Watching Your Tees & Q's

by Steve Batten and Bud White
United States Golf Association—Green Section
Southeastern Region

DO GROWTH REGULATORS HAVE A POTENTIAL?

Controlling different aspects of plant growth and development has interested plant scientists for over 50 years. Early growth regulators were often used for broadleaf weed control. Through the years, interest in shoot growth retardants has drawn considerable attention to industrial turfgrass management, such as roadside turf and drainageways. Only recently has interest been promoted to fine bladed golf course turf.

The main reason is that the commercially available growth regulators have been more successful in suppressing the cool season turfgrasses than the warm season turfgrasses. Warm season turfgrasses were found to be easily discolored, thus their use was limited in the Southern United States on fine bladed turfgrass.

The most commonly used growth regulators used on bermudagrass are maleic hydrazide (Slo-Gro) and mefluidide (Embark). These are often referred to as "growth inhibitors" because of suppression. Their mechanics of action is the suppression of turfgrass shoots by inhibiting cell elongation. Both are primarily absorbed by the leaves, so inhibition is best when as much leaf area as possible is present at the time of application. Scheduling of mowing prior to application can therefore be important in achieving good results. Some manufacturers suggest mowing 7 to 10 days after application to allow for translocation and to remove any flush of growth during the first week.

Suppression periods vary from 5 weeks for mefluidide on bermudagrass to 7 weeks for maleic hydrazide. Discoloration is possible with both growth regulators, however, bermudagrass is more sensitive to maleic hydrazide than to mefluidide. Further, the fine-bladed bermudagrasses are more sensitive to growth regulators than the coarser common types.

The most common use of growth regulators in industry at present is the reduction of mowing time on hazardous slopes. A significant reduction in time is possible over a 5-8 week period. Broadcast application to slopes is a limited use for golf courses, because of the possibility of discoloration.

One use which should be given consideration is the use of growth inhibitors for chemical edging. This would include edging around trees, bunkers, and miles of golf car paths. Experimentally mefluidide has shown promise for this type of use. The cost per linear foot would have to be compared to manual hand labor for a practical evaluation of growth regulators for edging.

Selective use of growth regulators among species is a use of growth regulators for reduction of unwanted species. Kikuyagrass as an example, is presently being suppressed in common bermudgrass in Southern California. Specie tolerance could also be important for mixed species such as reduction of cool season turfgrass in bermudagrass.

One of the most important characteristics of maleic hydrazide and mefluidide is the ability to impair seedhead production. This has been observed on both warm and cool season turfgrasses. The most optimal timing for application of growth regulators on bermudagrass would be the Spring, when they are flowering. In cool season turfgrasses, seedhead suppression has been used as a form of weed control and annual bluegrass on Kentucky bluegrass.

Two new experimental growth regulators are presently being evaluated in both warm and cool season turfgrasses. These are EL 500 (flurprimidol) or Cutless™ and PP333 (paclobutrazol). They are a new group of growth regulators that can reduce plant growth by inhibiting gibberellic acid. Application of gibberellic acid can also be used to reverse the shoot suppression effect of these compounds. This means that actual plant suppression can be manipulated and controlled or even reversed. These new compounds are also presently being evaluated at several state universities for the retardation of water use in turfgrass. To date, the gibberellic acid inhibiting growth regulators are looking promising for water use reduction. This new concept could dictate new dimensions for the use of growth regulators on turfgrass in the 1980's. ■

AQUATURF LAUNCHES TURF IRRIGATION NEWSLETTER

JACKSONVILLE, FL: April 22, 1983—AquaTalk, a professional turf irrigation newsletter, is being published by AquaTurf, the Jacksonville-based manufacturer of prefabricated pumping stations and turf irrigation systems.

The quarterly four-page newsletter will feature articles and photographs about turf and irrigation as well as other items of interest to turf managers and supervisors, architects and designers. The first issue, for example, will carry stories about the first successful attempt to seed clouds, and the three requirements rainfall must have in order to maintain healthy turf.

The newsletter will be mailed free to those involved in turf irrigation and related industries, by writing AquaTalk, 11363 San Jose Boulevard, Jacksonville, Florida 32217. ■

Palmer

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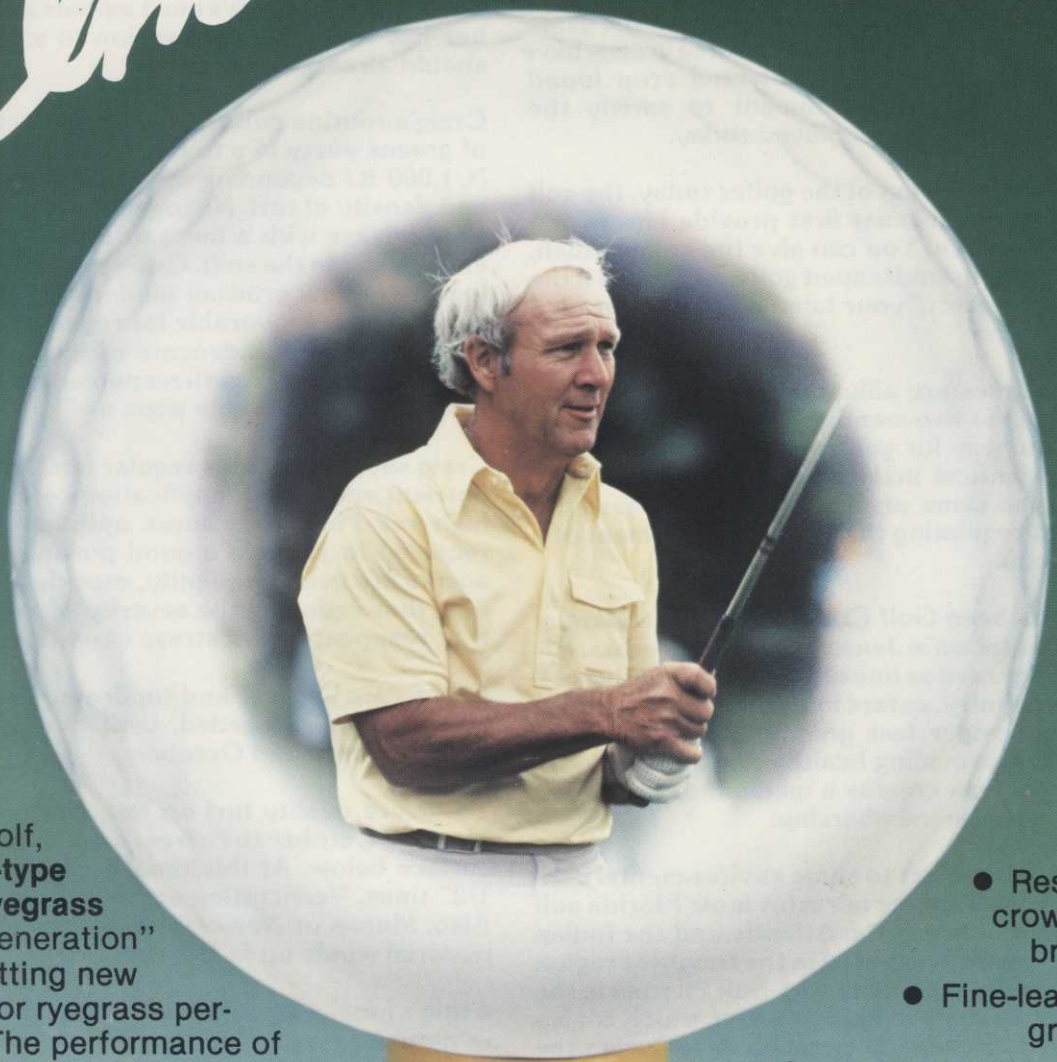

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Treasure Coast "Tide"ings

By JAMES P. CALLAGHAN
Rio Mar Country Club

PUTTING SURFACE MANAGEMENT AT INDIAN RIVER PLANTATION

Putting surfaces may only account for 2%-3% of the total acreage on a typical golf course but 50% of the game is played on that small portion. Golf course greens have become the most intensively cultivated crop found anywhere in a natural environment to satisfy the demands of the game as it is played today.

In order to gain the respect of the golfer today, the golf course superintendent must first provide him with a quality putting surface. You can give the golfer a lush, green and beautifully landscaped golf course, but if the greens are not "perfect," your talents are downgraded in the golfer's eye.

No two golf courses are alike and to compound that basic difference, no two memberships or clientele are alike. There's no way for golf course superintendents to carry out identical maintenance procedures and wind up with the same product — there are just too many variables regulating the micro-environment of a golf course green.

Craig Baker has been Golf Course Superintendent at Indian River Plantation in Jensen Beach for 5 years. His club, which is regarded as one of the best executive golf courses in the country, caters to an older clientele that doesn't demand super fast greens. Graig maintains them to a degree, providing healthy turf and a smooth surface which in turn creates a medium to fast green that is pleasing to the membership.

Craig's greens are subject to some environmental conditions that are far from the norm for most Florida golf courses. Nestled between the Atlantic and the Indian River, his golf course is situated in the toughest region of the state to maintain quality turf. Soil Ph runs in the 7.5 to 8.5 range as does irrigation water which is also high in chlorides. Rainfall is normally less during the summer months due to the afternoon seabreeze that keeps thunderstorms from approaching that build up over the mainland. Craig noted that last summer, Crane Creek located 5 miles to the west, received some 30 inches of rain more than he recorded at his golf course. Environment can be extremely different at two points separated by only a few miles! And the golfers can't understand why the conditions of two golf courses the same distance apart aren't identical.

The daily maintenance program on the Tifgreen 328 greens at Indian River Plantation, which average 5,550 ft.², includes mowing at 5/32" to 3/16" with triplex greensmowers using grooved rollers year-round. Greens are mowed in different directions daily, changing direction on the cleanup pass to discourage grain. During the peak season when play approaches 300 rounds/day, cups are changed daily. Inspection of each and every green first thing in the morning is insurance on spotting unexpected surprises such as vandalism, disease or insects. It's most embarrassing when a member has to call your attention to something that you should already be aware of.

Craig's routine cultural practices include fertilization of greens every two to three weeks with .75 to 1.5 lbs. N/1,000 ft.² depending on weather, growth rate, color and density of turf. Nitrogen sources used are usually slow release with a low salt index (Craig already has enough salt in the soil). Craig stated; "I believe in keeping the greens growing moderately at all times when conditions are favorable for regeneration of the grass-plant. I'm not an advocate of lush greens — but I do strive for a good growth response that will protect me if something undesirable pops up."

Craig supplements his regular fertilization with micro-nutrient sprays and applications of sulphur to reduce high soil Ph. This insures optimum nutrient uptake required to provide a good putting surface. Wetting agents are used frequently, especially during dry periods, thus reducing the severity of localized dry spots that reappear under stress conditions.

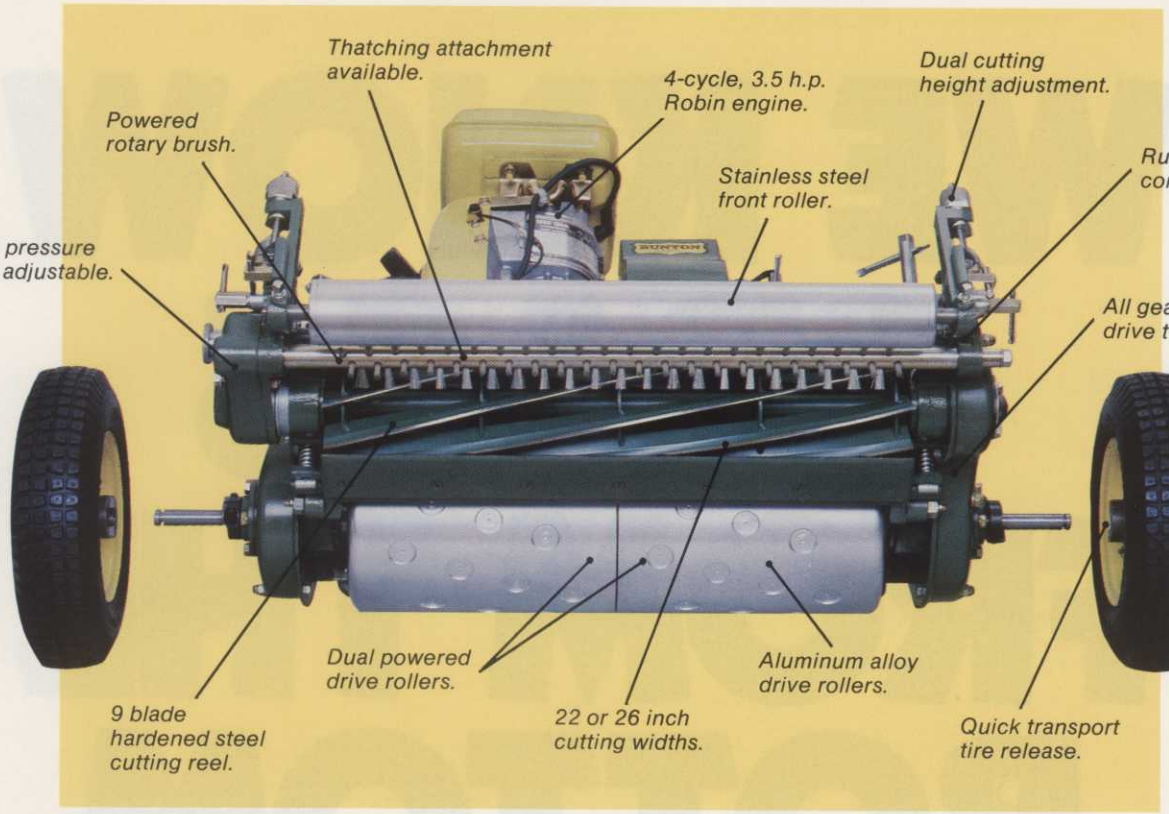
Greens are verticut and topdressed lightly with an 80-20 materials as needed, usually every 4 to 6 weeks between April and October.

To insure quality turf on top, measures are taken in May and October to correct any damage to the putting surface below. At this time, greens are aerified using 1/2" tines. Verticutting and heavy topdressing follow. Also, Mocap or Nemecur is applied to insure that the material winds up in the root zone where it's needed.

Craig's fungicide and insecticide programs are curative in nature except when conditions are favorable for a given problem — then prevention takes hold. His intensive program has kept weeds on the greens to a bare minimum and they are spot treated as needed.

Craig pointed out, "In greens management, one must realize that individual greens on the golf course have their own environment and what works on one may not give the same results on another. One must make necessary adjustments between greens to provide uniformity as required."

By playing his course regularly and lending an ear to the membership, Craig is always on top when it comes to the condition of the greens at Indian River Plantation. If adjustments are in order, they are carried out immediately.



A VIEW FROM THE BOTTOM SHOWS WHY THE BUNTON GREENSMOWER IS ON TOP.

Look at the Bunton greensmower from any angle and you'll suspect it's the best available. When you look at it from the perspective of your greens, you'll understand why.

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The brush is easily adjusted to coincide with the pitch of the bed knife, and can be easily raised to reduce the pressure on the grass, or disengaged for mowing without the brush. And, it can be replaced with an optional verticut attachment for thatching.

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by:
Eddie Snipes

WHEN IS A GREEN A "10"

Hey! Would you look at that! What color, so smooth, so firm, now that my friends is a true "10". To my knowledge, golf course greens have never been subjected to a scale of 1 to 10 like other subjects or phenomena. Probably, one reason for a nonexistant scale is the subjectivity that is involved in determining what makes a good putting surface.

Putting surfaces are a hot item for discussion in all forms of golf literature. Color, speed and architectural design are a few of the many hotly contested issues at present. A golf course superintendent has a wealth of biological research to substantiate various cultural turf practices that produce good putting surfaces. Turfgrass terminology also enables one to find a "10" by giving one direction in striving for a good putting surface.

Uniformity, smoothness, firmness, resiliency, verdure land color are just a few of the characteristics one may look for in a good putting surface.

Turf cultural practice such as balanced fertilization, irrigation and greens maintenance techniques gives one the means to achieve the characteristics desired in a good putting surface. Even the greens maintenance techniques are subjective in nature. How often does one verti-cut, top dress, airify, mow and at what height of cut does one mow; what degree does one allow chemicals (herbicides, fungicides, inserticides) to pay in striving for a good putting green surface?

Superintendents throughout the state of Florida have their own ideals and mode of operation in making a good putting surface. Depending on what school of thought they belong to, cultural practices and green characteristics will vary.

How does one know when they have arrived at a "10"? In the final analysis, whether a superintendent be at a public resort or private membership club, the feedback received from your golfers can be the scale of your greens. Putting green characteristics and cultural turf practices can be used to promote the type of surface that is economical and desired by the golfers on ones course. Different clubs will desire different putting green standards. The superintendents must listen to the subjective overtones of his membership and adjust his putting green surfaces accordingly. Clear cut guidelines for what makes a good putting green surface can best be determined by those that play your course. ■

BRUCE OLIVER NAMED PRESIDENT OF ZAUN

News Release

Bruce Oliver was elected president and general manager of Zaun Equipment, Inc., at the recent annual stockholder and board meeting of the Jacksonville-based outdoor equipment distribution firm.

Ben Reemelin, Zaun's president for the past 29 years, will remain active in the firm as Chairman of the board and the executive committee.

Oliver, who joined Zaun in 1954, has served in various capacities and was most recently responsible for all purchasing and sales promotion of the multi-state distributor.

Zaun is one of the nation's largest volume distributors of the Toro Company's golf course equipment lines and its residential irrigation products. It employs 60 people in its Jacksonville and Orlando offices and annual sales are approximately $13.5 million. In addition to Toro, the firm distributes from its Jacksonville and Orlando warehouses products of leading outdoor and power equipment manufacturers including McCulloch chain saws, Kero-Sun heaters, Charmglow outdoor cookers, Mitsubishi and Roper Tractors. ■

THE AGONY OF ANGER

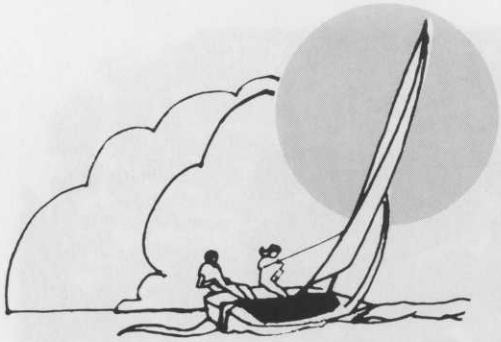
Psychologists tell us that bottled-up anger can cause severe tensions that do actual physical harm — ranging from peptic ulcers to hypertension. And, while exploding may be more healthy than holding anger in, expressing anger through temper tantrums... or insults can have serious career consequences. That's why you should learn how to let off steam safely when a problem arises. Here are some suggestions on how to use this sometimes destructive force constructively:

When you feel the need to strike out — first put some space between yourself and the cause of your anger. Any change of scene or routine, no matter how brief, can help by giving you a fresh perspective on your own feelings and the problem.

Work off your tensions. Take a brisk walk... Put the palms of your hands together; squeeze. Repeat as needed. You'll feel better and less angry, too.

Keep your anger in perspective. Express your feelings to the proper person with a cool statement like "This action upsets me." As a way of introduction, it will enable you to discuss the problem calmly. ■

Office Guide 1-15-82



Suncoast Sails

By LARRY LIVINGSTON
Gator Creek Golf Club

MAINTAINING GREEN SPEED

The first step in maintaining green speed is to determine the speed at which the greens are to be. Since the majority of the members at Gator Creek want quick greens, our maintenance program is geared to this objective.

As in most golf course situations the green speed is greatly affected by weather conditions. Due to the limited play we receive through out the winter we feel it is in our best interest not to overseed for winter play. This allows as quick a surface as desired. We increase the nitrogen fertility level to 2 lbs. N/m per month from, depending on temperature, December through February. The other nutrients are added as needed according to soil tests. We maintain a cutting height of 3/16 to 1/4 inch. When frost is a problem we use charcoal to increase the soil temperature while using the irrigation system to syringe the greens as necessary.

As spring approaches we gradually lower the nitrogen rate to 1 lb. N/m per month. A frequent light topdressing program using 100% sand initiated along with a light vertical mowing program up to two times per week. The cutting height is slowly reduced to 9/64 inch. A nematocide is applied during March or April for the control of Nematodes and mole crickets. We maintain this program until the rainy season begins.

Due to the fact that our tifdwarf Bermuda greens are contaminated with Pee Dee and are not very well drained we are forced to reduce the vertical mowing frequency as well as raise the cutting height to 5/32 - 3/16 inch during the hot rainy season. This tends to reduce thinning of the Pee Dee. We continue to apply a frequent light topdressing however. During the late spring the greens are aerified and plugs removed, followed by a slightly heavier topdressing. This is done 3 - 4 times through the summer. Lime is applied if needed after coring. Fungicides and insecticides are applied as needed.

As the rainy season comes to an end and the temperature begins to fall we increase the frequency of vertical mowing and gradually reduce the cutting height to 9/64 - 5/32 inch, while continuing the light frequent topdressing. Depending on the turf quality the nitrogen level may be increased slightly.

During November or December we raise the cutting height to 3/16 inch, reduce vertical mowing, increase the nitrogen level to 2 lbs. N/m per month and begin to phase out the topdressing applications. This thickens the turf in preparation for winter. A member educational program is used to make them aware of the importance of repairing ball marks when the grass is in a semi-dormant stage.

Although this is our basic greens maintenance program we usually alter it slightly as conditions and turf quality dictates. We tend to keep the greens on the dry side when possible throughout the year. The only herbicide used is Basagran, used for spot treatment of sedge. We double cut the greens when a faster surface is desired for tournaments or special occasions. Since no two golf courses are the same, each superintendent developes a greens maintenance program that suits his conditions and provides the putting surface desired. ■