



# ***THE SOUTH FLORIDA GREEN***

Vol. 1

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No. 1



## DEDICATION

To the men who work "behind the scene" in all areas of research, we gratefully dedicate the first issue of *The South Florida Green*.

These men devote most of their time to solving all aspects of turf problems. For their dedicated devotion in making numerous contributions (for which they receive little public credit) The South Florida Superintendents Association members say, "Thank you, gentlemen."



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## President's Message

The **South Florida Green** is the first publication of The South Florida Golf Course Superintendents Association. This Association was organized in July of 1939. Jimmy Blackledge was elected the first President and is still one of the 152 active members.

This newsletter will attempt to bring an exchange of ideas, of old and new methods of turf care. Members are encouraged to submit suggestions and articles that will be of particular interest. Everyone is urged to participate so that we can all work together for the betterment of turf in Florida.

It is an honor for me to be President at the time of this first publication, which is the culmination of past efforts and interest of many officers and members. Hopefully **The South Florida Green** will be a successful venture and a benefit to all interested in the challenge of growing and maintaining fine quality turf.

*Sam Oxnevad*

It is indeed an honor to be invited to write an introductory article for the South Florida Superintendent's Association new publication "South Florida Green".

A newsletter such as this will perform an invaluable service, not only for Association members, but to many others as well. It is obvious that this publication will be an excellent vehicle to keep all of the members informed on the latest techniques in Turfgrass culture and management. In addition to the very real benefits to the membership, it will also be of immeasurable value to the many suppliers of equipment, chemicals, seed, fertilizer, etc. "South Florida Greens" is a means of presenting their products to the membership.

This publication can do much to improve communications between the Golf Course Superintendent, the Golf Professional, and the Manager, since these three positions represent the administrative body of most clubs.

For members of the Greens Committees and their Chairmen, "South Florida Green" will give them an insight and most certainly a better understanding of the many ramifications and problems of the care, maintenance, and management of their golf course and grounds.

I would even venture to say that there are many serious golfers who have more than a passing interest in what's going on at their clubs. "South Florida Green" will most certainly afford them an insight into the "behind the scenes" activities.

This publication can become a vital link between the University of Florida Turfgrass Research Staff and the South Florida Golf Course Superintendents. Space in "South Florida Green" is being provided so that Turfgrass Research information can be reported as projects progress. All golfers in South Florida will ultimately benefit from this coordination of vital information. It becomes apparent, therefore, that "South Florida Green" can serve many people as a means of improving communications between those people interested in improving the game of golf.

To top it off, this publication, as it grows and matures, will undoubtedly be referred to time and time again. "South Florida Green" can become part of everyone's library. In addition, the exchange of this publication with other Association newsletters will give it national, and indeed international, stature.

I am proud to be counted among everyone who wishes "South Florida Green" success. It gives one a nice feeling to be associated with those who devote their lives to the betterment of the royal and ancient game.

By Tom Mascaro

**University of Florida  
Agricultural Research Center  
Ft. Lauderdale**

**Bryson L. James  
Center Director**

The research mission of the Agricultural Research Center at Fort Lauderdale is to obtain the knowledge for servicing the needs of the grower and producer of ornamental plants, including sod and turf, the grounds maintenance manager, the consumer and home gardener, and the professional ornamental horticulturist; and to provide information relating to all aspects of the culture, use, and sales of ornamental plants. Also the research mission includes investigating and providing information on the control of undesirable aquatic weeds in drainage canals and in lakes and streams in South Florida. To accomplish this mission we have 13 faculty (including 3 with the USDA) and a total of more than 40 full-time employees.

The golf course superintendent's job is quite diversified. He not only needs to know about turfgrasses, but he also must deal with problems of aquatic weeds and ornamental plants. Thus it seems that our entire effort somehow relates to areas of interest to the golf superintendent.

Perhaps it would be well to mention in this first issue of your publication a few things about using research data safely and effectively. Good research is conducted under an exact set of controlled conditions, varying only the specific treatments which are to be evaluated. Results from the specific treatments are directly applicable to your operation only if all the conditions in your operation are controlled the same as in the research. Unfortunately this seldom happens. However, this does not mean that you cannot benefit from the research. What it does mean is that you should use the research information on a trial basis first, if

your grass species, soil type, watering method, climatic region, etc. is different than that described by the researcher.

What an alert superintendent should expect to gain from research is ideas—ideas as to the best control for insects, diseases, nematodes and weeds—ideas for improving your fertilization, watering, soil mixing and propagation—labor saving ideas such as using growth regulators to minimize maintenance.

You have heard, no doubt, of the angel who was giving a preview of heaven and hell. In hell, a large table piled high with all kinds of good food was surrounded by starving and unhappy people. They were starving because they were permitted to eat only with four-foot long chop-sticks, and when they picked up their food, their arms were not long enough to reach their mouths with the food. The scene in heaven was the same, except that everyone was well-fed and happy. The angel explained they, too, must use four-foot long chop-sticks to eat, but before getting to heaven, people must learn to feed each other.

The thought contained in this story, paraphrased from Reader's Digest contains good philosophy for all walks of life. It is especially pertinent to the relationship between golf superintendents and research workers. We must feed each other.

Researchers need and solicit your suggestions and guidance in planning new research programs. Let us know what your major problems are, and, more importantly, let us know what you feel the future problems will be.

**Developing Superior Turfgrasses**

**University of Florida  
ARC Fort Lauderdale**

**A. E. Dudeck**

The basic, overall objective of the turfgrass breeding project is to develop superior turfgrasses for Florida through a systematic program of selection and breeding. An optimistic attitude towards this objective would lead one to believe that all of the problems associated with our present turfgrass species can be overcome by developing superior grasses. The ideal grass is one which does everything one

would expect from it. For example, it would be resistant to diseases, insects, and nematodes; it would have heat and cold tolerance; it would have minimum thatching tendencies; it would grow well in many environments (sun vs shade, sand vs muck, saline vs non saline, alkaline vs acid soil reaction, etc); not to mention that it would have an ideal growth habit, pleasing color, fine texture, good density, and acceptable vigor. The pessimist, on the other hand, might very well say "impossible"—and he might be right! Indeed we would hope that our outlook on the mission of our turfgrass breeding project here at ARC Fort Lauderdale lies somewhere between these two extremes.

Over the past few years we have attempted to identify and select potentially good germ plasm from the numerous selections presently in our possession. Major problems in order of importance on the five major turfgrass species presently used for turf purposes in Florida have been listed. Primary screening for some of these priorities has been completed. Secondary screening with some St. Augustine grasses is currently underway.

We feel very fortunate to have identified the superior characteristics of FA-110 St. Augustinegrass from our breeding collection. Through a concerted cooperative effort by virologists and agronomists at Texas A&M University as well as by turfgrass specialists, entomologists and pathologists at the University of Florida, a superior St. Augustinegrass was developed through selection without complex breeding and hybridization procedures. 'Floritam' St. Augustinegrass (FA-110) was found to be resistant to St. Augustinegrass Decline virus (SAD), chinch bugs, to be tolerant to sod webworms and to herbicide damage from triazine herbicides, and has exceptional vigor. The release of this new variety, which is currently in the hands of certified sod producers and should be available on the market shortly, should be looked upon as an exception rather than the rule, as many plant breeders spend a lifetime without success.

Hopefully these few words have given you a better understanding of what we are attempting to do. We can solve many of our turf problems by utilizing superior turfgrasses, but superior grasses are not produced overnight by a single person. Years of work by patient, diligent cooperators working on one or two major problems at a

time are required. With your understanding, encouragement, and cooperation we hope to succeed.

## ARC Ft. Lauderdale

Oct. 1973

E. O. Burt

Research is being conducted in four phases of weed control. Usually the first step is to determine the degree of tolerance of turfgrasses to chemicals that have shown some promise of controlling weeds. This is done by treating warmseason turfgrasses at rates approximately two and four times that necessary for satisfactory weed control. Two or three cultivars (varieties) of the more common turfgrasses such as bermuda, St. Augustine and bahia are used in the "screening" evaluation. In addition, one variety of zoysia and one of centipede are also included.

The second step is to further evaluate the chemicals that have shown a high degree of safety to the turfgrasses. This consists of determining their effectiveness in controlling weeds. Chemicals that are effective as preemergence herbicides are applied to areas in which the vegetation has been killed by successive tillage operations or by the use of a non-residual herbicide such as paraquat or diquat. Sometimes the use of tillage and later an application of paraquat are used to kill existing vegetation. Notes are taken on what weed species are controlled and for how long a period of time control is obtained.

Herbicides that have shown some degree of safety to warmseason turfgrasses and that have shown promise as a postemergence treatment are evaluated on established weeds. The experimental area for this type of study may consist of weedy turf or an area of only weeds. Usually it is known from information supplied by the manufacturer as to which weeds the chemical shows the greatest degree of effectiveness and an effort is made to select an area either on or off the grounds of the Research Center for such experiments.

Herbicides that have given a high degree of weed control and are relatively safe to the grass are further evaluated (usually in weedy turf sites) under different conditions of soil,

fertility, temperature, stage of growth of the turf, stage of growth of the weeds, etc. Occasionally, different formulations—granular vs. sprays—are evaluated, but usually this type of research is the responsibility of the manufacturer or formulator.

Approximately 10 to 15 percent of my time is devoted to research on the use of growth retardants. The retardants are evaluated for effectiveness in reducing vegetative and reproductive growth as well as degree of safety to different turf species.

This author also cooperates with the ornamental horticulturist on weed control and growth retardant research in woody and foliage ornamentals. The experimental procedures and techniques are similar to those with turfgrasses.

Considerable research on soil fertility, subsurface irrigation and fertigation (fertilizing through an irrigation system) is being conducted cooperatively by the Soil Chemist, Dr. George Snyder, and me.

Subsequent articles will report results of this research.

## Management of Turfgrass Insects

James A. Reinert  
Agr. Res. Center  
Ft. Lauderdale

Turfgrasses in Florida are fed upon by a whole complex of arthropods including insects and mites. Each of us may think of a different pest, depending upon the type of grass we are commissioned to grow and keep in a healthy condition. If it is bermudagrass on a golf course, then the bermudagrass stunt mite is our number one pest. If we want St. Augustinegrass in front of the clubhouse, around the church, or in our front lawn, then the chinch bug is the pest which must be managed. Mole crickets, armyworms, and webworms will move in and sometimes destroy turf also, but they are not specific on any one variety of grass.

The entomological program at Fort Lauderdale is divided into several areas of insect management. The use of pesticides is probably the most familiar control approach. New and established insecticides are being screened for effectiveness against

chinch bugs, webworms, bermudagrass stunt mites, and both bermudagrass and rhodesgrass scales. The purpose of this program is to find new, more effective compounds which can be used at reduced rates. Often the combination of 2 chemicals will result in better control, and only very small amounts of each must be used. Insects often develop resistance to the chemicals, in common use, so new insecticides must be found to replace those which are no longer effective.

We are also looking at biological control agents. *Bacillus thuringiensis* shows activity against the sod webworms and leaves no toxic residues on the grass. One parasite and eight predators have been found feeding on chinch bugs in St. Augustinegrass. Two parasites and two predators have been observed attacking the sod webworms. Several of these parasites and predators appear to exert much pressure on the pest insect population under field conditions.

Another phase of our work is the evaluation of St. Augustinegrass selections for resistance to insects. Last year three selections, including Floratam (FA 110), were found to be highly resistant to chinch bug feeding. Preliminary results this year indicate that another 6 selections also exhibit the same resistance. These selections not only tolerate the chinch bug feeding but confined bugs are actually killed.

Much of our program is directed at reducing the environmental contamination. The use of insect-resistance grass varieties will greatly reduce the amount of chemicals needed to protect it from insects. By finding chemicals which are effective at low rates and by using biological agents the amount of chemicals needed can be reduced even more. Our program is continuing with these goals in mind.

## Brief Summary of Research Activity

by D. L. Sutton

Innestigations are being conducted to determine the potential of the exotic herbivorous fish *Ctenopharyngodon idella* Val., commonly called the white amur and grass carp, to control aquatic plants, particularly submersed ones. Studies are in pro-

gress with the fish in small ponds and plastic-lined pools evaluating aquatic plants preferred by the white amur, fish growth in relation to amount of vegetation consumed, and its influence on other fish and water quality. The efficiency of the white amur in converting aquatic plants to fish protein is also under study. Preliminary results indicate that the white amur will be useful in controlling a number of aquatic plants in small ponds, or in other areas where adequate control of the fish is possible.

Compounds which retard growth of terrestrial plants and other experimental chemicals are being evaluated under controlled conditions for their growth retarding effects on hydrilla (*Hydrilla verticillata* Royle). The primary objective of this study is to find a compound which would reduce the growth rate of hydrilla so that under field conditions other desirable aquatic plants could compete with hydrilla for space.

Radioactive compounds are being used to follow the uptake of certain herbicides by hydrilla as affected by some environmental and water quality factors. This information will be of value in understanding the manner in which these compounds affect plant growth and may also be used to improve the application of these compounds in the field.

## Research on Lethal Yellowing of Coconuts

University of Florida  
ARC Fort Lauderdale

Darryl L. Thomas

The team of Fort Lauderdale researchers, recently organized to combat the lethal yellowing disease, is largely the result of private citizens' efforts to save the coconut palm in southern Florida. By combining the expertise of individuals with different specialties, the Fort Lauderdale Research Center is coordinating an approach to the lethal yellowing problem which should provide the many answers which are necessary before a completely effective control for the disease can be realized.

Personal research will rely heavily on the use of the electron microscope to obtain answers to some of our questions. We need to know where the

pathogen is localized in infected trees so that antibiotic control agents can be most effectively applied. We must also know what is happening to the pathogen following antibiotic treatments. The electron microscope should help elucidate these areas. The electron microscope will also be useful in a survey of many plants which might be harboring the lethal yellowing pathogen and acting as a disease reservoir for the pathogen. If we can find and control the agent which is carrying the disease from tree to tree, we can control the disease. Several insects are highly suspect as carriers of the disease, and these insects will be microscopically examined for presence of the pathogen. Hopefully techniques will be refined to the extent that the lethal yellowing pathogen may be microscopically detected before symptoms of the disease are visible. This would not only permit early treatment of diseased trees, but would also shorten the time needed to obtain results from laboratory experiments and therefore accelerate research.

The alarm of a concerned public has resulted in the support necessary to effectively attack the lethal yellowing disease of coconuts. We know the vital questions—we are now ready to find the vital answers.

## Diseases of Tropical Grasses and Ornamentals

R. E. McCoy  
Assistant Professor  
Plant Pathology

Turf disease research at Fort Lauderdale has involved four principle diseases, brown patch caused by *Rhizoctonia solani*, dollar spot or Sclerotinia blight caused by *Sclerotinia homeocarpa*, Pythium blight of overseeded ryegrass and Cercospora leaf spot of St. Augustinegrass caused by *Cercospora fusimaculans*.

Brown patch and Sclerotinia blight control tests have compared some of the old standard fungicides against some of the new systemics. Thiazobenzazole (TBZ) has looked very good for brown patch control at rates as low as 1 or 2 oz per 1000 sq ft on St. Augustinegrass. The new systemic thiophanates have looked exceedingly

good against Sclerotinia blight on bahiagrass. The systemic residual effect of this fungicide lasted more than 6 weeks in one test.

Pythium blight is a problem when getting overseeded ryegrass established on bermuda greens in the winter. The young seedling stage is the most susceptible to Pythium attack. Koban treated seed, or sprays with Koban at planting and emergence should help to prevent attacks by Pythium.

Cercospora leaf spot on St. Augustinegrass is principally a problem on low maintenance areas. Raising the fertility level and including a fungicidal spray should give complete control of this disease. Incidentally, symptoms of this disease are very similar to those of Helminthosporium on bermudagrass, ie., small elongated reddish-brown leaf spots. This has caused many people to claim that they have Helminthosporium on St. Augustinegrass, however, the disease they have is more than likely Cercospora leaf spot. There is no substantiated record of a Helminthosporium leaf spot on St. Augustinegrass.

Turf disease research planned for the future includes screening St. Augustinegrass clones for resistance to brown patch, and delving into the biology of grey leaf spot of St. Augustinegrass caused by *Pyricularia grisea*.

Research on diseases of woody ornamental plants has dealt mostly with Carissa root-rot and lethal yellowing of coconut palm. Incidence of Carissa root-rot is influenced greatly by soil mixture and soil moisture. Drenches of hexachlorophene have reduced root-rot incidence in some cases.

Control of lethal yellowing has been achieved experimentally in selected coconut palms systemically injected with the antibiotic terramycin. However, a large scale treatment program must be performed to determine the limitations and effectiveness of this treatment before any thought can be made for its release to the public. Current recommendations for lethal yellowing are still removal of affected trees and underplanting with the Malayan dwarf variety.

## Lethal Yellowing of Coconut Palm

James H. Tsai  
Asst. Prof. (Entomology)  
Agr. Res. Center  
Ft. Lauderdale

One of the main objectives of this research center is producing better quality of ornamental plants. Coconut palm is one of the most important ornamental plants in South Florida. Without coconut palms Florida would lose much of its tropical trademark.

Since 1955 coconut palms have been infected by a highly infectious disease called "lethal yellowing." The epidemic of this disease is so rapid that both private and government agencies have pooled their financial and manpower resources together in efforts to combat this disease.

There is no definite cure for the disease, for we do not know the causal agent of the disease, nor do we know the insect vector. Due to complexity of this disease, we now have a team of entomologists and plant pathologists to tackle the problem.

The major thrust of my research is to identify the vector(s) and to isolate the causal agent from either the invertebrate carrier(s) and/or the host plants. The research is designed to study the relationship of vector-causal agent-plant and to elucidate the mode of transmission. A number of insect species collected from the infected coconut palms and from the undergrowths are to be tested on a variety of test plants hoping that we may find the vector and another species of plant which harbor lethal yellowing causal agent; thus, it would greatly facilitate us a means of research and would provide us a quicker research result.

Research result cannot be obtained overnight, especially with the coconut palms. It requires an extremely long period (7-8 months) for the causal agent to incubate in palm tissues. We urge you to continue your support for our research. With your understanding and support we hope that an effective control of this problem can be found.

## U.S. Golf Association Advisory Service

The Green Section of the United States Golf Association offers direct service visits by Green Section scien-

tists to subscribing U.S.G.A. member clubs and their golf course superintendents. The following description of the turf grass service is taken from "The Green Section of the United States Golf Association."

The Green Section has District Offices throughout the country. Thus, fresh developments and standard information are readily available to golf courses.

The District Offices are storehouses of a vast fund of knowledge, gathered through years of research by scientists and the practical experience of many golf course superintendents. The fund is constantly being improved.

The Green Section's agronomists are trained to apply this technical information to golf course problems through the Green Section's Turfgrass Service.

The Turfgrass Service is available to USGA Member Clubs at an annual fee.

Every club subscribing to the Turfgrass Service receives the following benefits yearly:

1. Several direct conferences with a Green Section agronomist, in this manner:

- (a) A scheduled half-day on-the-course consultation, followed by a written report from the agronomist to the Course Superintendent and the Green Committee Chairman. A second visit will be made upon request.

Consultation with the agronomist at local group meetings and turfgrass conferences.

- (b)

The consultations cover the whole range of golf course maintenance, including:

Soil Testing Turf Culture  
Watering Fertilizer  
Seed  
Control of Pests, Disease,  
Weeds

2. Assistance by correspondence and telephone.
3. A subscription to the USGA GREEN SECTION RECORD, dealing with golf turf affairs, six times a year, addressed to the Golf Course Superintendent. (This is additional to the subscription sent to the Green Committee Chairman in connection with USGA Membership.)



**4. A voice in the direction of turf research whose results benefit golf courses.**

Subscription fees cover all services and expenses; there are no extra charges for travel. The annual fees, including \$2 for the USGA GREEN SECTION RECORD, are:

- Less than 18 holes ..... \$250.
- 18 to 27 holes ..... 300.
- More than 27 holes:
- (a) 36 holes ..... 325.
- (b) Per regulation course in addition to 36 holes ..... 75.

Requests to Agronomists for second visits will entail an additional charge of \$50. Clubs will be billed in October for second visits during the year.

The Turfgrass Service strengthens the hand of the Golf Course Superintendent and the Green Committee Chairman, who, busy with day-to-day affairs at home, cannot be expected to keep up with developments at several dozen experiment stations and hundreds of golf courses over the country. The USGA Green Section is their agent for doing this. Just as medical doctors need to consult with one another, so do turf workers, for no one has a monopoly on knowledge.

The Green Section agronomists are not super-superintendents or wonder-workers. They are specialists who represent the subscribing clubs and do a specialized job for their superintendents and chairmen.

The Green Section scientists form a national team to keep the subscribing clubs up to date.

In countless cases one small bit of knowledge from the Green Section has helped a club to improve its course or has saved the club many times the Service fee.

The South Florida Golf Course Association also offers consulting service at no charge to the clubs whose superintendent is an active member of our association. This association will send two or three qualified and certified golf course superintendents upon receipt of written request.



We would like to urge all eligible members of The South Florida Golf Course Superintendents Association to join the Golf Course Superintendents Association of America.

Here are some facts about the G.C.S.A.A.

**WHAT IS GCSAA?** The Golf Course Superintendents Association of America was organized in 1927 by North America's top golf superintendents as "the professional association dedicated to better turf for better golf." Today the Association numbers over 3,000 members who share the following benefits:

**GCSAA INSURANCE PROGRAM** – Group life insurance without a physical examination for all members under 65. Available at option are group health and accident insurance; and also group disability loss-of-income insurance.

**THE GOLF SUPERINTENDENT** – Published ten times annually, it is a clearing house of technical, scientific and practical articles by leading agronomists, scientists and superintendents, edited specifically for superintendents. Each member and his club president and green chairman receive subscriptions.

**GCSAA TURF CONFERENCE AND SHOW** – Annually featuring "the industry's finest show," the most important forum of the turfgrass industry with emphasis on golf turf development. The educational program features outstanding superintendents, research agronomists, educators, and manufacturers.

**ANNUAL MEMBERSHIP DIRECTORY** – Includes a complete membership roster, officers, bylaws, history. The Association also publishes a quarterly Newsletter.

**SCHOLARSHIP AND RESEARCH FUND** – Individuals and organizations are encouraged to contribute funds to the independently incorporated Scholarship and Research Fund. More than \$200,000 has been distributed to worthy students and original research since its inception in 1956.

**GCSAA EMPLOYMENT REFERRAL SERVICE** – Includes circulation of specific job information furnished by the seeking club, guidance for members preparing resumes, and sample employment contracts for assistance in employment negotiation.

**GCSAA VARIABLE PENSION PROGRAM** – The GCSAA "Variable" Pension Program was adopted in 1963. A new program featuring deferred compensation tax benefits is being prepared.

**MEMBERSHIP COSTS** – Annual dues are \$65.00 for individuals; company membership if \$130.00 annually. Write GCSAA Headquarters for application – 1617 St. Andrew's Drive, Lawrence, Kansas 66044, or ask one of the officers of the S.F.G.C.S.A.

**MEETINGS**

November Meeting  
 Tuesday, 13th  
 Doral Country Club  
 Miami, Florida  
 Host Supt.  
 Rudy Geiger

December Meeting  
 Tuesday, 11th  
 P.G.A. Country Club  
 Palm Beach Gardens, Fla.  
 Host Supt.  
 Carl McKinney

January Meeting  
 Tuesday, 29th  
 Agricultural Research Center  
 Fort Lauderdale  
 Host  
 Dr. Bryson James

No meeting in February because of the 45th International Turfgrass Conference in Anaheim, Calif.



Publication space in **The South Florida Green** will be available in the February 1974 issue at the following rates per issue:

\$125.00	Full Page
\$ 75.00	One-half Page
\$ 50.00	One-quarter Page
\$ 35.00	One-eighth Page

All correspondence regarding ads should be directed to the Editor.

*The Association encourages all manufacturers and suppliers to support this publication.*