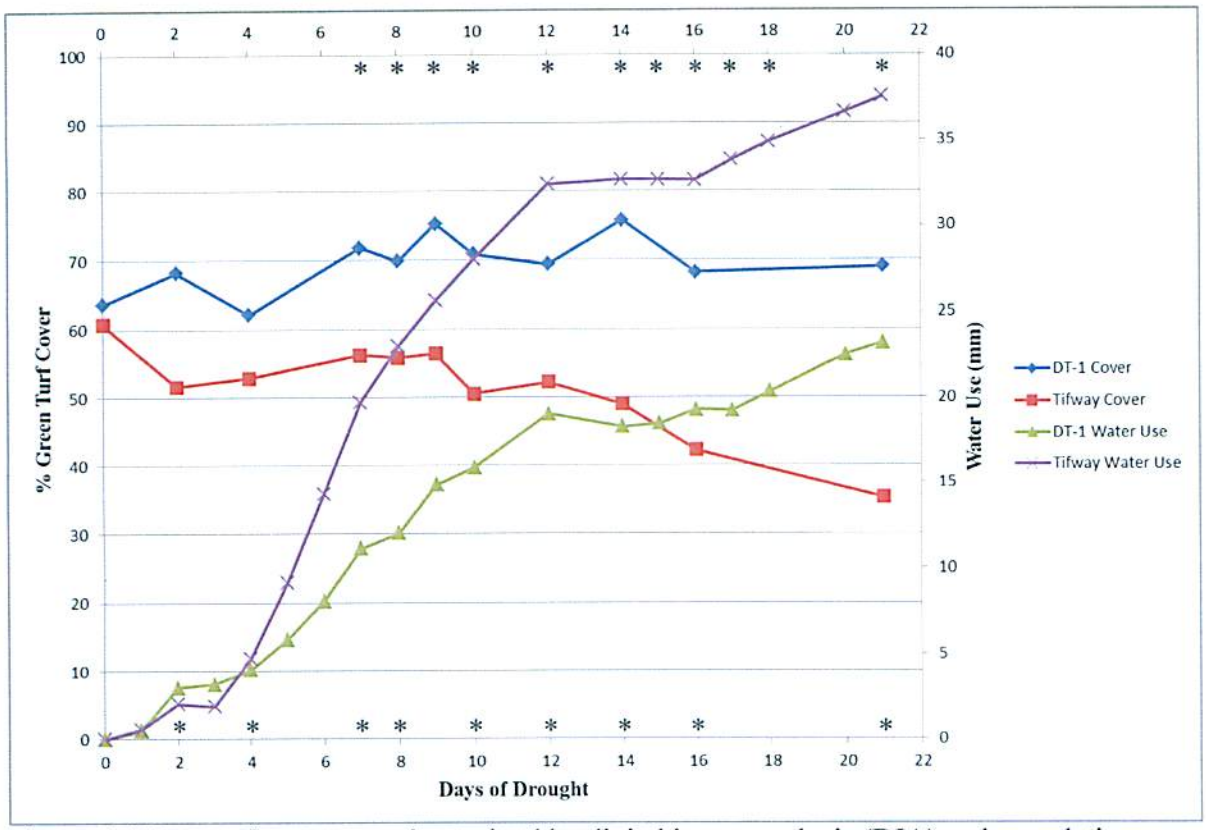

Figure 4. Mean turfgrass cover determined by digital image analysis (DIA) and cumulative water use using 50 cm soil moisture profile probes of two bermudagrasses mowed at 5.1 cm (2.0 in) over 21 d without irrigation in a field trial during 2011 in Griffin, GA. Mean turfgrass cover is significantly different according to Fisher's LSD ($P \leq 0.10$) where asterisks are present on the lower X-axis. Mean cumulative water use is significantly different according to Fisher's LSD ($P \leq 0.05$) where asterisks are present on the upper X-axis. Field trial planted during 2010.

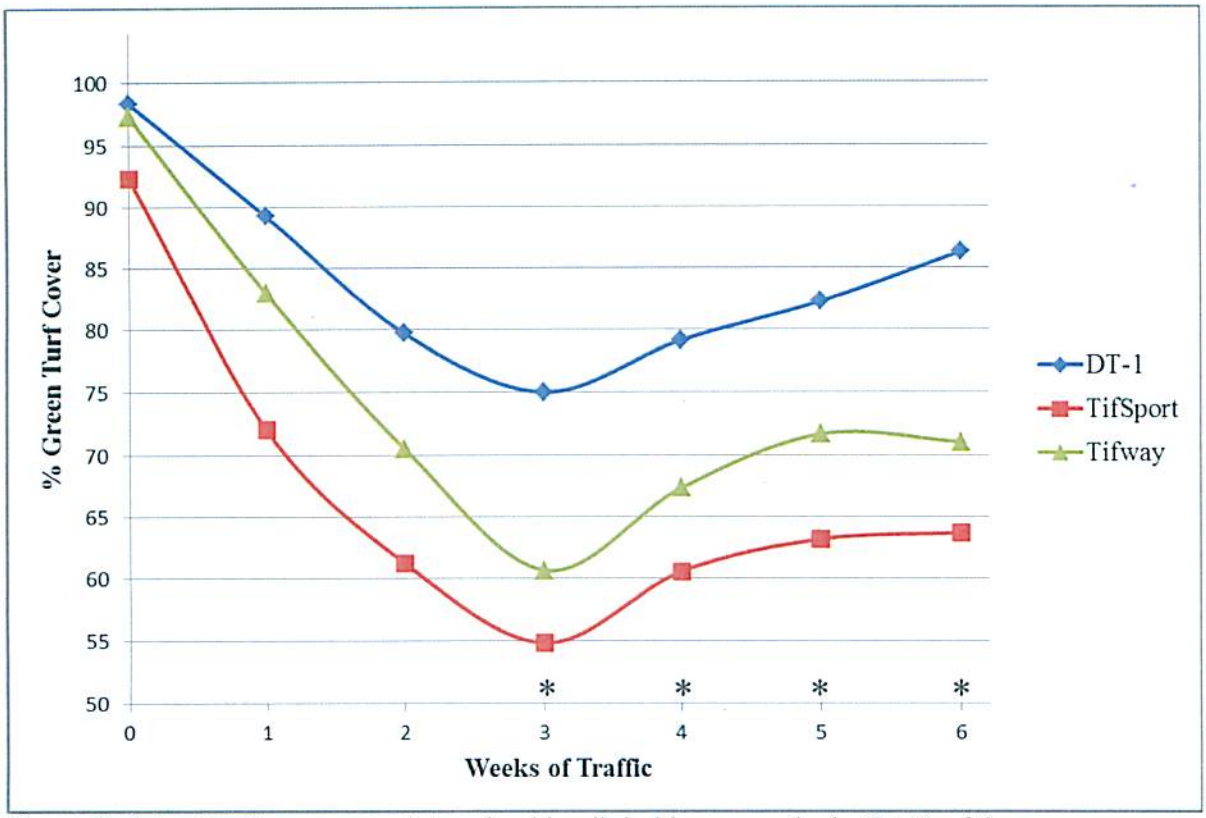

Figure 5. Mean turfgrass cover determined by digital image analysis (DIA) of three bermudagrasses mowed at 1.3 cm (0.5 in) over 6 wks of traffic in two field trials during the summer of 2011 in Tifton, GA. Mean turfgrass cover of DT-1 is significantly greater than all other tested cultivars according to Fisher's LSD ($P \leq 0.10$) where asterisks are present on the lower X-axis. Field trial planted during 2008.

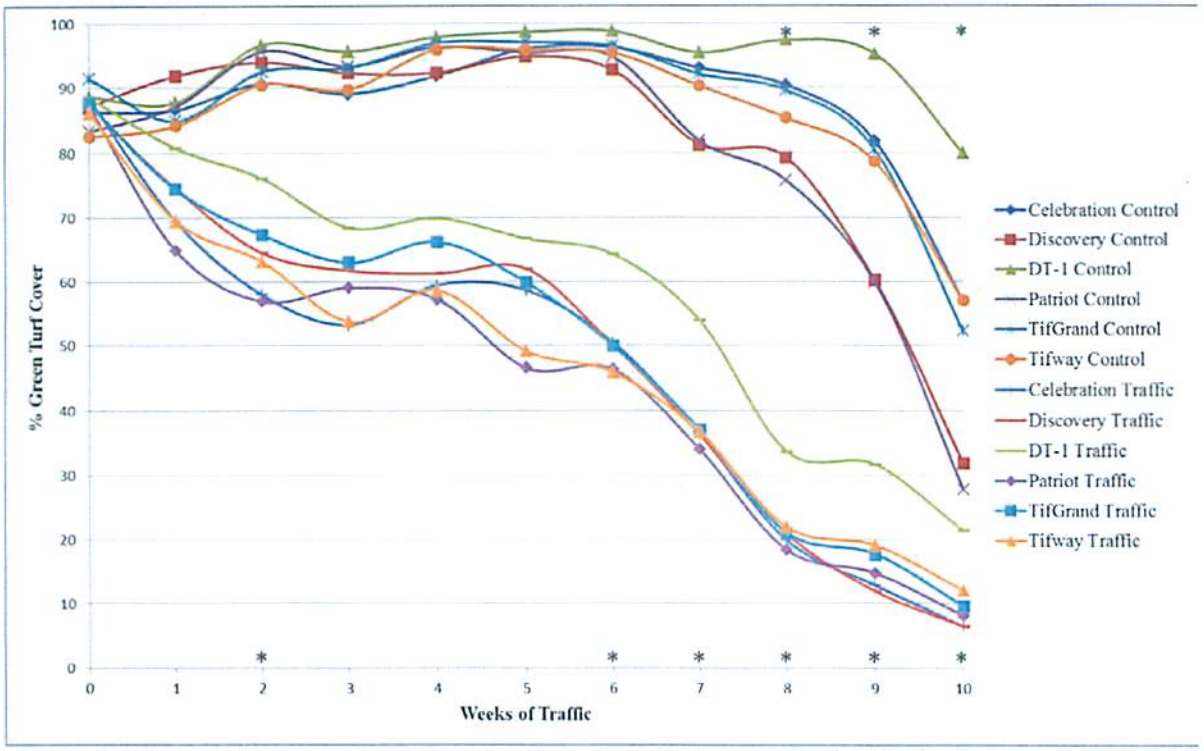

Figure 6. Mean turfgrass cover determined by digital image analysis (DIA) of six bermudagrasses mowed at 2.54 cm (1.0 in) over 10 wks with and without traffic in an irrigated field trial during the fall of 2012 and 2013 in Tifton, GA. Mean turfgrass cover of DT-1 is significantly greater than all other tested cultivars within respective wear treatments according to Fisher's LSD ($P \leq 0.05$) where asterisks are present on the lower X-axis (wear treatment) and upper X-axis (control treatment). Field trial planted during 2011.

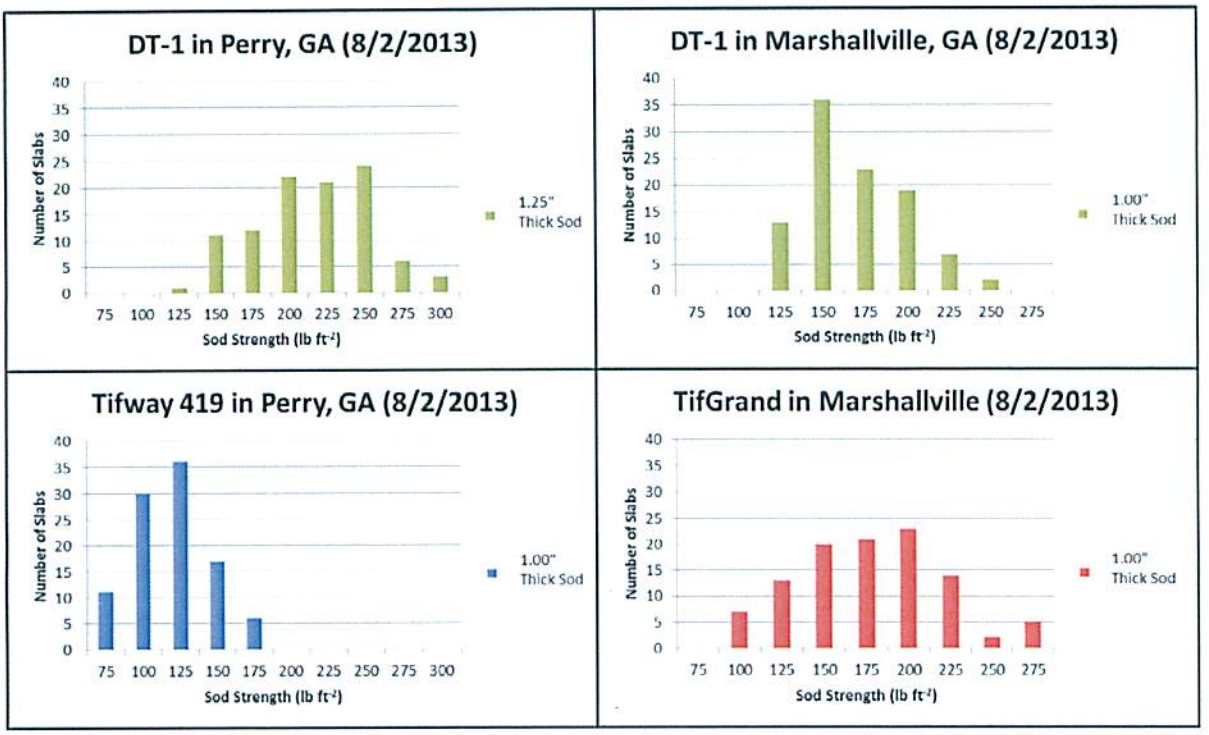

Figure 7. Frequency distribution of the sod tensile strength of 100 slabs of Tifway 419, TifGrand, and DT-1 bermudagrasses from on-farm production trials in Perry and Marshallville, GA during the summer of 2013. Each field was initially planted with a Sprigger's Choice Sprigmaster – Sod to Sprigs unit set to a planting density of 1:10 on 19 June 2012.

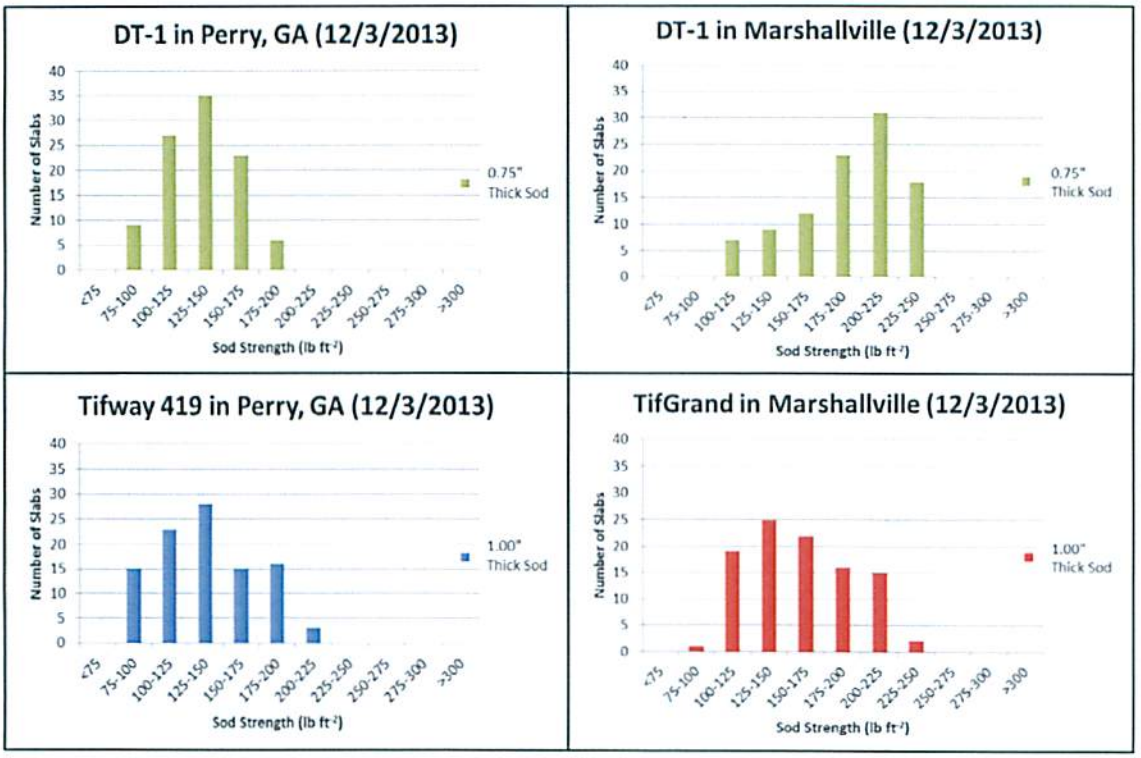

Figure 8. Frequency distribution of the sod tensile strength of 100 slabs of Tifway 419, TifGrand, and DT-1 bermudagrasses from on-farm production trials in Perry and Marshallville, GA during the winter of 2013. Each field was initially planted with a Sprigger's Choice Sprigmaster – Sod to Sprigs unit set to a planting density of 1:10 on 19 June 2012.

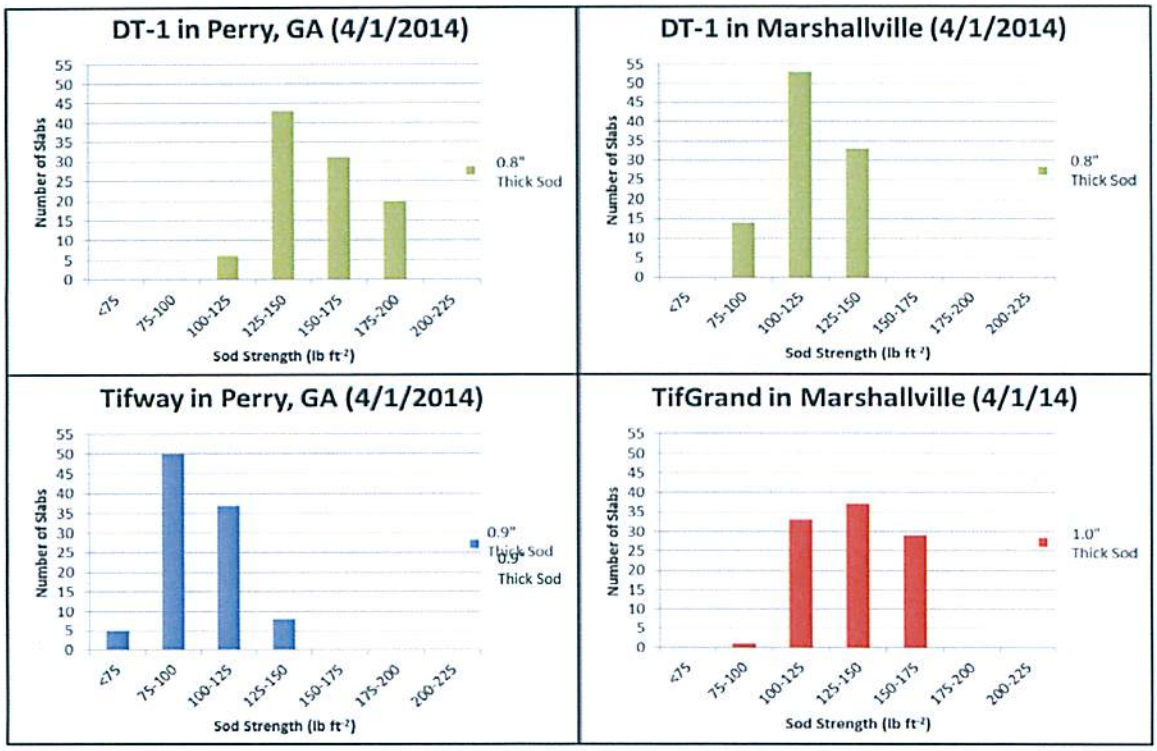

Figure 9. Frequency distribution of the sod tensile strength of 100 slabs of Tifway 419, TifGrand, and DT-1 bermudagrasses from on-farm production trials in Perry and Marshallville, GA during the spring of 2014. Each field was initially planted with a Sprigger's Choice Sprigmaster – Sod to Sprigs unit set to a planting density of 1:10 on 19 June 2012.

Figure 10. Celebration and DT-1 bermudagrasses mowed at 3.8 cm (1.5 in) after sustained droughty conditions in the Linear Gradient Irrigation System (LGIS) evaluation during 2011 at the West Florida Research and Education Center (WFREC) in Jay, FL. Field trial planted from sod during 2010.

Figure 11. DT-1 bermudagrass mowed at 5.1 cm (2.0 in) in an unirrigated lawn during 2014 in Tifton, GA. Lawn planted from sprigs during 2012.

APPLICATION FOR RELEASE

(Please keep this as a separate page)

Application for the release of (insert experimental name or number and crop)

Recommended:

A. _____ 1/14/2014
Originating Scientist — Date

B. _____ 1/14/2014
Department Head — Date

C. _____ 1/14/14
For Griffin and Tifton, Assistant Dean — Date

D. Peggy Ozias-Akins Digitally signed by Peggy Ozias-Akins DN: cn=Peggy Ozias-Akins, o=University of Georgia, ou=Institute of Plant Breeding, Genetics & Genomics and Horticulture, email=pozias@uga.edu, c=US Date: 2014.08.25 09:48:25 -04'00' _____
Chair, GAES PCGRC — Date

E. _____ 8-25-14
Associate Dean for Research — Date

Approved:

F. _____ 8/21
Dean and Director — Date