

PROCEEDINGS



TWENTY-FOURTH ANNUAL

SOUTHEASTERN TURFGRASS CONFERENCE

GEORGIA COASTAL PLAIN EXPERIMENT STATION

and

ABRAHAM BALDWIN AGRICULTURAL COLLEGE
COOPERATING

TIFTON, GEORGIA

APRIL 13-15, 1970



PROCEEDINGS

24th Annual

Southeastern Turfgrass Conference

Tifton, Georgia

April 13-15, 1970

Sponsored By

UNIVERSITY OF GEORGIA COASTAL PLAIN EXPERIMENT STATION

In Cooperation With

ABRAHAM BALDWIN AGRICULTURAL COLLEGE

UNITED STATES GOLF ASSOCIATION GREEN SECTION

and

SOUTHERN GOLF ASSOCIATION

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FOREWORD

For 24 years the University of Georgia's Coastal Plain Experiment Station has been host for the Southeastern Turfgrass Conference. For 24 years we have met with you and enjoyed the fellowship and the renewing of friendships. But for most of us here at the Station it has meant a great deal more. It has given us a keener appreciation of the part that visitors to this conference play in the whole picture of turf and how important this group is in supporting our own program.

As essential as in your support to the continuing success of our turf work, we realize that that alone is not sufficient. We value equally as much your words of encouragement, your penetrating inquiries that often point the direction in which we can most successfully direct our program, and your returning each year which makes us feel that we too are making a contribution.

As we work toward the 25th Turf Conference, we hope that you will come again to help us help your cause -- that is, an ever improving program of turf breeding and management.

---Frank P. King, Resident Director
Georgia Coastal Plain Experiment Station

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CHALLENGE FROM THE GOLFER

Crawford Rainwater
Amateur, Pensacola, Florida

Thank you, Mr. Maples, for your very kind introduction. It is indeed a real pleasure for me to return to Tifton and renew many of my old acquaintances. Some twenty years ago it was my good fortune to be a speaker on this program and I have watched with great interest as the golf courses of the south have gradually become the equal of the world. Much of this progress has stemmed from the research and breeding of new strains of bermuda here in Tifton. All of us owe Dr. Burton and his associates a deep debt of gratitude for the improved bermudas we enjoy today. I well remember putting on coarse, grainy common bermuda--the heartache with Tifton 57, then 127, and finally Tifgreen and Tifdwarf. Yes, tremendous strides have been made, but we must be persistent in our search for even better strains of turf - in our search for more efficient and sophisticated management techniques - and in our search for natural, challenging and yet practical, layouts that foster these objectives.

For the past four years, it has been my privilege to work closely with "Monty" Moncrief--mainly as chairman of the ground and greens committee at Scenic Hills Country Club--a very challenging course, cut through a thick stand of long-leaf yellow pine, with water on seven holes and bordered too closely in many locations by residential lots. This course now ten years old has been the site for several tournaments, including the Women's Western, three LPGA tour events, the

Southern Juniors, and finally in 1969, the USGA Women's Open. I have a great admiration for Monty--his ability and his understanding of our problems. The service he performs as Southern Director of the USGA Green Section is invaluable and I heartily recommend that you who represent golf courses subscribe to his Services of Periodic Inspection and Evaluation. I guarantee, if you follow their advice, it will be one of the best investments you ever made.

It has also been my privilege to work closely with Bill Norrie, our greens superintendent, for the past eight years. Bill is knowledgeable, dedicated and an excellent balancer of the budget. We have spent hours together planning and reviewing, inspecting, and setting goals; repairing a broken water main or tracing a short in a balky controller circuit. As Monty will tell you, these things I enjoy.

But today, I have been asked to give you a few thoughts as a golfer. Opinions of golfers vary greatly, but I will attempt to give you my personal views--strictly my own ideas. Perhaps one or two of them will be helpful to you. Let me make it clear, I don't consider myself an expert, but it has been my good fortune to enjoy this game for over 44 years. I have played many of the great courses in the United States, (Oakmont, Seminole, Pebble Beach, Pine Valley, Oakland Hills, Pinehurst, Country Club of North Carolina, and Augusta National, just to mention a few)--several under tournament conditions plus the 14 top links in Scotland. And let me say, here and now, that you really need to play Old Saint Andrews, Troon, Prestwick, Gleneagles, Carnoustie,

and Muirfield. The contrast is unbelievable with out American courses-- more natural, less manicured, no watered fairways and few watered greens, fairways sometimes 18 to 25 yards wide, and heather and gorse rough to your belt buckle. A gale at most of our clubs would be considered an average day at a seaside link in Scotland. Perhaps my views may be swayed by my admiration and love for the Scottish courses.

Basically I feel a course should present a challenge to the golfer-- but the word challenge is a rather trite expression and may be misunderstood. Perhaps you are asking yourself--How can a course be equally challenging for a par shooter as well as a high handicapper? First, let's try to define challenge in somewhat simple terms. To me it simply means that I will have to use not less than 11 clubs and preferably all 14 during 18 holes of play, and in so doing I must execute the shots reasonably well to score. Frankly, I have no patience with the extremely long course where you constanly wear out the fairway woods, but I like even less the drive and pitch course where you play the entire 18 with only 5 or 6 clubs. A course needs balance--long holes, short holes and medium length holes. By judicious use of several tees this objective can be obtained for all golfers--from the ladies and children to the pros. Variation of tee angle can also make the course more interesting and testing for the low handicapper.

Many of you have just come from the Masters. In my opinion, this is a good example of how tees can make a course interesting for any player. Augusta National is a relatively simple course for the regular

members, but the blue tees not only require more distance but greater accuracy in placing the drive in the preferred position to score.

Personally, I prefer as great a use of natural settings for greens and tees as possible. Too many greens stick up like sore thumbs rather than blending into the natural terrain. The use of natural hazards is more picturesque, such as creeks, streams, and lakes, and generally I believe they are cheaper to maintain than sand bunkers. Judicious use of sand should be practiced for bunkers can certainly frame a green--but maintenance is extremely high and many times they seem superfluous. The location of bunkers should not be too close to the putting surface and yet not too far away. The courses of one well-known architect can generally be quickly spotted by the tremendous area between bunker and green--so far in fact that it is difficult to judge distance. Traps too close to the putting surface often times create unnecessary hand maintenance. We are fortunate today to have many qualified golf course architects who understand the things I have just touched on briefly-- a challenge for all golfers and yet not too expensive to maintain.

Most of us operate under limited budgets and therefore I feel it is essential for us to establish priorities. These priorities should be based on a careful inventory and evaluation of your course on a hole by hole basis. Basically though, it is my opinion that first priority must always be given to the putting greens. Then I would suggest second priority to tees; third to sand bunkers; and fourth to through the green. I hope that your budget will not force you to skimp at any

point, but then who operates in utopia.

Well maintained putting surfaces in our area need to be of sufficient size to permit about five or more pin placements. The size should vary with the length of the approach shot. Personally, I prefer medium-sized greens and feel the extremely large greens add only to cost, not to the challenge. The surface should be firm, not hard. A badly struck pitch or hooked shot should not bite or stop quickly.

Many members, I know, like extremely soft greens, but this is not golf. The putting surface must be true and fairly fast, not more than one-fourth inch cut year round. Greens must be cut daily except when frost or extreme moisture is present. Holes need to be changed frequently depending on play and should be located on a fairly flat area at least three feet in each direction not less than twelve to fifteen feet from the apron. During two 18-hole rounds of a tournament in one day--such as the final Sunday a week ago at Greensboro--holes should be moved following the morning round of play. The importance of proper fertilization, aerifying, verticutting, spraying, topdressing, and watering cannot be stressed too greatly. Many greens in our area are no longer one strain of hybrid. This is fast becoming a serious problem and needs your immediate attention. We won't receive any compliments until you have good putting surfaces 90 percent of the time. Good greens must be true, properly mowed and with well cut holes. Transition along with other maintenance presents many problems, but with planning you can achieve good greens 90 percent of the time.

Perhaps our greatest single problem today is poa annua in overseeded bermuda greens. I realize that much research has already been expended to overcome this problem but I urge each of you to concentrate on what I consider to be our most serious problem.

Large, level tees are essential for a finely groomed course. Too many tees slope to one side or are downhill from back to front. If possible, teeing areas should be maintained exactly the same as greens. Special emphasis must be given to both the size and maintenance of teeing areas for par 3's. Quite often tees face away from the intended line of flight and this tends to confuse the golfer. Personally, I like tees designed in a rather meandering fashion that don't give an illusion of alignment. But, frankly, I must admit that most are laid out in a rectangular fashion. In my opinion, many tees are too elevated and this causes more expensive maintenance, excessive drying out and unnecessary climbing. Consider the use of four sets of tee markers--ladies, short men's, regular and championship. Then a particular group of players can select the set that best suits their game.

My next priority is sand bunkers. As previously stated, I feel they are expensive to properly maintain and therefore they should be used judiciously. Build them with character and make them plainly visible to the golfer. Few players really like blind shots or blind hazards. The sand should be very coarse and contain few fines. Preferably it should be white, but compromise on color before you do on texture. Be sure and add new sand several weeks prior to an important tournament.

Bunkers must be well drained to handle the quick thunderstorms of our area. Remember a bunker full of water becomes, in effect, a water hazard. One of my pet peeves is to have an opponent putt out of a bunker, so may I urge you to always rake so that a sufficient lip is on the green side. Steep slopes in bunkers that lead to downhill lies should be avoided since it presents an almost impossible shot to the golfer. A bunker with too little sand often presents a downhill lie on the side away from the green.

I have purposely left through the green or "fairways" and "rough" as we generally refer to these areas as last. To have a fine course, one that you, your members and guests are proud of, requires excellent turf on the fairways. However, excellent fairways with poor greens or poor tees will not get the job done. Fairways generally respond to good management rapidly and a tremendous improvement can quite often be made at a fairly reasonable cost. I well remember when we fought to get one hundred pounds of nitrogen per acre per year in our Pensacola area. Of course, this must be balanced with other nutrient requirements to meet the particular soil needs. Today, a golfer expects weed free fairways and I know from personal experience that this can be accomplished.

I like to see fairways cut at 5/8 or 3/4 of an inch and in our area they need more mowing three to five times a week during the growing season. In my opinion, many fairways in the south are too wide. They should vary somewhat from hole to hole but 35 to 40 yards in the driving area should be sufficient. Also it is unfair for a badly hit shot to go past a bunker and end up on a well manicured bit of fairway. Shots

farther off line than the bunkers should end up in rough. It has been noted that we get different results with the same strain of bermuda under various levels of management and on different soil types. Frankly, I am not yet convinced that 328 or 419 make a better grass for through the green than common on the budgets most of us can afford. If not properly mowed and verticut, 328 to some extent and particularly 419 present too many fluffy or spongy lies that cause iron shots to fly or sail. Neither 328 or 419 seem ideal for rough because the ball either becomes completely covered up or perches up in the air. I would like to suggest that we don't yet have the ideal bermuda for both fairways and roughs. With continued research, we can probably overcome the items I have mentioned.

Roughs in all sunny areas should be planted to the same strain of bermuda as the fairways. This permits you to vary the rough-fairway line from time to time--particularly during a championship tournament. There should be a penalty for going into the rough and I suggest a height of 2 to 2-1/2 inches for regular play and maybe 2-1/2 to 3-1/2 for a championship tournament. May I suggest that the line of demarcation between fairway and rough should not be straight, rather it should meander from tee to green for this, when properly done, produces great character and beauty.

If you really want to dress up your layout, cut a six to eight foot strip about 1-1/4 inches deep adjacent to the fairway. This penalizes the slightly missed shot less than the badly hit shop. During last year's women's open, we used a tri-plex for this purpose and carried the

"short rough" up to the green collar and around each green.

There are a few other items that are essential if you are to satisfy the golfer. First, let me mention the importance of proper measurement of yardage. Please use a surveyor and follow the procedure laid down by U.S.G.A. A good golfer knows exactly how far he can hit a given club and he is entitled to know the exact length of a hole. Score cards and yardage signs should accurately reflect yardage to the middle of the green. If the suggested four sets of tee markers are used, then it would be helpful if four sets of yardage signs are also used. Signs should be permanently located by the surveyor and not placed on movable ball washers.

You and I in cooperation with your golf or rules committee have the responsibility of defining and marking all water hazards, lateral water hazards and boundaries. Follow the recommendations of USGA, using white stakes for boundaries, yellow stakes or paint for water hazards, and red stakes or paint for lateral water hazards. Too many courses are poorly or improperly marked--but as a visitor to your layout, I expect these items to be well defined at all times. At Scenic Hills Country Club, we have boundaries on every hold. We had so much trouble with stakes that we finally set one-inch pipes in concrete. But, let me caution you to have no concrete within two inches of the surface.

Under USGA rules, out-of-bounds stakes, walls and fences are not obstructions; therefore, the players should not be given relief. However, if the concrete interfered with the player's stance or swing, it would have to be construed as an obstruction and relief given.

Unfortunately, it seems mechanical carts and pull carts are here to stay. They concentrate too much traffic in one area. The only solution I have found is to rope off areas near the green and then rotate the roping in such a manner that the traffic is dispersed over a wide area. Actually, the players should take the responsibility of staying away from the edges of greens and avoiding thin and bare spots. But, frankly, they won't do it without persistence and persuasion on our part. Paved paths in many areas can assist and where you have them you need a local rule declaring them to be ground under repair.

Admittedly, too many golfers are litter bugs. They throw paper, cups, cans, and bottles almost anywhere. Encourage them to properly deposit litter by using plenty of well located refuse containers. Personally, I would like to see a container in every golf cart. But when trash does hit the ground, and it will, we have a housekeeping chore to perform. Perhaps clean ball washers, towels, ample rakes, and bright flags should also be mentioned as essential to a neat and pleasing appearance to the golfer.

If time permitted, we could talk along for hours. I hope that you will feel free to ask me questions during the next two days. I do not expect you to agree with everything I have said--but as stated at the beginning, they are opinions based on many years as a golfer on some of the finest courses.

In closing, I feel sure we can all agree on one point--golf is a great game--we love it--it will continue to grow in popularity. The future is bright. Much progress has been made, but we can and should strive for even greater perfection in the years ahead.

DESIGNING FOR THE GOLFER

William W. Amick
Golf Course Architect, Daytona Beach, Florida

The golfer - that's what it's all about for us in the golf course industry. Whether we are superintendents, equipment or materials suppliers, golf pros, architects, or in other areas of this field, we should remember our ultimate goal. That is to provide an interesting golf course, that can be enjoyed by its players, furnished at a cost that they can afford.

To do this many factors must be considered and many problems faced. The golf course architect must know the type of golfers who will play the course. He must get to know the site for the course, both on paper and on the property itself. The architect must be aware of what can be budgeted for the construction and approximately what can be spent for annual maintenance. He must always consider that good growing conditions and ease in future maintenance will mean a better course for the players to enjoy. The experienced architect is trying to consider golfers of all different abilities, not just the best players. If the course is made eye-appealing and has a natural look to it, this is certainly an advantage. Actually in golf course design there are three basic considerations:

1. The way the golfers can play the course.
2. The way the superintendent can maintain the course.
3. And the beauty of the course to its players.

I will concern myself today, mainly with this first aspect, how the golf course will play.

Let me make it clear that an excellent golf course is not created by a golf course architect. He cooperates in its creation with many others. He provides guidelines with his drawings, specifications, and advice. The owners give understanding, purpose, and money. Contractors actually do the construction, grassing, install the irrigation system and they must also do it thoroughly and effectively. Then superintendents, consultants, and suppliers must begin their long and continual upgrading of the course.

What does the architect really work with when he starts out to design a golf course? Naturally, he has a piece of land with certain dimensions, contours, and different physical characteristics. Usually, there is freedom to design one of a number of different possibilities. Some of the variable factors that he can use are the lengths of the holes, the width of the fairways, the size and shape of the greens, the contouring of mounds and greens, the location and number of hazards, and the use of trees. The exact use and combination of these factors should be based, again, on how they will effect the future players. If they overwhelm and discourage most of the golfers, with the result of high scores, the architect has missed his target. We all accept that there should be a challenge to the game, this is one of the things that makes the game interesting. Both control in hitting the ball and judging the best way to play the course make golf a very difficult thing to master. So to do his job the golf architect must understand the way the game is played by its golfers and how to most effectively fit new land to that purpose.

Let's look at one factor that I mentioned, that of the length or yardage of the holes. Last summer my assistant and I did some measuring and recording at the Daytona Beach Golf & Country Club. On the 4th hole of the north course, during three different days, we measured the length and location of 313 tee shots. The 4th is a flat, straight, fairly wide par-5 hole measuring 523 yards from the back tee markers, 472 yards from the regular men's markers, and 438 from the women's. I wanted to find out how far the average or typical player hit his drive. I might add that the fairway grass is number 419 and the turf was firm and in good condition. It was warm and conditions were near ideal for maximum drives. Of these 313 golfers, 257 were men and all but 10 were right-handed. Both the carry of the balls and the ball were included in these figures.

Our tabulations showed that the men averaged 177 yards per drive. The longest one measured 260 yards and only 4 were over 250 yards. One-half of the men's drives were less than 182 yards. Two-thirds were less than 200. This would mean that over half of the men playing a 185 yard par-3 hole could not hit that far. With two drives they could not reach a 365 yard par-4. This makes 200 yard par-3's and over 400 yard par-4's pretty hard for most golfers to par, since they are out of reach to 66 percent of us. Most of us realize this general fact, this confirms it a little more.

The women average 121 yards, with the longest going 190. One-half were less than 130 yards. On the average this is 56 yards per drive less than the men. This means that half of these women would have difficulty

reaching a 135 yard par-3 hole and a 265 yard par-4 hole. Women face a big challenge in distance on most of our courses today.

I compared the men's figures with the figures put out by the U.S.G.A. for the last five U.S. Opens. The participants drives there averaged 249 yards. The longest drive recorded was 319 yards. That is 72 yards difference between their drives and our average in Daytona Beach. I summarize this to indicate that despite the use of different sets of tee markers, the better player and long driver has a tremendous advantage in scoring over the average player. All of us do like to score reasonably well. On the P.G.A. tour, last year, results show that the top 75 players drove even farther than indicated in the Open results. They averaged over 254 yards per drive with the longest player averaging 273 yards. Not the same game you and I play. Sure they should hit the ball farther and more accurately, the pros are experts in this field. But we also enjoy making a par once in a while.

We also noted how accurate the golfers were on this 60 yard wide fairway in Daytona. One out of four golfers had a definite slice, but many of these had learned to play it by aiming to the left. Only one in ten players had a hook of substantial proportions. 31 percent of the golfers ended up in the middle 20 yards of the fairway, 21 percent in the right one third, and 24 percent in the left one third of the fairway. 13 percent missed the fairway to the right and 11 percent to the left. A 60 yard fairway appears from this to be plenty wide. 45 to 55 yard fairways should be

more suitable for many par-4 and par-5 holes. 76 percent hit the test fairway compared to 65 percent of those in the U. S. Open hitting to fairways from 33 to 38 yards in width.

On a golf course that we are designing in Ponte Vedra Beach, Florida, we are trying to consider the driving abilities of the majority of golfers. The men's score card will read something like this:

Hole	Par	Yards	Hole	Par	Yards
1	5	475	10	4	345
2	4	335	11	3	130
3	4	115	12	4	305
4	4	315	13	5	515
5	3	145	14	4	365
6	4	355	15	3	190
7	5	500	16	5	490
8	3	175	17	3	160
9	4	375	18	4	320
	—	—		—	—
Out	35	2790	In	35	2820

As you will notice the par-3 holes range from 115 to 190 yards, the 4's from 305 to 375, and the 5's from 475 to 515. Many golfers will find these lengths more within their range than on some other courses. The owners like the sound of a 70 total par and the less acreage than is required for a longer course.

This is not to say that this type of course will fit all other situations.

Many long hitters and better golfers will find this course comparatively easy.

Also some will "put it down" because it is not like their 6,000 or 6,500 or 7,000 yard course at home. It will take a little less time to play this course

and slightly less cost to maintain it. Most of all, more golfers should make

more pars and birdies here. They should like this aspect. We are also

planning a course near Orlando similar to this. Well designed and well

built Par-60 type courses can also have these advantages for the owners

and players.

Most of the courses built in the foreseeable future will be what we call

regulation-length courses. There are two important things that I think that

we should remember about these type courses. One is that no matter how

many times we read about a 7,000 yard course in the newspapers and in

golf magazines and hear it on television, there probably isn't one golfer

in a thousand who has the game to adequately play this length of course.

The other is that we should provide regular tees for men and women that

furnish them a variety of shots and a fair challenge. And this doesn't

mean a driver and a three wood on every hole.

I have talked about yardage and length, but as I started out saying,

this is only one consideration in good design. Here are some of my

other thoughts on how we can fit the golf course to the golfer.

Tees should be large enough to give a variety of lengths, spread wear,

and on some holes change the angle of play. They should be almost level

and firm for good footing. They should be placed so that tee shots and stray shots from the tees have little chance of hitting golfers on other holes.

Hazards should not demand perfect play. There should be a way to aim or play around them if the golfer chooses to do so. I don't think a course should be figuratively "covered" with sand and water. It should be placed so that it adds interest and is attractive, that's enough. Location is more important than the number of hazards. Hazards should be most difficult and demanding to the better player.

No extra moneys should be spent to move large amounts of soil to build giant greens. 5,000 to 8,000 square feet is ample for most of our courses, with the average about 6,500. If they are only gently contoured, this will give a number of different cupping areas and spread wear enough for most courses. Severe contouring also makes putting too difficult for the majority of players. Variety in the greens and in orienting them properly to the approach is important. All greens should be designed to fit that hole and its site. We have all seen courses with a repeated tilt from back to front with a trap on the right front and one on the left front. Proper planning can do much better than this. Variety in almost all aspects of design is to be remembered. This will keep the member enjoying his own course and attract others.

One problem that we have not solved is slow play. We should continue to work on its solution. One of the methods to reduce this problem is in the design of the course. We know that the longer the course

and firm for good footing. They should be placed so that tee shots and stray and the more difficult it is, the longer it takes to play. We probably need to reverse this trend and do definite things that will move all players along faster.

I guess that what all of this adds up to for me is that we should design, build, and maintain our courses more to fit the needs of our local play, rather than to try to have a course like some far-off resort or a famous tournament site. We in the golf course business should continually think about ways to make our courses more appealing, more enjoyable, and more entertaining to large numbers of golfers and potential golfers.

CHALLENGE TO THE TURFGRASS MANAGER OF THE 70's

Stanley E. Clarke, Jr.
Superintendent, LaGorce Country Club, Miami Beach, Florida

Good morning! It gives me great pleasure to address this Twenty-fourth Annual Southeastern Turfgrass Conference.

Every year, as I ride up to Tifton from Miami, I get a feeling of relief, because I have just finished another golf season of heavy play, and then I start to wonder how I can meet the next year's challenge to me as a Turf Manager. After attending Turfgrass conferences and superintendents meetings during the spring and summer, I have the feeling that I am a little better prepared than I was the year before, and that I can meet this coming year's challenge to me as a Turfgrass manager.

The real challenge to the Turfgrass manager will be education and professionalism, such as Certification for Golf Course Superintendents that I will talk about later. Tomorrow's Turfgrass manager will have a more complex and more demanding position with far more responsibility than that which exists today. The Turfgrass manager in the future will have knowledge and information in all aspects of Turf management and this can only come through education and experience. Sometime during this year 1970, the United States will open for play the 10,000th golf course and further along by 1980, the National Golf Foundation predicts in the United States that there will be 14,000 golf courses operating. I would like at this time to list some of the challenges that we as Turfgrass managers will have to face in the 70's.

1. Turf chemicals will play a significant role to help us overcome the challenge. New pesticide chemicals that will be safer to use will result from the pressures of an aroused public. We as Turfgrass managers can expect more government regulations of chemical applications. Systemic Fungicides and Growth Regulators are two areas that I look for great developments in the near future. Labor shortages and cost have opened the door for turf chemicals to be used more in the management of turf now and more so the future, which is one way the Turfgrass manager can meet the challenge of the 70's.

2. New irrigation systems will also play a big part in helping meet the challenge of the 70's. With the shortage of water coming in the future, I look for more sophisticated irrigation systems to be developed. New systems will have each sprinkler controlled independently of the others, and each sprinkler will be equipped with its own soil moisture sensing control. The technique of applying fertilizer and other chemicals through the irrigation system will be developed through special equipment and methods.

3. The selection of turf equipment and the effective use of this equipment to reduce labor is basic to efficient operations. Today, labor costs are estimated at 70 percent of the annual budget and this is a real challenge to the Turfgrass manager. I hope that the manufacturers of turfgrass equipment can continue to produce new and more efficient machinery for us to use. Equipment leasing may offer one method to help us meet the challenge of the 70's.

4. The development of new and better turfgrass varieties will also help the Turfgrass manager meet the challenge of the 70's. These new grasses will have to be disease resistance, insect resistance, with a good tolerance to herbicides, be able to grow in the shade, and also in the hot sun, whichever the case may be. The fine-leaf, dwarf-type bermudagrass developed by Dr. Burton here at Tifton illustrates the changes that can be made in the growth habits of a species. Color is also a very desirable feature to have in a grass. Turfgrasses are used on many soil types and at times can be a challenge to the Turfgrass manager, so a grass with a wide tolerance to soil problems would be a big help. Dr. Burton, last year at the 40th International Turfgrass Conference in Miami Beach, pointed out the continuing need to develop superior new varieties for Southern Golf Courses.

In conclusion, let me say that we as Turfgrass managers with the continuing help of all phases of the turfgrass industry, will meet the "Challenge of the 70's", but we will all have to work hard.

SATISFACTION DOESN'T COME CHEAP

James W. Dudley
Golf Course Supervisor, Athens Country Club, Athens, Georgia

First let me say that it is indeed a pleasure to be back on the program here in Tifton. If some of my slides are duplications to some of you older participants, such as I am, please bear with me.

As a way of background as to the experience that I have had in turf work, I think it is significant to point out that my interest in turf began in 1926 when my father happened to be the one to organize and build the Athens Country Club under the plans of Mr. Donald Ross, Golf Architect. It also happened that in 1929, with the stock market crash and depression, my father was caught with a large portion of the debt of our club. Consequently, he not only built the club, but operated it from this time until his death in 1947.

In 1949, we sold our interest in the Athens Country Club to a new corporation of three hundred stockholding members and since this time, I have acted as greens supervisor or greens chairman. I might also point out that part of this time has been for glory, but since 1964 as a paid employee of the club.

I suppose that my position with the country club and golf is also somewhat unique in that I have continued my membership in the club, and have had the opportunity to serve on the Board of Directors in four previous three year terms. At present, I am in the second year of my fourth three year term. Being on the Board of Governors, and a paid

employee of the club has put me in a position to have a continuity of planning and direct contact with the ones who control the money. This is not the usual case, but I assure you that, in my opinion, has been directly responsible for what little success we have had in the past.

So much for my past experience. Now to the subject that Jim has asked me to speak on, generally, "satisfying the golfer" and specifically, "satisfaction doesn't come cheap". First, let me point out that our club is not a rich club. Athens, Georgia is a university oriented town of 48,000 people, sixty-eight miles northeast of Atlanta, Georgia. Our club consists of college professors, business executives, medical people, old Athenians, new Athenians, Yankee imports, and we welcome them all. You name it-- our club has it. There are 650 of us at the present time and our dues are \$31.00 a month, which is never enough. We are also faced with the problem in our club organization that the members have the right to set the dues structure, rather than the Board of Governors, who are usually given this right. This means that we have to convince the whole club as to the importance of our operation before the funds are provided. The next few slides are general views of our club - eleven slides.

At this point, let me illustrate to you what has happened to golf course expenses at our club since we started preparing budgets. This first slide is a photograph of the first budget I ever prepared in 1952 and had a total expenditure of some \$17,000. This next slide illustrates our budget some four years later in 1956 and indicates a rise in golf course expenses to \$29,000. The next slide illustrates our expenditures in 1967

where the recap of our budget, income and expenses and our capital expense projection, has gone to \$63,000 with a proposed \$68,000 for 1968 and I might add that next year we anticipate this cost to be \$74,000. I think it is also significant to point out that our wage scale has increased from 40¢ an hour in 1952 to a present scale of \$1.90 per hour with time and a half provision for all hours over forty, and we welcome this change.

If I had to make a single point as to how we have succeeded in convincing our members to accept our golf course expenses, I believe I would say we have literally "nit picked" them to death. What I mean by this is, we've slipped a little bit of increases, and a little bit of equipment, and a little more maintenance procedure into each budget each year until we are not pretty much on an average per hole cost, with the average club in the south, as compared with Harris, Kerr, and Forster's Annual report on golf course maintenance. It has taken a long time, and as I mentioned before, a continuity of management, but had we tried to force a crash program with the resulting heavy assessment, our group would have never bought it. Our members simply do not have the money at this time to finance such a program.

At this point, let me illustrate a few of the ways, that while expensive to our club, have paid off for us. First, our work crew. As this slide illustrates, these are the men that comprise our basic golf course crew. Buzz Howell, the superintendent, came with the club six years ago. He is 30 years old, an excellent mechanic, gets along well with the workers, and has learned to do things at least the way I like to see them done. I think he is a great golf course superintendent. The other six fellows have been with our club

an average of twelve years -- the oldest at 27 years and the last two four years each. This has been a great advantage to us. We keep these men steadily employed the year round, 40 hours during the winter months and 44 hours during the growing season, and double time for cutting greens on Sunday. Other employee benefits that we have introduced over the years in addition to paying more than the generally accepted minimum of our area are:

1. One week vacation with pay after one years service, two weeks after two years and always one week of this vacation period during the summer months when long hours and heat tend to make the men stale.
2. Five days sick leave, provide they call in. If they do not use this sick leave, they have the option of either receiving pay in lieu of days off, or taking the time off during the month of December.
3. A Christmas bonus each year that averages a weeks pay.
4. Fifty percent participation by the club in a health and accident insurance program. Of course, in addition to workman's compensation benefits.

Other benefits that I think have paid off are: employee group barbecues that we hold periodically in this dual purpose shed from funds received out of our coke machines and prepared by our best loved employee, Mr. Ralph Wages,

retired, who has been with us 43 years, and employee locker room and bath facilities that were built four or five years ago.

I make these points in regard to our employees since none of these items have come cheap, but have paid off, I think, many times over in our ability to keep well trained, satisfied employees the year round.

In the past ten years there have been two programs on our golf course that have called for a large capital expenditure and have been financed by assessments. The first was a fairway irrigation system and perimeter pop-ups around the greens. Athens, Georgia is located about 60 miles southeast of the Blue Ridge Mountains and some 200 miles from the Coast of Georgia. We have an average rainfall of 55 inches a year and it is pretty well spread out over all twelve months. However, we do have our drought periods that usually last five to eight weeks and as I will illustrate later, we can really have some rain, when the cool air from the mountains and the warm moist air from the gulf get together. This condition made it doubly difficult for us to convince the membership of our need for fairway irrigation. Everytime we had a drought period in the summer, they would forget the condition by the time our annual meeting was held in February to vote for funds. We had plans for five years before we ever had a vote of approval. During this time the bid price on our single line snap coupling system increased from \$28,000 to \$44,000 and the way we finally succeeded in getting the funds was to include it in with a clubhouse and swimming pool improvement program. I make this point as some of you may have the same problem in the future

and most clubs are divided between the clubhouse gang and the gulf course fellows and something for all is usually the best course to follow.

The second major project for our club was the result of a disastrous nine inch rain that hit our community in May, 1966. As a background as to how a catastrophe can sometimes end up in an improvement program, the following slides of our diversion ditch around the lake illustrates the maintenance problems in maintaining the ditch across three of our fairways. Swing blades were really the only effective way to maintain it and members continually griped about losing golf balls with resulting slow play. We also had a continuing washout problem with this diversion ditch where it was necessary at the sight of our dam to lower the creek bed some twenty feet to a new level. Since funds in the past had been limited, we had tried three times unsuccessfully to handle flood water in open concrete structures. This next slide (slide of spillway) illustrates how it was before the big rain. Then came the rain and the next few slides illustrate what the results were: the nine inch rain filled the ditch beyond capacity, completely washed out the lower raceway and came very close, actually within a few feet of collapsing the dike next to the lake. This would have resulted in losing our twelve acre lake and flooding the course below it. To correct the problem we knew we were in for a large expenditure of money, so I asked the assistance of the city engineer in my planning since he was best qualified in my opinion on such projects. We decided to do the job right, and fix it once and for all and ask for an assessment to cover the expenses.

First, we paved the invert of the previous troublesome ditch through our fairways with concrete and sloped the banks so that our fairway equipment could cut all the way through the ditch. Next, we built rock arch bridges in the place of previous bar joist concrete slab structures, then through the open ditch area back of our 13th green, which was previously a deep open ditch where the raceway was located we installed 625 feet of 84 inch corrugated pipe with two drop catch basins to slow the velocity of the water and with gabion head walls. This project cost our membership \$50,000 and was financed with a \$3.00 per month assessment for three years. The following slides taken a year later show the results of our work.

I assure you the members love it, the assessment is now nearly over, and no one remembers what it cost. I bring this up as an illustration how, sometimes, you can use disasters to an advantage in getting projects done that otherwise would be impossible.

If you will bear with me for a few minutes, I would like to show you a few slides of our course and how we maintain it.

1. Our greens and tees are cut daily with this equipment and we transport the men and mowers on converted golf carts to save labor and wear and tear on the equipment.
2. Our fairways are mowed three times weekly during the growing season and we use this equipment.
3. Our bermuda roughs are mowed twice weekly with a three gang reel type mower.

4. Our fescue roughs that are planted between the pines are maintained with these forty-two inch rotary mowers.

It is cut twice weekly in the spring and fall and once in the summer. Our planting of the roughs in fescue was

the result of my having visited some of the northern

courses a few years back. Until then our idea was to

plant nothing but we finally realized that even weeds

had to be maintained and we might as well have good

grass as weeds. I believe it has certainly improved

our course, and while a little more expensive to

maintain, the members love it and it speeds up play.

Our club will have the privilege this coming summer of being host to the United States Golf Association National Junior Championship, July 30, 1970. They have made a few suggested changes that we have completed this past summer.

These first slides are views of a new tee re-located behind our original number two tee that will lengthen the hole approximately thirty yards (note the frost contrast). The next slides show a change made in a trap at number two that was poorly drained and created a cart path problem.

The next group of slides show our new number four tee located approximately sixty yards back of the old number four tee that gives us a good standard 550 yard par five. The next few slides show before and after scenes of a trap reworking at number eight hole. The total cost

of the above projects was \$6,500 and we used our tournament as an excuse for getting this improvement project approved. Here again certain events sometimes aid you in getting funds provided that otherwise would be impossible.

Jim asked me to include some slides of our cart path construction and quite frankly, I forgot till the last minute. But the following six slides are some of our problems and how we corrected them. We have now installed nearly 7,000 feet and the cost with us doing construction is about \$1.20 per foot for a six foot path, or nearly \$8,500 since 1964.

And so, in conclusion, the question is bound to come to your mind in regard to, "from the superintendents position, what is the best method to approach your greens chairman and the club president that will convince them of the importance of your project and how best to finance it. Let me give you a few of the ideas that I have in mind that have worked for me:

1. Have a plan. This should include not only a budget for the coming year, but footnotes explaining why certain categories, such as labor increase and repairs and maintenance will either increase or decrease. In other words, tell the story in writing. The chances are that your chairman and president will love it.
2. Separate capital expenditures from operating expenses and project at least five year of your needs in advance. In my own particular case I have tried to keep this amount in the range of ten to twelve thousand dollars a year, half of which

we spend on course equipment replacements and additions and half on course improvements. Remember in ten years you have "nit picked" them out of \$100 and they don't know the difference; and it looks like ten years is about the average life they expect our equipment to last.

3. Always expect each chairman and each club president to have a special project or area that he thinks is the most important thing that you don't do in your operation. The best advice that I can give you is to go ahead and get this done to start with so that he will leave you alone. It may be cleaning out a certain woody area, changing a trap, levelling a tee or something else that doesn't really seem important to you, but I assure you that you will make a friend and get him "off your back" if you do it as soon as possible so that he is on your side when the budget is presented.

4. Keep your chairman informed in regard to comparative statistics that are published periodically in our Trade Journals By Harris, Kerr, and Forster and Horworth & Horworth, who are two National Accounting Firms that do club statistical work. The chances are he seldom sees these journals and you are the one to keep him informed.

5. Last --- If at all possible -- be present at all budget meetings and directors meetings where your operation is being discussed. The best advice I have ever received in this area was from my

friend, Jack Beacham, who was the City Engineer of Athen, Georgia for thirty years and recently retired. He said, and I quote, "Jimmie, if they have a meeting, where they are going to talk about you or your operation, you be there, because there is no one who can defend you like you can". Maybe a lot of times this is not possible but if I had my choice as to how our board would operate -- my first suggestion would be to let the greens superintendent give his written report first, then the golf course professional give his report, and finally, the club manager to tell his story about the past months' operation. And I literally mean tell the story. Just give an account of what happened and how much it cost. This is all they need to know, and no one in the operation knows it better or is more enthused than you are. I might add that I haven't convinced my own board that this is the right way yet; but I promise you, if they will give it a try the length of our meetings could be cut by a third from the present two to three hour length.

Thanks again for asking me to Tifton. It is always a pleasure to participate in a program that has Dr. Burton as our leader. Even though he is not here, you can certainly feel his influence, particularly in the way that Jim has put this years program in effect.

GOLF COURSE SUPERINTENDENTS ASSOCIATION OF AMERICA

Certification Program

Stanley E. Clark, Jr.
LaGorce Country Club, Miami Beach, Florida

Purpose

Certification will be a measuring stick for professional knowledge and competence and a goal for accomplishment. It will provide a means and stimulate, a desire to reach a recognized level of professionalism in turf management. It will stimulate the entry of additional qualified people into the profession and present reasons and an opportunity for self-education.

A certification program will be an important stimulant to education within the profession.

Certification will recognize the golf superintendent for his accomplishments in education, experience, and association activity; inspiring him to be more professional in his work.

Certification will bring about greater membership recognition, regulation, professional upgrading and membership recruitment.

The program will provide the opportunity for young and youthful thinking superintendents to become truly professional. Certification will be another membership service to upgrade the superintendent, it will identify qualified superintendents upon completion of the program. It will provide professional standards to be attained by special effort and study with proof of attainment.

1. Name

Certified Golf Superintendent

2. Who will be eligible to apply

All Class A members of the Golf Course Superintendents Association of America who have held this classification for three years and are actively engaged as golf course superintendents. The definition of a golf course superintendent and golf course as outlined by Golf Course Superintendents Association of America applies.

3. Procedure for applying

Members desiring to participate in Certification Program must request an application from Golf Course Superintendents Association of America office, complete and return it with the required fee and authentic evidence that the minimum point requirements have been met. Burden of proof in cases where chapter records are insufficient will be on the applicant. Evidence can be in the form of testimonial letters from current or past chapter officers and from qualified club officials at clubs where applicant was/is employed. A total of 200 points must have been earned before a member will be eligible to take the examination which will be the final step in becoming a Certified Golf Superintendent. These points must have been earned in experience, education, and association activities. The first 135 points must be acquired according to the following formula:

Experience	--	70 points
Education	--	50 points
Association activity	--	15 points

The remaining 65 points may have been attained in any one or in any combination of the above three categories.

3a. Experience Points

To obtain the minimum of 70 points based on experience only, full years as superintendent will apply. Three points per year will be allotted for experience as assistant superintendents. Limited to five years. Experience points for a golf superintendent are accounted according to a table which takes into consideration the size of the course maintained and the number of years employed as a golf course superintendent.

<u>Full Year</u>	<u>9 Hole or Short 18</u>	<u>18 Hole</u>	<u>27 to 36</u>	<u>Over 36 Holes</u>
1	8 Pts	10 Pts	10 Pts	11 Pts
2	9	11	11	12
3	10	12	13	14
4	11	13	15	16
5	12	15	17	18
6	13	<u>17</u>	19	20
		78		

Each year over 6 years, earns points at the 6th year rate.
To determine points, add points applicable in all categories
(In brochure, examples must be given)

3b. Education Points

A minimum of 50 is required in this category. A high school education is a basic requirement. Points applicable are accumulated for each full year's attendance at schools recognized by the GCSAA.

Graduate of Turfgrass college course 15 points per year
Minimum duration - 2 years

Bachelor Degree in Agriculture Science 60 points per year

Non Agriculture Science Bachelor Degree 30 points per year

- Additional degrees above BS 20 points each
- Short Turfgrass course 12 points maximum
Point value to be determined by certification committee
- GCSAA approved workshops 10 points maximum
Point value to be determined by certification committee
- GCSAA approved correspondence courses 10 points maximum
Point value to be determined by certification committee
- Regional Turfgrass conference 5 points maximum
Point value to be determined by certification committee

3c. Association Activity Points

The requirement of 15 points may be earned in any combination of the following:

- GCSAA membership 1 point per year
- GCSAA director 3 points per year
- GCSAA officer 5 points per year
- GCSAA affiliated chapter president or secretary 2 points per year
- Speaker on education conference 1 point each
5 points maximum
- Member of affiliated chapter 1 point per year
Dual chapter membership will not receive extra credit

Any GCSAA member who cannot achieve required Association activity

because of location can after six years as a member apply for special consideration. (Certification committee may waive point requirements)

4. A 500 work paper on a subject related to golf course management must be written by the applicant and accompany the completed application.
5. Each candidates application must be approved by the Certification committee. Rejected applicants are accorded the right to appeal to the executive committee whose decision is final.

A fee of \$25.00 must accompany the application for certification. Such fees are non-refundable. The certification committee recommends the matter of the fee be flexible and be adjusted to correspond with the cost of the program.

The application form will include a section for a resume of the applicants experience.

A picture is to accompany the application.

The applicant must also give committee approval to verify evidence submitted.

6. The successful completion of a written examination is a requirement of the certification program.

Examination to be given by a selected committee at annual GCSAA Conference or by local qualified educational faculty member. The entire examination procedure to be controlled by certification committee.

- 7a. All Class AA & A members who have been members of GCSAA for 10 years and have 10 years experience as a golf course superintendent and are presently employed in that capacity will be eligible to apply for certification and to take the examination. Association activity and educational requirements may be waived. Golf course and golf course superintendent as defined by GCSAA will apply. Members must apply no later than two years after certification program is initiated.

- 7b. All Class AA & A members presently employed as a golf superintendent who have been members of GCSAA for 20 years and have been actively engaged as such for an equal number of years may substitute experience points for Association activity and education points. Examination requirement

will be waived. Members must apply no later than two years after certification program is initiated.

8. The identity of all applicants and all information including examination results will be kept in strict confidence.

8a. Certification status will be retained only if superintendent remains a member of the GCSAA and is actively engaged as a golf course superintendent.

This condition does not apply to Class AA members.

9. Members who successfully complete the requirements to become a Certified Golf Superintendent will be recognized by certificates and membership cards. A complete public relations program will be developed to further recognize those who are Certified. A letter can be sent to the club informing the officials of the accomplishment of their superintendent.

10. The Certification program should be reviewed periodically and upgraded to maintain a parallel with technical advances.

11. A certification committee consisting of not less than _____ members (operating committee as referred to in GCSAA table of organization) be established to conduct the Certification Program. The chairman to be appointed by the president, and the committee members by the executive committee.

ATTENDANCE ROSTER

ALABAMA

<u>Name</u>	<u>Affiliation</u>	<u>City</u>
Borland, Bob	Arrowhead Golf & Country Club	Montgomery
Casey, A. F.	Casey Enterprises, Inc.	Birmingham
Edmondson, Carl	Bonnie Crest Country Club	Montgomery
Gravitte, Tom	2804 Briar Cliff Road	Dothan
Kraft, Art	Montgomery Country Club	Montgomery
Lawrence, Doy L.	Maxwell Air Base Golf Club	Montgomery
Moses, Cecil C.	Montgomery Country Club	Montgomery
Pierce, George C.	Beck Mfg. Co.	Auburn
Pyle, Ed	Tieco, Inc.	Birmingham
Roberts, James D.	Tieco, Inc.	Birmingham
Wilson, Marcus	Turtlepoint Country Club	Forrence

FLORIDA

Allen, Richard B.	Paul E. Allen Company	Palm Harbor
Amick, W.	Golf Course Architect	Daytona Beach
Baker, Chan W.	860 N. E. 75th Street	Miami
Baston, Gene	The Bay Hill Club	Orlando
Blackledge, James L.	Eastern Rain Bird Sales, Inc.	Lake Worth
Caswell, Barry	Melbourne Golf & Country Club	Melbourne
Clarke, Stan	LaGrorce Country Club	Miami Beach
Crocker, Bill	Terrain King, Engler Mfg. Corp.	Jacksonville
Derzypolski, Marion	Capital City Country Club	Tallahassee
Dudeck, A. E.	Univ. Fla. Plantation Field Lab.	Ft. Lauderdale
Ervin, Eddie L.	<u>Turf Grass Publications</u>	Jacksonville Beach
Hines, Reuben P., Jr.	Sunset Golf Course	St. Petersburg
House, Lee M.	Gadsden Country Club	Quincy
Hutton, John	Deplomat Hotel & Country Club	Hallandale
Jacob, Karl	Westview Country Club	Miami
Jarrell, Charles		
Lambert, Skip	Vero Beach Country Club	Vero Beach
Lastinger, Warren	Daytona Golf & Country Club	Daytona Beach
Mascaro, Charles G.	Milwaukee Sewerage Comm.	Miami
McCartha, Harry	Florida Milorganite	Miami
McKinney, Robert C.	P.G.A. National Golf Course	Palm Beach Gardens
Morrison, Oscar P.	Biltmore Golf Club	Miami
Ousley, J. E., Sr.	Ousely Sod Company	Pompano Beach
Proud, Ronald	E-Z-Go Car Div.-Textron, Inc.	Ft. Lauderdale
Rainwater, Crawford	Southern Golf Assn. U. S. Golf	Pensacola
Reemelin, Ben	Zaun Equipment Company Company	Jacksonville
Richards, Mike	Tresca Turf Equipment Co.	Jacksonville
Schmeisser, Otto	Indian Creek Country Club	Miami Beach
Shepard, Willie	Riviera Country Club	Daytona Beach

<u>Name</u>	<u>Affiliation</u>	<u>City</u>
<u>GEORGIA (con't)</u>		
Goodwin, Howard H.	Club Car, Inc.	Augusta
Hall, Jerry S.	Robins Air Force Base	Robins ARF
Hassell, Grady T.	Lawn and Turf, Inc.	Conyers
Hayden, Harold H.	Hahn-Eclipse Company	Decatur
Hendrix, Sammy	Fort Stewart Golf Club	Fort Stewart
Holcombe, R. Troy	West Georgia College	Carrollton
Holliday, P. C. (Hap)	Callaway Gardens	Pine Mountain
Hope, Mrs. Eloise	Chamber of Commerce	Columbus
Howell, D. B.	Athens Country Club	Athens
Huch, Ron	The Skinner Irrigation Co.	Atlanta
Jensen, Ray	Southern Turf Nurseries	Tifton
Johnson, J. R.	Cooperative Extensive Service	Athens
Johnson, Dewey W.	Lawn and Turf, Inc.	Conyers
Jordan, Alvin E.	Mystery Valley Golf Course	Lithonia
Kincaid, E. E.	Lawn and Turf, Inc.	Tifton
King, M. E.	Newton Crouch Company	Griffin
King, Frank P.	Director, Experiment Station	Tifton
Knowles, Carl R.	Greene County Country Club	Greensboro
Kozelnicky, George M.	University of Georgia	Athens
Lake, John	Elanco Products	Lawrenceville
Lambert, Paul W.	Stovall and Company	Atlanta
Lambert, Jimmy	Evans Implement Company	Atlanta
Lawson, Lee	LaFayette Golf Club	LaFayette
Lawson, Bobby	LaFayette Golf Club	LaFayette
LeBlanc, Lloyd	Coastal Pl. Experiment Station	Tifton
Lee, Harold E.	City of Atlanta, Parks Department	East Point
Lott, S. S.	4 - Seasons Country Club	Wrenns
Madden, Loyd	Marietta Country Club	Marietta
Mallard, John	Vidalia Country Club	Vidalia
Maples, Palmer, Jr.	Standard Club	Atlanta
McKendree, Marion	Sea Island Golf Club	St. Simons
McWhirter, Ben	Robins Air Force Base Golf Club	Warner Robins
Miller, Edward	Sea Island Company	St. Simons
Monson, Warren G.	Coastal Plain Experiment Station	Tifton
Moncrief, James B.	U. S. Golf Association	Athens
Moore, Hugh	Brunswick Country Club	Brunswick
Neese, Jack	Country Club of Columbus	Columbus
Newton, Preston	Georgia Experiment Station	Griffin
Patten, Robert L.	Patten Seed and Turfgrass Co.	Lakeland
Pendley, Jerry B.	City of Atlanta, Parks Department	Atlanta
Petsonk, Martin A.	City of Atlanta Golf Courses	Atlanta
Phillips, Carl	Sea Palms Golf Club	St. Simons
Poss, Robert L.	Russell-Daniel Irrigation Co.	Tifton
Powell, Jerrel	Coastal Pl. Experiment Station	Tifton
Reed, David W.	Briar Creek Country Club	Sylvania

<u>Name</u>	<u>Affiliation</u>	<u>City</u>
<u>GEORGIA (con't)</u>		
Rhymes, Bill W.	Mallinckrodt Chemical Company	East Point
Rudosoal, Michael	Cherokee Golf and Country Club	Cedartown
Shirley, Jim	Cross Creek Golf Club	Atlanta
Sinnoek, Ron	Chattahoochee Golf Club	Gainesville
Skinner, Albert	Coastal Plain Experiment Station	Tifton
Smith, Randolph W.	Jacobsen Mfg. Company	Atlanta
Strawn, Robert A.	Green Valley Golf Club	McDonough
Stephens, Pauline	Press	Tifton
Sumrell, Billy B.	Callaway Gardens	Pine Mountain
Taylor, Phillip A.	Jacobsen Mfg. Company	East Point
Toney, Grady E., Jr.	Dublin Country Club	Dublin
Turner, Howard	University of Georgia	Athens
Underwood, Charlie	Northwood Golf & Country Club	Lawrenceville
Warnecke, Mel	Dalton Golf & Country Club	Dalton
Wells, H. D.	Coastal Plain Experiment Station	Tifton
Wheeler, Clara	Coastal Plain Experiment Station	Tifton
White, H. G.	City of Atlanta	Atlanta
White, Ray	Certified Laboratories	St. Simons
Wilcoxon, Steve	Cherokee Town & Country Club	Dunwoody
Willis, Jerry	City of Atlanta	Atlanta
Worn, Larry	TUCO Products	Sylvester
<u>ILLINOIS</u>		
Walling, Robert	Roseman Mower Corporation	Glenview
<u>INDIANA</u>		
Boyd, Ed	Evansville Country Club	Evansville
<u>MINNESOTA</u>		
Watson, James R.	Toro Manufacturing Corporation	Minneapolis
<u>NEW YORK</u>		
Mascaro, Tom	Kearney-National, Inc.	New York
<u>NORTH CAROLINA</u>		
Campbell, Don B.	Marine Corps Air Station	Cherry Point
Carpenter, Walter E.	City of Gastonia	Gastonia
Gray, James F.	Bur-Mil Country Club	Greensboro
Grahan, Dick	Elanco Products Company	Raleigh
Harris, Claude	Happy Valley Golf Course	Wilson

<u>Name</u>	<u>Affiliation</u>	<u>City</u>
<u>NORTH CAROLINA (con't)</u>		
Hood, Dillon M.	Seymour Johnson AFB Golf Course	Goldsboro
Lineberger, Abel	Gaston Country Club	Gastonia
Long, Glenn	Gaston Country Club	Lowell
Maples, Wayne	Pinehurst Golf Courses	Pinehurst
O'Donnell, Ed	Brock Valley Golf & Country Club	Greenville
Sheppard, Ken	Pinehurst Golf Courses	Pinehurst
Spencer, Jim	E. J. Smith and Sons Co.	Charlotte

SOUTH CAROLINA

Barnette, James W.	Myrtlewood Golf Course	Conway
McDaniel, Allison	Harbour Town Golf Links	Hilton Head
Montgomery, Robert A., Jr.	Myrtlewood Golf Course	Myrtle Beach
O'Quinn, Danny	Harbour Town Golf Links	Hilton Head
Skeen, Jim	Boscobel Country Club	Pendleton
Sigmon, William J.	Myrtle Beach Farm Company	Myrtle Beach
Tiller, Paul A., Jr.	Commodore Golf Club	Clover

WISCONSIN

Wilson, Charles B.	Milwaukee Sewerage Commission	Milwaukee
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TOTAL

25TH ANNUAL
SOUTHEASTERN TRUFGRASS CONFERENCE
TIFTON, GEORGIA

April 13-15, 1970

TOTAL REPRESENTATION FROM EACH STATE

Alabama	11
Florida	39
Georgia	98
Illinois	1
Indiana	1
Minnesota	1
New York	1
North Carolina	12
South Carolina	7
Wisconsin	<u>1</u>
TOTAL	172

