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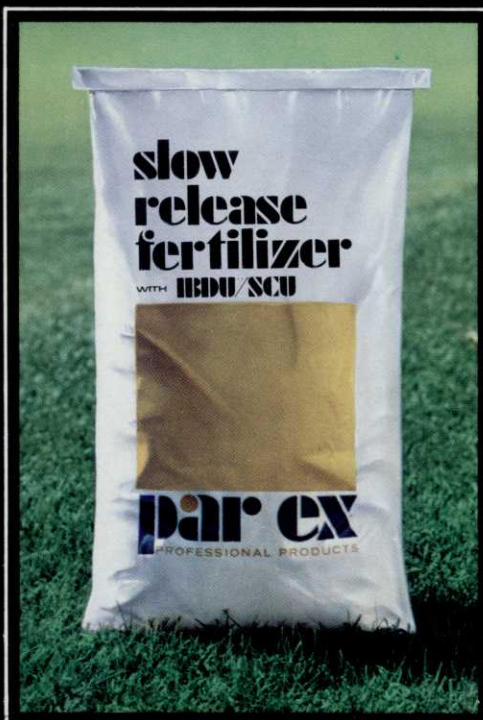
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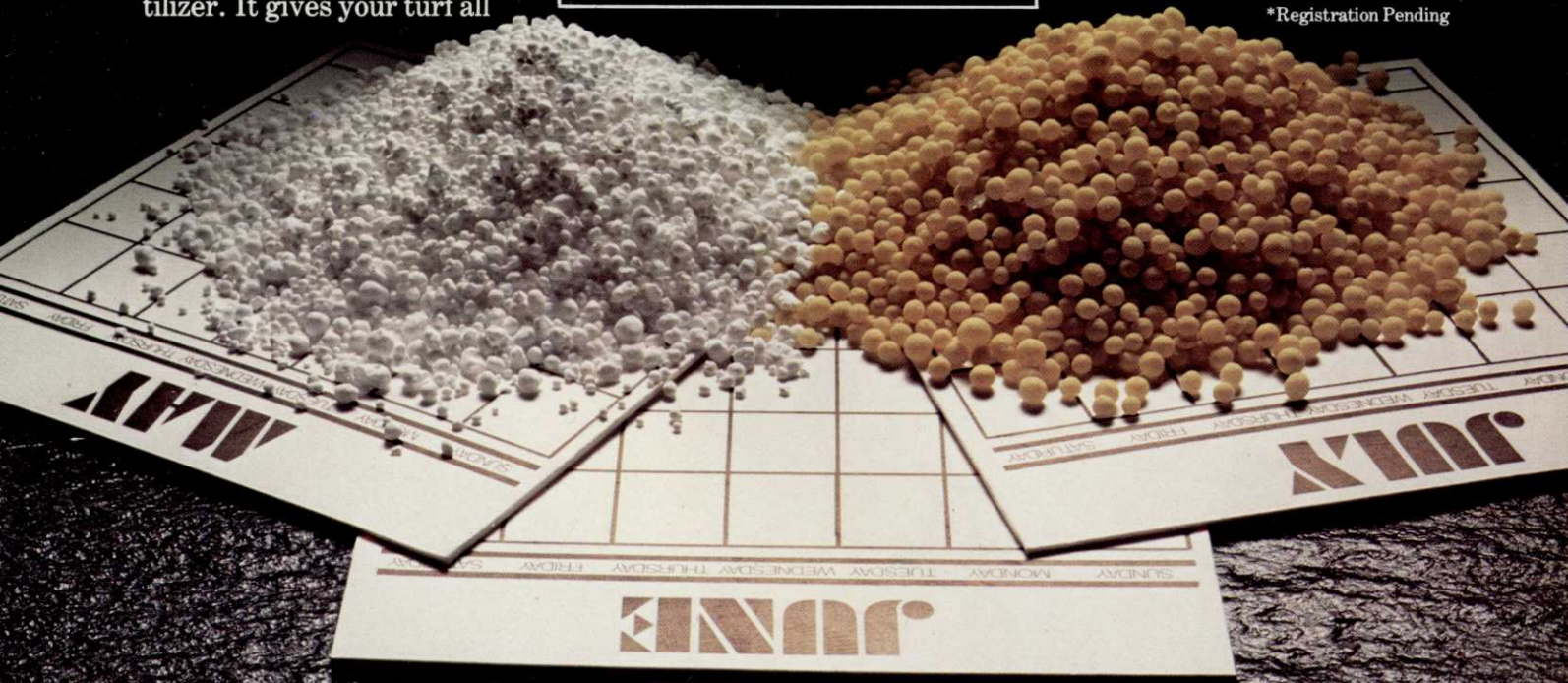
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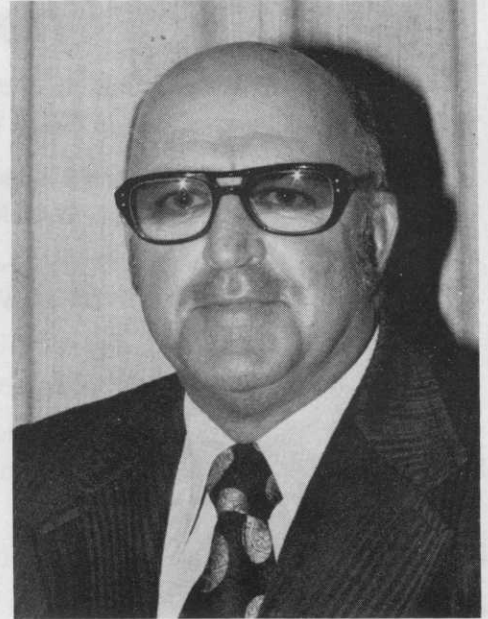
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President's Message



Communication — the act of passing along; transferring; a giving of information by talking, writing, etc.

The failure to communicate properly, or even more simply, the lack of good communication is probably one of the biggest creators of, or contributors to, problems which we all face every day.

Were the instructions given to the crew explicit enough to make them aware of the need to do a certain job in a specific manner?

Do the members of your club know that you will be aerifying the greens next week?

Did we get all of the facts pertaining to an issue or a decision that was made by others with which we disagreed before we arrived at our conclusion or were critical of that resolution?

Did we prejudge someone's guilt because we were not privy to all of the facts?

Did the citizen voice an unpopular condemnation of golf course irrigation practices simply because he was not informed of the unique demands of our circumstances?

Did the instructions mean we should turn left or right at the junction?

Did the teacher's homework assignment include the entire chapter?

Do we know why the bomb was dropped?

One could go on and on with example after example, from the ridiculous to the sublime, of situations which develop needlessly simply because we fail to communicate properly. Either we do not get our point across or we flunk the test by not grasping the essence of the information presented to us.

Recently I had the pleasure of attending a meeting comprised of golf course superintendents, a distributor's representatives, and a major manufacturer's representatives at which the dialogue was one on one and dealt with the present and future needs of our industry. This was excellent communication performed in an atmosphere of mutual respect and open minded consideration of each other. All three parties contributed and all three parties received. Communication at its finest — more of this is needed.

There can be no mutual understanding without communication between people. This is a challenge we must all strive to conquer. Certainly, above and beyond our daily routine, the contributing to and the absorbing of the wealth of information in this publication is a good place to start.

Bill Wagner

The Florida Green

The Official Bulletin of the Florida Golf Course Superintendents Association

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ABOUT OUT COVER

Looking from behind a 150 year old oak tree at the 13th tee of The Deerwood Club, Jacksonville, Florida. Chip Powell is the golf course superintendent.

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Banyan Golf Club



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*Atlantis Country Club
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Water Conservation Strategies For Florida Golf Courses

By DR. BRUCE J. AUGUSTIN
Extension Turf and Water Specialist
University of Florida, I.F.A.S.
Agricultural Research & Education Center, Fort Lauderdale



Water or rather the lack of water is a pressing concern throughout Florida. The South Florida Water Management District officials say we are experiencing a one in 700 year drought, one of the most severe droughts yet in Florida. As a result, water storage in many surface and ground reservoirs is at all time lows in parts of Florida. If the lack of rainfall is not enough of a problem, residents' demands for water continue to increase.

Without significant amounts of rainfall this summer and fall, severe restrictions on water use for landscape irrigation are likely to be imposed during the winter of 1981-82. Golf courses are the number one target for irrigation curtailment by water management districts. The general public perceives golf turf irrigation as a non-essential use of water even though residential irrigation is far more wasteful and uses much more water than golf courses.

Unless the usual rainfall pattern during the fall months changes radically, the outlook for turf irrigation is bleak for the coming year. To have your golf course survive with little or no water, it is essential that action be taken immediately. The turf must be conditioned and priorities established for water use on the golf course.

Conditioning The Turf

Bermudagrass can survive drought remarkably well if the turf is conditioned or hardened-off. The secret to drought conditioning a turf is to grow a good root system. All phases of turf management are involved in this process.

The height of cut should be increased on all turf areas and especially on those areas that will not receive any supplemental irrigation. Greater leaf area for photosynthesis will produce more carbohydrates for plant growth including root systems. The higher the height of cut the deeper and more extensive the root system.

Irrigation practices for fairways should be modified so that water is applied only when signs of stress or wilt occur. On tees and greens, water should be applied when there is a loss of turgidity in the leaves, but before noticeable wilt occurs. Limiting the frequency of irrigation encourages a deeper root system. The amount of water applied at any one time should correspond only to the amount needed to wet the rootzone. These practices provide a good mixture of water oxygen in the soil for deep root growth.

Potassium and micronutrients should be applied on a regular basis. Nitrogen should be withheld on fairways. On greens and tees, apply only enough nitrogen to promote some growth for protection against wear.

Pest control is equally important as other management practices in preparing for drought. Nematode control and application of pesticides for insect control need to be accomplished BEFORE water is limiting so the turf has every opportunity to develop a deep root system.

Setting Water Use Priorities

When faced with water use restrictions it is important to have a list of water use priorities for your golf course. The first step in developing this list is to calibrate the irrigation system of the entire golf course, not just the greens. A superintendent should know the irrigation rate in inches per hour for all areas of his course. Do not forget about the areas around the clubhouse and entrance way. Next, calculate the number of gallons of water it takes for a normal irrigation of the greens, tees, fairways, fairway approaches, rough, and other turf areas. Now make the list of priorities for water, usually greens are at the top and rough areas are the bottom. Determine the percentage of the total irrigation water to each of these areas. It may be surprising that you could shut-off irrigation on the rough areas and the fairway approaches and still provide normal

(Continued on Page 6)

CALIBRATION OF IRRIGATION SYSTEM

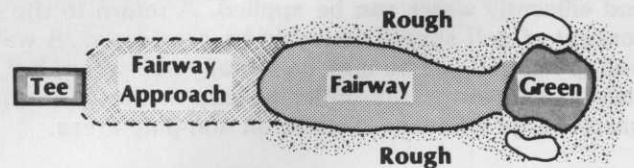


Figure 1. Calibrate the irrigation system on the entire golf course for inches per hour, and number of gallons of water applied to each area of the golf course. Use this information to set water use priorities.

Water Conservation

(Continued From Page 5)

amounts of water to the rest of the golf course with 25 percent water restriction. Under more severe water restrictions, decisions on what areas to irrigate can be still made more logically with a set of priorities.

It is important that the list of water use priorities be made with the greens committee based on the superintendents recommendations. This process keeps the members involved in decisions that affect their golf course. Communication with the membership is vital, especially if the golf course appearance changes from lush green to brown turf.

GOLF COURSE IRRIGATION SYSTEM

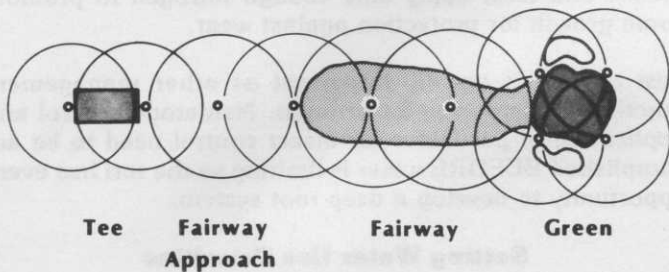


Figure 2. A typical golf course irrigation system. Note the large amount of non-playing areas under irrigation.

Long Term Strategies

Water use restrictions are likely to be with us for the foreseeable future. Current irrigation rates of 700,000 to 1,000,000 gallons of water per night on the typical 18 hole golf course are coming to an end. Whether restrictions stem from the lack of rainfall or the continual population growth and demand, the days of unlimited irrigation are over. The water management districts are going to allocate water first for residential use, then for agriculture which produces a food crop and far down the list will be golf courses and landscape irrigation.

The time is now to plan for survival of golf courses in the future. Evaluation of current golf course irrigation systems is one approach in order to determine just how judiciously and efficiently water can be applied. A return to the links concept of golf should seriously be considered. A wall-to-wall green golf course may be visually appealing, but does little to encourage the duffer to stay in the fairway, and wastes large amounts of water on non-play areas.

The greatest future hope for providing water to golf courses in Florida is sewage effluent. It is an untapped resource. Urban areas produce billions of gallons of effluent every day, and precious little is used for turf irrigation. The major obstacle to the use of sewage effluent in Florida is public opinion. The turf industry needs to lobby with state and local governments to change existing laws and ordinances

that prohibit use of sewage effluent for irrigation. Only then will we be assured of continuing to have the number and quality of golf courses that are famous in Florida. ■

MODIFIED IRRIGATION SYSTEM

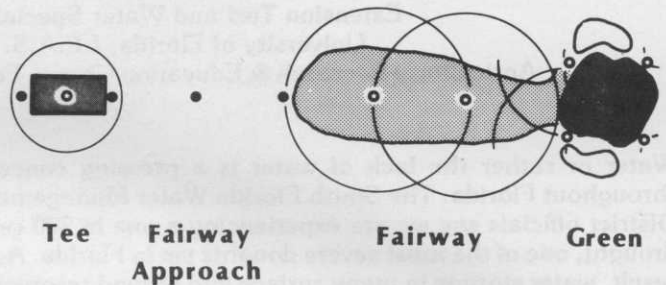


Figure 3. A modified golf course irrigation system for water conservation. The tee area is irrigated with one small head. Irrigation in the fairway approach has been eliminated. Sprinkler heads on the green have been converted to part-circle. Fairway irrigation could also be reduced by one head or more depending on the length of the hole and the need to conserve water.

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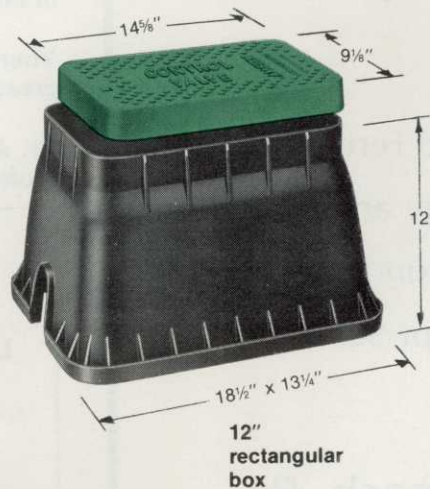
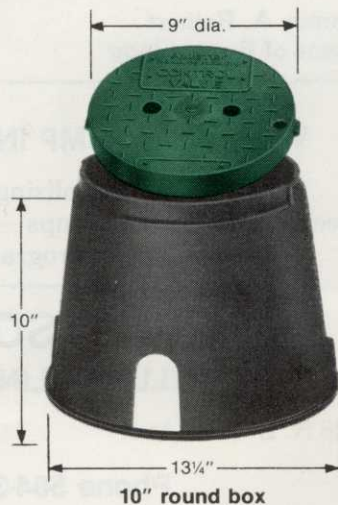
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Mole Cricket Experiment

Golf Course Superintendents or other Turfgrass Managers:

I need your help in a State-wide experiment on mole crickets which I am conducting. We are beginning to see increased mole cricket activity at this time of year, and insecticide treatments may be needed to prevent extensive damage. For this study I need the following:

1. When you treat with insecticides, collect all the dead mole crickets from a treated area large enough to get about 1 quart jar full of them (be sure to collect before the birds arrive in the morning or collect right after treatment) – collect all stages please.
2. I need mole crickets from all species of turf (Bermuda, bahia, St. Augustinegrass, etc. (please keep specimens from each grass separate).
3. Fill a quart or larger jar about one half full with alcohol (rubbing alcohol is OK) and collect the crickets directly into it, then finish filling the jar with alcohol.
4. Label the jar with the following information: Size of the collection area, chemical and method of treatment used, date, grass variety, golf course, address, and collector.
5. Call (305) 475-8990 to let me know you have the samples, and either send them to me or drop them by the Research Center in Ft. Lauderdale.

Mole crickets from this study will be used in several ways. First, we can determine which species is most important in damaging turfgrass. If only one species is prevalent, then this will aid in future research; that is, we can concentrate on one species instead of two as we are now doing. We will also be able to determine the species distribution across the State. Finally, we can search these specimens for presence of any natural parasites or predators.

Your assistance in this study and support of our program is greatly appreciated.

Dr. James A. Reinert
Professor of Entomology

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NORTH FLORIDA

DIVOTS



By EDDIE SNIPES
Assistant Superintendent
San Jose Country Club

Now playing in the North Florida area, "The Drought of 81", consult your nearest rain gauge for nonexistent rain recordings. Some people may jest at this remark unless they happen to be a golf course superintendent.

Golf course superintendents in North Florida are now experiencing drought conditions that for years seemed indigenous to the southern regions of the state. Many are experiencing first hand the ramifications that go with long term dry weather conditions. One finds that the ramifications of a drought are far reaching and in some cases not always bad.

Rising electric bills due to increased running of irrigation pumps have many superintendents and club managers worried. Close watch on the rising number in kilowatt hours during a time when electric rates are already high is an expense that really puts a dent in the budget.

With irrigation systems constantly running, some courses have developed wet spots that in turn lead to the appearance of fungi. Weed control suffers from the constant running of irrigation systems. Some courses cannot afford to go without water for fear of damage to the turf. Turf stress during a drought preys heavily on the minds of superintendents. Raising the various heights of cut and aeration are some ways superintendents have sought to relieve turf stress. With water restrictions and cutbacks now in effect, sewage affluent systems are being discussed as a long term answer to some of our water problems. Even with

the advancements made in irrigation systems, the consensus of opinion is that no one or anything puts out water like Mother Nature.

With all the negative ramifications of a drought, golf pros and irrigation distributors are not that unhappy. Blue skies mean more rounds of golf played and lack of rain means more irrigation supplies and parts being ordered. Both of these things mean money.

During these dry conditions good attitudes and a high spirit of cooperation exist between North Florida Golf Course Superintendents Chapter members and the St. Johns River Water Management District. Mr. Bob Moresi of the St. Johns River Water Management District office attended the July 14 meeting and spoke to the Chapter. The superintendents were given a brief history of water management in the state of Florida. He also discussed the lens or bubble theory that accounts for Florida's water supply and tried to dismiss any notions of underground rivers from the Carolina's feeding into Florida. Enforcement of restrictions, registrations of new wells, and the metering of wells to record water consumption were also discussed. The meeting was very productive and educational to both parties from the many questions that were raised.

North Florida may be high and dry now, but through our Superintendents Chapter and the help of our state agencies we will work together to ensure that enough water is available to grow quality turf in our area now and in the future. ■

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Treasure Coast "Tide"ings

By JAMES P. CALLAGHAN
Riomar Country Club

Drought Hits Treasure Coast Hard

All golf course superintendents along the Treasure Coast have had to cope with one of the worst droughts in recent memory. In fact, an official from the St. John's Water Management District stated that the recent drought had a return period of 200 years!

Most golf courses fared relatively well under the adverse conditions. Many areas received less than 40% of the rainfall expected from July '80 through June '81 and Vero Beach received only 7 inches of rain during the first six months of this year.

Golf courses located inland that have ample quality water supplies escaped the nightmare found along the coastal sections. Tom Burrows, superintendent of the Turtle Creek Club in Tequesta, reported that he had enough water to pull through "fairly well". Likewise, Bill Mangold of Crane Creek Golf and Raquet Club in Stuart said that he welcomes dry spells so that he can control water application himself because of his heavy soil conditions.

However, for those golf courses located on the barrier island or near the Indian River to the west, problems reached crisis proportions. Fear of losing wells to saltwater intrusion was beginning to cause sleepless nights. With the average need of 500,000 gallons of water per 18 holes per day, superintendents along the coast really had their hands tied when mandatory cutbacks were issued. And to add insult to injury, many courses lost their overtaxed irrigation pumps for extended periods of time.

In Indian River County, Adam Yurigan of the John's Island Club reported touch and go situations. Although he has access to effluent, its volume is cutback during the hot summer months as the population of the development thins out. Adam is able to supplement water from his shallow wells with water from a private well in Wabasso, some five miles to the west. He stated, "without that Wabasso well, we'd definitely be in a bind."

Just down the road a bit, Riomar Country Club has 18 two-inch shallow wells, all within 600 yds. of the Atlantic to the east and the Indian River to the west. Towards the end of June, they were discharging approximately half their normal total rate of 300,000 gallons per day and chloride concentration was up from 700 to over 1200 ppm.

Other superintendents in St. Lucie and Martin Counties had similar stories. Lonnie Stubbs of Sandpiper Bay reported a critical condition and that he had to divert water normally used on the Wilderness course to the Saints and Sinners

courses. Joe Snook, superintendent of Riverbend in Tequesta, stated he was having a difficult time because his daily allocation for water use was low to begin with as compared to other area golf courses.

Getting To The Root Of The Problem

Although we may not see another drought as severe as the one of '81 in our lifetime, many superintendents are going to implement measures to insure that their turf will hold up better during dry periods. Superintendents along the Treasure Coast are going to tackle the root of the problem — grass root that is. Deep, fibrous roots are the superintendent's insurance policy under drought conditions.

One basic way to stimulate root development is to make sure potassium levels are adequate in the soil. In talking with several area fertilizer representatives, there is a definite trend toward using blends with a percentage of potash equal to or exceeding that of nitrogen to increase root development.

Another measure that area superintendents have found effective is the use of wetting agents or surfactants. Because these materials break the surface tension of the water, they enable water to percolate into the soil effectively toward the root zone even under compacted or thatchy conditions. Some superintendents have reported that regular use of wetting agents reduces the volume of water needed to sustain turf, especially in problem areas, by 15-50%.

Reducing nematode populations is probably the priority item in our area to encourage better root development. With sugar sand being the primary soil base for golf courses along the Treasure coast, we are a vacation paradise for the little undesirable. Those golf courses in our location such as Turtle Creek and John's Island that inject for nematodes annually had the healthy turf to show off even during the hot periods in June and July. Superintendents who have been injecting in alternate years or even waiting to the third year are going to persuade their clubs' officials that annual injections should prove to be a step in the right direction.

Other measures mentioned to stimulate increased root development are increased aerification and increasing time in watering cycles but decreasing the number of cycles. These measures enable water to move down into the root zone and discourage shallow root formation.

The golf course superintendents along the Treasure Coast probably won't mind seeing a mild dry spell in the near future. They believe that they are taking appropriate measures and would like to see mother nature put them to the test. ■