

2007 NTEP Seashore Paspalum Trial – Year 1 and 2 Results

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Photo by Aaron Patton

Seashore paspalum cultivar trial

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Summary. Seashore paspalum is a new turfgrass species being evaluated for use in Arkansas for golf courses or sports fields. Identifying adapted cultivars for the region remains a central focus of the University of Arkansas turfgrass research program. The National Turfgrass Evaluation Program is the predominant means by which cultivars are tested throughout North America. A seashore paspalum cultivar trial was planted in the summer of 2007 at Fayetteville, Ark. This trial is maintained under typical golf course fairway conditions and data on

spring green-up, overall quality, leaf color, leaf texture, and seed head formation were collected from 2007 through 2008. Overall, 2008 turf quality was greatest for seashore paspalum cultivars UGA 7, UGA 22, and Sea Isle 1. Future rating over the next four years will provide a more complete picture of the cultivars that perform best under these management conditions in our climate.

Abbreviations: NTEP, National Turfgrass Evaluation Program

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A number of new seashore paspalum (*Paspalum vaginatum*) cultivars have appeared on the market in the past decade as several commercial and academic breeding programs have begun to identify and work with new germplasm. Seashore paspalum has excellent salinity tolerance, color, and mowing quality. Thus, the interest in and use of seashore paspalum has increased in recent years.

The National Turfgrass Evaluation Program (NTEP) is an organization within the U.S. Dept. of Agriculture that annually oversees turfgrass cultivar evaluation experiments at various sites throughout the U.S. and Canada. Each turfgrass species is tested on a four- to five-year cycle at sites throughout the growing region for that particular species. The University of Arkansas has been an active participant in the NTEP and has conducted several tests on other species since 1986. This report will describe the data collected in 2007 and 2008 for the 2007 NTEP Seashore Paspalum Trial at Fayetteville, Ark.

Materials and Methods

The entries were planted on 9 June 2007 at the University of Arkansas Research and Extension Center in Fayetteville. Plot size was 7 by 7 ft and there were three replications of each cultivar. Vegetative cultivars were planted as 2-inch diameter plugs on 12-inch spacings within the plots, while seeded cultivars were broadcast planted at a seeding rate of 1.0 lb/1000 ft². Plots were maintained under golf course fairway conditions, with a mowing height of 0.5 inch and monthly applications of 0.5 lb N/1000 ft² during the growing season. Irrigation was applied as needed to promote germination and establishment and to prevent stress.

Overall turf quality was evaluated monthly beginning October 2007. Quality was visually assessed on a 1 to 9 scale, with 9 representing ideal dark green, uniform, fine-textured turf and 1 representing dead turf. Seedling vigor was rated using a 1 to 9 scale, with 9 representing maximum vigor (quick germination and rapid growth) and 1 representing no germination. Turfgrass

coverage was also monitored throughout the study as visual estimates. Turf genetic color was visually evaluated on a scale of 1 to 9, with 9 representing ideal, dark green turf and 1 representing tan or brown turf. Leaf texture was visually evaluated on a scale of 1 to 9, with 9 representing extremely fine turf texture and 1 representing extremely coarse texture. Cultivars were visually evaluated for spring green-up using a scale of 1 to 9, with 9 representing complete green color and 1 representing a completely dormant turf stand. Density was rated on a scale of 1 to 9, with 9 representing maximum density. Seed head density was evaluated using a scale of 1 to 9, with 9 representing no visible seed heads.

Results and Discussion

There were no significant differences in seedling vigor among the two cultivars of seeded seashore paspalum planted in our trial (Table 1). There were few differences in turf coverage during establishment among the cultivars established in this trial, with the exception of one early date (30 July 2007) where seeded cultivars were less established initially and when Sea Isle 1 was less established than other vegetatively established cultivars (Table 1).

Spring green-up was greatest for UGA 22, Salam, and Sea Isle 1 (Table 2). Spring green-up was slowest for UGA 31, UGA 7, and SRX9HSCP. Among individual cultivars, leaf texture was finest among UGA 31, UGA 22, UGA 7, and Sea Isle 1. Turfgrass genetic color was darkest green for UGA 7 and UGA 31. Turfgrass density was greatest for UGA 7, Sea Isle 1, UGA 22, and UGA 31. Seed heads were present in greatest quantities for Salam and Sea Isle 1 in June and greatest for Sea Isle 1, Salam, and UGA 31 in July (Table 2).

There were no differences in turf quality among cultivars in October 2007 (Table 1). On two of the six rating dates in 2008, there were differences in turf quality (Table 3). In July, turf quality was greatest for UGA 7, Sea Isle 1, UGA 22, and SRX9HSCP. Turf quality was highest in September for UGA 7, UGA 22, Sea Spray, Sea

Isle 1, UGA 31, and SRX9HSCP with Salam having the lowest turf quality. Overall, 2008 turf quality means were greatest for UGA 7, UGA 22, and Sea Isle 1.

These early data should be interpreted with caution since they are only the mean of a few rating dates, and plots were less than 16 months old

when rated. Historically, there are shifts in cultivar performance as plots age and are subjected to various stresses. Future rating over the next four years will provide a more complete picture of the cultivars that perform best under these management conditions in our climate.

Table 1. Seashore paspalum seedling vigor ratings, coverage, and quality ratings for various cultivars in Fayetteville, Ark. Data are from 1 season (2007) after planting on 9 June 2007.

Cultivar	Seedling vigor ^z	Coverage				Turf quality ^y
	July 25 rating 1-9	July 30	August 23	Sept. 18	Oct. 5	Oct 5 rating 1-9
Salam		10.7	41.0	93.0	99.0	6.0
Sea Isle 1		6.7	31.0	92.3	98.3	6.0
Seaspray ^x	2.7	1.7	55.0	96.7	99.7	6.7
SRX9HSCP ^x	4.0	2.0	25.0	91.3	97.7	5.7
UGA 22		9.3	37.7	93.0	99.3	6.3
UGA 31		9.3	39.3	86.7	96.3	5.7
UGA 7		10.3	37.0	96.0	99.7	6.3
Mean	3.3	7.1	38.0	92.7	98.6	6.1
LSD (P=0.05)	NS	2.1	NS	NS	NS	NS

^z Seedling vigor was rated using a 1 to 9 (9= maximum vigor (quick germination and rapid growth), 1= representing no germination).

^y Turf quality rated on a scale of 1 to 9 (9= ideal dark green, uniform, dense, fine-textured turf, 1=dead).

^x Seeded seashore paspalum cultivar.

Table 2. Seashore paspalum spring green-up, texture, color, density, and seed head ratings in 2008 for various cultivars in Fayetteville, Ark.

Cultivar	Spring green-up		Texture	Color	Density	Seed heads	
	April 7	April 30	July 21	July 18	July 21	June 23	July 21
-----visually rated on a 1-9 scale-----							
Salam	5.0	7.0	7.0	6.8	6.8	6.3	4.3
Sea Isle 1	5.0	7.0	7.5	7.2	7.8	5.7	4.7
Seaspray ^y	4.3	7.2	7.2	6.3	6.5	4.7	3.3
SRX9HSCP ^y	4.0	7.0	7.2	7.0	6.8	3.7	3.0
UGA 22	5.0	7.5	7.7	7.0	7.3	4.3	2.7
UGA 31	3.7	7.0	7.7	7.8	7.2	4.0	4.0
UGA 7	4.0	7.2	8.0	7.8	8.0	2.0	2.7
Mean	4.4	7.1	7.5	7.1	7.2	4.4	3.5
LSD (P=0.05)	0.6	NS	0.5	0.4	0.9	1.2	1.2

^z Cultivars were visually evaluated for spring green-up using a scale of 1 to 9, with 9 representing complete green color and 1 representing a completely dormant turf stand. Leaf texture was visually evaluated on a scale of 1 to 9, with 9 representing extremely fine turf texture and 1 representing extremely coarse texture. Turf genetic color was visually evaluated on a scale of 1 to 9, with 9 representing ideal, dark green turf and 1 representing tan or brown turf. Density was rated on a scale of 1 to 9, with 9 representing maximum density. Seed head density was evaluated using a scale of 1 to 9, with 9 representing no visible seed heads.
^y Seeded seashore paspalum cultivar.

Table 3. Seashore paspalum turf quality ratings in 2008 for various cultivars in Fayetteville, Ark.

Cultivar	Turfgrass quality ^z						
	May	June	July	August	September	October	Mean
-----visually rated on a 1-9 scale-----							
Salam	6.0	6.0	6.8	5.7	6.0	6.0	6.1
Sea Isle 1	6.7	6.3	7.8	6.8	7.2	7.5	7.1
Seaspray ^y	6.0	5.7	7.0	6.0	7.0	7.5	6.5
SRX9HSCP ^y	6.0	6.7	7.5	6.3	7.2	7.0	6.8
UGA 22	6.7	6.0	7.7	7.0	7.8	7.8	7.2
UGA 31	5.3	6.3	7.2	6.8	7.7	7.3	6.8
UGA 7	6.7	7.7	8.2	7.7	8.0	8.2	7.7
Mean	6.2	6.4	7.5	6.6	7.3	7.3	6.9
LSD (P=0.05)	NS	NS	0.8	NS	0.9	NS	0.9

^z Turf quality rated on a scale of 1 to 9 (9= ideal dark green, uniform, dense, fine-textured turf, 1=dead).
^y Seeded seashore paspalum cultivar.