Warm season grasses: Seashore paspalum (Paspalum vaginatum)

Different grass species have different demands in terms of maintenance inputs and the management practices imparted directly influence the grass species composition, especially on putting surfaces. In climates where warm season grasses should be used, these species are far more sustainable than cool season ones, notably creeping bentgrass, which is often employed. Warm season grasses are naturally adapted to such climates and, consequently, have lower demands for water – a critical aspect as this resource is often limited in terms of quantity and quality. If water quality is an issue then some warm season grasses are more sustainable than others.

Seashore paspalum is a salt-tolerant grass that has been recorded on golf courses since the mid-1970s. It was only used on a limited basis because of its inferior turf quality but this last decade has seen major advances in its development with the introduction of several fine-textured varieties. With irrigation water quality and availability at the forefront of environmental/golf development concerns, the breeding of such grasses will have a major impact. Other positive attributes of seashore paspalum:

It can withstand a wide variety of mowing heights so the same grass can be used on tees, fairways, greens and roughs. This is actually an important consideration for anyone thinking about using this grass, as maintaining playing surfaces of mixed grasses, e.g. paspalum fairways and Bermudagrass greens, is not recommended as cross-contamination is highly likely.

It possesses a deep root system that can extract water from lower soil depths, even at low mowing heights. Seashore paspalum has very good drought tolerance if it has a good root system. Avoid light, frequent irrigation and follow a schedule of less frequent watering of longer duration.

To established turf, nitrogen rates are 30-50% lower than that ordinarily used on hybrid Bermudagrass greens.

Unlike Bermudagrass, seashore paspalum maintains good turf quality in shaded areas or during cloudy weather.

Paspalum produces a very dense cover and tight canopy on tees, fairways and rough, providing excellent lies.

Rapid divot repair, with the grass growing in from the sides and below (see Figure 1), gives this species the advantage over other warm season grasses in terms of rate of recovery and a natural ability to prevent weed grass ingress. Figure 2 shows how the dense canopy on the tee prevents invasion by weed grasses which are growing on its banks.

Figure 1

Figure 2

It has better cool-weather colour retention than Bermudagrass. Figure 3 clearly demonstrates this, showing a green which has been subject to cross-contamination between these two grasses.

Figure 3

Seashore paspalum does have its limitations and these include:

Susceptibility to common turfgrass pests, but these can be readily managed.

It is possible to provide acceptable putting greens for daily play but, arguably, seashore paspalum does not perform as well as high-quality Bermudagrass.

Paspalum has accelerated thatch accumulation due to its highly rhizomatous growth character, which can cause mower scalping that is slow to recover. Aggressive topdressing is required to manage thatch and to produce a smooth, firm surface.

Its leaves and stems are tough, requiring sharp mowers to produce a clean cut.

While it is tolerant of salt water, and some greens are irrigated with nothing but, it requires fresh water for establishment and will be healthier if better quality water is available from time to time. Regular leaching is necessary to maintain salt at a tolerable level.

Figure 4. *Crown Colony in Fort Myers, Florida, USA, uses irrigation water with 2,000 TDS (Total Dissolved Solids).*

Where variation in water quality and salinity levels causes stress, the nutrition of seashore paspalum is far more complex. In addition to providing the basic nutrients it is also necessary to provide a range of micronutrients to maximise stress-tolerance mechanisms and to correct any imbalance.

Figure 5. *15th green at the Riffa Golf Club in Bahrain.*

Figure 6. *Close-up of a green at the Riffa Golf Club* .

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