

Adalayd — a New Turfgrass Species

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The goal of building a better mouse trap permeates the American culture. We are naturally striving to improve in all aspects of business, industry and agriculture. Certainly the turf and landscape field is no different. Efforts to develop new and improved plant varieties or to discover exciting new plant species are primary examples.

Although new turfgrass varieties are coming out by the dozen each year, the introduction of a new species to the turf industry is far less common. Even more rare is a new species that survives the test of time and scrutiny of turf managers to become an accepted turf species in common use.

Paspalum vaginatum is not a new grass species to the Western Hemisphere; in fact, it is said to be native to tropical and subtropical regions of North and South America. It has been used in many parts of the world, including South Africa, Australia, New Zealand and the Southeastern United States, as a utility turf for soil erosion control especially in saline soil areas and coastal environments.

It has been in Australia that the greatest use of *Paspalum vaginatum* as a general quality turfgrass has taken place. There it has been used on sports turf areas and occasionally on bowling greens.

It was in Australia that Hugh Whiting, a turf manager and sod producer, came upon a promising *Paspalum* variant near the city of Torquay. He brought the selection to the United States in 1972 and patented it under the name of Futurf. The variety was produced and marketed throughout Southern California. It was used in residential, commercial and park lawns and at least one golf course fairway.

In 1975, Mr. Whiting returned to Australia and happened to spot what he believed to be a superior *Paspalum vaginatum* variety. He returned to the United States with the grass and patented it, giving it the name Adalayd after the city in Australia where he discovered it. Adalayd has been under production since 1976 but until recently its availability was rather limited. In 1978, Adalayd was bought by Burkhard Nurseries, Incorporated — a well known retail operation in Pasadena, California. The grass is now being grown in Redlands, California where sod and stolons are available in greater supply. At this point Futurf is no longer available. Adalayd is being promoted in California and in Texas along the Golf Coast as a salt tolerant turf species and may even be used in the Middle East where water high in dissolved salts is all that is available for landscape irrigation.

Paspalum vaginatum Adalayd is a subtropical turf species (warm season) making it a grass well adapted to warmer

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areas of Southwestern United States. It will not survive long periods of freezing temperatures so it is limited to the relatively warm winter zones of the west. Generally, it will thrive where the bermudagrasses do well. It has good heat tolerance; although it may not be as happy as the bermudas when the temperature climbs into the 100°F plus range, it shows no ill effects during the summers in Indio, California where temperatures regularly break the 100°F mark.

Being a warm season species Adalayd will go dormant if the winter temperatures fall to freezing level or when a heavy frost occurs. Comparatively speaking, Adalayd seems to be able to hold its green color much better than common bermudagrass but not quite as well as 'Santa Ana' hybrid bermuda — the best warm-season grass for winter color retention under Southern California conditions.

Since Adalayd is a selection from a natural population, it is propagated asexually — using stolons. Seed would not produce a grass with the same desirable characteristics for which Adalayd was chosen. Also, it is said viable seed is not produced in any quantity in this species.

Comparing the growth habit of Adalayd to species more commonly recognized, one might say its stolons resemble Kikuyugrass in size but not in rapidity of growth nor tenacity when subjected to severe stress or herbicides. When growing into an open area the stolons are quite prominent; however, once a dense turf is formed, the grass blade growth becomes much more upright and very dense — covering the ground-hugging stolons and yielding a lawn with a very uniform surface. The texture or grass blade size and uniformity rivals that of a fine perennial ryegrass. Its color is much more attractive than the typical dull greens found in other warm-season turf species. Although comparing it to the color of Kentucky bluegrass is stretching it a bit, it is closer to it in color than any other subtropical turfgrass. The species also produces a heavy network of rhizomes (underground stems) which makes it a suitable species for sod production.

The Adalayd variety does not produce objectionable seedheads when mowed regularly (once/week). In this respect it is considerably better than the Futurf variety and many of

the bermudagrasses. Actually, numerous seedheads are produced; however, they are held in a sheath down among the grass blades for a longer period of time so the expanded seedhead is usually not a detracting feature.

To date no disease problems or insect infestations have been observed on Adalayd. It is perhaps too early to count on this as an enduring feature of the grass. Adalayd, being a less dense-growing turfgrass, is more open to weed invasion than a vigorous hybrid bermudagrass or Zoysiagrass. This hasn't been a serious problem with the grass but it should be taken into consideration. In areas where the grass was severely scalped; damaged with an herbicide; or dormant for long periods during the winter; common weeds such as *Poa annua* have become established. One interesting point that has no scientific evidence to back it up, is that Adalayd appears to be able to compete favorably with bermudagrass. In areas where bermuda contained an Adalayd planting, it has not been able to make much headway since the Adalayd become established. At least after three years of observation, the Adalayd had held its own against the bermuda encroachment.

Adalayd does have one characteristic which places it far above any quality turf species grown in our region. That quality is its extreme salt tolerance. Work carried out by a private laboratory on Futurf showed a 50% growth reduction when irrigated with a water that contained salts giving it an electroconductivity reading of approximately 28 (EC $\times 10^{-1}$). This is over half the strength of sea water. Field observations indicate that indeed both *Paspalum* varieties are extremely salt tolerant when maintained in a moist soil environment.

Currently additional work on the salinity tolerance of Adalayd and Futurf is being conducted in the Plant Science Department at the University of California, Riverside Campus. This study will provide a quantitative ranking of *Paspalum vaginatum* with other commonly grown turfgrass species. In any event, Adalayd is certainly a grass to be considered where either high soil or water salinity is a problem.

Research regarding the maintenance needs of *Paspalum vaginatum* has been going on at the University of

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California, South Coast Field Station in El Toro, California since 1977. Results of mowing height and fertilizer requirements studies plus numerous observations on Futurf and Adalayd will be released sometime this fall in *California Turfgrass Culture*. Additional studies on timing of fertilizer applications and tolerance to common herbicides used on turf are in progress at the South Coast Field Station.

Adalayd is not the end of the search for the ideal turfgrass. Such a grass probably doesn't exist. It may be the solution for many turf managers with saline soils to work with. Adalayd will also be the choice of many turf managers or homeowners due to its other desirable qualities, and provided the grass is properly managed, it will undoubtedly live up to its advertising slogan "Sweet Adalayd." ■

For further information contact: *Interstol, 49730 Jefferson, Indio, Ca. 92201, (714) 564-3725.*

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