Germplasm Evaluation and Cultural Management of Seashore Paspalum

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Objectives:

1. To evaluate seashore paspalum germplasm under saline and non-saline irrigation.
2. To evaluate the influence of verticutting frequency and depth on Sea Isle 2000 thatch accumulation when gorwn under saline and non-saline conditions.
3. To evalute tolerance of seshore paspalum to herbicides applied under saline irrigation.

Start Date: 2003
Project Duration: three years
Total Funding: $32,712

Seashore paspalum is a warm-season grass selected for excellent tolerance to saline or recycled water and requires relatively low fertility and pesticide inputs. However, seashore paspalum possesses heightened sensitivity to many common herbicides and is prone to increased thatch production, particularly when over-fertilized and over-irrigated. Furthermore, little unbiased information on seashore paspalum germplasm is available.

Our research will provide an evaluation of seashore paspalum germplasm grown under saline and non-saline irrigation and determine the influence of verticutting frequency and depth on greens height seashore paspalum thatch accumulation when grown under saline and non-saline irrigation.

Most of the Southeast United States was inundated with heavy rainfall throughout the summer of 2003. To reduce project costs, we are heavily dependent upon donation of services, equipment, and labor to construct and prepare the research sites. Consequently, the establishment of this project was delayed because golf course construction personnel and soil fumigation crews were delayed. To meet the objectives of the research, an existing USGA specification putting green at the West Florida REC was stripped of existing bermudagrass in May, 2003. Because of rain delays, the putting green and fairway sites were not fumigated until September 18, and the green was laser-leveled on September 20.

After establishment is complete, seashore paspalum cultivars will be evaluated on their ability to tolerate several herbicides and verticutting treatments under both saline and non-saline conditions.

Fairway trials required establishment of ten seashore paspalum cultivars using plugs on 12-inch centers.

Seashore paspalum cultivars were shipped in from various locations in Florida and Georgia the following week and were either plugged (fairway trial), sprigged (greens trial), or seeded (both trials) during the week of September 29. Sod slabs were either cut into plugs planted on 12" centers or shredded for sprigs (one slab per plot).

SeaMist (seeded cultivar) was seeded at a rate of 1.5 lbs/1000 ft^2. Greens varieties included 'Salam,' 'Sea Isle 2000,' 'SI99,' 'SI98,' 'SeaMist,' 'Seadwarf,' 'Seagreen,' and 'Sea Isle I.' Fairway varieties included 'Sea Isle I,' 'Neptune,' 'Aloha,' 'Salam,' 'SeaMist,' 'Seaway,' 'Seadwarf,' 'Seagreen,' 'SI99,' and 'SI98.' Whole plots measure 9' X 9' and are replicated three times. The trials established this fall will receive non-saline irrigation and the nitrogen fertility research will be initiated in spring, 2004.

SeaMist (seeded cultivar) was seeded at a rate of 1.5 lbs/1000 ft^2.

Due to weather complications, identical companion trials, which will receive saline irrigation, will not be established on the partnering golf course until spring, 2004. Similarly, the influence of verticutting frequency and depth on Sea Isle 2000 seashore paspalum thatch accumulation and the tolerance of seashore paspalum to herbicides applied under saline irrigation will be initiated in spring, 2004.

Summary Points

- Even with the late planting dates, seashore paspalum rooted well and produced significant stolon and rhizome growth.
- Ideal seeding rates for Seaspray seeded seashore paspalum will need to be determined.
- Cultivars should completely cover the plot area by June, 2004.