

## **TURFGRASS VARIETY DEMONSTRATION**

**Victoria County Master Gardeners, Charles Neumeyer, Cooperators, 2007 - 2009  
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and Extension Horticulturist, respectively  
Victoria County**

### **SUMMARY:**

Two turfgrass varieties or cultivars planted from seed and nine sodded in 2007 were managed as a typical lawn yard. During their first year of growth, they were visually evaluated with Palmetto St. Augustinegrass and the common Bermudagrass varieties performing the best.

In 2008, growth, color and density improved on all with a monthly evaluation averaging the highest scores in overall appearance for the turfgrasses with the top six grasses listed in the order of highest to lowest: Palmetto St. Augustine, Floratam St. Augustine, Celebration Bermudagrass, Jamur Zoysia, Palisades Zoysia and Princess Bermudagrass. Palmetto St. Augustine grass and Floratam St. Augustine grass were by far the most desirable grasses throughout the year.

In 2009 the St. Augustinegrasses maintained the highest scores. However, this year the Floratam St. Augustinegrass outperformed the Palmetto. The Buffalograss by far was the poorest performer this year. Both Bermudagrass and zoysiagrass have invaded the Buffalograss plot and taken over at least 50% of the area.

### **OBJECTIVE:**

To evaluate the characteristics and adaptability of numerous types of recommended turfgrasses for home and commercial lawns.

### **MATERIALS and METHODS:**

Nine turfgrasses were planted by sod and two were planted by seed in late spring of 2007. Prior to planting, the existing site was sprayed with Roundup herbicide to kill vegetation. Seven to ten days after spraying, the soil was tilled with a rotor tiller and 2-3 inches of compost was incorporated over each site. Plots were approximately 180 square feet and were leveled prior to planting. Sodds were laid out end to end, rolled and watered immediately.

The common Bermudagrass seed and the Princess 77 Bermudagrass seed were broadcast at the rate of five pounds of seed per 1000 square feet.

In 2009, the varieties were again monitored monthly for color, density, weed pressure, disease and insects. In March, soil and turf samples were sent to A&M and the results confirmed both chinch bugs and brown patch. All St. Augustinegrass plots were treated for both conditions. During the drought, all turf areas were irrigated twice weekly, but the time per watering cycle was increased for 15 minutes to 20 minutes. Although plans were made to fertilize in 2009, continued lush growth and the soil sample did not indicate a need. Cornmeal was once again applied for Brown Patch in September for Brown Patch, but both the Palmetto and Raleigh St. Augustinegrasses suffered dieback. An infestation of Dichondra in all the Bermudagrasses was controlled with a broad-leaf herbicide.

In 2008, the varieties were monitored monthly after January for growth rate, color, beauty, and heat, disease and insect tolerance by Victoria County Master Gardener volunteers. All varieties were irrigated twice per week except for in Oct – Feb it is once every two weeks. No fertilizer was used in 2008 due to proper soil bed preparation with high organic matter prior to planting the plots. Cornmeal was applied at the rate of 10 pounds per 100 square feet to all St. Augustine grasses in an attempt to control Brown Patch fungus. All plots were mowed on a weekly basis except for in Oct – Feb mowing was once every two weeks.

## **RESULTS and DISCUSSIONS:**

In 2009, all turfgrasses performed well except for the Buffalograss. Weeds, bermudagrass and zoysiagrass invaded the plot and took over 50% of the area. As a result, the Buffalograss section will be sprayed with glyphosate herbicide in the spring and a new turf variety, possibly Centipedegrass will be planted. The St. Augustingrasses, especially the Floratam, and the Zoysia grasses were relatively weed free. The common Bermudagrass and the Buffalograsses produced the least dense turf.

In 2008, the turfgrasses progressed well with the turf density of all very good except Empire Zoysia and Common Bermudagrass, but they too improved after mid year. Turf color was great for all except as expected, the Zoysia and Bermuda grasses turned brown with the winter freezes and took until April for the Bermudagrasses to be nice and green and even longer for the Zoysia grasses. Most of the weed infestation occurred in the Empire Zoysia, Raleigh St. Augustine and Common Bermuda and disease problems (Brown Patch) were the highest in Raleigh St. Augustine grass. Overall, Palmetto and Floratam St. Augustine grasses performed and looked the best throughout the year. The St. Augustine grasses needed to be mowed more often than the other turfgrass varieties. See Table 2 for full monthly details.

In 2007, all St. Augustinegrasses, Bermudagrasses and Zoysiagrasses developed a dense turf in the first year of growth. The Buffalograss is not as dense, but the coverage is adequate.

Diseases were minimal except for suspected brown patch disease in two St. Augustinegrass varieties, Floratam and Raleigh. Weed infestation in the Buffalograss

and Bermudagrass sites was an initial problem, but spraying with MSMA herbicide helped control the problem.

During the late 2007 winter season, most turfgrasses were dormant or semi-dormant, except for the Palmetto St. Augustine which has maintained the greenest color. After less than one year of evaluation, there are some differences that are unique for certain grass families as well as varieties, but overall, all varieties have performed well. Each variety has a different maintenance schedule and mowing height with the St. Augustine grasses requiring the most frequent mowing. There are also differences in leaf texture, density of the turf, and disease resistance.

Selection of a well-adapted pest free turfgrass will add years of trouble free, high aesthetic value landscape and pleasure to your environment.

### **ACKNOWLEDGMENTS:**

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Table 1. Evaluation of recommended turfgrass varieties. Victoria County Master Gardeners, Charles Neumeyer, Cooperators, Victoria County TX. 2007.

<b>Turfgrass Name</b>	<b>Turfgrass Type</b>	<b>Turfgrass Donated By</b>	<b>2007; 1<sup>st</sup> Year Evaluation</b>
Princess 77	Bermuda	Seeded (purchased)	Good
Common	Bermuda	Seeded (purchased)	Very good
Celebration	Bermuda	Grimes Grass Co.	Good
Grimes EXP	Bermuda	Grimes Grass Co.	Good
Density	Buffalo	Bladerunner Farms	Not as dense stand
Jamur	Zoysia japonica	Bladerunner Farms	Good
Palisades	Zoysia japonica	Rod Farms	Good
Empire	Zoysia japonica	Rod Farms	Good
Raleigh	St. Augustine	Midway Grass Farm	Good
Floritam	St. Augustine	Midway Grass Farm	Good
Palmetto	St. Augustine	Rod Farms	Very good



<b>SEP</b>	Turf Color	100	100	40	95	100	100	80	100	100	100	100
	Turf Density	100	100	80	70	100	100	60	100	80	90	90
	% Weed Pressure	0	0	20	30	0	0	40	0	20	10	10
	% Grass with Disease	0	0	50	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	100	40	80	100	100	65	100	90	95	95
	Notes:			4	5							
<b>OCT</b>	Turf Color	100	100	60	95	100	100	80	100	100	100	100
	Turf Density	100	100	80	70	100	100	60	100	80	90	90
	% Weed Pressure	0	0	20	30	0	0	40	0	20	10	10
	% Grass with Disease	0	0	90	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	100	60	85	100	100	70	100	90	95	95
	Notes:			4	6			6, 7				
<b>NOV</b>	Turf Color	100	100	40	90	100	100	90	100	100	100	100
	Turf Density	100	100	80	90	100	100	70	100	95	90	90
	% Weed Pressure	0	0	20	10	0	0	20	0	5	10	10
	% Grass with Disease	0	0	100	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	100	40	90	100	100	75	100	95	95	95
	Notes:			2, 4	8			7		9	8	10
<b>DEC</b>	Turf Color	100	100	10	60	50	60	30	20	50	30	30
	Turf Density	100	100	70	100	100	100	70	100	100	95	95
	% Weed Pressure	0	0	20	5	0	0	10	0	10	10	10
	% Grass with Disease	0	5	100	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	90	20	80	75	80	50	60	75	35	35
	Notes:	11		12						13		
<b>2008</b>	<b>OVERALL RATING</b>	<b>Floritam</b>	<b>Palmetto</b>	<b>Raleigh</b>	<b>Empire</b>	<b>Jamur</b>	<b>Palisades</b>	<b>Density</b>	<b>Celebration</b>	<b>Common</b>	<b>Grimes</b>	<b>Princess</b>
	Turf Color	97	99	75	70	76	79	82	82	80	88	85
	Turf Density	99	100	90	71	92	94	73	92	80	93	91
	% Weed Pressure	0	0	8	21	1	0	21	0	24	5	4
	% Grass with Disease	2	0	32	7	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	97	98	75	70	87	86	75	88	80	85	86
Notes:	11	1, 2, 11	2, 4, 11, 12	3, 5, 6, 8			6, 7		9, 13	8	10	

Turf color, density and appearance was rated on a scale from 0 – 100 with 100 being ideal (i.e. nice green color, good turf density). Weed pressure, disease and insect infestations were rated on the percent of the turfgrass infested.

Table 3. Evaluation of the top lawn turfgrasses for the Victoria County area. Victoria County Master Gardeners, Charles Neumeyer, Cooperators, Victoria Co. TX, 2007 – 2009.

2009		St. Augustine			Zoysiagrass			Buffalograss	Bermudagrass			
		Floritam	Palmetto	Raleigh	Empire	Jamur	Palisades	Density	Celebration	Common	Grimes	Exp
<b>JAN</b>	Turf Color	80	90	20	40	40	40	50	20	50	50	50
	Turf Density	100	100	50	100	100	100	80	60	50	60	60
	% Weed Pressure	0	0	50	0	0	0	20	0	30	0	30
	% Grass with Disease	0	0	90	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	90	95	35	70	70	70	65	40	50	55	55
	Notes:	4		2, 14, 15, 16				14, 15, 17		13	8	8

<b>FEB</b>	Turf Color	100	90	10	40	40	40	50	20	50	50	50
	Turf Density	100	95	5	100	100	100	70	60	60	70	70
	% Weed Pressure	0	0	5	0	0	0	15	0	30	0	30
	% Grass with Disease	0	0	90	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	95	92	30	70	70	70	60	40	55	60	60
	Notes:			19				20		18		18
<b>MAR</b>	Turf Color	95	100	15	60	75	65	80	40	70	100	100
	Turf Density	100	100	40	95	95	100	80	95	60	98	80
	% Weed Pressure	0	0	10	5	5	0	20	5	40	2	20
	% Grass with Disease	2	0	80	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	98	100	33	80	85	83	80	60	65	99	90
	Notes:			2	8, 16			21		18		18
<b>APR</b>	Turf Color	100	100	70	90	90	90	90	70	90	100	100
	Turf Density	100	100	60	90	100	100	80	95	70	100	100
	% Weed Pressure	0	0	15	10	0	0	20	0	30	0	10
	% Grass with Disease	0	0	40	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	100	65	90	95	95	85	83	80	100	100
	Notes:							21		18		
<b>MAY</b>	Turf Color	100	100	80	100	100	90	90	100	90	100	100
	Turf Density	100	100	70	90	100	100	80	100	75	100	100
	% Weed Pressure	0	0	15	10	0	0	25	0	30	0	10
	% Grass with Disease	0	0	25	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	100	75	95	100	95	85	100	83	100	100
	Notes:							4, 5, 21		18		18
<b>JUN</b>	Turf Color	100	90	80	95	100	90	60	95	90	100	100
	Turf Density	100	100	70	100	100	100	50	100	75	100	100
	% Weed Pressure	0	0	0	0	0	0	30	0	0	0	0
	% Grass with Disease	0	0	25	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	1	0	0	0	0	0	0
	Overall Appearance	100	95	75	100	100	100	55	98	83	100	100
	Notes:	22	23	3	2	3	24	7, 24				
<b>JUL</b>	Turf Color	100	95	80	100	100	100	50	95	95	100	100
	Turf Density	100	90	70	100	100	100	50	100	80	100	100
	% Weed Pressure	0	0	30	0	0	0	30	0	0	0	0
	% Grass with Disease	0	0	70	0	0	0	0	0	0	0	0
	% Grass with Insects	0	10	25	0	0	0	0	0	0	0	0
	Overall Appearance	100	90	75	100	100	100	50	95	95	100	100
	Notes:		25									
<b>AUG</b>	Turf Color	100	95	80	100	100	100	50	95	95	100	100
	Turf Density	100	90	80	100	100	100	50	100	85	100	100
	% Weed Pressure	0	0	20	0	0	0	40	0	0	0	0
	% Grass with Disease	0	0	0	0	0	0	0	0	0	0	0
	% Grass with Insects	0	10	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	90	75	100	100	100	50	100	100	100	100
	Notes:											
<b>SEP</b>	Turf Color	100	100	100	100	100	100	50	95	95	100	100
	Turf Density	100	90	100	100	95	100	50	100	85	98	98

	% Weed Pressure	0	0	10	0	5	0	50	0	10	2	2
	% Grass with Disease	0	0	0	0	0	0	0	0	0	0	0
	% Grass with Insects	0	10	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	95	95	100	100	100	50	95	95	100	100
	Notes:			2		2		6		18	18	18
<b>OCT</b>	Turf Color	100	100	85	100	100	100	50	95	95	100	100
	Turf Density	100	90	80	100	95	100	50	100	90	100	100
	% Weed Pressure	0	0	20	0	5	0	50	0	10	0	0
	% Grass with Disease	0	0	40	0	0	0	0	0	0	0	0
	% Grass with Insects	0	10	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	95	75	100	97	100	50	97	92	100	100
	Notes:		26									
<b>NOV</b>	Turf Color	100	95	90	90	90	90	40	90	95	100	100
	Turf Density	100	90	80	100	95	100	50	100	90	100	100
	% Weed Pressure	0	0	25	0	5	0	60	0	10	0	0
	% Grass with Disease	0	10	50	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	80	50	95	92	95	40	95	92	100	100
	Notes:	1	4	4								
<b>DEC</b>	Turf Color	50	50	40	40	40	40	40	40	40	40	40
	Turf Density	100	90	80	100	95	100	50	100	90	100	100
	% Weed Pressure	0	0	25	0	5	0	60	0	10	0	0
	% Grass with Disease	0	0	50	0	0	0	0	0	0	0	0
	% Grass with Insects	0	0	0	0	0	0	0	0	0	0	0
	Overall Appearance	100	80	50	95	92	95	40	95	92	100	100
	Notes:	12	12	12	12	12	12	12	12	12, 18	12	12
<b>2009</b>	<b>OVERALL RATING</b>	<b>Floritam</b>	<b>Palmetto</b>	<b>Raleigh</b>	<b>Empire</b>	<b>Jamur</b>	<b>Palisades</b>	<b>Density</b>	<b>Celebration</b>	<b>Common</b>	<b>Grimes Exp</b>	<b>Princess</b>
	Turf Color	86	85	58	73	75	73	54	66	73	80	80
	Turf Density	92	87	60	90	90	92	57	85	70	87	85
	% Weed Pressure	0	0	17	2	2	0	32	0	15	0	8
	% Grass with Disease	0	1	43	0	0	0	0	0	0	0	0
	% Grass with Insects	0	3	2	0	0	0	0	0	0	0	0
	Overall Appearance	91	86	56	84	85	85	55	77	76	86	85
	Notes:	4, 22, 1, 12	23, 25, 26, 4, 12	2, 14, 15, 16, 19, 2, 3, 2, 4, 12	8, 16, 2, 12	3, 2, 12	24, 12	14, 15, 17, 20, 21, 21, 4, 5, 21, 7, 24, 6, 12	12	13, 18, 18, 18, 18, 18, 12, 18	8, 18, 12	8, 18, 18, 18, 18, 12

### Notes for Table 2 & 3.

- |   |   |
|---|---|
| 1 Maintained color all winter                     | 14 Clover present in grass              |
| 2 Bermudagrass encroaching                        | 15 Thistle present in grass             |
| 3 Section of turf dead                            | 16 Dandelion present in grass           |
| 4 Brown Patch disease present                     | 17 Oxalis present in grass              |
| 5 Unknown grass-type weed                         | 18 Dichondra present in grass           |
| 6 Hand weeded the plot                            | 19 Fungicide and/or insecticide applied |
| 7 Bermudagrass and Zoyziagrass encroaching        | 20 Pre-emergent applied                 |
| 8 Lots of wild onion encroaching                  | 21 Some Zoyziagrass encroaching         |
| 9 Flooding problems                               | 22 Tolerating the heat                  |
| 10 Wild onions & Nutgrass encroaching             | 23 Suffering from the heat              |
| 11 Needed more frequent mowing than other grasses | 24 Sun burn of grass                    |
| 12 Grass brown due to freeze                      | 25 Insects present (chinch bugs)        |
| 13 Clover and Dichondra encroaching               | 26 Removed dead grass by hand from edge |