

South Florida Sunshine



By BRAD KOCHER Inverrary Country Club

The original theme of this magazine issue was irrigation. Water, being the primary ingredient for a successful irrigation system, has become the hottest issue of 1981. Water shortages, including previous and existing cutbacks, are said to be the rule rather than the exception in the 1980's and probably infinitely.

The last real shortage experienced in South Florida was in 1971. It was not as severe as the one we are now experiencing and according to South Florida Water Management officials it will take at least two years of above average rainfall to rectify our present problem. That is not to say that we won't continue to have problems.

The primary concern of South Florida Water Management is salt water intrusion. All solutions to problems are really aimed at preventing salt water intrusion. Most of the well fields that supply drinking water to South Florida are located within five miles of the coastline. Therefore, if more water is taken out of theses wells than can be recharged by rain or eastward flowing canals, salt water can intrude into the wells that supply our drinking water.

Basically, the system works this way. The average rainfall in South Florida is 55"-60" a year. These rains can readily recharge well fields in the coastal areas. In times of less rain, such as we experience between December and June, well fields can be recharged by eastward flowing canals and rivers such as the Hillsboro Canal, C-14, C-13, New River, etc. These canals carry fresh water and runoff water eastward toward the sea. If these canals get low, South Florida Water Management can open gates in the conservation areas to the West of us and permit the higher water levels in these areas to recharge our eastward flowing canals.

As a backup system to the conservation areas, we have Lake Okeechobee. Higher water levels are usually present in the lakes and can be used to supply our canals when they get low.

What has been non-existent in these times of drought and even in our rainy season, June through December, are sufficient rains in the conservation areas and in Lake Okeechobee. We are experiencing sufficient coastal rains to supply our well fields, the Biscayne Aquifer and our canal systems. The big problem at present is that when the coastal rains diminish we have very little "backup water" to recharge our well fields. Hence, we have drought conditions and water restrictions.

From what I have heard, most golf courses fell under the 25% restriction imposed in May and were asked not to do

any daytime watering. This was not the most comfortable situation. However, it was bearable even if it did mean some inconvenience in the normal day to day maintenance of our golf courses.

We were not too far from a 50% water cutback, when sufficient rains began to fall to recharge our well fields and the 25% was reduced to 10%. What would have happened at 50% cutback is anyone's guess. I am led to believe by South Florida Water Management that no water would be permitted for landscape irrigation which includes golf courses. That's right — NONE — or at best very little.

This possibility poses an infinite number of problems. Who gets water, for what purpose, how much and when. Unfortunately, we don't really know the answers to the questions. However, it becomes obvious to me that golf courses need to come up with plans for coping with shortages. Education of South Florida Water Management of our needs and necessities, better record keeping, monitoring of our irrigation systems, impact of golf courses on the economy of South Florida and just a general willingness to become a part of the solution.

I would imagine when we start discussing who gets water and how much, there can be some very adamant discussions. When an individual's livelihood or profession is being threatened, there needs to be a great deal of facts, figures and just plain common sense abounding.

The turf industry is second in Florida only to citrus in our State's Agriculture economy. Without further research it is difficult to estimate the economic hardship that golf would have on our tourist oriented economy. The figure is undoubtedly monumental and would have far reaching effects. It is easy to say that tourists will not come to South Florida if they can't enjoy good golfing. If South Florida's golf courses do not survive, the economy would suffer severely.

It is very discomforting to realize that this problem will be with us for some time and that solutions will take years to implement. We are behind on our solutions, but hopefully they can be resolved quickly.

Most golf courses will need to look into alternative sources of water. It is mind boggling to think we dump somewhere in the neighborhood of 200 million gallons of fresh water a day into the ocean in the form of sewage effluent in South Florida. That is 200 million gallons of fresh, usable water dumped into the salt water sea and lost forever. The city of St. Petersberg, Florida, presently has five golf courses on their sewage effluent system and not only do they make (Continued on Page 22)

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(Continued From Page 21) excellent use of fresh water, but annual nitrogen requirements have been reduced 25-30%. In addition, the water not consumed by the turfgrass plant is returned to the water table and can replenish well fields.

This last point in itself is noteworthy. With all the concrete and asphalt going up around us, golf courses at least provide thousands of acres that water can filter through and get back into the water table.

Waste is probably the #1 culprit. Irrigating, when not necessary, especially by the homeowner with the automatic sprinkler system, is a common practice. It would be difficult to compute actual consumption but no doubt home irrigation is one the largest consumers of drinking quality water.

General waste by individuals is a large scale problem. We use shower heads that waste water, water closets that use more water than they should. We let water run when we shave or brush our teeth, run it unnecessarily in food preparation and countless other wasteful ways. It seems a shame that everyone gets concerned about water waste after the fact.

It is a general belief that there will be water shortages nationwide for years to come, and only those who are well prepared and water conscious will endure shortages with the least amount of discomfort and hardship.

Naturally, superintendents are highly concerned about their golf courses. Our livelihoods depend on ample water, and we are judged, however unfortunately, by the amount

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I think that it is going to take a concentrated effort by the Superintendent's Associations and other turf related organizations and concerns to develop ways of dealing with water shortages, educating and co-operating with water management officials and the education of both the golfing and non-golfing public. We can all do our part to minimize potentially disastrous consequences in the turf industry.

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Supers Lose Friend

By KARL LITTEN

The golf course construction industry has lost one of its finest builders. Jack Miller of Margate, Florida, passed away at the untimely age of 45. Jack was a finish contractor who did the final sculpturing on such noted courses as: Cape Eleuthera in the Bahamas, Poinciana Park C.C. in Kissimmee, Fla.; Ocean Reef in North Key Largo, Fla.; Woodmont and Colony West in Tamarac, Fla.; Boca Lago in Boca Raton, Fla.; The Fountains South in Lake Worth, Fla.; Hunters Run in Boynton Beach, Fla.; and the list goes on.

For over 20 years this familiar figure of a man with an Australian digger, dusty cowboy boots, and an ear to ear smile, sat on his yellow D-6 mount and fashioned golf courses that are, or shall be, world renowned. Customarily, the golf course architect receives all the notoriety for the design and final acceptance, with no acclaim going to the professional charged with the design interpretation. Jack had the ability (though a non-golfer) to build a most challenging course with minimal direction from the architect. This was a true gift that was recognized by his colleagues.

A tireless worker who loved his profession, Jack could be found on the job long after dark, planning the next day's efforts. He was a dedicated family man with strong church affiliations. He will be missed by all who knew him and were touched by his life.



Answers: 1. C. 2. J. 3. B. 4. I. 5. F. 6. A. 7. E. 8. H. 9. D. 10. G. Match the following:

1	Acid Soil	6	Syringe
2	Monocot	7	Node
3	Hybrid	8	Foliar Burn
4	Culm	9	Topdressing
5	Alkaline Soil	10	Dicot

- A. To spray a turf with small amounts of water.
- B. Product of a cross between individuals of unlike genetic constitution.
- C. Soil whose reaction is below pH 7.
- D. A prepared soil mix added to the surface of a turf.
- E. The joint of a stem, the region of attachment of leaves to a stem.
- F. Soil whose reaction is above pH 7.
- G. Plant having two cotyledons in the seed, as in a broadleaf species.
- H. Injury to shoot caused by dehydration due to contact with high concentrations of chemicals, fertilizers, or pesticides.
- I. Stem of a grass plant.
- J. Plant having one cotyledon in the seed, grasses are an example.



Agronomy Quiz

Adalayd — a New Turfgrass Species

By MIKE HENRY Orange County California Turf & Landscape Farm Advisor

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 occasionly 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 (Continued on Page 26)



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Adalayd

(Continued From Page 25)

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 Zovsiagrass. 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 contamined 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-). 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 (Continued on Page 27)



Adalayd

(Continued From Page 26)

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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Newly elected officers of South Florida Golf Course Superintendents Association are from left to right: Brad Kocher, Vice President, Inverrary C.C.; Al Weitzel, External Vice President, Metro-Dade County Golf Courses; Dick Lemmel, Past President, Doral C.C.; Neil Kalin, Director, Pembroke Lakes; David Court, Director, Colony West C.C.; Ken Nicholson, President, Woodlands C.C.; Les Brown, Secretary-Treasurer, La Gorce C.C.

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Cantu Buys Zaun West

Sale of the St. Petersburg and Ft. Myers branch offices and parts and equipment distribution facilities of Zaun Equipment Inc. has been announced by Ben G. Reemelin, president and principal owner of the Jacksonville based outdoor power equipment distributing firm.

The West coast facilities have been purchased by Jack Cantu, formerly president of the Toro Company of Minneapolis, Minn., manufacturers of Toro lawn mowers, institutional turf equipment, and irrigation equipment.

The newly purchased operations will be known as Wesco-Zaun Inc. The two facilities serve an area from Citrus County on Florida's West coast to Naples. The two branches combined did a total of \$11.5 million business in fiscal year ending December 31st.

Zaun has been one of the largest outdoor power equipment, and irrigation equipment distributors in the Southeast. And, one of the oldest, having been established as a Toro distributorship in 1932. Its corporate headquarters and a branch office are located at 1741 Hamilton St. in Jacksonville. The firm will continue to operate here and from branch offices in Orlando and Tallahassee. Reemelin, himself a former Toro executive, said this about the sale: "Jack Cantu has the integrity, the personality, and the background to build Zaun further. We will continue to progress together."

Cantu said that all Zaun employees in the two purchased branches will be retained. J. C. Higgins, a former associate of Cantu's, has joined Wesco-Zaun as operations manager.

In addition to Toro products, Zaun and Wesco-Zaun together distribute some 30 lines of consumer and institutional turf equipment as well as being one of the nation's largest irrigation equipment suppliers to wholesalers and contractors.

The original company was purchased by Reemelin in 1954. The firm consisted of a Jacksonville office and employed eight persons. 1954 sales were approximately \$150,000. Last years combined sales of the five branches were in excess of \$20 million, and the firm employed 110 persons throughout Florida.

Cantu is no newcomer to the distribution business. Prior to his tenure with Toro he spent 31 years with O.M. Scott & Sons Company, most recently as head of The Pro-Turf Division.

Cantu said his decision to purchase the West coast operation of Zaun was prompted by: "the quality of the people in this organization and the enormous growth potential of the market over here. I am looking forward eagerly to establishing my home in the area and working again with retailers, golf course superintendents, and professional turf managers."



Jack Cantu, left and Ben C. Reemelin are shown following signing of purchase equipment for Zaun Equipment, Inc. St. Petersburg and Ft. Myers operations by Cantu, formerly president of the Toro Company of Minneapolis.

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