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## Seashore Paspalum for Florida Lawns<sup>1</sup>

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Seashore paspalum (*Paspalum vaginatum* Swartz) is a warm-season grass that is native to tropical and sub-tropical regions world-wide. Seashore paspalum grows naturally in coastal environments and is often found in brackish marsh water or in close proximity to ocean waters. It also grows in areas that receive extended periods of heavy rains and low light intensity. Its best growth occurs in response to warm temperatures and long daylengths.

Seashore paspalum was introduced into the United States from around the world through maritime travel. It was reputedly used as bedding in the hulls of slave ships. As the ships came into southern US ports, bedding would be discarded on the shore, leaving the grass to re-grow and establish on the banks in these coastal towns. It has since spread along coastal areas of the southeastern US, thriving in the salt-affected waters and environments of these areas.

Seashore paspalum does not produce viable seed and therefore must be planted as sod or sprigs. The fine-textured types are similar in appearance to hybrid bermudagrass (*Cynodon* spp.). They produce a dense, dark green turf. Although the species has been in existence for hundreds of years, selection of

cultivars for commercial, residential, and sports turf use has been limited to the mid and late 1990s. The largest collection of seashore paspalum can be found at the University of Georgia's turfgrass breeding program in Griffin, GA, which has gathered and tested more than 300 ecotypes of this species.

### Seashore Paspalum for Home Lawn Use

Seashore paspalum produces a high quality turfgrass with relatively low fertility inputs. While it has initially been marketed for golf course and athletic field use, it has good potential for use in the home lawn market as well. However, it is important that homeowners realize that this is not a miracle grass, and it will not perform better than currently available grasses in all environments. And, although you may see it touted as being extremely drought tolerant, it still requires water to remain green, just like any other turfgrass. It does have characteristics that make it tolerant to a wide range of stresses, but for best growth and performance, it should be grown under optimal conditions. Some of the advantages for use of seashore paspalum in a home lawn situation include:

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- Excellent tolerance to saline or recycled water
- Excellent wear tolerance
- Good tolerance to reduced water input, but does require water to remain green
- Relatively low fertility inputs needed to produce a dense, dark green lawn
- Few insect and disease problems in most environments
- Tolerates a wide pH range
- Can grow well with potable (drinking) water as well as poor quality water
- Tolerates extended periods of low light intensity, such as from prolonged cloudy or rainy periods
- Dense growth habit discourages weed competition
- Produces a dense root system, which is important in giving turfgrass good tolerance to most stresses

Some of the disadvantages include:

- Poor shade tolerance.
- Mowing requirements. This grass performs best when mowed at one to two inches. Can your current mower cut evenly at this height? Mowing frequency also becomes more important at the lower mowing heights, as missed mowings will result in scalping of the grass.
- Weed control. Seashore paspalum is sensitive to many common herbicides and may be injured or killed by their use. In addition, most herbicides currently on the market are not labeled for use on this species yet, although the chemical companies will be expanding those labels to comply with increased use of seashore paspalum.
- Seashore paspalum tends to become thatchy, particularly when over-fertilized and over-irrigated. This may mean increased verticutting needs for homeowners.

- Limited data exists on nematode resistance and tolerance of seashore paspalum.

## Cultivars for Home Use

The species *Paspalum vaginatum* is quite large and much diversity may be found within the species. For example, seashore paspalum types may be fine-textured, with small, narrow leaf blades, or they may be coarse-textured types that grow in a less dense, more open style. Generally, we think of these coarser types as being preferred for roadside utility or soil stabilization uses, while the finer-textured types are better suited for landscape or athletic use. Limited research has been conducted on seashore paspalum, therefore, we do not have all the information at this time to answer all questions on best management of this grass in Florida.

### Salam

Salam is a proprietary cultivar grown by Southern Turf Nurseries. It was released in the 1990s and is suited for athletic, golf course, and landscape use. It has many qualities similar to Sea Isle 1.

### Sea Isle 1

At the present time, this is the cultivar with the most university testing. This cultivar was released by the University of Georgia in 1999. It is a fine-leaved, dense-growing selection from Argentina, intended for use in commercial or residential landscapes or athletic use in fairways or sports fields. It produces a dark green, dense grass with excellent salinity tolerance and good tolerance to drought and wear. It performs well with relatively low fertility inputs.

### Seaway

Seaway is another proprietary cultivar produced in Florida by Environmental Turf Solutions.

## Maintenance of Seashore Paspalum Lawns

### Establishment

Seashore paspalum must be established vegetatively by sod or sprigs. Sprigging rates should range from 5-10 bushels per 1000 ft<sup>2</sup>. Plugs should be spaced 12 inches on center. The best time for establishment is during periods of most active growth, when temperatures exceed 70°F. When you first plant seashore paspalum, you generally won't see any shoot growth for the first 10-14 days. This is typical of seashore paspalum--it initially concentrates on root establishment and then, once it has a root system capable of supporting it, it will divert growth to the shoot system. This is when it will start to spread and fill in rapidly.

Be sure to irrigate frequently during establishment. For newly sprigged areas, irrigate several times a day to keep the soil moist. Avoid allowing the soil surface to dry out for the first seven to ten days. After the sprigs are rooted and runners (stolons and rhizomes) start to form, irrigation frequency can be decreased. Irrigate newly laid sod at least once a day for brief periods for the first 10 days. After that, irrigate every other day for another seven to ten days. At this time the grass should have an established root system and can withstand irrigation twice weekly.

### Fertility

Proper fertilization of any lawngrass is an important component of the best management practices of your home lawn. Fertilization and other cultural practices influence the overall health of your lawn, and can either reduce or increase its vulnerability to numerous stresses, including weeds, insects, and disease.

It is advisable for homeowners to have soil tests done periodically. Your local Cooperative Extension Service office has recommendations and kits for taking soil samples and submitting to the Extension Soil Testing Lab for analysis. These tests form the basis for your home lawn fertility program. In particular, phosphorous levels are best determined by soil testing. Since many Florida soils are high in phosphorous, little or no phosphorous may be needed for satisfactory lawn growth after initial establishment.

While establishing a seashore paspalum lawn, small amounts of fertilizer should be applied on a regular basis to hasten growth and ground cover. "Spoon-feeding" 1/4 to 1/2 lb. of nitrogen per 1000 ft<sup>2</sup> in two applications during a three to four week period will stimulate growth. To encourage root development, phosphorous should be applied during establishment at rates equal to or greater than the nitrogen. Potassium needs of seashore paspalum are also greater during establishment. An application of a 1:2:3 fertilizer ratio of Nitrogen:Phosphorus:Potassium made each week for two or three weeks will provide a good fertility program for establishing seashore paspalum. If sodding seashore paspalum, ground cover will be immediate, but at least two weeks will be needed to insure that the root system is functional and capable of supporting the shoot system. If sprigging, coverage will take longer and establishment fertility requirements will need to be in place until both root and shoot systems have grown in.

Once established, the fertility regime should be reduced. In north Florida, it is estimated that two to three lbs. of nitrogen per 1000 ft<sup>2</sup> per year will produce a good quality seashore paspalum lawn. It is best to apply fertilizer in small increments (at least two to three applications) from late March or early April through August. In south Florida, additional nitrogen (up to one pound) will be required to keep a nice lawn. Never apply more than 1/2 pounds of water-soluble nitrogen per 1000 ft<sup>2</sup> at any one time. Up to one pound of nitrogen per 1000 ft<sup>2</sup> may be applied as long as at least 50% of the nitrogen is in slow-release form. Phosphorous application should be made depending upon results of soil tests. As some Florida soils contain ample amounts of phosphorous, little or none may be required. Apply equal amounts of potassium to nitrogen for best performance of seashore paspalum. A 1:0:1 fertilizer blend or something similar would be a good choice.

### Mowing

The seashore paspalum cultivars currently available for use in home lawns should be mowed at one to two inches in height. Higher mowing heights will reduce turfgrass density and increase thatch problems. Mower blades should be kept sharp to

avoid tearing leaf tissue. When mowing, never remove more than 1/3 of the leaf blade at any one time. If the grass takes on a scalped appearance, too much leaf material is being removed at one time. Do not mow when the grass is wet or the soil is soggy. Seashore paspalum may be mowed with a rotary mower.

Strict attention must be paid to mowing frequency, particularly in the summer. If seashore paspalum is left unmowed for more than a week, it will typically be scalped when mowed, which will provide opportunity for fungal and insect problems.

Grass clippings can be left on the lawn. These do not contribute to thatch build up but are readily decomposed by microbial action. Clippings also serve as a nutrient source and can actually reduce the fertilizer requirements when returned to the lawn.

### Irrigation

Due to the tolerance of seashore paspalum to periods of drought, irrigation is recommended on an as-needed basis. Signs of water needs include rolling of leaf blades, wilting, and foot imprints that remain on the lawn after walking on it. At these signs of water deficit, apply 3/4 inch of irrigation to the entire lawn. This will supply water to a depth of approximately nine to twelve inches in most Florida soils and should provide adequate water. Do not apply smaller volumes of water more frequently, as this will not encourage root growth. To avoid overwatering when rainfall is adequate, reduce the frequency of irrigation. Overwatering lawn grasses not only wastes water but may result in weakened root systems, nutrient leaching through the soil, and poor stress tolerance.

How frequently your lawn will need water will vary depending on time of year, your soil type, how much shade you have, etc. For more information on proper watering, refer to ENH 9, *Watering Your Florida Lawn*.

Because seashore paspalum is very tolerant of poor water quality, it can be irrigated with recycled water or water subjected to saltwater intrusion. It is important to realize, however, that even this grass can develop salt toxicity problems with repeated use of

saline water over extended periods, particularly in areas receiving little rainfall. Where rainfall is ample, this will flush out accumulated salts in the soil and minimize salt toxicities.

### Thatch Control

Thatch is the layer of dead and decomposing leaf blades, stems, and roots on top of the soil surface. Thatch occurs due to excessive nitrogen application, over-watering, or poor mowing practices. Vertical mowing is the most efficient remedy for excessive (longer than an inch) thatch. Vertical mowing uses vertical knife-like blades to thin out the thatch by slicing into it. While this process can alleviate build-up by removing thatch, it also removes portions of the grass and will cause temporary damage to the turf. It is best to have this job done by experienced professionals who are familiar with the specialized equipment and the needs of your lawn. For seashore paspalum, vertical blades should be spaced two to three inches apart for successful verticutting. It is important to perform this procedure only during times of active grass growth, and only on healthy, non-stressed grass (i.e., no drought, shade, insect, or disease problems).

### Shade Tolerance

Seashore paspalum does not have good shade tolerance, particularly when the shade is due to trees or vegetative canopies rather than to buildings. It can tolerate a few hours of shade daily, but would not be a good choice for a heavily-treed area. For more information on how to best manage your lawn in shade, refer to ENH 151, *Growing Turfgrass in the Shade*.

### Pest Problems

#### Weeds

Current herbicides available to homeowners are generally not labeled for seashore paspalum, which means that it is not legal to use them on this species. Furthermore, many of the herbicides commonly used on lawn grasses will injure seashore paspalum and should not be used. Pre-emergence herbicides for homeowner use that do not injure seashore paspalum include pendimethalin (Pre-M and other trade names)

and oryzalin (Surflan). Post-emergence herbicides that are safe on seashore paspalum are three-way mixtures of 2,4-D + MCPP + dicamba (Trimec® Southern, Weed-B-Gone®, etc.), halosulfuron (Manage®), and dicamba (Vanquish®). Licensed pest control operators have a wider array of products available for use than homeowners. Some of these are also safe on seashore paspalum. Consult your County Extension Service office for proper identification of weeds and a prescription for environmentally friendly control of the problem.

### **Insects**

Seashore paspalum has a few problems with insects, but chemical requirements for their control are minor. It is subject to occasional problems from mole crickets, sod webworms, spittlebugs, white grubs, billbugs, cutworms, and fall army worms. It generally has no problems with chinch bugs.

### **Disease**

Seashore paspalum has relatively few disease problems when maintained under recommended fertility levels and cultural practices. Organisms which may cause problems include fusarium blight, which may be found under hot, humid conditions, or when the grass is under drought stress. When infected, the entire turfgrass plant will change color from green to reddish brown to dark brown. Helminthosporium disease may also occur under conditions of high humidity or soil compaction. This disease is seen as small purple leaf spots with brown centers and light tan halos. There are also reports of take-all root rot in some locations in Florida. Proper cultural practices are the best defense against these problems and include:

1. Avoid excessive nitrogen application.
2. Avoid afternoon or evening irrigation.
3. Avoid scalping injury to the grass.
4. Avoid growing grass in shade or where air circulation is poor.
5. Aerate soil at a depth of three to six inches

6. Increase mowing height.

### **Summary**

Seashore paspalum will grow well in certain locations, particularly those where recycled or saline water is used. Homeowners should carefully consider advantages and disadvantages if replacing their lawns with seashore paspalum.