

Midwest Breezes



Upcoming Events

February 11 — Illinois Pesticide Clinic at St. Charles, Kane County Extension office, 535 Randall Rd. (General Testing)

February 13 — Kane County (Turf & Ornamentals Training)

March 18 — MAGCS meeting at Nordic Hills C.C.

April 28 — MAGCS meeting at Olympia Fields C.C.

May 19 — Joint association meeting at Eagle Ridge C.C.

September 8 — MAGCS monthly meeting at Deer Creek G.C.

October 6 — MAGCS monthly meeting at Wilmette C.C.

“February”

The shortest Month of the New Year,
When Winter doldrums fast arise.

Equipment renovations, Winter vacations,
Further education for the Wise.

Planning for the future, reviewing the past,
While fulfilling resolutions, We realize.

While February's a short Month,
It's fast to open up One's eyes.

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Seminars are truly Regional

This past January 6 & 7, MAGCS hosted two GCSAA seminars. There were 65 registrants, 14 of which were out of state participants.

Stephen Hazel, PhD. instructed 46 individuals on “Business Communication & Assertiveness Technique.” Nick Christian, PhD. taught “Basic Horticulture Methods” to 15 individuals. Both two day seminars were very well received, and MAGCS was most happy to have sponsored their 4th annual regional seminar at Pheasant Run Golf Resort in St. Charles, IL.

Plans are in the making for next year's seminars. We will be offering 2 - 3 seminars the first or second week in January. Please communicate your interests and needs as to seminar topics. They truly are learning experiences!

Peter Leuzinger, St. Charles C.C.

January Meeting

The January meeting at Arrowhead G.C. drew 96 for the lunch and meeting that followed. Anybody needing a Doctor at that meeting, you had a choice of Dr. Tom Green, Dr. Tom Fermanian, and Dr. Randy Kane! It was good to see our honored members come to a meeting. Warren Bidwell was the guest speaker and spoke on retirement and that it was never too early to start planning on it. Warren also spoke on the availability or we should say little availability of bent grasses for 1986. Bill Roberts, a delegate for Director of GCSAA, also spoke to us on his beliefs of how the National should be run and operated.

For Sale

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Congratulations are in order for Bruce & Roxane Williams on the birth of Claire Elizabeth, born on January 3rd, 1986 and weighing in at 7 pounds, 7 ounces. Bruce and Roxane have another child, Blake, age 4.

Congratulations to Bob Kronn on his new position which started February 1st at La Grange C.C. Howard Baerwald will be staying on as “consultant” for the next year.

Well Done to Dave Behrman on becoming a Certified Golf Course Superintendent.

This month we will be starting a new column in our newsletter called the “Advertiser's Column”. Each month we will be featuring one of our advertisers and for this first year, they will be explaining how they or their business got started and give some history about themselves.

Seasonal Employment Opportunity

Pine Meadow Golf Club, Mundelein, Illinois seeks individuals who wish to develop a career in Golf Course Grounds Management, to work as seasonal grounds keepers.

Send resume to:

Pine Meadow Golf Club, P. O. Box 387, Mundelein, IL 60060. Attention - Ted Sokolis, Golf Course Supt.

Medinah Country Club

Needs an Assistant Superintendent

Please send a resume by February 7th, 1986 to: Pete Wilson, Medinah C.C., Medinah Road, Medinah, IL 60157

Albie Staudt received his 35 year pin from the GCSAA from President Dave Behrman at the Arrowhead G.C. meeting. Congratulations Albie!!!

The Stimpmeter: Another Perspective

by David R. Chalmers

Extension Agronomist, Turf

Before the stimpmeter was resurrected in the mid-1970's, it was difficult to accurately gauge putting green speed. It was left up to the golfer's perception which was, and still is subjective to putting skill. Now we have the stimpmeter available to accurately measure golf ball roll and never has such a turfgrass management operation held so much glamour with John Q. Public. The average golfer finds it difficult to understand the intricacies of putting green management (i.e., mowing, aerification, topdressing, vertical mowing, fertilization, irrigation, pest control, etc.) but he or she can understand how far a golf ball can travel after rolling down an inclined plane. The issue of whether or not to make the stimpmeter a part of the putting green management program has centered on the fear that putting green speed will become the most important measure of putting green quality. Because of this, the stimpmeter and its place on the golf course has been a very controversial topic. It's to the point now that some superintendents use it and make the readings known; others use it but don't advertise they are using it, while still others ignore its existence.

The current switch toward emphasizing putting green playability, of which speed is a component, is nothing new for some but long overdue for others. In the last 20 to 30 years, putting green management has gone from more art than science to more science than art. During this time there has been more and more reliance on the proven agronomic principles to produce quality turf. However, factors involved in agronomic and aesthetic putting green quality have rarely been quantitatively linked back to putting green playability (Table 1). Only since the stimpmeter has come back on the scene has research addressed the question of how common agronomic practices influence ball roll, something the discerning golf course superintendent has known all along.

Table 1. Factors involved in putting green quality

Turf Quality Factors	Playability Factors
Density	Trueness of ball roll
Texture	"Bite" or resiliency
Growth habit	Speed
Smoothness	Consistency
Color	
Uniformity	

Part of the problem of acceptance of the stimpmeter by golf course superintendents centers around a concern of how it will affect the golfers. Golfers already have a set of preferred golfing conditions etched in the back of their minds that either relates back to their game (what golf shots they can or cannot hit) or impressions on what a golf course should look like. Dealing with golfer's suggestions and how responsive the superintendent is depends on the type of golf facility (i.e., private country club, resort course, or daily fee public course), the source of the suggestion, and the superintendent's own common sense (agronomic and otherwise). After all, it is not the responsibility of the golf course superintendent to make up for the inadequacies of the golfing public through management.

Certainly the golf course superintendent is responsible for maintaining the best possible playing surfaces along with a fair challenge to the clientele within operating restraints. Making the stimpmeter a priority requires an understanding, by all of

those involved, of the agronomic and fiscal limits of the grooming practices that influence ball roll.

No longer is it sufficient to just ask "what height are you mowing your greens." Now we must also consider whether the mower is a triplex or a walker, frequency of cut, if solid or grooved rollers are used, if brushes or combs are used, and mower maintenance.

Topdressing has been applied for a number of reasons among which are: (1) to incorporate new soil into a green; (2) to smooth or true the surface; and (3) to aid in thatch decomposition. Applied more frequently at light rates, topdressing will help the grass to grow more upright enabling more effective clipping and better ball support.

Vertical mowing is no longer just a curative means of controlling thatch. If practiced on a regular basis in periods of minimum stress (i.e., spring and fall) and adjusted to just nick the green surface, vertical mowing can: (1) slightly thin the strand; (2) help prevent the blades from laying over; and (3) cut off any runners (stolons). The net result is a better putting surface.

Fertilization, especially the amount of nitrogen, influences the rate of growth which affects ball roll. Lowering the level of nitrogen fertilization will decrease resistance to ball roll and higher rates may need more grooming to perform in a similar manner. However, nitrogen requirement and its influence on putting green management varies greatly according to nitrogen source, frequency and timing of application, traffic, soil mixture, and bentgrass variety, etc. Drastic changes in the fertilization program should be avoided until the grooming methods (i.e. mowing, verticutting, and topdressing) have been explored for their combined influence on ball roll.

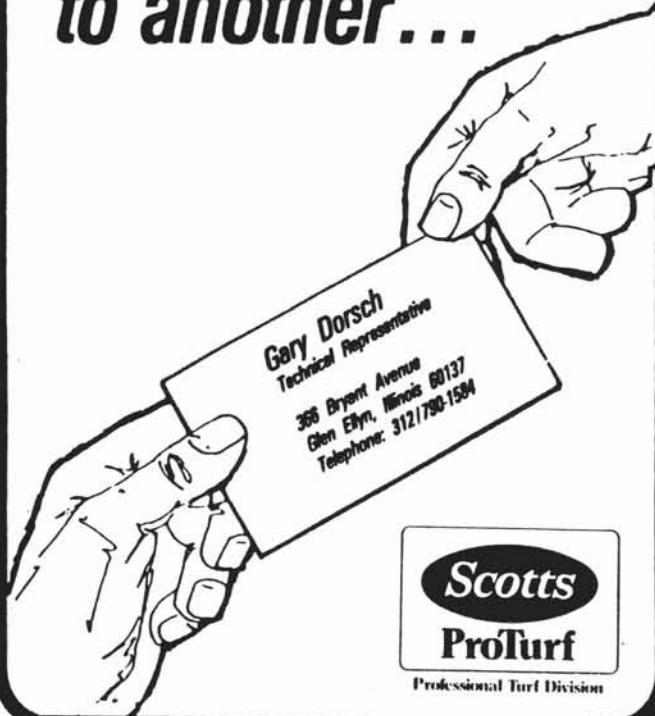

The stimpmeter was never intended to be used as a speedometer; only as a tool for a golf course to use to (1) determine an acceptable green speed for its clientele and (2) to reduce variability in speed between greens on a single course. The stimpmeter can also become an important tool for the undiscerning eye in how grooming practices influence ball roll. However, all of the grooming in the world won't be able to help a poor putting stroke, only practice. It remains to be seen if the stimpmeter will help make John Q. Public a better putter or have only a placebo-like effect on his psyche.

Credit: Tech Turf Topics



Randy Rogers (l.) receiving Diamond Award from Paul Mengle, Marketing and Sales Manager, Lebanon Chemical Corporation.

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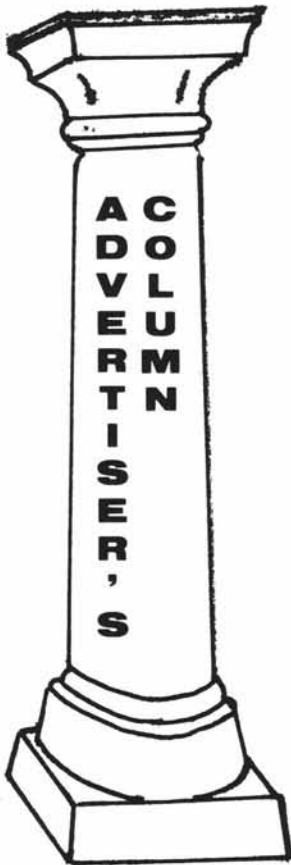
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A Short History of Illinois Lawn Equipment

Illinois Lawn Equipment was founded October 8, 1954 by Robert G. Johnson. It all began in a small two story building that had been a high school chemistry lab a month earlier. Bob, as he likes to be called, also worked a full time job at the Ford City Aircraft Engine Plant to support himself and his first full time employee. He sold Worthington gang mowers and Jacobsen walking putting green mowers. First year sales were in excess of twelve thousand dollars!

As the years rolled by, he picked up other product lines only after the old established competitors dropped the products or declined to handle them. The growing company had rented all the available empty garages and vacant lots in downtown Orland Park and in August, 1960, Illinois Lawn moved to its second home, south of town, on rural U.S. Route 45.

The early 60's brought long term employees Larry Schmidt, mechanic, Pete Vandercook, salesman, and Wayne Trometer, parts clerk. Those were the days when green mowers sold for \$400.00, gangs \$2,000.00 for a seven gang fairway and, even at those prices, everybody argued about the price. From 1960 to 1970 over 50 new golf courses were built in northern Illinois.

Bob was always a big promoter. Field days would attract over 400 people. They were held in the new building or under a circus tent - because it would always rain! Delicacies served at these events included oysters on the half shell, beer and once, 600 lbs. of "Buried Beef". (Ask him for the recipe).

1969 brought a revolution in the turfgrass industry. Jacobsen introduced the first riding triplex greens mower, the Greens King. Customers stood in amazement as the operator would mow a green in 5 minutes - sitting down! The factory shipped monthly allocations as they could not keep up with demand. While Illinois Lawn was busy trying to keep all these new mowers running, they also had to absorb Steel City Lawn & Garden, Merrillville, Indiana. This made Illinois Lawn a regional distributor. Territory reached to northern Illinois, northwestern Indiana and southwestern Michigan. Jerry Adank came with the acquisition and, after a year in the parts department, went on to become the company's all time leading salesman.

1979 brought the addition of the central Illinois territory when Leon Short & Sons of Peoria closed their doors. This was also the year that Illinois Lawn sold the building on Route 45 to the Red Lobster (across the street from Orland Square) which allowed them the capital to build the new building in the Apple Knoll Industrial Park into which they moved in January, 1980.

Illinois Lawn is a major factor in the regional marketplace today. Having been in business for 32 years and representing many of the top commercial turf equipment lines, it is still a family business. Seven employees are related and the next generation is already learning how to "cut it".

by Rick Johnson

5th Annual Illinois Turfgrass Foundation Combined Golf Day

In combination with Midwest Superintendents Association, Central Superintendents Association and Northwestern Superintendents Association.

PLACE — Eagle Ridge Inn and Resort, Galena, Illinois

DATE — May 19, 1986

TIME — 10:00 a.m. (shotgun start from both courses)

SPONSORS — Tri State Turf & Irrigation and Brayton Chemicals, Inc.

TO BE DONATED — Pro Turf 84 and \$2500 cash
Donations made to Illinois Turfgrass Foundation

Please note: Golf will be limited to the first 200 people. The cost of \$50 includes \$35 for greens fee, cart, dinner and prizes, plus \$15 donation to Illinois Turfgrass Foundation.

A special spouse or friend program will include a tour of Historical Galena and homes.

Special room rate for both Sunday, May 18th and Monday, May 19th. Rates per night: Rooms - \$50, double or single; Homes and Condo, 1 bedroom - \$85, 2 bedrooms - \$100 and 3 bedrooms - \$125.

Extra activities included at the Resort: tennis, swimming, sailing, canoeing, fishing, biking and hiking trails and a physical fitness course.

Please call 815-777-2444 to reserve lodging and golf for this special event.

USGA & GCSAA Donating Funds for Research to U. of I.

Turfgrass research sponsored by the USGA/GCSAA in the Great Lakes Region continues to move forward. In addition to projects now underway in Minnesota and Michigan, a new study will be initiated at the University of Illinois this year. Dr. Henry Wilkinson will receive a three year grant to study Patch Diseases in zoysias. This will provide extremely useful information to golf courses in southern Illinois which are developing fairway and tee turf with this species.

This work will focus national attention on Illinois, because of the widespread interest in zoysiagrass turf all across middle America. For all of us in turf, it illustrates the value of the USGA/GCSAA Research Committee in centralized research planning. Dr. Wilkinson will coordinate his efforts with Dr. Engelke at Texas A&M - Dallas in the development of new zoysia cultivars and Dr. Lucas at North Carolina State who is studying Spring Deadspot disease in bermudagrasses. He will also cooperate with researchers at Cornell in determining any possible connection of this problem with patch diseases in cool season grasses. As with all truly basic research, we anticipate spinoffs in technology, new procedures and overall better understanding of disease-management relationships.

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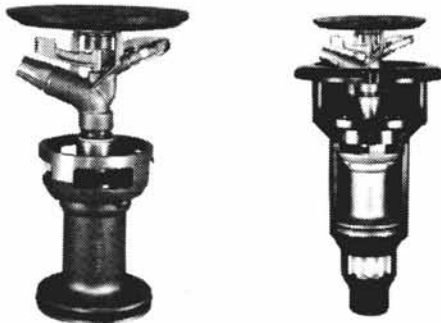
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Selecting Superior Turfgrasses Through A Tissue Culture System

by Dr. M.A.L. Smith
University of Illinois

Kentucky bluegrass is attacked each year by two serious and similar diseases — Summer Patch and Necrotic Ring Spot. Although two separate fungal pathogens cause these diseases, the fungi often act in concert, and combined they create a complicated disease interaction which is potentially even more destructive: the misnamed "Fusarium Blight Syndrome". This poorly understood complex has defied research studies, and as a result has actually been blamed on **Fusarium**, the wrong casual organism.

Not only do the interactions between the two organisms make the problem very difficult to study (and consequently, very difficult to **SOLVE**), but the scientist has no control over this disease for field testing. Any variation in soil type, drainage, or other environmental factor will change the expected expression of disease symptoms, AND the disease will not develop quickly enough after artificial inoculation to allow selection of resistant grasses.

These complications impede the work of any breeder trying to find superior selections without the disease problems, or trying to formulate effective control measures. In addition, a population of soil-borne bacteria (Pseudomonads) acts as an antagonist to the fungi. The bacteria are triggered to multiply and build up their population by some signal which comes directly from the grass + pathogen interaction. After a period of time, the bacteria can build to a sufficient population to effectively suppress the pathogenesis of the fungi, and give real protection to turfgrass from disease. We can't afford to wait for this biological control to work on high maintenance golf greens or in a landscape, but it would be a benefit to **SELECT** for bluegrass genotypes which are resistant to the pathogen and supportive of bacterial colonization. A selection of bluegrass may seem "resistant" to disease attack because it somehow is able to ward off the fungi, or it may show no symptoms because it is very receptive instead to the bacteria, and **they** are preventing any damage. Or maybe both are operative in a "resistant" grass — some genetic defense against fungi and receptivity to bacteria that colonize the rhizosphere.

The complexity of the disease problem, and the slow progress possible with field experiments warrants a simplified, alternative approach. What we would ideally like to do (in order to make some real progress) is to isolate the bluegrass in a defined, controlled environment, without the complications of a soil rhizosphere, or competing microorganisms. Then we could with precision introduce a specific pathogen (or bacterial colonist) to the plant, and observe the reason for protection, or the plant attributes which influence disease susceptibility, without interference. That is exactly what we **can** do by developing a microculture system for bluegrass. We can provide an ideal analog of the field situation by growing grass plants in an isolated environment on a medium we have defined and standardized, so that many of the complicating variables which have precluded research progress are eliminated. Now when we "add back" a specific organism of our choice, we can easily study the way the disease attacks or the manner in which the bacteria are able to offer some protection. If a grass shows some resistance to the disease, we can tell exactly why, and work in a directed

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manner to breed bluegrass to fortify the mode of resistance. Remember, we are really looking for two separate traits (or a combination of these) which can contribute to a superior bluegrass line - ability to resist fungal attack because of some unique plant character controlled by its genotype, or a bluegrass that is receptive to rapid buildup of bacteria in the rhizosphere, and is then indirectly afforded some protection.

Our objectives in this present study are the following:

1. to establish a bluegrass microculture system using differentiated tissues (whole grass plants, or whole organs like blades [phytomers] or roots) in culture AND undifferentiated (callus) cultures. The microorganisms of interest in this artificial environment as well.
2. to correlate the level of field susceptibility to Summer Patch with a disease reaction observed *in vitro*.
3. to use this microculture analogy of a field disease to SCREEN and SELECT for resistant bluegrasses, without resorting to the slow, tedious, and usually inconclusive traditional methods of field evaluation.
4. to generate someclonal variants from the microcultures, to serve as another source of potential breeding material. Whether we are selecting for some natural resistance in grasses while they are in the microculture form, or actually creating new and potentially superior selections **through** the microculture process itself, our objective is get a grass plant that has demonstrated superior and desirable traits in culture, and acclimate it back to the greenhouse and eventually the field, so that we have produced a new selection that is useful to whole plant breeders. All of these evaluations and selections can take place **much** more rapidly than any similar tests in the field.

We now have completed a standardized, workable microculture system for bluegrass in all three of the culture forms mentioned. We can with confidence generate uniform tissue rapidly for screening and testing in pathogen or bacterial interaction assays, select or induce superior grass genotypes in culture, and regenerate whole field-ready plants which are then available to a breeder for further work. We have also begun testing the pathogen (isolated from all other organisms) in the culture environment, making sure that it is able to grow normally *in vitro*. And we've been fortunate to make use of a whole-plant growth chamber assay for disease susceptibility. In this "cone-assay", the selections made at the microculture level can be introduced into the greenhouse/growth chamber environment and very rapidly (28 day turnover) measured in terms of resistance; the disease can be produced consistently. We can't do selections or variant breeding in the growth chamber assay, but it provides a fairly rapid, specific check to verify that the resistance seen at the micro-level holds up in a natural environment. Remember, there is no such check available in the field, where the disease can't be controlled to do effective testing.

We are currently in final stages of preparing multiple uniform microcultures of bluegrass varieties with known levels of resistance and susceptibility to Summer Patch disease - specifically 'Adelphi' which has demonstrated some field resistance to Summer Patch and the combined problem caused by both the Summer Patch and Necrotic Ring Spot fungus, and 'Fylking' which is quite susceptible to damage. Their differential reactions to the fungi have been verified using the growth chamber assay mentioned earlier. Now, we are moving ahead to test both the causal fungus responsible for Summer Patch, and the grasses in all of the three microculture forms. Once we

can determine the kind of response to be expected of a "resistant" grass in culture, we can use the rapid assay to select, isolate, and produce whole plants of immediate use in landscape situations.

Parallel experiments with wheat, attacked by the same or closely related fungus, have helped to verify the kinds of responses seen with bluegrass. So the microculture system is not only a feasible method, but perhaps the only way to make substantial progress towards control of a severe and challenging turfgrass disease.

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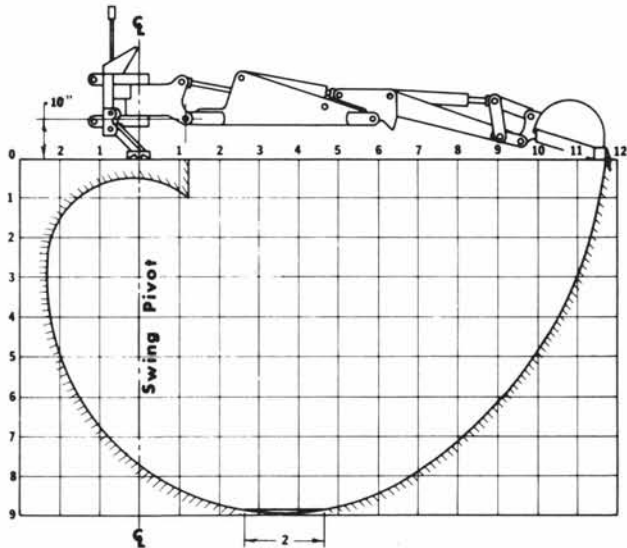
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Professional Comparison

Have you ever stopped to take the time and compare this business of being a Golf Course Superintendent with other professions. We are expected to produce and maintain one hundred percent cover and conditions under any type of variable that nature gives for the members and golfers to play on. It is not only expected, it is demanded. When I stop to think about the various criticism that I get from all angles from time to time. I always try and cite the good things that are going well on the course and the fact that good exceeds the bad about ninety-nine percent to one. Nevertheless we are expected to accomplish at least one hundred percent constantly.

I have started to compare our profession along with others. A baseball player is said to be having a great year when he bats three hundred. Anything over that is superb. Yet this is only a one-third or a thirty-three percent performance. How many pitchers in baseball can't even go a full nine innings anymore and have to have a relief pitcher for the "save".

A basketball team is said to be having a great night when they hit fifty percent from the floor. That is one half.

Golfers would realize this immediately, but don't because they don't fully understand what a "handicap" is or means. Shouldn't everyone play scratch golf? No, oh that is what a handicap is for so a scratch golfer can play with a fifteen handicapper. Then is it a true expression of perfection or ability to play to that fifteen handicap. A fifteen handicap is approximately a 21% deficiency in one's golf game. What if we maintained a golf course at a twenty-one percent deficiency? But, instead of given a true handicap we are expected to be scratch players or professionals so to speak and do it on a two handicap. No one is asked to do more and do it to perfection with less than a golf course superintendent. Think about that the next time somebody jumps your case about something after you have put in your ninth consecutive week of seventy hours or more.

Credit — Louis E. Miller
 Kentuckiana Klippings, July, 1984

Effects of Nitrogen, Temperature and Moisture Stress on the Growth and Physiology of Creeping Bentgrass and Response to Chelated Iron

R.E. Schmidt and V. Snyder

Agronomy Journal Vol. 76, Number 4/590-594

Applications of iron often improve creeping bentgrass quality in the transition zone even though soils contain sufficient quantities of this trace element. Studies with Penncross creeping bentgrass have shown that foliar applications of FeDTPA increased top growth during cool temperatures. As temperature increased, FeDTPA applications depressed top growth. Net photosynthesis was reduced but dark respiration remained unchanged. Foliar carbohydrates were increased and appeared directly related to corresponding top growth reductions. A more decumbent growth habit of the bentgrass was associated with repeated moisture stress. Net photosynthesis decreased as soil moisture levels declined. Dark respiration was lower for plants grown at the lowest irrigation regime. This reduction in dark respiration may help to account for the increased foliar carbohydrates associated with infrequent irrigation.

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