

Boca Raton





"No weeds on top and roots you can hide behind. For job security, you can't do much better than that."

> Barry Carter Superintendent Boca Raton Hotel and Club Boca Raton, Florida

B arry Carter's words summarize the results he achieved when he treated his bermudagrass greens and fairways with LESCO PRE-M 60DG Herbicide last fall. He plans to reapply the new pendimethalin product from LESCO later this year.

Barry based his decision to try PRE-M on several factors. Of course his top priority was excellent weed control with no damage to topgrowth or roots. But he was also looking for low cost, convenience and labor savings. Barry got everything he wanted with LESCO PRE-M.

"The control has been great," Barry says. "I can see where I skipped — that's the tell-all, isn't it?

"It's still a new product, but the best thing going for it so far is that it did not harm the turf at all — not the new hybrids, not the old hybrids and not the old common. We've seen no root inhibition."

From an economic standpoint, Barry's decision to apply PRE-M was definitely sound. He shopped and compared the cost of PRE-M and found his cost per acre could be substantially reduced by using the LESCO product.

As for postemergent control, a practice Barry has employed in the past, the cost is also high because of the labor intensity of mixing two chemicals and spraying numerous times throughout the season. And with postemergent applications, the bermuda often goes off color.

Barry says it best himself. "PRE-M costs a lot less than postemergent herbicide applications and it's a lot easier too. I'll put it down just twice a year as opposed to numerous spray applications."

Gleneagles



"As far as preemergent weed control goes, LESCO PRE-M is the least expensive for the control you get. And the safety factor is very high."

> Gary L. Price Superintendent Gleneagles Country Club Delray Beach, Florida

B efore relocating to Florida, Gary Price was a superintendent in the North — where preemergent weed control on golf courses is common practice. So when an economically attractive opportunity to put down a preemergence in Florida presented itself, Gary was eager to give it a try. He applied LESCO PRE-M 60DG Herbicide to tees, fairways and roughs at the rate of 5 pounds of material per acre at the end of October and plans a followup this summer.

"The results so far have been good," Gary says. "I don't know of any goosegrass germination. We had a little Poa, but after I took a closer look, I realized it was because we'd missed with the sprayer. And even though it's not labeled for ragweed, PRE-M sure kills it."

When controlling weeds with postemergent products, Gary would make as many as ten applications per year. With PRE-M he only has to apply twice although he's considering three applications in certain heavy-wear areas that are especially susceptible to weed populations.

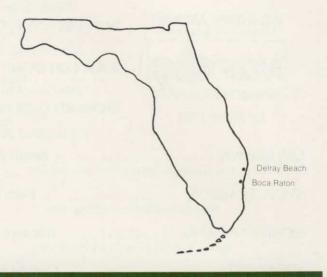
And as Gary pointed out, "When you go with a postemergent control, you're forced to live with some percentage of weeds."

With PRE-M Gary found he not only achieved the superior control he was looking for, but also the degree of safety he wanted. None of the areas he treated with PRE-M showed any sign of injury or setback.



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B arry Carter, superintendent at the Boca Raton Hotel and Club, and Gary Price, superintendent at Gleneagles Country Club, took advantage of the benefits LESCO PRE-M 60DG Herbicide has to offer. You can too.

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ABOUT OUR COVER

Cypress Point Club, Manuel Cardoza, Superintendent. Down the coast from the 57th Annual GCSAA Conference and Show. Photo was taken by our own photographer, Daniel Zelazek.

> DANIEL ZELAZEK Cover Photography

For reprints or other photographic needs, call Daniel at (305) 746-2123.



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TOM BURROWS: FGCSA'S Man of Action



In a recent telephone interview with The Florida Green Tom Burrows discussed his views and opinions about The FGCSA together with some future goals.

Florida Green: Why did you agree to another year as president of FGCSA?

Tom Burrows: There was much membership enthusiasm and momentum in the FGCSA

happenings. To me, being a part of that

program was very enjoyable.

Florida Green: What, in your opinion, were the greatest

accomplishments of 1985?

Tom Burrows: Almost everything accomplished during 1985 was forthcoming from previous years planning by the Board of Direc-

tors. Some of these happenings were:

 Establishment and approval of a formal budget/dues increase,

Hiring Executive Secretary, Marie Roberts,

New publications: The Green Sheet and Membership Directory,

 The FGCSA Distinguished Service Award,

5) A Membership Services program,

Another educational seminar held at the FTGA Conference,

7) A Job Referral program,

8) A TV promotional program,

The Research/Fund Raising amount was doubled.

Florida Green: What were the major goals set for 1986?

Tom Burrows: 1) Continue to improve all aspects of

our association in promoting Turf Management and Chapter unification,

 The hiring of Past President, Paul Turcotte, as Emissary and to assist in Fund Raising and Public Relations,

3) Our Research/Fund Raising Goal set at \$45,000,

4) Increased Membership Services,

5) Conduct an extensive Membership Drive.

 Initiated a membership Benevolent Fund.

Florida Green: What do you foresee in the future for the

FGCSA?

Tom Burrows: 1) All 9 chapters working closely together as a unified group for the total benefit of golf and Turfgrass Management,

> Working very closely and jointly with the GCSAA, USGA, FTGA and other Florida Golf Associations,

> A state-wide Golf Manager Licensing program,

> The majority of our Turfgrass managers becoming GCSAA certified,

5) Our Fund Raising annually exceeding \$100,000,

6) Employment of a full time Executive Director and a Secretary.

The powerful combination of Tom Burrows and a hard working Board of Directors is being felt in all areas of our industry here in Florida. The Florida Green urges all G.C.Supts. in Florida to lend their support to our association for the common good of all. ■



The only thing that floats better than our Smithco Super Rake."

Our exclusive adjustable hydraulic floating rake is the key. It allows superior raking quality and smoother uniformity than other raking systems. The rake actually follows the trap contours resulting in a perfectly raked trap everytime.

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Letters to the Editor

Dear Mr. Jones:

Congratulations! I am pleased to inform you that your organization has been awarded a 1985 Harry C. Eckhoff Award for excellence in golf journalism.

Your entry, THE FLORIDA GREEN, was judged First Place in the category for Professional Association Magazines.

The Harry C. Eckhoff Award committee received more than 130 entries from the U.S. and Australia for the 1985 competition. The committee was very impressed with the level of participation in the competition, and the calibre of golf journalism of all entries.

The National Golf Foundation is preparing the awards at this time, and will present yours in the very near future. The Foundation will also submit a news announcement detailing all of the 1985 Harry C. Eckhoff Award winners to all local and regional golfing publications.

The NGF is honored by your participation in this competition, and wish you great success with your efforts in the coming year. We look forward to your entry for the 1986 Harry C. Eckhoff Award competition.

With kind regards,

BILL JASSO

Director of Communications

National Golf Foundation

Dear Dan,:

Allow me to again thank you in this letter for giving me a copy of the Florida Green.

It always provides useful information and keeps me current as to happenings in a state we Canadians frequently visit. Just reading the issue tends to warm the heart, when temperatures are 8° F, and the ground is covered in snow.

Your description of San Francisco was most complete, and I'm certain my game plan would have been altered, had I received the copy before the conference.

Congratulations on your frequent awards; keep up the good work.

Sincerely,

Bob Heron, C.G.C.S.
Golf Course Superintendent

Dear Dan,

We really appreciated your extensive coverage of San Francisco in the Fall issue of *The Florida Green*. The use of photos and the layout were especially nice.

You can be sure that the City will welcome GCSAA when you come for your convention in January.

We were a bit puzzled about the credits for the cover photo. In addition to a blurb describing the photo, there is a small photo of Daniel Zelazek captioned: "Cover Photography." It is a bit confusing.

Sincerely, DAPHNE GRAY, Media Services San Francisco Convention Bureau

Florida Green:

I enjoy your magazine more than any other golf publication so I feel I should contribute to the cost of receiving it.

I do not think a better job could be done. I am a 45 year member with ten years on the golf course before becoming a member and can say that you are doing a very good job.

> Joseph F. Maggi, Sr. 7351 Mina Ave. Brooksville, FL 33573

Dear Dan,

I am a man of very few words. "Florida Green," the most complete golf magazine around today. I enjoy each and every issue. Keep up the good work.

Best Wishes,

Don White, Sunbelt Seeds, Inc.

Dear Dan:

Congratulations on winning the Best Cover Category in the 1985 GCSAA Chapter Newsletter Contest.

The time and dedication you put into your publication for your membership is great.

Happy Holidays.

Sincerely, John E. Laake, CGCS



The only thing that's easier to operate than our Smithco Runaway."

We call it the Runaway because it runs away from the competition. How? Because the Runaway is the finest turf maintenance truck available which offers hydraulic drive and one-pedal operation. The Runaway also features *fewer exposed parts* than other maintenance vehicles, thereby reducing the chance for wear and corrosion.

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The Smithco Runaway turf maintenance truck. The entire turf maintenance system you've been waiting for. Go ahead, make the switch.



OUR PROFESSION: Where We've Been, Where We Are, and Where We're Going

H.E. "Al" Frenette, CGCS Peachtree Golf Club, Atlanta, Georgia

Back in 1926, a small group of "greenkeepers," led by Col. John Morley, met for the purpose of forming a fraternal organization known as the National Association of Greenkeepers of America. Their objectives were:

- 1. The union of worthy green keepers, carefully selected and strictly obligated, without reference to the accident of rank, fortune, or social position.
- To work together in harmony with voices raised in the interest of Peace, whose words are kindly spoken and whose charity is real.
- To build character into the foundation of this association, and may our motto always be —

JUSTICE, FAITHFUL BROTHERHOOD, AND GENEROUS BENEVOLENCE.

These words are taken from an editorial published in March of 1927 and written by Col. Morley, the founder and first president of our (national) Association. Time has proved the wisdom of his action and today our objectives parallel those started in 1926.

We have grown in number and purpose since that first group met with the understanding that you only get out of anything what you put into it. Our profession prospered because these men had the courage to seek new methods, test the unknown, developed the ability to respect and work with nature, and left us a legacy to persist in spite of failures.

For the first quarter century of its existence, the Association was primarily a fraternal group dedicated to helping one another learn to deal with the complexities of providing fine turf for the game. Encouraged by turf-industry people, the landgrant colleges (such as the Univesity of Massachusetts), began to offer turf-related programs. This is when grass-growing emerged as a science.

Following World War II, we began to apply scientific methods to the art of greenkeeping. Better grasses, nutrients, and chemicals resulted in better playing surfaces. With all this new-found sophistication came problems with labor, escalating costs, and demands for more and better playing conditions. Enter the age of mechanization and the USGA specifications for greens construction.

As superintendents, we were caught up in a dilemma; the survival of the "old breed' and the arrival of the "college kid." Students from the turf schools were entering the profession and threatening the status of the superintendent who learned his profession through trial and error. They were low-keyed, low-paid and somewhat introverted. However, the wisdom of Col. Morley once again proved itself as the Association blended these two

groups through education, research, and the annual conference. We younger fellows soon discovered that those older fellows knew what they were talking about and our research only proved the validity of techniques such as aerating, top-dressing, composting, and the selection of turf cultivars.

We knew we had something going here; an organization of true professionals. The rest of the golfing community, however, still thought of the superintendent as "the guy who cuts the grass." We had sold each other on our importance but couldn't sell our members! It was time for the profession to raise its image outside the sphere of our group. This would have to be an individual, as well as a collective, effort. We had to educate the struggling superintendent (local and regional educational sessions and seminars), improve the serious-minded (certification), and sell the memberships on the necessity of having and accepting (individual commitment) the qualified professional superintendent. Today, it is safe to say that we have, with the help and guidance of fellow superintendents, reached the goals intended by that group some 60 years ago.

Fortunately, we have the advantage of better grasses, improved construction methods, and the mechanization that allows us to meet the increasing demands of the golfer. The biggest challenge facing our profession today is not how to do more with less but how to justify and sell the high cost of turf management. Industry passes the costs on to the consumer, an accepted fact of life. We must learn to teach the golfer to recognize this economic fact. Without an adequate budget, the best-intentioned superintendent will look like a "grass-cutter." The successful superintendent is the one who recognizes the need for good PR, budgeting and management. Gone are the days when the "greenkeeper" stayed down at the "barn" and let the Pro take care of the member's complaints.

We must recognize that the future of our profession of golf course superintendency lies with the growing crop of youngsters coming out of our turf schools. No longer is the superintendent a "good ole farm boy" who understood something about growing crops, running a tractor, and spreading manure. Tomorrow's superintendent must have a solid foundation in agronomics, plant physiology, agricultural engineering, and management techniques. It behooves the seasoned superintendent to bring these young fellows along and give them the opportunity to learn the skills needed to carry on in the tradition of that small group led by Col. Morley. To quote him — "Time only will tell whether I have acted wisely in bringing into existence the National Association of Greenkeepers of America."

Reprinted from The Georgia Turf Grass News.



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National Golf Foundation Announces 1985 Eckhoff Journalism Award Winners

(North Palm, Fla.) — Ten local or regional golfing publications from across the country have been honored as winners in the 1985 Harry C. Eckhoff Award competition, sponsored by the National Golf Foundation. The announcement of the winners was made by NGF Communications Director Bill Jasso.

Jasso said more than 130 golf course and association newsletters, tournament annuals, club newsletters and other regional magazines were submitted for the 1985 competition to honor excellence in golf journalism. Publications from as far away as Australia participated in the award program, named for the National Golf Foundation's director of golf development. Eckhoff, now 82, has been with the NGF for 28 years, and has seen local golf publications grow from one page mimeographed sheets to today's more sophisticated, in-depth chronicles of the game.

"The judges remarked that they were hard-pressed in several categories to choose a clear winner," said Jasso. "The committee reiterated their feelings that local and regional golfing publications were demostrating a significant growth in their professionalism and spirit for the game."

The 1985 Harry C. Eckhoff Award winners are:

CLUB NEWSLETTERS:

1) Colonel Bogey's Lore, Bill Johnson, Dartmouth College, Hanover, N.H.; 2) Valley Views, Suzanne Ray & Joanne Mercadante, Huntingdon Valley, Pa.; 3) The Shannopin Chieftain, Jackson L. Obley, Pittsburgh, Pa. Honorable Mention: Club Times, Carol Stewart, Atlanta Athletic Club, Duluth, Ga.; The RoadRunner, Hal Davee, StoneRidge Country Club, Poway, Calif.

PROFESSIONAL ASSOCIATION NEWSLETTERS:

1) Carolinas PGA Section Newsletter, Jim Hart, North Myrtle Beach, S.C.; 2) Hole Notes, Warren Rebholz, Minnesota Golf Association; Southern Ohio PGA Newsletter, Laura Alger, Ohio Association of Public Golf Courses. Honorable Mention: Rub of the Green, David Lozoya, Hi-Lo Desert Golf Course Superintendents Association. Palm Desert, Calif.; The Greenerside, James F. Gilligan, Golf Course Superintendents Association of New Jersey; Northern Texas Golfer, James McAfee, Northern Texas PGA Section.

ALL OTHERS:

1) GHO '84 - The New Era, Robert Donovan, CIGNA Service Company, Hartford, Conn.; 2) USGA Guide to the 1985 National Championships, Ian Martin Davis, Sports Marketing Group, New York, N.Y.; 3) 1984-85 Annual Survey, Ray Weaver, Florida Municipal Golf Course Association.

Honorable Mention: 1985 Florida Golf Directory, Dawn Coster, Winter Haven, Fla.

The National Golf Foundation was organized in 1985 as the information source for the growth and development of golf. The NGF serves as an 'umbrella' organization for the entire golf industry, and provides a wide array of vitally important business and information services. NGF membership includes thousands of individual golf courses, scores of golf course architects and builders, and more than 400 golf companies and associations.

PROFESSIONAL ASSOCIATION MAGAZINES:

1) The Florida Green, Dan Jones, Lake Worth, Fla.; 2) The Grass Roots, Monroe S. Miller, Wisconsin Golf Course Superintendents Association; 3) New England Section of PGA Yearbook, George S. Wemyss, New England Section of PGA.

Honorable Mention: Club Professional, Mary Ellen Stine, Middle Atlantic Section of PGA, Columbia, Md.; The Bull Sheet, Fred Opperman, Midwest Association GCSA, Glen Ellyn, Ill.; Michigan PGA Yearbook, Joseph L. Falvey, Michigan Section of PGA.

AMATEUR ASSOCIATION NEWSLETTERS:

1) NCGA News, Dean Glass, Northern California Golf Association; 3) The Publinxer, Larry Donald, Rochester, Mich.

Honorable Mention: Minnesota Golfer, Warren Rebholz, Minnesota Golf Association.

AMATEUR ASSOCIATION MAGAZINES:

1) The Met Golfer, Ian Martin Davis, Sports Marketing Group, New York, N.Y.; 2) Fore, Alice Ober, Southern California Golf Association; 3) Greater Houston Golfer, Burt Darden, Houston Golf Association.

Honorable Mention: Golf in Victoria, Garry Mansfield, The Victorian Golf Association Australia; Arkansas Golfer, Charles Wade, Arkansas State Golf Association.

TOURNAMENT PROGRAMS:

1) 82nd Western Open Championship, Peter de Young, Western Golf Association, Golf, Ill.; 2) LPGA National Pro-Am, Daphne B. Baker, Englewood, Colo.; 3) Hertz Bay Hill Classic, Bev Norwood, International Management Group, Cleveland, Ohio.

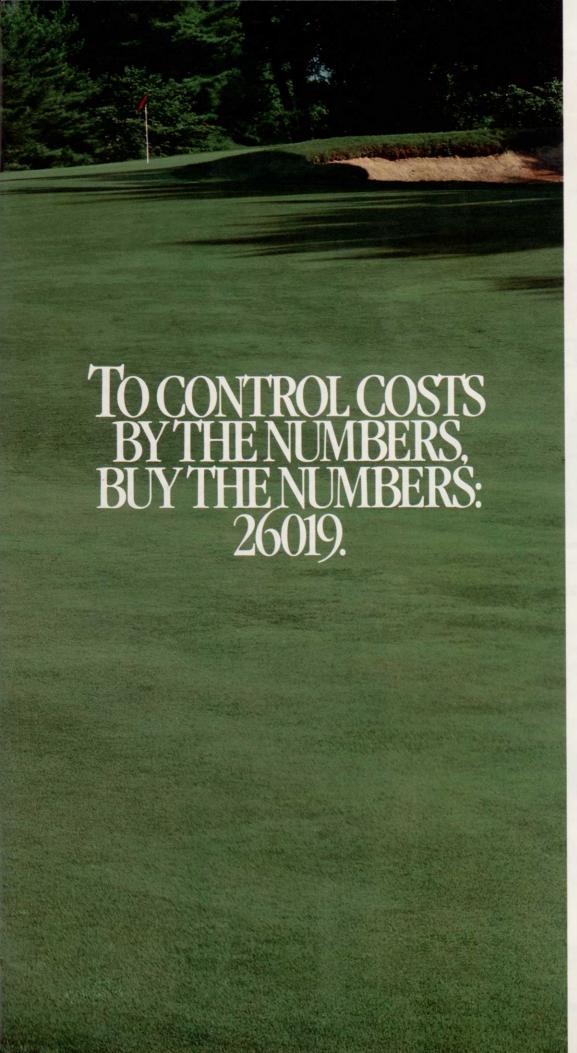
Honorable Mention: The Vintage Invitational 1985, Leslie Taft, Palm Desert, Calif.; Eighth Annual Ken Venturi Guiding Eyes Classic, William C. Heyman, Yorktown Heights, N.Y.

STATE OR REGIONAL NEWSPAPERS:

1) Florida Golfweek, Dawn Coster, Winter Haven, Fla.; 2) The Michigan Golfer, Terry Moore, Brighton, Mich.; 3) California Golf, John McCarthy, Palo Alto, Calif. Honorable Mention: Gulf Coast Golfer, Bruce Gilmer, Houston, Texas.

STATE OR REGIONAL MAGAZINES:

1) Ohio Golfer, Jeff Groezinger, Columbus, Ohio; 2) Golfweek Magazine, Dawn Coster, Winter Haven, Fla.; 3) Arizona Golf Journal, John Lynch, Scottsdale, Ariz. Honorable Mention: PAR Excellence Magazine, Jean M. Luckmann, West Allis, Wis.



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San Francisco Smash Success

The recently completed 57th Annual International Golf Course Conference & Show of the Golf Course Superintendents Association of America (GCSAA) was the largest in the sixty-year history of GCSAA. The Conference & Show, held in San Francisco January 27 - February 4, 1986, broke records in attendance, 10,902; number of educational seminars, 27; number of exhibitors, 317; and amount of exhibit space, 107,000 square feet.

The conference began with educational seminars — almost 400 hours were offered throughout the nine days of the conference — and ended with educational seminars. In between were award presentations, famous speakers, a huge trade show, a gala banquet & show, allied golf association seminars and more educational programs.

Twenty-seven educational seminars were conducted by 41 instructors to 1,050 students earning continuing education units (CEU's). Six of the 27 seminars were new to GCSAA programming. Fifty-six hours of concurrent educational sessions were also offered by 98 speakers.

The Opening Session speaker on Jan. 31 took on added significance due to the week's events. Gen. Chuck Yeager addressed several thousand conference attendees who anxiously awaited comments regarding the space shuttle accident. Preceding Gen. Yeager's comments, GCSAA President Eugene D. Baston, CGCS, presented the prestigious Distinguished Service Award to Andrew Bertoni, Mich., John B. Steel, Sr., CGCS, Canada; Howard Kaerwer, Minn.; and Chester Mendenhall, Utah. Mendenhall is a past president and charter member of GCSAA. Baston also presented GCSAA's Leo Feser Award to past president Theodore W. (Ted) Woehrle, CGCS, for his contribution to GOLF COURSE MANAGEMENT magazine.

"Patty Berg's history is the history of all of us who adore golf — not just women's golf, but all golf," stated Ms. Shore.

Patty Berg, a founder, charter member and first president of the LPGA, accepted the Old Tom Morris Award like the champion she is. "By giving me this magnificent award, the Old Tom Morris Award," said Miss Berg, "you have given me one of the greatest compliments of my life. To follow in the footsteps of such dazzling personalities as Arnold Palmer, Bob Hope and President Gerald Ford (previous recipients) is almost too much for my mind to grasp. What thrill, honor and delight it is to have my name associated with Old Tom Morris.

"There has always been a special spot in my heart reserved for the golf course superintendents of our country."

Following the banquet and award presentations, the ever popular Lettermen entertained the audience with a blend of old and new songs made popular by the Lettermen from the 1960's to the present.

GCSAA's 58th Annual International Golf Course Conference and Show will be held in Phoenix, January 26 - February 3, 1987. ■

STOTTERN ELECTED PRESIDENT

Riley L. Stottern, CGCS, Park City, Utah, was elected President of the 6,700-member Golf Course Superintendents Association of America (GCSAA) during GCSAA's 57th Annual International Golf Course Conference and Show in San Francisco, January 27 - February 4, 1986. Stottern succeeds Eugene D. Baston, CGCS, of Waco, Texas.

Stottern has also served GCSAA as Director, as Secretary-Treasurer in 1984 and as Vice President in 1985.

Stottern is golf course superintendent at the Jeremy Ranch Country Club in Park City, Utah. Previously, he was golf course superintendent at the Desert Inn Hotel and Country Club, Las Vegas, and at the Oakridge Country Club, Farmington, Utah.

Stottern has been a member of GCSAA for 18 years and has been a member of the Intermountain Golf Course Superintendents Association for 20 years. He served the Intermountain GCSA as president for two years and as a director for four years. In addition to serving his local GCSA and GCSAA, he is a member of the USGA, serving as a committee member. He also holds a national appointment in the National Ski Patrol System.

Superintendent Stottern attended the University of Utah and has taken courses in turfgrass management from Guelph University. He earned his Certified Golf Course Superintendent (CGCS) designation from GCSAA in 1977.

"It is indeed an honor to be elected to the office of President of GCSAA and have the opportunity to serve the membership," said Stottern.

"I know from experience that it takes long hours to achieve the results one wishes to experience, whether being a board member of GCSAA or working on a special project. I welcome those long hours and feel that I am returning some of the benefits I have received as a member to those who will follow in the future."

President Stottern will serve a one-year term.

HEARN ELECTED V.P.

Donald E. Hearn, CGCS, golf course superintendent of the Weston Golf Club, Weston, Mass., was elected Vice President of the 6,700-member Golf Course Superintendents Association of America (GCSAA) during the Association's annual meeting February 3, 1986. Hearn succeeds Riley L. Stottern, CGCS, who was elected President.

Hearn has been golf course superintendent at Weston Golf Club, Mass., for the past 13 years, and has been a member of GCSAA for 15 years. He is also a member of the GCSA of New England, which he has served as treasurer, vice president and president; is a member of the Massachusetts Turf and Lawngrass Council; and a member of the USGA Green Section committee. He has also served on the Executive Committee of the Massachusetts Golf Association and has been a director of the Francis Ouimet Caddie Scholarship Fund.

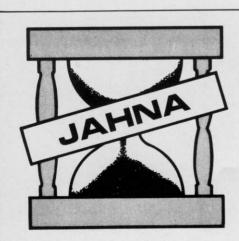
Hearn is a graduate of the Stockbridge School for Turf Managers, University of Massachusetts, and has studied at Salem State College, Salem, Mass.

Vice President Hearn has served GCSAA as Director and as Secretary/Treasurer in 1985.

"The reasons I most wanted to be elected vice president were to remain an integral part of GCSAA and eventually become president of our Association," said Hearn. "I enjoy serving on the Board and dealing with members, staff and the allied associations. I think I've grown somewhat as a person because of my experience on the Board of Directors.

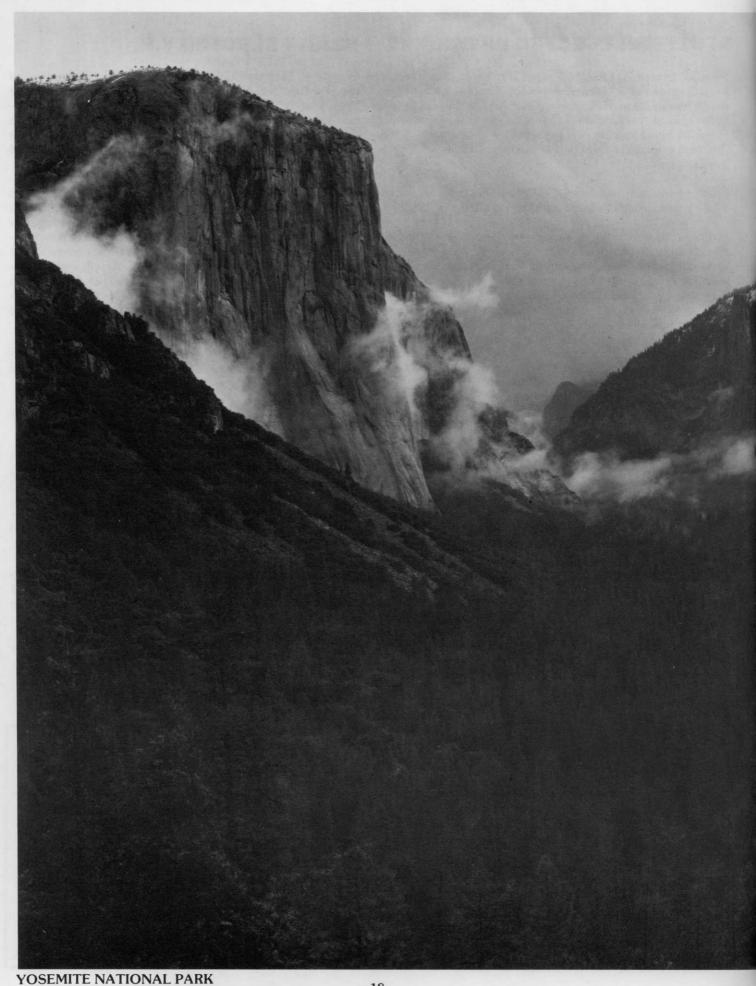
"I've also had the good fortune to work for a club supportive of my efforts; a family willing to put up with my time away from home; and an excellent staff capable of carrying on in my absence."

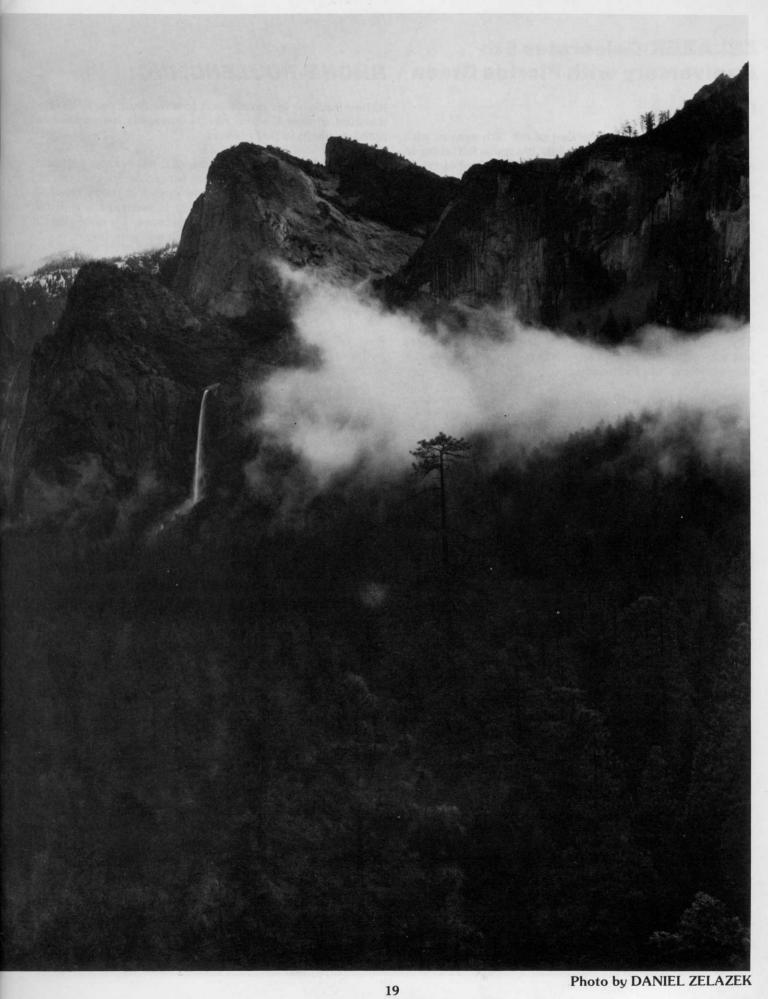
GCSAA is an international organization with headquarters in Lawrence, Kansas. ■



Your Sand Man

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ZELAZEK Celebrates 5th Anniversary with Florida Green

Dear Dan,

This spring issue marks the end of my fifth season with THE FLORIDA GREEN and while it's quite flattering to have my photo in the front section, a good deal of credit goes to you, and my partner David Bailey for such an overall outstanding publication.

Our new wide cover format is unprecedented for a magazine of our size and offers us almost limitless possibilities for photography.

My memories are varied but in the five years the experiences were always sensational even if the clouds weren't. The mad dash drive in the fog at four A.M. to Bay Hill... an enjoyable round of golf with Chip and John at TPC... The 'little backyard bar-be-que' at Dan Hall's are just a few; culminating with the trip to this year's national convention in San Francisco.

With a little luck we'll continue to produce some good covers and hopefully this association will continue for another five years.

Oh, another thing, Clint you may not carry my camera but thanks for the offer.

Mr. Jones, Thank you again, DANIEL P. ZELASEK

RHONE-POULENC, INC.

Rhone-Poulenc Inc. is pleased to announce the EPA registration of new Chipco Aliette fungicide for control of pythium blight in turf grasses.

Chipco Aliette marks the dawn of a new era in pythium prevention. Unlike any other fungicide in the world, Chipco Aliette works as a true systemic, both upward and downward within the plant, to activate a natural defense mechanism within turf grasses. By doing so, it helps your turf defend itself against pythium blight.

In addition, Chipco Aliette is an easy-to-apply foliar spray. It doesn't require watering-in or drenching like other turf fungicides. And one application protects your turf up to three full weeks.

Best of all, Chipco Aliette controls costs as well as pythium. Just add up the advantages of Chipco Aliette and you'll see why it's your best value in pythium control.

Soon, you'll be receiving more information about this exciting new product. Once you discover the many unique features of Chipco Aliette, I'm sure you'll make it an important part of your fungicide program this summer.

Dan Stahl, Chipco Products Manager

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Moncrief Received Green Section Award

James B. Moncrief, who has served the United States Golf Association with turfgrass expertise for nearly three decades, received the 1986 Green Section Award.

The award has been presented by the USGA annually since 1961 in recognition of distinguished service to golf through work with turfgrass.

The award was presented to Moncrief Feb. 3 at the Green Section Educational Conference, which was held in conjunction with the Golf Course Superintendents Association of America Conference in San Francisco.

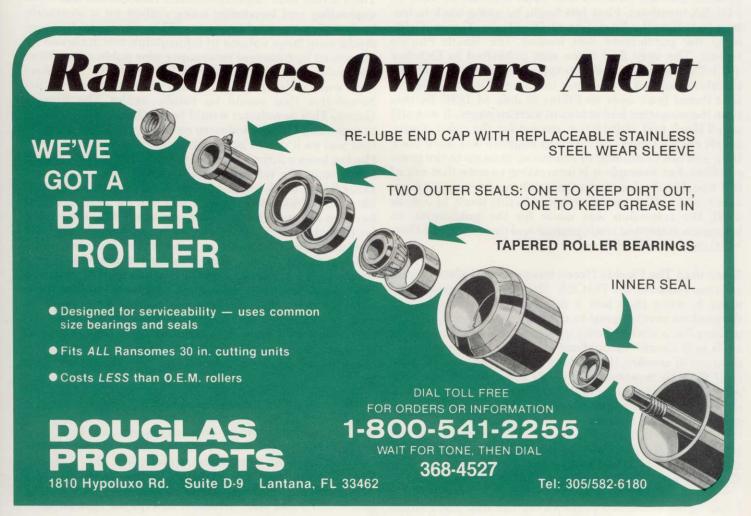
Moncrief, of Athens, Ga., joined the USGA Green Section in February 1957 as an agronomist in the Southeastern Region. He served in that capacity for three years before being named Director of the Region.

During his 22 years as Director of the Southeastern Region, he traveled extensively to conduct turfgrass consultations, visiting the seven states in the Region as well as Bermuda, the Bahamas, Mexico and South America.

Moncrief also developed Tifdwarf bermuda grass, the finest leafed bermuda grass available in the world today.

He retired as Director of the Southeastern Region in 1982 and has since served as a member of the USGA Turfgrass Research Committee.

He is a previous recipient of the prestigious A.W. Crain Diamond Award from the Texas Turfgrass Association and an inductee into the Oklahoma Turfgrass Research Foundation Hall of Fame. He is a member of the Certified Professional Agronomists and the American Society of Agronomy.



"COLOR IT GREEN"

The Florida Green and the Green Sheet

By: Mike Bailey and Irene Jones

The Florida Golf Course Superintendents Association is one of the strongest chapters within the Golf Course Superintendents Association of America. Our voting strength and professionalism is widespread, covering a wide expanse of land from Jacksonville to the Keys and back to panhandle. Every year our association becomes more unified as we receive more benefits from the work performed by the FGCSA Board and the respective committee members. Since the topic for this issue of The Florida Green is: What Do You Receive From The FGCSA, several thoughts have quickly come to mind on the subject. A hard working President along with an excellent Board and Committees was my first thought. The current administration is completely devoted to upgrading the professionalism of our industry. Second I thought of the benefits received from The Florida Green, a trade journal created by golf course superintendents for golf course superintendents, and after discussing this topic with the Editor, Dan Jones, I felt it would be very appropriate to elaborate on the trade journals of the FGCSA: The Florida Green and The Green Sheet.

This article will review and explain the general purposes concerned with each journal, it will explain the format, content and the benefits that each one has to offer to FGCSA members. First lets begin by going back in history to review the formation of The Florida Green. Originally the publication was named The South Florida Green. The very first issue was published in October 1973. The six page newsletter type magazine was predominately circulated throughout the South Florida Chapter. Dan Jones took over as Editor in July of 1976. By this time the magazine had grown to sixteen pages. It was still an all black and white issue, except for the color photograph on the cover. Advertising support was loyal back then and has continued to remain so even up to the present time. For example it is interesting to note that out of the 10 original advertisers 9 are still supporting the magazine, and in fact are represented in this issue. In July of 1980, the transition was made for the publication to become a statewide trade journal and the name The Florida Green was decided on.

Since then The Florida Green has become a phenomenal success story for the FGCSA. The present 64 page magazine is more than just a newsletter. Advertisers find themselves reaching out to the entire golfing industry. A mailing list is always being updated to send (3) copies to each golf course throughout the state. The intent and purpose of sending those three copies is to reach (1) the Golf Course Superintendent, (2) the Golf Professional and place the magazine in the pro shop, and (3) the President, General Manager, Greens Committee Chairman, or Owner of the operation and to place the magazine in the executive offices. The intent is to reach out to the other decision making facets of our industry and create a vital link that will serve to upgrade the image of the Golf Course Superintendent/Manager in Florida.

Looking back over the years we can see that The Florida

Green has received many awards within our industry. The GCSAA has noted the Florida Green as being the best overall newsletter and the best cover photograph by the panel of GCSAA Newsletter judges for fourteen awards in various categories. The magazine has also been the recipient of the prestigious Harry Eckhoff Award for excellence, placing first in 1984 and 1985.

Dan attributes this unique success of the magazine to the Superintendent writers and points to the fact that the publication speaks the language of the Superintendent. He finds that advertisers in our industry support the magazine better than one would imagine because they have the ability to reach the desk of nearly every golf course superintendent throughout the state. The quality of the articles and the excellent use of color in The Florida Green parallel that of the nationally operated commerical trade journals. These facts coupled with interesting, informative and educational topics written by golf course superintendents and fellow writters within our industry have caused many to comment that The Florida Green is unmatched by any other journal within the chapters of the Golf Course Superintendents Assiciation of America.

The Florida Golf Superintendents Association has been expanding and becoming more unified on a statewide basis within the past few years. This expansion has created a very large volume of information which should be dispensed by a current newspaper type publication. So at one point, two years ago, FGCSA President Tom Burrows was contemplating the idea of forming an FGCSA Newsletter that would be totally unlike The Florida Green. This newsletter would be similar to a newspaper in reporting current industry news for our state association and so it would be totally unlike the Florida Green. Having been a little familiar with the job of putting a magazine together (after having watched Dan Jones and Dave Bailey work together for several years on The Florida Green) Mike Bailey was prime bait for Tom to ask to head up this newsletter. Mike commented that the more he thought about this the more he agreed, there really was merit for creating a spin off to the Florida Green. Mike sees the Florida Green as something more like a book, a type of publication tht one will tend to read and then perhaps collect in volume and keep on the bookshelf for years to come. He sees the newsletter however as totally different, as being more similar to a newspaper. Something with current, up-to-date news items that you will read, perhaps keep until the next issue comes out, then you will probably throw it away much like your daily paper.

It has been said a newsletter should be short and to the point. Eight pages is considered to be ideal. Something eye catching, like 'green' colored paper could be approprite. A limited number of advertisers is recommended for this type of publication, this takes the financial burden away from the FGCSA. Bi-monthly is an ideal time frame to be able to collect enough information to be newsworthy and still current. A newspaper type publica-

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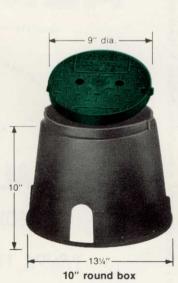
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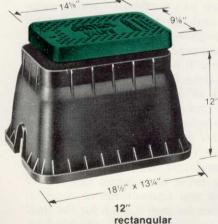
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(continued from page 22)

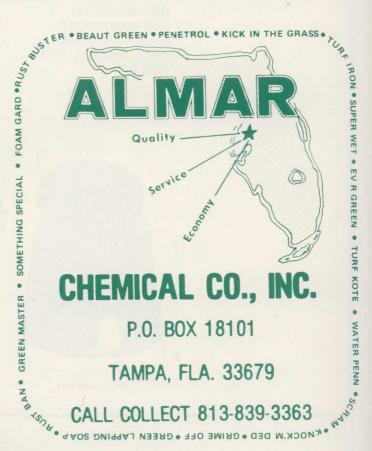
tio can be printed in far less time when compared to a magazine type publication. A two week printing deadline date could be accomodated for a newsletter. Since the name Florida Green was so excellently well titled, a spin off name would be very appropriate. A newsletter is often regarded as a news 'sheet' so when a former newsletter editor himself, Mr. Scott Muzuski suggested the title 'The Green Sheet' VIOLA! We now have two uniquely different trade publications for The Florida Golf Course Superintendents Associations: The Florida Green to cover more educational journal type materials and The Green Sheet to cover newsy type items that will generally be regarded as history by the time the next issue comes out.

The Green Sheet has a mailing list of 1,500 and is in comparison much smaller in context but very time consuming per individual page. An average of 30 articles encompasses 8 pages of print. Articles are collected two weeks before the upcoming issue of the bi-monthly newsletter. These articles are taken to the printer to be typeset into columns. This material then has to be proofread, then the contents has to be pieced together, so, that the many articles will flow into a pattern that will fit into each page. This process is best described as being much like putting a jigsaw puzzle together. After the 'work dummie' has been finalized, the printer then begins to image reproduce the pages and then the actual printing of The Green Sheet is accomplished. The issues are then mailed out to all members of The FGCSA, some media, GCSAA Newsletter Editors, IFAS staff and others related to the turf industry. (The Florida Green is also mailed out to key persons in our industry).

The format, printing process, deadline dates, cost of publishing, the type of reader to be reached and virtually every other concept about the two publications are uniquely different when compared to each other. The Florida Green, a quarterly magazine requires a three month deadline date before each issue. The volume of printing work to be done is far more time consuming, the articles are longer, advertising must be coordinated with a number of different agencies, and articles must be collected from various sources throughout the state. When all the material to be printed is gathered then it must be sent to the printer to be processed. It is returned to our office and proofread for the first time. Next it is 'pasted up' into what could be described as a 'homemade magazine'. Every ad, every article, in fact everything that will make up the finished copy is pasted and fit all together. Next it is returned to the printer for the process called the 'blue line' copy. The printer makes a 'dummie' copy without any color, but with all the ads and type, exactly as it will come out in the final copy. We must once again check and proofread this copy. After any corrections or duplications are checked over, then we mail it back for the final printing. After the printing process, there is the binding, the stuffing into envelopes, the labeling of addresses, sorting of the magazine into zip code order, bundling up into mailbags and finally delivery to the postoffice, all before it arrives (sometimes a little late) on your desk. Currently The Florida Green is direct mailing 2,500 copies. When the issue comes out then another process starts because then it is time for billing the advertisers and collecting the receipts. Posting payments and banking, as all bills associated with our printing costs must be paid. Correspondence with advertisers continues on a daily basis both written and by telephone. Books are kept and balanced on a monthly basis and accountings are done for the FGCSA on a quarterly basis. A yearly financial accounting is done by the FGCSA's Certified Public Accountant, David Claude. So you can see we are kept busy around the Florida Green Office which also happens to be our living room and dining room, as well as half of the garage. Right now it is exactly 10:20 P.M. and I'm still working on this article in order to get it to the printer on time. It seems like when you are publishing a magazine, deadlines are your biggest challenge or nightmare however you happen to look at it.

Advertising support for The Green Sheet has been strong since its inception. Presently, one individual company proposed to cover the operating budget for a one year term which consists of 6 issues. The FGCSA Board approved this concept because of the financial stability. We believe advertising response will become even more favorable in future years, but strongly hold to the original idea than an 8 page newsletter should remain as the dominant factor. Advertising can be kept to a minimum thus creating an intense newsletter now not only for the association, but for the advertisers as well.

In review, The Florida Green and The Green Sheet harmoniously co-exist for the purpose of giving The FGCSA members, and others who contribute to our industry, information on a formal, educational basis, along with a quick, informative newsy type basis also. The Editors, Dan Jones and Mike Bailey are always open to new ideas and thoughts for the future. We take pride in helping to serve the Florida Golf Course Superintendent/Manager and look forward to many more successful years.



GET TWO FOR LESS THAN THE PRICE OF ONE.

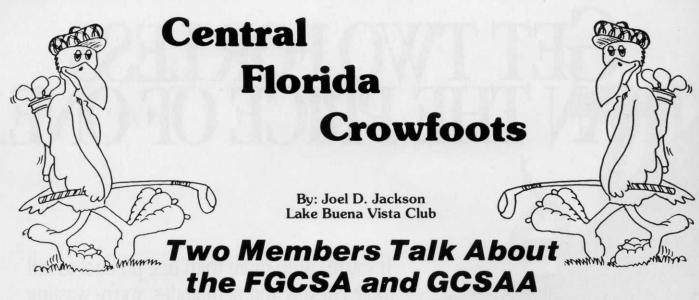
If you're using more than one product to kill mole crickets and nematodes, you're wasting money. Because, in Florida, there's one product — CHIPCO® MOCAP® insecticide/nematicide — that effectively and consistently controls both for less cost than products that control only one. CHIPCO MOCAP works fast, not only

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Ask your supplier for CHIPCO MOCAP... the one and only product that gets your two biggest turf pests for less than the price of one. Rhône-Poulenc Inc., Agrochemical Division, Monmouth Junction, NJ 08852.





The following is an interview with Joe Ondo, President of the Central Florida Chapter, and Superintendent of the Winter Pines Golf Club in Winter Park.

- J.J.: Joe, as you know, the topic we're discussing today is "What do we get from the FGCSA and GCSAA, and what do we want?" I'd like to ask some general questions to get us started and then we'll just freelance from there, okay?
- Joe: No problem.
- J.J.: Joe, how long have you been involved with the FGCSA and the GCSAA?
- Joe: I've been a member of the FGCSA for about 6½ years, and I joined the GCSAA about a year later.
- J.J.: Why did you join these organizations?
- Joe: Well, after investing the time to attend and graduate from the Golf Operation Program at Lake City Community College, I felt that these were appropriate organizations for my chosen field, and that I would benefit from their publications, seminars, and trade shows.
- J.J.: Okay, so you're a member! What do you ACTU-ALLY GET from belonging to these associations? First, the FGCSA.
- Joe: Well, the FGCSA, working closely with the Florida Turfgrass Association, has continually funded and lobbied for turf research. I feel that the information that has come from those efforts has helped me do my job better. I also like the Florida Golf Day concept, and I'm glad that the role of the superintendent is being highlighted by such activities. With the advent of the GREEN SHEET this past year I am being kept informed of what other chapters are doing, and I'm being informed of current laws and restrictions around the state.
- J.J.: What about the FLORIDA GREEN?
- Joe: Well, other than being just about the best profes-

sional or trade publication, what can I say? I think we're all proud of this excellent publication. Obviously, it's another resource of learning and information for us to use to stay on top of our profession.

- J.J.: Now'let's talk about the GCSAA. I know you're an avid golfer so the national golf privileges must mean something to you!
- Joe: Definitely. And I think some of my most enjoyable experiences have been representing Florida in the GCSAA national tournaments. I've made friends from across the country. It's really been great.
- J.J.: Okay, pro, we know you can play the game! What do you get from the working man's side of the coin?
- Joe: Well, I like the feeling of unity. I mean all across the United States there are literally thousands of golf course superintendents, professionals doing basically the same job. I feel the publications from the National give me a broad view of the industry, and at least I have an appreciation for what's going on across the country.
- J.J.: Joe, I attended three FGCSA board meetings last year so I have a small understanding of what goes on at the state level. You have attended many yourself as past and present External Vice President of our chapter. Joe, what do you want the FGCSA to do for its members?
- Joe: I think this past year has been a giant step in the right direction. I think the FGCSA is just now maturing as an effective organization and is just beginning to tap its potential for serving its members. The hiring of an executive secretary was an excellent idea and really a necessity for conducting business effectively.
- J.J.: I quite agree, but what REAL THINGS can the State do for you and me?
- Joe: I think that the State Association should insure that we have the latest information regarding en-

vironmental laws and regulations that will affect how we get our jobs done. I think the job referral program will gain in stature with proper management, and I would expect to continue to receive the most current news on what's going on statewide.

- J.J.: I think those are reasonable goals. What about the GCSAA?
- Joe: Obviously, the National provides the big picture. I think many of us have felt that southern turf problems haven't received the emphasis that they should considering the number of golf courses involved. Hopefully, that trend is diminishing.
- J.J.: What about the recent "Superintendent TV Commercial?"
- Joe: Well, yes, the public relations program is gaining momentum. I hope it's not just an ego trip! It does make me feel good about my profession, and it did get a lot of positive response. I think it should be carefully managed and restricted to special events.
- J.J.: I agree pretty much with your assessments of the FGCSA and GCSAA, and I would like to add these comments concerning membership and benefits of these organizations. Those of us who are active in these organizations GET MORE from them because we DO PARTICIPATE. We attend meetings and conferences.

I came across two articles in the December issue of the GCSAA's GOLF COURSE MANAGEMENT that contained quotes that I feel sum up my feelings about why I belong to the FGCSA and GCSAA and what I get from them. First, from the article about Patty Berg, this year's "Old Tom Morris Award" recipient, ". . . That's one thing I like so much about the golf course superintendents, they stick together. They meet frequently, they listen to each others' problems, they try to find solutions . . ." and now from the article about Jack Martin, the superintendent at Shackamaxon G.C. in New Jersey came this quote, "... keep current. Go to every seminar, meeting, and convention you can possibly attend. There's never been a meeting I've gone to where I haven't learned to do something better.

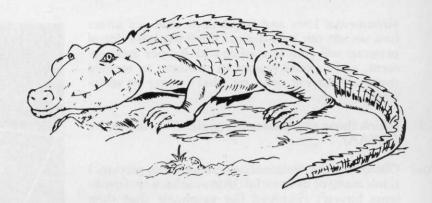
I feel sorry for the guys who don't participate more either by just attending more meetings or by serving as an officer or director. They miss some really good times, gratifying times, relaxing times that help make our profession a little more enjoyable.

- Joe: I know. It always seems to be the same ten to fifteen people who end up conducting the business of the chapter. We ALL need to share the responsibility of running our organizations.
- J.J.: Amen! Joe, thanks for sharing your views and comments with us!
- Joe: My pleasure! See you at the next meeting.



The Gator Growls

By: Sandra P. Carmouche



South Florida Water Management: FRIEND OR FOE

Last spring Collier County and most of Lee County experienced a drought that resulted in a water shortage. The Coastal Ridge Aquifer in Collier County registered critical salinity readings and golf course superintendents in the affected area, along with everyone else, were subject to Phase I restrictions of South Florida Water Management District's Water Shortage Plan.

Pumpage reports were required weekly and pumps were calibrated for improved accuracy as S.F.W.M.D. did a balancing act between supply and demand.

Although golf course superintendents in the droughtstricken counties responded positively to requests from S.F.W.M.D., there remained a degree of mistrust directed toward the district. Water Management controls and regulates the most essential element of a golf course and superintendents were reluctant to provide information that might adversely affect their livelihood.

Yet, according to Bruce Adams, a Water Use Planning and Management Division Coordinator, there is much that the District can do to help golf course superintendents.

"We appreciate what the golf courses do for the economy and ecology of a community," says Adams, who spends about 30% of his time, more during periods of crisis, working with the golf course industry. "We protect the superintendent's right to water use... and can show them the best way to survive a drought."

For an example of how the superintendent's right to use water might be contested, consider the following scenario from an article that appeared in the West Palm Beach Evening Times on December 12, 1985.

"Picture parched, clay-cracked earth. Fade out.

Now picture a golf course water sprinkler going full blast during a spring rainstorm.

Those images, or something like them, should turn every red-blooded South Floridian into a fist-banging water conservationist in just a few short years, if regional water managers have their way."

At best, the scenario is a reminder to superintendents that not everyone is a golfer. Particularly during Florida's dry spring season, there are those who cannot appreciate the need for watering a golf course.

At worst, the article is misleading due to the insinuation that regional water managers are going to use golf courses as an example of water waste.

Comments made by Adams indicate the opposite. "The gof course superintendent is a professional. Because budget is a primary concern for superintendents, they must get a maximum quality course for the least cost, and they use less water and fertilizer than homeowners... I'd like to see residents manage their lawns the way a superintendent does."

To emphasize his statements, Adams provided the following comparison on an inches-of-water-applied basis between single-family homes and golf courses.

An 18 hole golf course, 100 to 120 acres in size, uses $1\frac{1}{4}$ to $1\frac{3}{4}$ inches over the course per week. The average single-family home, about $\frac{1}{4}$ acre in size, uses 2 to 4 inches on a lawn per week.

Adams says there are about 350 golf courses, approximately 35,000 acres, under the jurisdiction of S.F.W.M.D. He conservatively estimates 50,000 acres of lawns for single-family homes.

Using those figures, single-family households have nearly twice the acreage and use about four times more water than golf courses.

Under normal circumstances, there is enough water for everyone, even though demand on supplies is increasing.

Florida has one of the highest rainfall rates in the world, avaraging 50 to 60 inches per year (equal to some tropical rain forests in South America and Asia). But, according to Adams, 40 to 45 inches are lost each year to evaporation and run-off, leaving about 15 inches to work with.

When droughts do occur, the District depends on accurate, timely information, such as weekly pumpage reports, so it will know how to react to prevent crisis.

Florida's approach to water management is unique. In other states, water rights have to be bought or water is supplied by river systems. Those who are last on the river system when droughts occur are out of luck.

Water in Florida is owned by the state. The Governor appoints a governing board to each of the five regional Water Management Districts. The Districts are then charged with allocating water according to reasonable and beneficial use.

And although Water Management Districts are agencies of the state, they are not state agencies. They are not run out of Tallahassee, nor do they use state funds. This allows them a certain amount of independence from government.

Golf courses are required to obtain permits from the District which are usually renewed every 10 years. The permits generally contain about 10 special conditions, although there are exceptions. Golf courses located in reduced threshold areas, where water supplies are more critical, may have as many as 30 special conditions on their permits, which are renewable every 5 years.

Those courses using effluent or salt water (reverse osmosis) for irrigation purposes are exempt from the Water Shortage Rules; but the District still plans to interact with them.

This year S.F.W.M.D. will inventory water use to determine what is being used and abused. Adams believes it will help golf course superintendents to, "show people that they really don't use that much water."

Also, in January of this year, Dr. Bill Donovan, a Senior Water Use Specialist, was added to the staff. With a Ph.D. in Agronomy from Ohio State, Dr. Donovan will be working with urban landscape and horticulture and should be helpful to golf course superintendents.

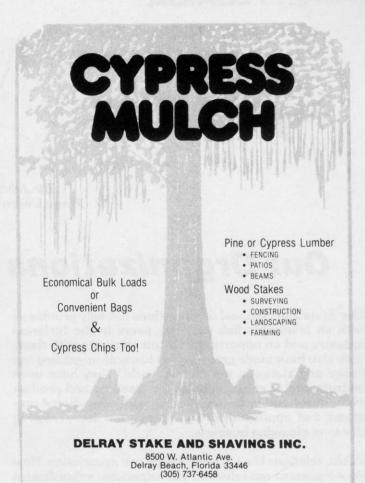
In the future, Adams would like to promote the use of effluent as "part of the solution" to Florida's conservation effort. For those not using effluent, he would like to see more calibration of pumpage. He feels that many superintendents will be surprised at how little water they actually use.

Most important to Adams though, is that golf course superintendents realize that they have a friend in the District. "We need to be able to exchange information and points of view, and improve the communication process."

Hopefully, this spring there won't be any water shortages. But previous droughts occurred in the years 1970-71, 1980-81 and 1985. From those statistics, it would appear that there is a return frequency of five to ten years.

It is inevitable then that sometime in the future, superintendents will have to work closely with S.F.W.M.D. and open lines of communication will be advantageous for all concerned

It is also important to keep in mind that while the District does have control over the water that golf courses use, it also protects the users rights. And the information that the District provides during periods of crisis can be invaluable.





NORTH FLORIDA

DIVOTS



By: John Calhoun Ponte Vedra Inn and Club

Our Organizations and What They Do

Our State and National organizations not only provide us with an invaluable link with our peers in the turfgrass industry and an opportunity to communicate with them, they also have made great strides towards upgrading our image and status in the golfing world. They have been instrumental in raising monies for research and product evaluations and have provided us with educational programs and opportunities to improve our knowledge in this ever changing business.

Public relations is a big topic within our association. How do we present ourselves to our superiors, subordinates and the golfing public? What is our relationship with the Pro within our organizational structure? One way of presenting ourselves to the golfing world, in addition to our trade magazines and the product we produce, is exposure in the golf professional arena. Publications such as Golf Digest, Golf World, etc., would expose us to a greater number of people directly associated with our business, and, an opportunity to better express ourselves as professionals. Commercial advertisements on national and local television, radio and newspapers would help bring to light the realities of coping with the ever increasing demands on us as turfgrass and property managers.

Research and product evaluation by our Universities,

agricultural agencies and commercial establishments is the life blood for environmentally sound practices, improvements and cost efficiency. The need for these establishments to communicate the results of their efforts in a clear cut, across the board manner is essential to us all. Education via seminars, trade shows and publications play a large role in bringing us this information. It is up to us to use this information and report the results to the responsible parties. Without this open line of communication, monies, time and efforts can be wasted.

Education in our field is growing in leaps and bounds because owners are aware that their revenues are in direct proportion with the condition of their properties, and that the costs for a quality product can indeed be reflected by an informed and qualified professional.

The progress that our State and National organizations have made, and the rejuvenated public relations program will result in a better understanding of what the Golf Course Superintendent is all about and what his value is to the golfing world. With the support and involvement of all of us associated with the turfgrass industry, the potential for advancement and reward is unlimited. We need to recruit and continue to grow if we wish to have a stronger influence on our futures.





DISPOSAL OF PESTICIDE CONTAINERS

Max A. Brown, Ph.D. Florida Turf Grass Association 302 South Graham Avenue Orlando, Florida 32803

Dear Dr. Brown:

The department stated at a recent association meeting in Tampa, that turf grass operations (but not sod farms) were ineligible to engage in the open burning of pesticide containers authorized by Section 7-5.09(5), F.A.C., the Open Burning Rule.

The statement apparently generated some confusion, and some guidance may be appropriate on the proper disposal of pesticide containers that cannot be disposed of by open burning.

The containers and waste pesticides left over after an application can be classified as either solid or hazardous waste. This classification must be made in accordance with Chapter 17-30, F.A.C. before the fate of waste pesticide or containers can be determined. If the waste material is found not to be a hazardous waste (such as malathion), then the container and residues may be disposed of conventionally in a solid waste treatment system. If the waste material is identified or listed by the department's hazardous waste rule (such as parathion or 2,4, D (17-30, F.A.C.), then the following procedures must be followed:

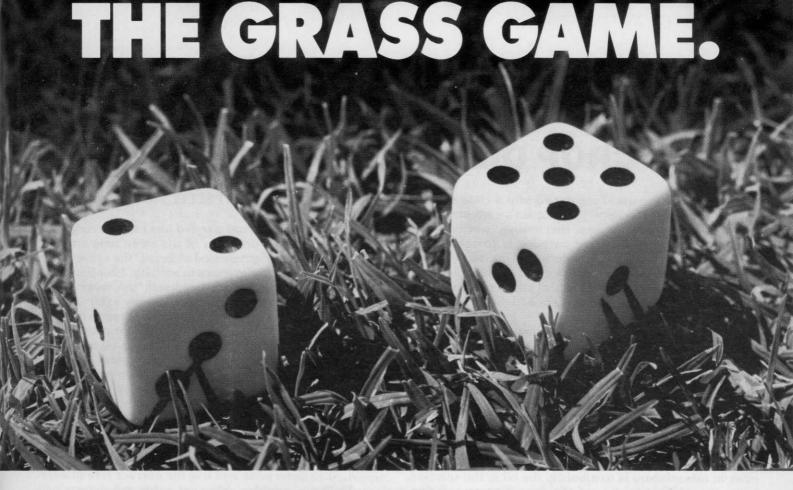
- Any container capable of being rinsed out, may be triple rinsed and the rinse residue may either be properly reused in the spray formulation, or treated and disposed of as a hazardous waste. The rinsed container then may be disposed of as solid waste in a landfill.
- Any unrinsed containers or bags or inner liners that cannot be triple rinsed must be accumulated, placed in appropriate containers, and shipped offsite to a properly permitted hazardous waste treatment, storage, or disposal facility (hazardous waste landfill or incineration facility).

If you or your staff have any questions about these disposal requirements, please contact Robert McVety or Michael Redig of the Bureau of Waste Management at (904) 488-0300 or at the letterhead address. They will be available to present a waste management program at your March 6, 1986 seminar on Pesticide Waste Management as requested by William Nass of your association.

Sincerely, VICTORIA J. TSCHINKEL, Secretary Department of Environmental Regulation, State of Florida







It Shouldn't Be Like Rolling Dice.

We at Woodbury Chemical Company take no chances with your grass. We have the technical know-how to ensure green, healthy turf year round. We can provide horticultural programs and all the products you'll need: pesticides, fertilizers, adjuvants, seed, and more.

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Tampa, Florida (813) 247-3621

Pinellas County: (813) 832-0017 Fla. Wats 800-282-2719

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WETTING AGENTS vs.

CROP OIL CONCENTRATES

Wetting agents are usually grouped into a class of compounds termed surfactants (surface active agents). They are capable of emuslifying, dispersing, wetting, and spreading, but their primary purpose is to reduce the surface tension of a spray solution. This allows more contact between the spray droplet and the plant surface. The principal functioning agents of these products may vary greatly in makeup and percent active ingredient.

Crop oil concentrates are another type of adjuvant. They normally contain 75-80 percent nonphytotoxic oil and 15-20% surfactant/ emulsifier. They, like the wetting agents, vary greatly, first in grade and refinement of oil, and second in type and quality of surfactant/emulsifier. Crop oil concentrates usually enhance penetration more than surfactants alone. This is believed to be the result of the action of the oil in relation to the waxy cuticle and to the buildup of surfactant molecules in the cracks and openings of leaf surfaces. The purpose of the surfactant/emulsifier in this mixture is to emulsify the oil in the solution, lower the surface tension of the overall spray solution, and aid in cuticle penetration.

Crop oil concentrates and surfactants increase pesticide contact by:

- Helping spray droplets stick to the plant, resulting in less run-off.
- Causing a more uniform spreading of spray solution and uniform wetting of the plant.
- Assuring that droplets do not remain suspended on hairs, scales, or other surface projections.

ADJUVANT SELECTION

Once the type of adjuvant needed has been determined, differences between products of the same type must be resolved. Products represented as being "the same thing" may possess major differences in activity. Malathion and parathion have often been considered "the same thing" by some, although significant differences exist in their individual activity. That same difference in range of activity may also be found between to adjuvant products of the same type. Valid and reliable data, derived from testing the adjuvant product, should accompany company claims. This information is often available from Extension, university, or manufacturer sources.

RATE SELECTION

Once a suitable adjuvant has been selected, it is equally important to determine and use the correct rate of adjuvant. Unlike pesticides, adjuvant rates are determined both on a volume/volume basis and a per acre basis. Most wetting agents (based on a minimum 70% active ingredient) are recommended at one-quarter to one-half percent volume/volume concentration and most crop oil concentrates are recommended at one percent volume/volume concentration. The following table will serve as a useful guideline in selecting the correct adjuvant rate.

(table at end of article)

Finally, several key factors should be considered in the selection of the proper adjuvant:

(continued on page 36)

COVERAGE DIFFERENCES

ADJUVANT CONCENTRATION PERCENTAGE By Volume (% Concentrate v/v)

| Adjuvant Rate | Gallons of Spray | | | | | | | | | |
|-----------------------|------------------|------|-------|------|------|------|------|------|------|------|
| | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 100 |
| 25 pt. (4 fl. oz.) | 3.12 | .62 | .31 | .21 | .16 | .13 | .10 | .08 | .06 | .03 |
| 50 pt. (8 fl. oz.) | 6.25 | 1.25 | .62 | .42 | .31 | .25 | .21 | .16 | .13 | .06 |
| 75 pt. (12 fl. oz.) | 9.37 | 1.87 | .94 | .63 | .47 | .38 | .31 | .23 | .19 | .09 |
| 00 pt. (16 fl. oz.) | 12.5 | 2.50 | 1.25 | .83 | .63 | .50 | .42 | .31 | .25 | .13 |
| 50 pt. (24 fl. oz.) | 18.7 | 3.75 | 1.87 | 1.25 | .94 | .75 | .63 | .47 | .38 | .19 |
| 00 pt. (32 fl. oz.) | 25.0 | 5.00 | 2.50 | 1.67 | 1.25 | 1.00 | .83 | .63 | .50 | .25 |
| 50 pt. (40 fl. oz.) | 31.2 | 6.25 | 3.12 | 2.08 | 1.56 | 1.25 | 1.04 | .78 | .63 | .50 |
| 00 pt. (48 fl. oz.) | 37.5 | 7.50 | 3.75 | 2.50 | 1.88 | 1.50 | 1.25 | .94 | .85 | .38 |
| | 50.0 | 10.0 | 5.00 | 3.33 | 2.50 | 2.00 | 1.67 | 1.25 | 1.00 | .50 |
| 00 gal. (128 fl. oz.) | 100.00 | 20.0 | 10.00 | 6.67 | 5.00 | 4.00 | 3.33 | 2.50 | 2.00 | 1.00 |
| 00 pt. (64 fl. oz.) | 50.0 | 10.0 | 5.00 | 3.33 | 2.50 | 2.00 | 1.67 | 1.25 | | 1.00 |

AquaTurf Won't Leave You High and Dry

A lot of people may know how to install a pumping station. But few of them know what to do after the installation. AquaTurf does.

AquaTurf is No. 1 in service and proud of it. In more than 12 years of designing, building and installing pumping stations for all types of applications, we have always made it a point to be available to our customers whenever they need us.

Of course, thanks to our consistent engineering and quality control, you'll rarely need to call us. But if you do, we'll be there. We guarantee it.



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Distributors for Howard Fertilizers

QUALITY FERTILIZERS & CHEMICALS FOR THE TURF INDUSTRY

P.O. Box 8081 Jupiter, Florida 33468 (continued from page 34)

- Use only nonionic surfactants manufactured and marketed for agricultural use.
- Buy or calculate the cost based on the percentage of active ingredient. A 50 percent active ingredient per gallon is equal to only one-half of a 100 percent material.
- Do not consider isopropyl alcohol or water as active ingredients. If the label does not specifically state the percentage of active surfactant, ask the dealer for this information.
- 4. Do not buy or use household detergents for use with pesticides.
- 5. There are no miracle surfactants. Claims that a surfactant can be used at concentrations much lower than conventional surfactants should be questioned. Ignore claims such as "keeps spray equipment clean," "causes better root penetration and nutrient uptake, water penetration," etc. If it sounds too good to be true, be suspicious.
- Buy from a reliable dealer, considering the manufacturer; read the label; and base the price on the active surfactant cost.
- Make sure the adjuvant has been tested and proven effective — that it has been formulated from raw materials for specific use, and is recommended where a need is established. ■

Golf Course & Athletic Field Planting Greens Renovation Row-Planting

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Tifton Turf Farms

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and present...

INTRODUCING THE NEW TORO GREENS AERATOR



Built for speed. Designed to Last.



Finally an alternative.



1 Up to 13,000 square feet per hour.



Compare that to the competition. Toro keeps you way out in front because of its increased ground speed — and wider coring width. 13,000 square feet per hour means you'll do the job almost twice as fast as you're doing it today.

2 Greater power.



A powerful 16hp 4-cycle Kohler engine is the reason here. Twice the horsepower of the leading competitor. And that gives you the power to handle all turf conditions with less effort.

3 Better, more uniform penetration.



Not only does Toro give you more power, it gives you a deeper, more effective coring depth. And when you consistently get a good core and a clean hole that means effective aeration.

4 Quick tine change.

Again, another Toro design with the user in mind gives you an advantage in speed. This design makes it easy to remove and replace tines in less than five minutes with an ordinary socket wrench. (See inset in feature 3.)

5 Easy operation.



It begins with a turn of the key. No pulling or tugging on ropes. Throttle, choke, brake and clutch controls are within easy reach of the operator. As is a hydraulic-lift lever for the coring unit.

6 Minimizes compaction.



Larger floatation tires not only minimize compaction, they also make the machine easy to control.

7 Puts you in control.



Only Toro gives you a reverse gear for increased maneuverability, and an interlock system designed to stop the engine if the operator lets go of the handle while the clutch is engaged.

8 Easy servicing.



Here's where Toro's exclusive modular design really shines. Because there are fewer moving parts to deal with, breakdowns are minimized. When there's a need for maintenance, the entire coring head can be removed easily. And like the tines, it takes just minutes.

9 Accessories.



Toro Greens Aerator accessories include a Windrower for easier core gathering, a Coring Head Stand, and a Tire Scraper Kit.

Put it all together and you can see just what kind of advantage the Toro Greens Aerator can give you. For speed, durability and performance, only one name will be dotting the landscape: **Toro**.

Before you look at another aerator, contact your local Toro distributor for more information.

Greens Aerator Specifications*

| | GREENS AERATOR (MODEL NO. 09100) | | |
|------------------------|--|--|--|
| ENGINE | Kohler, 4 cycle, air cooled, 16 hp @ 3600 rpm, 35.90 cu. in. (588 cc) displacement. Electric start. Heavy duty cast iron block. Stellite® intake and exhaust valve and rotator. Mechanical fuel pump, large capacity dual element air cleaner. 4 pint oil capacity. Electronic ignition. | | |
| ELECTRICAL | 12 volt battery, 32 amp-hour. 15 amp alternator. Ignition switch with interlocks on control handle and clutch. | | |
| FUEL CAPACITY | 1.8 gallons gasoline. | | |
| TRACTION DRIVE | Double banded V-belt from mechanical clutch on engine to Peerless Model 2360 transaxle. Two speeds forward — 1 reverse. Wheels driven individually by chains from transaxle. | | |
| GROUND SPEED | 1st Gear Forward: 1.1 mph @ 3600 rpm (coring). 2nd Gear Forward: 3.3 mph @ 3600 rpm (transport). Reverse: 1.3 mph @ 1200 rpm. | | |
| GROUND CLEARANCE | 4 inches. | | |
| TIRES/WHEELS/PRESSURES | Two steering tires (front): 13×5.0-6, 2 ply, Rib Tread tubeless. Two drive tires (rear): 18×9.50-8, 4 ply, Rib Terra tubeless. Drop center demountable rims, greaseable tapered roller bearings, 8-10 psi. | | |
| FRAME | Welded steel construction — tricycle. | | |
| SERVICE BRAKE | Disc type mounted to transaxle. | | |
| CONTROLS | Clutch, hydraulic lift, and keyswitch on control console. Throttle and choke on engine. Transaxle shift on frame. Interlock switches and service brake on steering handle. | | |
| IMPLEMENT DRIVE | Triple banded V-belts from engine to countershaft and from countershaft to coring head. | | |
| DIMENSIONS | Length: 79 inches Width: 55.5 inches Height: 39 inches Wheelbase: 44 inches Weight: 1275 pounds | | |
| | CORING UNIT | | |
| CONSTRUCTION | Welded steel frame construction with four crankshafts mounted in precision ball bearings. Crankshafts drive four coring arms/tine heads. Unit designed such that coring head is easily removed from traction unit. | | |
| DRIVE | No. 50 0-ring chain from countershaft to coring crankshafts. | | |
| LIFT | Single hydraulic cylinder powered by a Saginaw pump. Lift valve actuated by lift control lever. | | |
| TINE HEADS | 4 individual heads each holding three tines. Discharge chutes direct cores rearward away from drive components. | | |
| CORING WIDTH | 27 inches. | | |
| HOLE PATTERN | 2.25" × 2.5". | | |
| PRODUCTIVITY | Aerates up to 13,000 sq. ft. per hour. | | |
| CORING DEPTH | Up to 3.0 inches. | | |
| TINES | Case hardened tubing, hollow tapered design. %" tines standard. | | |
| | ACCESSORIES | | |
| TINES | %" Tines, P/N 59-3670; ½" Tines, P/N 59-3680; %" Tines, P/N 59-3690; %" Long Wear Tines P/N 59-9770; ½" Long Wear Tines P/N 59-9760. | | |
| WINDROWER | Model 09150; diverts debris into a row for easy removal. | | |
| CORING HEAD STAND | Model 09152; supports coring head during servicing. | | |
| TIRE SCRAPERS | Model 09151; removes accumulation of soil from drive wheels. | | |

^{*}Specifications and design subject to change without notice. "Toro" is a registered trademark of The Toro Company, 8111 Lyndale Avenue South, Minneapolis, Minnesota 55420.

COMMERCIAL PRODUCTS



Keep mole crickets off your turf!

Now ORTHENE* 75 S Soluble Powder, the spray that's been effective for years against a broad spectrum of foliage-feeding insects, has been cleared for control of mole crickets on turf under an SLN in Florida, as well as sod webworm and leafhoppers. Use for fire ants is also labeled.

ORTHENE gives turf two kinds of fighting protection. It kills turf pests



Since it's safe enough to apply without protective equipment, ORTHENE is easy to use. Its toxicity to fish, wildlife and pets is comparatively low, and once the spray dries, you can reenter the treated area immediately.

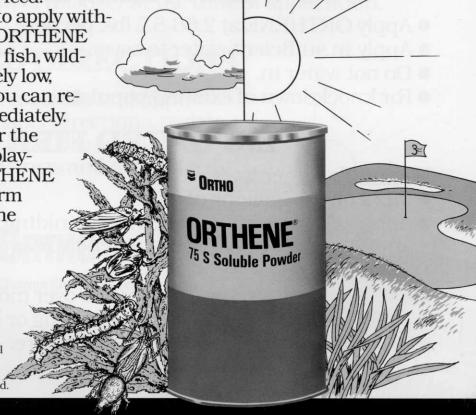
If you're responsible for the care of a golf course, park, playground or picnic area, ORTHENE 75 S Soluble Powder can arm you and your turf against the pests that bug you most.



ORTHO

Chevron Chemical Company

Avoid accidents. For safety, read the entire label including precautionary statements. Use all chemicals only as directed. Copyright © 1986. Chevron Chemical Company. All rights reserved.



ORTHENE

Control tough turf pests with Orthene.

MOLE CRICKETS

- Bring moisture level up prior to chemical application.
- Apply ORTHENE at 3-5 lbs. per acre.
- Apply in late afternoon or early evening hours.
- Do not water in.

SOD WEBWORMS, LEAFHOPPERS

- Apply ORTHENE at 2.66-5.2 lbs. per acre.
- Apply in sufficient water to cover.
- Do not water in.
- For knockdown of existing populations.

IMPORTED FIRE ANTS

Mound Treatments

- Mix 1 oz. in 5 gallons of water.
- Apply 1 gallon of mix to each by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around mound.

Dusting Method

- Evenly distribute 1 to 2 teaspoons over mound.
- For best results, apply in early morning or late afternoon.
- Treat a maximum of 13 mounds per acre.

ORTHENE

Get easy, effective protection.

EASY TO APPLY

ORTHENE mixes readily with water, and flows through application equipment without clogging or settling out. Be sure to use enough water to cover treated area thoroughly.

REGISTERED FOR USE ONLY IN FLORIDA

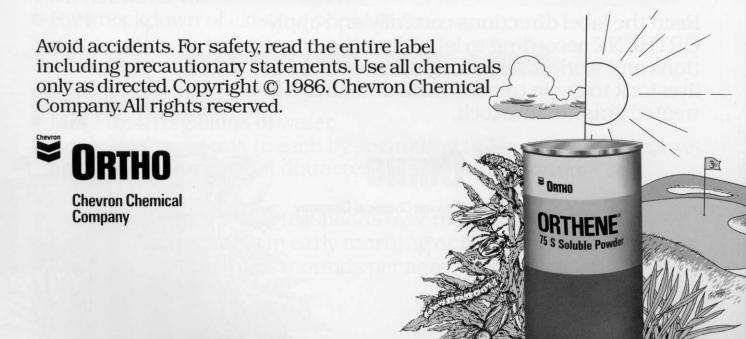
ORTHENE is registered for control of mole crickets, sod webworm and leafhopper only in the State of Florida under an SLN. This labelling must be in the possession of the user at the time of application.

FOLLOW LABEL DIRECTIONS



Orthene's proven on plants and trees. Now let it protect your turf.

- ORTHENE is safe to use and can be applied without any protective equipment.
- ORTHENE is compatible with most insecticides and fungicides.
- ORTHENE is versatile and is labeled for many uses.
- ORTHENE gives effective broad spectrum control of turf insects.
- ORTHENE is packaged in convenient 12 x 1 lb. packages per case and 4 x 10 lb. packages per case.



WOODACE GOES SLOW AND GROWS FAST.



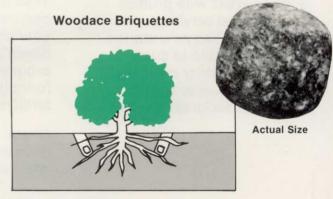
Woodace is the landscape fertilizer that *goes* slow and *grows* fast. Woodace Briquettes and Woodace Top Dress Special contain IBDU slow-release nitrogen source. Nitrogen is released slowly, evenly, so plants grow gaster. The Briquettes release over 12 months, the granular Top Dress over a 3 month period. Other popular nitrogen sources can lose almost half their nitrogen in 2 weeks! And since Woodace fertilizer lasts longer, you'll fertilize less often and save on labor too!

Woodace Briquette fertilizer (14-3-3) is ideal for virtually all shrubs, trees and other landscape plantings. Just add the Briquettes either at planting or below the soil surface around existing plantings and you've fertilized for an entire year!

Woodace Top Dress Special (18-5-10) is a granular mix with IBDU slow-release nitrogen and secondary elements that's ideal for soil application on all outdoor landscape plantings. This 3 month formula will substantially cut fertilizer application costs and improve growth.

Use the fertilizer that goes slow and grows fast. Woodace Briquettes and Woodace Top Dress Special. Not just another fertilizer... but a revolutionary blend of technology and chemistry. Phone your nearest Estech location today for delivery.





Established Trees and Shrubs
3 Briquettes per ft. of spread or 6 per 1" diameter of trunk. Use 10 to a maximum of 40 Briquettes per tree. Place Briquettes 3"-6" deep in holes around drip line.

FLORIDA WEST COAST C. LESTER McMULLEN 1569 OAK LANE CLEARWATER, FLORIDA 33516 (813) 531-7171 NORTH & CENTRAL FLORIDA DWIGHT "BUTCH" SINGO 802 LIVE OAK LANE OVIEDO, FLORIDA 32765 (305) 365-2923 FLORIDA EAST COAST W.E. "BILL" RAYSIDE P.O. BOX 6201 LAKE WORTH, FLORIDA 33466 (305) 684-6958

2121 3rd STREET S.W. WINTER HAVEN, FLORIDA 33880 (813) 293-3147 **1-800-282-9588**

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FERTILIZER PLUS PESTICIDE MIXES

The mole cricket season is upon us and this is a good time to apply our Par Ex fertilizer mixes plus Oftanol. The Par Ex 21-2-6 Slow Release Fertilizer Plus Oftanol is an excellent slow release fertilizer mix with 2 lbs. of active Oftanol per ton.

Take advantage of this labor and cost saving product at your course. And if this mix doesn't fit your current program we can custom formulate your particular fertilizer with Oftanol.

Check with your Par Ex Salesman for more information.



PAR EX SLOW RELEASE

GRANULAR FERTILIZER MIXES WITH IBDU

High quality granular fertilizer mixes are what most golf course superintendents prefer. The Par Ex Slow Release Fertilizer mixes with IBDU as the primary nitrogen source are used on many of the nation's finest golf courses and premier turf areas.

IBDU (31-0-0), one of the most unique controlled release nitrogen sources available, is marketed exclusively by PAR EX.

We have many formulations available to suit various turf needs, or we will custom formulate to provide optimum fertilization for your turfgrass.

CUSTOM BLENDS

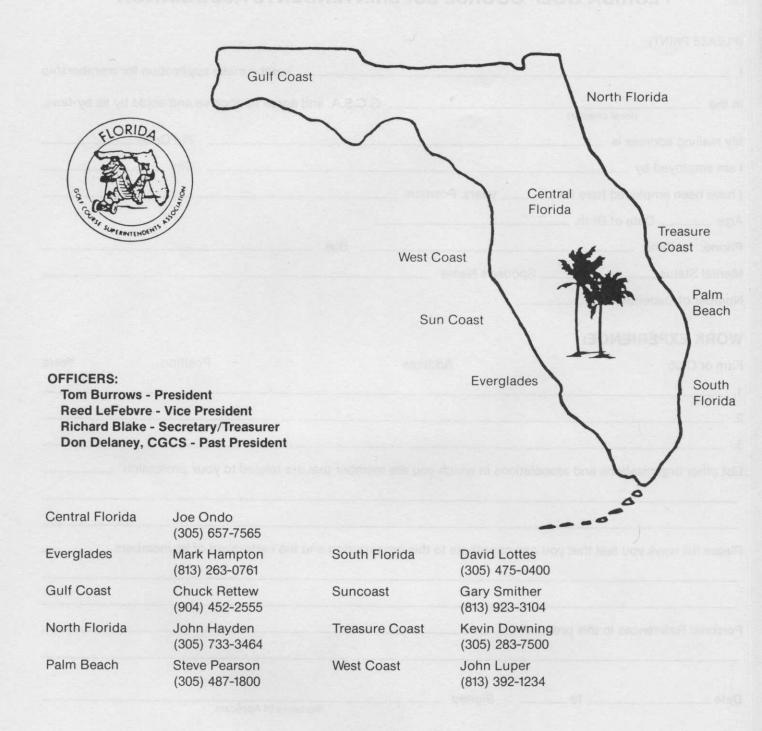
Estech Branded Fertilizers, Inc. formulates the Par Ex products to satisfy various turfgrass requirements. However, we realize that your exact needs may vary, so we offer our extensive research and development experience of over 100 years in producing the fertilizers to create a special formulation to meet your exact requirements.

FLORIDA WEST COAST C. LESTER McMULLEN 1569 OAK LANE CLEARWATER, FLORIDA 33516 (813) 531-7171 NORTH & CENTRAL FLORIDA DWIGHT "BUTCH" SINGO 802 LIVE OAK LANE OVIEDO, FLORIDA 32765 (305) 365-2923 FLORIDA EAST COAST W.E. "BILL" RAYSIDE P.O. BOX 6201 LAKE WORTH, FLORIDA 33466 (305) 684-6958

MEMBERSHIP APPLICATION FOR FLORIDA GOLF COURSE SUPERINTENDENTS ASSOCIATION

| (PLEASE PRINT) | | |
|---|-----------------------|--|
| l, | | , hereby make application for membership |
| in the(local chapter) | | G.C.S.A. and agree to observe and abide by its by-laws. |
| | | _ 631807 |
| My mailing address is | | , Zip Code |
| I am employed by | | , City |
| I have been employed here for | years. Position: _ | |
| Age: Date of Birth: | | |
| Phone: Home: | | Bus.: |
| Marital Status S | pouse's Name | |
| Number of Dependents | -/ | |
| WORK EXPERIENCE: | | |
| Firm or Club | Address | Position Years |
| 1. dbio8 | Esteption Esteption | OPPICERS: |
| 2. | | Road LeFelore - Vice President |
| 3. | | Templeti Tempetane - some prantiti |
| | | rganization and the betterment of its members |
| 909 | Services Alma yab | Gulf Const Chuick Retress Standards Standards |
| Personal References in this profess | ion. | Terrores To make and const shipped desid 4818-027 (808) |
| | | |
| Date, 19 | _ Signed | Signature of Applicant |
| | | Signature of Applicant |
| APPROVAL BY MEMBERSHIP COMMITTEE REPRESENTATIVE: | | |
| SHE OF LAMOUS SOIR MARY'S | TAFLI NO MOLTADILA | MAIL APPLICATION TO: |
| Signature | | FLORIDA GOLF COURSE SUPERINTENDENTS ASSOCIATION |
| Date | Final Approval Date | c/o MARIE ROBERTS, SECRETARY 1760 N.W. PINE LAKE DRIVE |
| Officer's Signature | | STUART, FLORIDA 33494 |

FLORIDA GOLF COURSE SUPERINTENDENTS ASSOCIATIONS



IF INTERESTED, PLEASE FILL IN THE MEMBERSHIP APPLICATION ON THE REVERSE SIDE AND MAIL TO THE FGCSA OFFICE AS DIRECTED. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE SUPERINTENDENT IN YOUR AREA AS LISTED ABOVE.

ADJUVANTS

Surfactants, Crop Oil Concentrates, Etc.

An adjuvant is best described as any material that is added to a pesticide or solution to enhance or modify the performance of the pesticide, solution, or application, and that has no pesticidal activity when used alone. More companies are recommending the use of an adjuvant with their pesticide product. It is important that the user understand the basic facts concerning the use of an adjuvant with pesticide products.

ADJUVANT TYPES

One must first understand the adjuvant's function in increasing pesticide spray application effectiveness. Research indicates that as much as 70 percent of a pesticide's effectiveness can be dependent on the spray application. Adjuvants can reduce, minimize, or eliminate spray application problems such as incompatibility, foaming, suspension, stability, solubility, volatilization, degradation, absorption, penetration, adherence, phytoxicity, surface tension, droplet size, drift, evaporation, impingement, coverage, and others.

Buffering Agent

An adjuvant designed to adjust the pH of alkaline waters and minimize the hydrolysis of pesticides that tend to break down in alkaline spray solutions.

Compatability Agent

An adjuvant which allows simultaneous application of liquid fertilizer and pesticide, or application of two or more pesticides as a tank-mix with a liquid carrier, or improves the stability and uniform distribution of a mixture.

Crop Oil Concentrate

A petroleum-based product generally containing 15-20% surfactant/emulsifier and 75-80% nonphytotoxic oil.

Drift Control Agent

An adjuvant used in liquid spray mixtures to create a cohesive spray solution that reduces spray drift.

Foam Suppressant

An adjuvant for suppressing both surface foam and trapped air. Allows quicker refilling of spray tanks and

reduces risk of exposure to toxic pesticides in foam.

Penetrant

An adjuvant that enhances a liquid's ability to enter the pores of a substrate or penetrate a surface. Penetrating agents or penetrants are usually wetting agents or crop oil concentrate/surfactant combinations.

Petroleum Oils

Refined spray oils that are classified by their relative content or straight chain, branched chain, or ring compound hydrocarbons and are broadly classed as paraffins, napthenes, aromatics, and unsaturates.

Paraffin Based Oil

A petroleum oil used as dormant spray, summer oil, carrier for other pesticides, or an adjuvant to increase the efficacy of herbicides, fungicides, and other pesticides.

Naptha Based Oil

A petroleum oil used mainly in adjuvants formulated for use with contact herbicides. Naptha oil alone has herbicidal action on selected small weeds and grasses.

Surfactants

Chemicals which modify the surface properties of materials they contact. Surfactants can influence the wetting or spreading of liquids, mixability or normally incompatible substances, and emulsification characteristics and can modify the dispersion, suspension, or precipitation of a pesticide in water.

(Nonionic Surfactant) — An adjuvant which has no electrical charge, and is compatible with all pesticides.

(Anionic Surfactant) — An adjuvant which has a negative charge (-), and limited compatability.

Spreader

An adjuvant which increases the area a given volume of liquid will cover on a solid or other liquid.

Sticker

(continued on page 38)

(continued from page 37)

An adjuvant which increases the firmness with which finely divided solids or other water-soluble materials attach to solid surfaces.

Spreader/Sticker

An adjuvant which combines some properties of both spreaders and stickers. Generally increases the area covered and the firmness with which pesticides are attached.

U.R. Rating (unsulfonated residue)

A measure of the purity of a spray oil; the higher the U.R. percent, the less likely the oil will cause acute plant injury.

Vegetable Oil

Oil derived from seeds, usually those of cotton, soybean, peanut, and sunflower plants.

Vegetable Oil Concentrate

Vegetable oil-based product, generally containing 7-15% surfactant/emulsifier.

Wetting Agent

An adjuvant which appreciably lowers the interfacial tension between a liquid and a solid, and increases the tendency of aliquid to make complete contact with the solid's surface.

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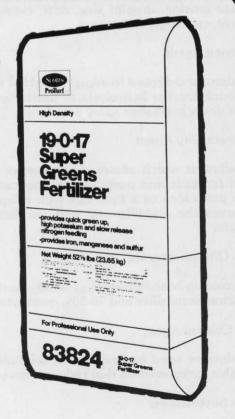
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AUGUSTIN JOINS LESCO

Dr. Bruce Augustin, associate professor at the University of Florida since 1980, has joined LESCO, Inc., Rocky River, OH, as director of technical support.

Augustin, the former turf extension and water specialist at UF, will coordinate technical training of LESCO employees, work with university researchers on new LESCO products and trials. Augustin will also have a major role in the educational seminars presented by LESCO.

Augustin received his bachelor's degree in plant science from the University of Delaware. He received his master's degree in turfgrass seed production from the University of Idaho and his Ph.D. in turfgrass physiology from the Ohio State University.

A member of the American Society of Agronomy and the American Society for Horticulture Sciences, Augustin includes woodworking and fishing among his hobbies.

Augustin, his wife Maria, and their daughter, Alicia, will be moving to the Cleveland area.



LESCO EQUIPMENT UPDATE

LESCO salesmen are now taking orders for the new LESCO greensmower, available now for field tests and scheduled for full production in 1986.

The LESCO GREENSMOWER is designed for easy use and durability. The mower has hydraulic power steering for easier maneuvering with no cables, independent reel controls for multiple mowing patterns, reversible hydraulics to allow backlapping of individual units while operator remains on machine.

Center post steering is included on the LESCO GREENS-MOWER for added safety and for ease in climbing on and off either side of the machine. Rocker foot pedals allow for raising and lowering of cutting units and automatic stopping and starting of reels.

The LESCO GREENSMOWER has an 18 horsepower, twin-cylinder, Kohler Magnum engine for added power and long life. The greensmower is designed for easy servicing. There is access to valve spools without removing valve bank,. The pump is designed for easy removal through use of "flex" coupling. Cutting units may be removed by pulling two pins plus a quick disconnect of motors with two bolts and splined shaft. The LESCO GREENSMOWER also has jacking pads on the frame for easier repairs.



DIAZINON ON THE WAY OUT

About four months ago the Environmental Protection Agency informed us of their concern about alleged unreasonable adverse effects of diazinon on birds (particularly waterfowl) when used on golf courses and sod farms and was considering a Special Review of those uses of the product. (A Special Review is initiated when the EPA feels a product poses a substantial question of risk to the health and safety of humans or the environment.)

On January 6, 1986, the Agency announced in a press release that it will conduct a Special Review of the uses of diazinon on golf courses and sod farms. At the same time, it proposed cancellation of all uses of diazinon on golf courses and sod farms. Usually, the Agency first conducts the Special Review and then determines what regulatory action, if any, should be proposed.

The Agency said in the announcement that it has received reports of approximately 60 bird kills (primarily of wild geese) in 18 states in which diazinon was either confirmed or strongly implicated as the primary cause. The Agency noted that in the large majority of cases it was not known if label directions were followed. Also, the announcement said available data indicate that diazinon does not pose a significant risk to humans or other species of wildlife.

We believe revisions in application directions would assure the safe use of diazinon without unreasonable adverse effects on birds. While in December the EPA approved label revisions we proposed to reduce potential hazards to birds, the Agency apparently has concluded that those revisions are not sufficient to mitigate the problem and issued the proposed cancellation.

Our research people and outside experts retained by CIBA-GEIGY are evaluating the data on which the EPA apparently based its proposed regulatory actions. They also are preparing a presentation of our own extensive data on diazinon to be made to the EPA's Scientific Advisory Panel. That presentation is scheduled for the Panel's April meeting.



Georgia to Form Turfgrass Foundation

Planners, supporters, researchers and Extension Service Specialists came together at the 16th annual Georgia Turfgrass Conference at the University of Georgia in January to form the Georgia Turfgrass Foundation. At the conference banquet, Steve Mona, executive director of the Georgia State Golf Association, presented a student scholarship to an undergraduate turfgrass science major and a grant for turfgrass research. Randy Nichols, Georgia Golf Course Superintendents Association President, and Bud White, the Southeast Regional director of the United States Green Section, acknowledged their organizations' intent to continue financial support for turfgrass research in 1986.

Shown at the conference are (left to right) Robert Carrow, UGA Experiment Station agronomist; White; Nichols; William Colville; UGA agronomy division chairman; Mona; and Gil Landry, Extension turfgrass specialist.

The two-day program was sponsored by the UGA Cooperative Extension Service and the Georgia Golf Course Superintendent Association with a record attendance of 343 people.

(Photo courtesy of Georgia Extension Service)

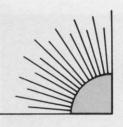
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South Florida Sunshine

By: Alan Weitzel

What do we get from the F.G.C.S.A. and G.C.S.A.A. and what do we want? Before one attempts to answer this question, one must first realize what the F.G.C.S.A. and the G.C.S.A.A. are. They are professional trade associations comprised and funded primarily by golf course superintendents with the goal of promoting turf management. Several years ago, there was concern by the golf course superintendents in Florida that the G.C.S.A.A. was not promoting turf maintenance in the southern states, particularly Florida. Thus, the F.G.C.S.A. was reborn with the goal of unifying the Florida golf course superintendents and promoting turf maintenance within the state of Florida.

Every person has certain wants or needs. One of the basic human needs is to provide food and shelter for ourselves and our families. This need is filled through our employment as golf course superintendents. So how can these associations meet these needs? I believe the answer is to provide us with the tools to do our job more efficiently. The main tool is continued education. The G.C. S.A.A. fills this need through its magazine, newsletter, regional seminars, research grants and its annual trade show and conference. The FGCSA fills this need through the Florida Green, the Greensheet, research funding, golf tournaments, and its management seminars. In South Florida, we feel these fine efforts need to be continued.

With the new legislation on the restriction of water use and chemicals becoming more common, we feel the need for a rumor control or "hot line" where updated information on Federal legislation affecting our profession can be received first hand. The G.C.S.A.A. and the F.G.C.S.A. should establish these information centers. We feel that there is always room for more research. We would like to see the G.C.S.A.A. continue on its past trend to provide more educational sessions on southern turf management.

We all have the need to better ourselves not only financially but also our professional image. This enhances our self esteem. The G.C.S.A.A. has done a good job in helping promote the Superintendent's image through its T.V. commercials and its recently completed Public Relations Manual. The F.G.C.S.A. has also done a fine job promoting the Florida golf course superintendent's image through the Florida Green, golf tournaments, and the public relations committee. In South Florida we feel these programs should not be discontinued but aggressively expanded.

So what do you say to those who still ask the question, what do we get from these associations? I believe, as with any association, be it your church, or your son's baseball team, you get what you put in. Those who are active and participate will naturally receive more from their associations than those who do not.

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John Foy USGA Southeastern Agronomist Bud White Southeastern Director USGA Green Section



Iron — A Micro with Macro Influences

Whenever superintendents get together and discuss their turf management practices, at some point the topic of fertilization usually comes up. Everyone is aware of the "big three" — nitrogen, phosphorus and potassium — and their requirements is a balanced fertility program. However, how often do we discuss the micronutrients and their role in plant growth? The following will be a brief discussion of iron and its role in plant nutrition.

Iron plays an important function in two physiological processes of plant growth. It is the constituent of certain enzymes in the respiratory system and it also is required for chlorophyll synthesis. Thus, the level of iron availability can have a direct effect on turfgrass color. Iron deficiencies are observed as a paleness or yellowish discoloration of the turf. It has also been found that iron can influence the vigor of the bermudagrass as it goes into and comes out of dormancy in the fall and spring. An application of iron in the fall can delay bermuda's entrance into dormancy while spring applications are beneficial to spring green-up. Recent investigations have also shown that iron can improve both heat and drought tolerance of turfgrasses.

It has often been stated that iron is the micronutrient that is most commonly deficient in turf. But why is this so? The primary reason for this fact is that while iron may be present in the soil, it is in forms that are unavailable for plant uptake. Plants are only able to take up and utilize iron when it is in the ferrous (Fe++) iron form. Soils that are alkaline, high in phosphate, magnesium, zinc, arsenic, organic matter, water logged or excessively thatched generally exhibit iron deficiencies. It has also

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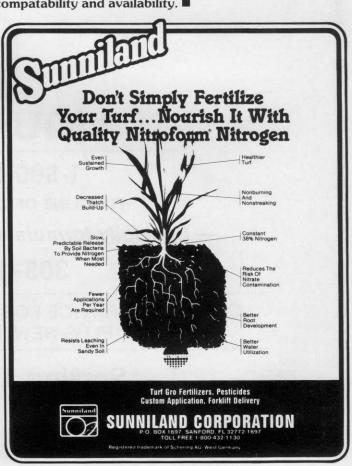
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been found that in Florida soils that have been treated for many years with sprays and fertilizers, copper accumulates and causes iron deficiencies.

At the present time, there is not an accurate soil test for iron availability, thus including iron as a regular fertility practice is essential to good turf management. While some complete fertilizers contain iron, the easiest way to handle applications is with foliar sprays. The foliar applications of iron begin correcting deficiency symptoms within one or two hours after application. However, there is no long term effect because of loss by leaching or conversion to an insoluble, unavailable form. Generally, applications at two to four week intervals in pesticide mixtures have proven successful. Consult with your local chemical supplier in regards to specific rates, pesticide compatability and availability.



MUTUAL BENEFITS

John F. Gerber and Robert C. Kramer¹

Joe and Bill, two local businessmen, face bankruptcy. After discussing their plight, they decide to begin a new business together. The new business is a smashing success! What was the difference? The reason the businesses were failing was that each did part of the business superbly and the other part terribly. Together they managed a superbly run business. This demonstrates that together it is possible to accomplish things that alone may be impossible. Mutual benefit extends beyond business to relations between institutions, organizations, and individuals. Such shared responsibility or partnership is underused and under appreciated. IFAS of the University of Florida is interested in building these partnerships whereby successes can be built where failures might otherwise occur.

The ornamental horticulture industry and the Institute of Food and Agricultural Sciences promote cooperation. Sometimes it is difficult for IFAS alone or the industry alone to find the necessary resources and expertise to solve problems. Even though cooperation does not offer the sheer exhilaration of intense competition, with cooperation all benefit, and like the rising tides raise all ships. If through cooperation, the market for foliage products can be expanded, the quality improved, the production costs reduced, everyone including the purchasers will benefit.

The production of plants from cuttings, from clonings, and cell culture, disease resistance, insect management, the climatization of plants, introduction of genetic material—all are closely related to basic research, some of it performed years ago, some of it performed recently.

IFAS is multifaceted. Everyone comes to the University for basically the same reason. Students come to short-circuit experience and to learn from the experience of others. Scientists come to the University to perform research, structure experience in search of information, producers and lay people seek assistance from the University through the extension of knowledge and experience via the cooperative extension service. These are three of the facets of IFAS: to provide (1) the basic science and technology, (2) the education needed by the leaders of science and industry, and (3) to extend this knowledge in a free-flowing open forum to everyone in need of technology.

When a business or industry thrives, the benefits flow back immediately as profits. When a research, teaching or extension program thrives, the benefits flow to those businesses which are served. Funds, for additional research and teaching, or extra buildings, are not automati-



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cally generated. Therefore, it is mutually beneficial for your industry, as it thrives and benefits, to assign a portion of these profits to support the needs of the institution that helped make this partnership successful. It is individual scientists who discover things — not the institution. The support is not for the institution per se but for the support of those individuals who supply the creativity and the ideas that build the partnership.

Creative individuals are usually ahead of their time. By being ahead of their time, they lay the basis for new industries, such as the basis that was laid for the ornamental industry. Funds for creative programs are always limited. Institutions and trade associations are formed only in response to thriving industries. An important investment in this partnership is funding to support new, innovative, creative and sometimes what appear to be far-out or blue sky ideas. But these are the ideas that are the guideposts for the pioneers in research. Columbus' trip to the New World was not funded by the "Flat Earth Society." but rather by a daring and innovative queen who did not know what lay beyond the horizon. Ideas and work on those concepts which lay over the horizon and will become tomorrow's technology are an essential part of support to IFAS-SHARE. This is a commitment to the future — faith in the new ideas that entrepreneurial scientists visualize not only as ideas, but concepts; flowers that bloom out of season, genetic resistance to diseases, and plant materials now common to Florida which were once a botanical curiosity.

Prior investments in IFAS enabled the industry to take off and succeed in many areas. There are IFAS faculty members who have provided important nurture and helped lead and develop the ornamental horticulture industry in Florida. There are many others who have played significant, important roles. All of these people were once students and graduate students. They helped make the partnership profitable and helped build the synergisms that built this industry.

Research is a powerful teacher. Especially for students who will become managers, technicians, and innovators who are the backbone of any industry. Without research and graduate students, teaching is stagnant, stereotyped. and out of touch with the reality of changing technology in industry. To attract the brightest and the best students to the horticulture industry, it is necessary to attract the brightest and best students to IFAS. These students are quick to grasp where the best salaries are and the best opportunities for economic and professional advancement. Industry in this area has a responsibility to provide good economic opportunities, nurturing, and encouragement during student careers. Graduate students constitute an intellectual resource for the industry that forms the basis of the technology for expansion and development of the industry. These students need assistance and encouragement. Graduate careers are not high-paying careers, but are very rewarding in terms of satisfaction and service.

Gifts or grants which flow to students, especially graduate students, create an environment that demonstrates the regard in which they are held, encourage their careers, and benefits them economically. Perhaps other incentives to attract these "cream of the crop" students to the Uni
(continued on page 46)



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(continued from page 45)

versity could be the payment of fees or the provision of special scholarships and assistantships. The return on this investment is graduate students doing research and designing experiments to be conducted in Florida nurseries, green houses, and production sites.

All institutions, including universities, are hampered with "rules of the road" that make up bureaucracies. However, "where there is a will, there is a way," and industry can help IFAS do it!

An investment in a partnership with IFAS made in the form of a gift, is made to SHARE. Entering into a partnership to conduct a specific project with mutual benefits to the partners in a specific way, is made as a contract or a grant. Both gifts to IFAS-SHARE and contracts and grants to IFAS-Grants are investment opportunities for businesses and individuals to build cooperation successes just as Joe and Bill did when they pooled their individual strengths to avoid bankrupcty.

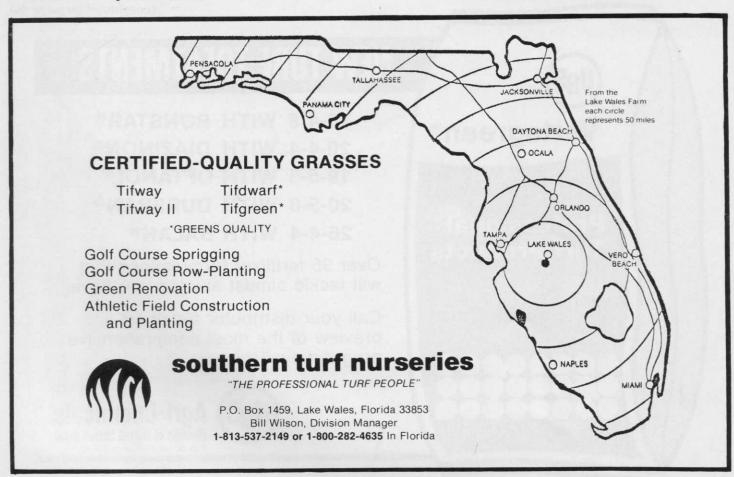
¹Dr. John F. Gerber is the Director of the IFAS Grants office and Dr. Robert C. Kramer is the Director of Sponsored Programs and Development in IFAS at the University of Florida.

DE MATTEO JOINS LOFTS AS TECH SERVICE AGRONOMIST

Lofts Inc. recently appointed John De Matteo Technical Service Agronomist. Mr. De Matteo's responsibilities will include technical aid to Lofts professional clients, including golf course superintendents and architects, as well as athletic turf superintendents. Mr. De Matteo's experience includes his most recent position as Regional Golf Course Superintendent for the American Golf Corporation. Prior to that, his position as Golf Course Superintendent at three major country clubs, included golf course construction and renovation. While at Pinehurst, De Matteo prepared the golf course for several prestigious tournaments, including the PGA Tour's Hall of Fame Golf Classic and the USGA-sponsored Men's World Team Amateur Tournament.

A graduate of Pennsylvania's Delaware Valley College of Science and Agriculture, Mr. De Matteo is a certified Golf Course Superintendent. He is a member of the American Society of Agronomy as well as Who's Who in American Colleges and Universities.





DeBra

Opens

Stuart Office

DeBRA, the largest commercial turf equipment distributor in North America, has opened its fourth Florida location here at the Palm City Turnpike Industrial Park.

The new 4,000-square-foot Stuart facility will service the Martin, St. Lucie and Indian River tri-county area, according to Dave DeBRA, company vice president.

Distributor for several top manufacturers, DeBRA's Stuart office will sell and service turf maintenance equipment for individual homeowners, commercial landscapers, golf course superintendents and governmental agencies. DeBRA will also carry a line of industrial equipment, including sweepers, scrubbers, tractors and loaders.

"This tri-county area represents a significant market for DeBRA, and we intend to provide the best equipment and servicing possible," DeBRA said.

Founded in 1946 and in Florida since 1960, the familyowned company provides full servicing to back up its equipment sales. To insure quick service, DeBRA stocks \$1 million in replacement parts.

"Equipment downtime can be critical to the commercial customer, so we remedy the problem quickly and cost-effectively with our mobile repair service," DeBRA pointed out.

Staffing the new Stuart area facility are Don Barth, golf course sales representative; Ed Rosedahl, commercial and industrial sales representative; Rick Levy, field service; and Gregory Schaumberg, parts and service manager.

In addition to Stuart, DeBRA is also located in Hollywood, Tampa and Ft. Myers.



SHERWOOD A. MOORE Mr. Golf Course Superintendent

One of the hallmarks of a great golf course superintendent is a healthy willingness to admit that there is always something new to learn in the turfgrass and golf course management business. If he follows up this thirst for knowledge with an unrelenting quest to search for, try out, experiment with, and follow up on the new ideas in the industry, it is all the more to his credit. And finally, if he is generous enough to share the knowledge gleaned from his hard work with students, employees and peers, then you have indeed found that one-in-a-million person.

Throughout a career spanning five decades, Sherwood A. Moore has exemplified all of these characteristics and more, and is eminently qualified to receive the Green Section Award.

As golf course superintendent par excellence, Sherwood has applied his expertise at the Lake Mohawk Golf Club and Hollywood Golf Club, both in New Jersey, Woodway Country Club in Connecticut, and during two tenures as superintendent at the Winged Foot Golf Club in New York, he was responsible for preparing for three USGA events, including two U.S. Opens (1959, 1984) and one Senior Open (1980). Finally, in a move indicative of a person always in search of a greater challenge, he is now serving as construction superintendent of the new Captains Golf Course in Brewster, Massachusetts.

One of the distinguishing achievements in Sherwood's career has been his work with the younger people in the profession. Dozens of people from across the country and around the world have apprenticed under his guidance over the years, and many have gone on to establish successful careers of their own as golf course superintendents.

Always a believer that education knows no bounds, Sherwood began his own formal training in the early 1930's by earning an Associate of Science degree from the Stockbridge School of Agriculture, University of Massachusetts (then Massachusetts State College). He then went on to complete the Ten-week Winter School for Greenkeepers in 1936 and the Advanced School for Greenkeepers in 1937. Since that time, he has participated in hundreds of educational conferences, meetings and seminars, and has been a speaker at many of them. Sherwood has served as an instructor at the Rutgers Winter School, and has been a guest speaker many times at various university student programs. He has also written dozens of articles for various turfgrass publications over the years, dealing with pertinent issues in the industry such as budgets, irrigation, Poa annua control, golf carts, water conservation, and the Stimpmeter. Never taking the easy way out, his articles have always been insightful and probing, giving the reader a perspective which is gained only after many years of work and study.

The golf course superintendents' profession has been well served by Sherwood's contributions through professional associations. After serving several years on the board of directors of the Golf Course Superintendents Association of America, he was elected President of GCSAA in 1962. Sherwood also served as President of the New Jersey GCSA in 1953-54, and President of the Metropolitan GCSA in 1965-66. He continues as an active member of many associations, including golf course superintendents associations in Connecticut, New Jersey and New York, and the New Jersey and Massachusetts Turfgrass Association. he also serves as a member of the O.J. Noer Turfgrass Research Foundation.

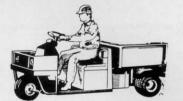
In addition to his many professional achievements, Sherwood has been a solid family man and active in civic affairs. Sherwood and his wife, Marie, have been married for forty years and have raised three children, Sherry, Carol and Glenn.

Many church and service clubs have benefitted from his dedicated efforts. He has been particularly interested in Rotary, having served as president of the Darien Rotary Club. He and his family hosted Rotary exchange students from France, South Africa and Sweden over the years.

Recognized by GCSAA in 1982 with its Distinguished Service Award, Sherwood has also been honored by many other groups in the turfgrass and golf industries. For his unfailing dedication to the golf course superintendent, to the game of golf, and to the art and science of turfgrass management, we salute Sherwood A. Moore.

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LESCO INTRODUCES IRRIGATION LINE

A March opening is scheduled for the LESCO Irrigation Center in Rocky River, OH. The new center is designed to service irrigation contractors, landscapers and homeowners.

According to irrigation manager Bob Hobar, "The LESCO Irrigation Center will be organized as a self-serve store. We will sell all types of irrigation equipment ranging from garden hose to hand-held spray nozzles to the necessary components to install a complete automatic irrigation system."

In addition to selling irrigation equipment and supplies, the LESCO Irrigation Center will also rent installation equipment such as pipe pullers. A professional design department will be available to assist in irrigation system designs.

The LESCO Irrigation Center will be located adjacent to the company's corporate headquarters in Rocky River, OH. The entrance for the Irrigation Center will be 700 Linda Street; hours will be 7:30 a.m. to 5 p.m. Monday through Friday and 7:30 a.m. to noon on Saturday. The LESCO Service Center is housed in the same building so LESCO customers may purchase needed fertilizer, control products, turf and irrigation equipment and supplies at one convenient location.



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Current Trends in Golf Course Management

- 1) QUALITY CONSTRUCTION TECHNIQUES-There has been a great deal of movement in recent years to concentrate more effort into a quality construction project when developing the golf course. The best designed course can be a nightmare for years if the fairways and tees aren't level or the lake banks continually washout or they are so poorly sloped that they become impossible to maintain. Improved greens construction involving proper soil mixes and drainage has become necessary since the demand for faster and consistent putting surfaces requires better subsurface profiles. Adequate drainage features must be engineered into the courses since more and more developments are required to retain a majority of their storm water run off.
- 2) GOLF COURSE SITE SELECTION- This has become more of a critical feature than in the past because of the concern of environmentally sensitive property since the construction costs skyrocket when working around these areas. Terminology such as buffer zones, wetland preservations and water retention areas now have a major impact on the style of the course and also strongly impact the proximity of housing locations to the course.
- 3) DESIGNING THE COURSE FOR PROSPECTIVE MARKET It is critical that the development team focuses in on the golfing abilities of their future clients. With this information as a base you are in a much better position to provide the golf course architect with a logical set of design criteria. It is very important to design a course that looks challenging and interesting but plays easy enough to keep the golfers scores at a level that they enjoy the game. Every effort should be made to provide a great deal of variety in design features so that players that play often can continue to appreciate the course.
- 4) EFFLUENT WATER USAGE After so many years of talking about the usage of effluent water for golf course irrigation the reality of this water source has gained widespread acceptance. Areas such as holding ponds and access points to effluent tie-ins must be planned into the community.
- 5) MAINTENANCE COMPLEX DESIGN AND LOCA-TION - Since golf course maintenance costs have risen so dramatically in the past decade it only makes good business sense to design and operate a maintenance complex that lends itself to efficiency. The concepts of adequate storage space, proper mechanical repair zones, employee safety with respect to employer liability and the safe handling and disposal of hazardous wastes, are all items to be considered.

- The location of the building is also critical when considering accessibility to golf course and the proximity to future housing.
- 6) CHEMICAL APPLICATIONS In various parts of the country chemical applicators are being asked to notify all surrounding property owners when making chemical treatments. You can imagine the ramifications if golf courses are required to notify all residences and the possibility exists that golfers will not be allowed on the course during the time pesticides are in use.
- 7) NEW TURFGRASSES The study of utilizing new turfgrasses that are more drought tolerant, disease resistant and cheaper to maintain are still ongoing with the U.S.G.A. A word of caution is to make sure the turf is thoroughly tested in playable situations before you commit your course to the new variety.
- 8) NATURAL LOOK The use of native vegetation and low maintenance grasses that create a visual texture difference continues to be a topic of much discussion in golf circles. The natural look does create a very scenic appearance on the course, but for the sake of the golfers it does slow up play when there are extreme natural features that are close to the landing areas of the high handicap players. There are also negative features when attempting to merchandise real estate that abutts extreme natural areas.
- 9) DETERMINING THE LEVEL OF MAINTENANCE -The agronomic needs of the turf stays relatively constant from region to region, but each individual course has different demands when considering the manpower to maintain and groom the facility. It is important to determine the standard of maintenance and then apply the costs to reach that goal in order to set the percentage needed for golf course maintenance over the life of the projects.
- 10) PRACTICE AREAS With all the emphasis on instruction and equipment improvement it is only logical that the golfer will spend more time practicing his or her skills. The utilization of a well planned multi-use practice area can be a valuable asset to a country club.
- 11) SPEED OF PLAY As always this is one of the most critical aspects of any golf course. It is so important to plan for no wasted movement around the course which will just improve the enjoyability and profitability of the course. Maximizing the course frontage with the land use plan is essential but be careful not to ruin the feel of the course by stretching things to the extreme.

THE LITTLE GUY

by Dave Fearis

- He or she is the golf course superintendent of a 9-hole course.
- Often times, he is the whole crew. Perhaps he might have a helper during the summer.
- It isn't uncommon for him to aerify and topdress all the greens by himself. he might be able to only do one green a day because he has to spread the topdressing by hand with a scoop shovel.
- He doesn't mow his fairways with a troplex; he crosses his fingers each day hoping that his 1972 or '73 triplex greensmower makes it through mowing greens.
- He can't push a button and automatically water the greens and tees. He still has to use the hose and roller base to water.
- He doesn't know what a stimpmeter is and propably doesn't care.

He's the "little guy" only in respect to budget. But he's a "giant" in the amount and quality of work he accomplishes. His greens are as true and consistent as those of any major course. Granted his fairways aren't watered, but they're weed-free and very playable. His budget is meager when compared to many other courses, but he still finds the time and money to beautify his tees or clubhouse with flowers.

Is this superintendent less of a professional than the ones at the 18 or 36 hole courses? Of course he isn't, and I'm not trying to put down those at the major courses. The point that I wish to emphasize is that the superintendents at these 9-hole, or even 18-hole, courses, with the small budgets are the forgotten or even ignored professionals. We are constantly reading in the trade magazines about those superintendents with the mega-budgets who are hosting the important tournaments. Also, I would venture a guess that our local and national turf associations are composed mainly of superintendents from the 18-hole courses with the "country club" budgets. Where's the "little guy" in these magazines, and he more than likely wants to go to the meetings. However, he feels "out-of-place" and somewhat uninvited. How we all could benefit from these "little guys," his methods, ideas, and practices.

Let's all make an effort in the future to include the "little guy." he is a very important part of our industry, and he does belong.

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SURFACTANTS AND HERBICIDES

By: Dr. Megh Singh Assistant Professor Citrus Research and Education Center Institute of Food and Agricultural Sciences University of Florida, IFAS 700 Experiment Station Road Lake Alfred, FL 33850

Surfactants are used as additives to herbicidal sprays to enhance the effect of herbicides on the target species. In this article, I will try to cover some of the fundamental facts about surfactants with practical application to herbicidal sprays such as: what are surfactants, types of surfactants, what are the advantages of surfactants, which ones should be used, how much should be used, etc.

WHAT IS A SURFACTANT? A material which improves the emulsifying, dispersing, spreading, wetting or other surface modifying properties of liquids. A typical surfactant molecule is made of two parts, a non-polar tail and a polar head. Based net electrical charge on the polar part, surfactants are classified in four groups, cationic or positively charged, anionic or negatively charged and amphoteric which have both acidic and basic moieties in the polar part.

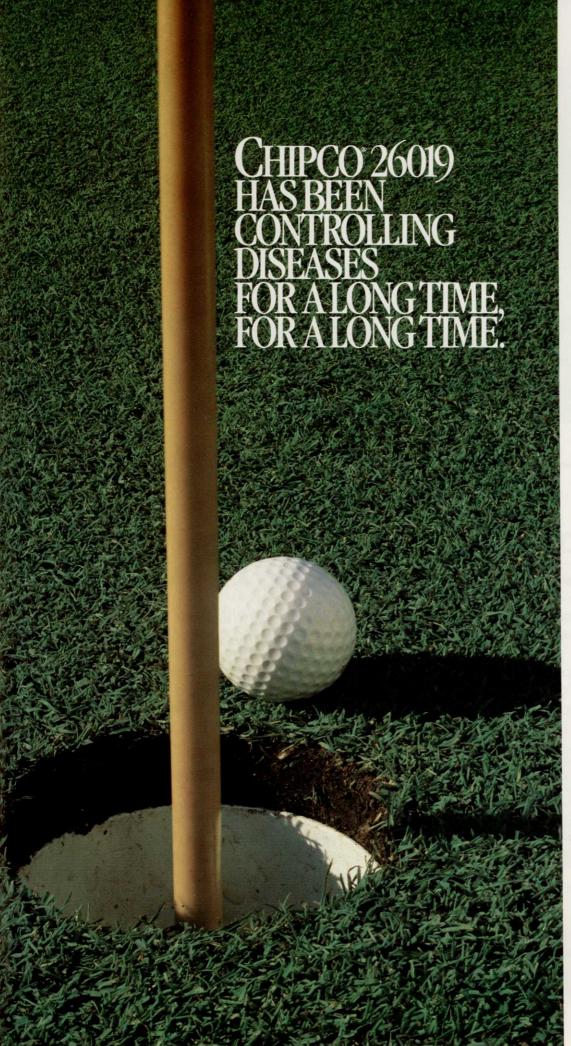
HOW DOES A SURFACTANT WORK? The main function of surfactants in a herbicide solution is to reduce surface tension. Surface tension is a force with dimensions by dynes/cm that is a measure of work required to increase the area of a surface by one square centimeter. Reduction in surface tension increases the wetting ability of a surface (could be a leaf surface) by reducing contact angle. The angle formed by a droplet in contact with a solid surface, measured from within the droplet is called contact angle. Contact angle without a surfactant is shown in Figure 1A in which surface tension is higher and the drop is round in shape. When the surfactant is added to a solution surface, tension is reduced and the droplet becomes flatter as shown in Figure 1B. The additional advantages of surfactants are described later in this article.

HOW MUCH TO USE? As I have indicated earlier, surfactants are only additives to herbicide solutions and they do not contain any herbicidal properties. It is quite normal to believe the old saying"If a small amount is good, then more will be better," however, in case of surfactants, it is not so. Figure 2 indicates that initially, an increase in surfactant concentration reduces the surface tension which reduces the contact angle, and since reduced contact angle is a function of surface tension, consequently wetting is increased. After surfactant concentration reaches a certain limit, there is no further reduction in surface tension which a minimum contact angle and maximum wetting is obtained at this concentration. The surfactant concentration is called "Critical Micelle Centration" (CMC). At CMC, the liquid surface is covered with mono molecular layer of surfactant and if additional surfactant is added, there is no surface available to accommodate additional surfactant molecules and they start going below the surface and start micelle formation. Therefore, there is no further reduction in surface tension. Adding surfactant beyond CMC will not benefit the herbicidal effect and will increase costs unnecessarily. CMC varies from surfactant to surfactant but the general range will be 0.1 to 0.25% (v/v). Therefore, surfactants should be added to herbicide sprays in this range. Most effective surfactants have low CMC, lower surface tension and contact angle of CMC.

Advantages of Surfactants in Herbicidal Sprays

- 1. SMALLER DROPLETS: Herbicide sprays containing surfactants produce smaller droplets which spread more uniformly on plant surfaces. This uniformity of spread improves the efficacy of herbicides.
- 2. SURFACTANTS IMPROVE THE WETTING OF LEAVES: Surfactants improve wetting of the leaf surface and herbicides are absorbed through a larger area which means more herbicide is entering the plant and producing better results.
- 3. SURFACTANTS IMPROVE SPREADING OF DROP ON THE LEAF: Without a surfactant in the herbicidal spray, the drop is close to round in shape and easily rolls off the leaf surface. Surfactants tend to flatten the drop and it does not fall easily from the target surface.
- 4. SURFACTANTS REDUCE THE RATE OF EVAPORATION: Reduction in rate of evaporation caused by surfactants allows herbicide spray droplets to remain in liquid form for longer periods of time. Since herbicides are absorbed in liquid form, the absorption is greatly enhanced.
- 5. SURFACTANTS DISSOLVE THE WAXES: Most of the leaf surfaces are covered with wax. Surfactants dissolve the cuticle wax and enhance foliar retention and penetration of herbicidal sprays.
- 6. SURFACTANTS IMPROVE THE TRANSLOCATION OF HERBICIDES IN PLANTS: Surfactants are absorbed by the plant along with herbicides and they increase the movement of herbicides within the plant.

There are many surfactants and surfactant-like materials available on the market today. It is wise to select a proper surfactant. Most of the time surfactants are identified by their trade names for a particular herbicide by the manufacturer of the herbicide. But if this type of information is not available, then the selection sould be made on the basis of CMC, surface tension and contact angle values at CMC, and their phytotoxic effect on the plant. Manufacturers of surfactants should be able to provide this information. A good surfactant should have a lower CMC, very low surface tension and contact angle at CMC and should not have any phytotoxic effect on the plant. In Figure 2, both surfactant A and B have approximately the same CMC, but surfactant B has lower surface tension and will produce a smaller contact angle which means higher wetting ability. Therefore, surfactant B is considered more effective than surfactant A. Non-ionic surfactants are most commonly used as additives with herbicidal sprays. Reprinted from FLORIDA



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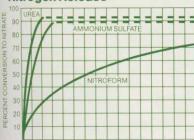
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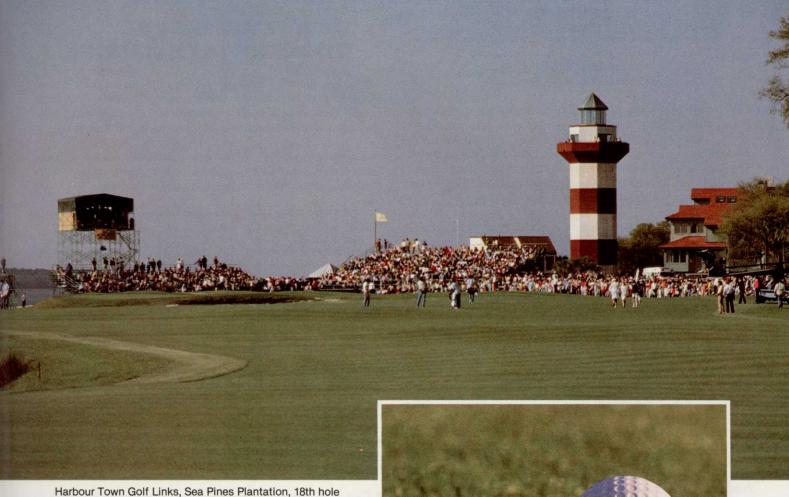








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Marvelgreen was chosen at this Hilton Head resort for several reasons: it germinates quickly to provide an early cover of fine-leafed, dense, fairway turf. And on the greens, Marvelgreen promises

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Marvelgreen blends contain just the right amount of the leading turf-type ryegrass varieties: Palmer, Prelude and Yorktown II. Marvelgreen is used at some of the most prestigious courses in the country. And it performs long after the game is over.

POTASSIUM DEFICIENCIES

by John O'Keefe Westchester Hills Golf Club

Potassium Deficiencies seem to be showing up more and more throughout the Westchester area as superintendents receive their sil tests. These deficiencies seem especially common in areas where clippings are removed, such as tees and greens. We will probably start to see more of the same problem on fairway tests as the practice of removing clippings becomes more common.

Symptoms of a Potassium deficient turf appear as follows: the first symptoms appear as leaves start to droop and soften, and excessive filtering is evident. As the deficiency worsens moderate yellowing of the inner veins of the leaf occurs, especially in the older leaves, followed by the rolling and withering of leaftips. Once a deficiency occurs it alters the plant in a variety of ways. The lack of Potash drains carbohydrate reserves, which restricts rooting. It also increases the transpiration rate which often causes premature wilting.

Potassium is a nutrient essential to plant growth and development. It is used for the process of photosyntheses, starch formation and the development of chlorophyll; all of which strengthens a plant. It also is necessary to regulate transportation and aids in translocation. Optimum levels of Potassium benefit a plant in many ways. Root growth is stimulated and the plant becomes more wear tolerant. Turfgrasses have a tendency to promote more stolons and rhizomes. The leaf cells of turf develop more turgidity and plant succulence is reduced. High levels of potassium reduce the proneness to many diseases, such as Brown Patch, Dollar Spot, Fusarium Patch, Ophiobolus Patch, red Thread and Helminthosporium diseases.

There are actually only two sources of potassium for the soil. One of which is through the decaying of old plant material or thatch, which we are starting to eliminate through clipping removal. The second source is commercial fertilizers. There are a variety of potassium fertilizers available. The largest problem with most forms of Potash is that it must be handled with care because of possible burn and high salt content.

During the past three years Tony Grasso of Metro Milorganite has been performing tests with potassium on fairways at a local golf course. The tests involved two fairways, one where clippings were returned and one where clippings were removed. He started these tests to determine the amount of potassium being taken from the soil with clipping removal. Basically his results were that 150 pounds of Potassium per acre are removed annually.

With facts such as these we are able to see how deficiency problems can occur without returning or adding proper amounts of this vital nutrient. ■

Credit: Tee to Green Met CGSA

NINE WAYS TO NEGOTIATE A RAISE

Many persons who have no trouble dealing with their superiors in most day-to-day situations find it very difficult to ask for a raise. If you're fainthearted at negotiation time, consider these recommendations to ease the process:

- Know your worth. Ask yourself how valuable you are to the course, how much would it cost to replace you, what have you done lately to help the organization.
- Pick your place. Get your boss outside of the office to listen to your request. Take him to lunch if possible.
- Detail your reasons. Tell your boss why you deserve a raise.
- Suggest an amount. You, not your boss, should propose the amount of your possible raise.
- Set your figures high. Ask for more than you espect to get. This leaves room to bargain.
- Compromise but not too easily. Since you've started with a high figure, realize you probably won't get it. Let your boss make a counter-offer, and be ready to compromise.
- Rehearse, don't go into negotiation cold. Be sure to be in top mental and physical condition when the actual talks begin.
- Get it in writing. If possible, get your boss to put it in writing for both signatures the raise he agrees to.
- Don't wait ask. Don't wait around for the company to recognize your value and give you a raise. Ask for it. Your aggressiveness may pay off. ■

Credit: Fore Front

LESCO RELEASES 1986 CATALOG

Over 40,000 items are described in the latest issue of the LESCO CATALOG. Featured are new products such as LESCO PRE-M Herbicide, the LESCO Greensmower, the LESCO Aerator-30 and a hydraulic lift unit for the LESCO Gang Mower.

With 52-pages of product description and ordering information, the LESCO catalog also includes fertilizers; control products; grass seed; golf course accessories; lawn care and liquid applications accessories; cleanup, safety and testing supplies; protective clothing; replacement parts as well as equipment and accessories.

LESCO, Inc., a leading turfgrass and horticultural supplier for over 20 years provides mail order service through the catalog. LESCO also offers toll-free numbers for easy ordering by telephone. To place an order or to inquire about a product, call (800) 321-5325 Nationwide or (800) 362-7413 in Ohio.

For your copy of the LESCO catalog (009781) send \$1 to cover postage and handling to: Catalog, LESCO, Inc., P.O. Box 16915, Rocky River, Ohio 44116. ■

Educating a Crew and Sharing Information are Superintendent's Job

If the golf course superintendent is to do a quick and efficient job, he must be able to educate his crew regularly and in depth. It isn't easy to find time in a hectic day during the golf season to tend to the basics that don't affect the golfers directly, but it is essential to do it anyway. Following are some ideas to help the superintendent see to the effective education of his crew:

First, share information with them first thing in the morning, when they are fresh and not yet busy all over the course. Tell them in as few words as possible what you need them to know. Don't let your thoughts stray or the conversation wander from the subject.

Share praise promptly with all crew members. It doesn't always have to be in group meetings, but when you see a good job being done, stop and say so. Occasionally mention some especially well done work in your group meetings — it builds morale. But be very careful to criticize discreetly and in private. Always try to work in a little encouragement or helpful suggestion with the criticism so it isn't just negative words. This will help build trust and confidence that will spill over into all areas of your crew's work.

Focus whenever possible on what a topic means personally to the crew. A well-kept green can be a reflection of their personal pride and abilities. "What's in it for me?" is a key point of view that's guaranteed to get their attention.

Keep your presentations short — don't kill the subject with words. Break it into segments you can handle in short sessions several running if it takes more than 15 or 20 mintues. Try to allow as much time for questions as you do for your own talking.

Follow up your teaching sessions with on-the-job information. You might explain how a new nine-gang mower works in the shop and then have the operator run it in your presence for a while, for instance.

Communication is part of the turfgrass manager's job, both with the crew and also with golfers. Remember, you'll also have to communicate with the green committee and club officials, so get in practice and learn to relay information efficiently and comfortably. It will pay off.









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With the largest pickup bed (50" x 50" x 11") and biggest gross payload (one-half ton) in the industry, the Carryall II becomes the most functional, practical and economical vehicle around. In addition to carrying passengers, tools, equipment, parts, packages - just about anything - Club Car's Carryall II is equipped with a standard trailer hitch easily adapted for multiple towing jobs with a towing capacity of 1,000 lbs.

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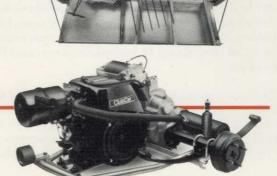
The Carryall II is designed to maneuver in tight aisles and small spaces with a clearance circle of 20'.8", the tightest in the industry. The True Rack & Pinion Steering* feature along with direct linkage and self-adjusting components provides a "power steering feel". The vehicle's 4 wheel stability with "True Balance" suspension assures level loads, sure traction and the power to deliver it all.

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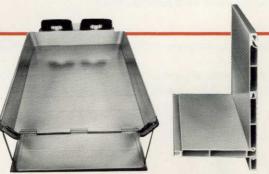
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Editoral

Why Belong to an Association?

(This article was written by John Bebeck, President of the Engineering Contractors Association. It appeared in the July, 1978 issue of Journal of Commerce.)

How many times have you been asked to join an association — or asked why you belong to an association — or what can an association "do for me?" Theodore Roosevelt put it very aptly when he said, "Every man owes a part of his time and money to the business or the industry in which he is engaged. No man has moral right to withhold his support from an organization that is striving to improve conditions within his sphere."

Since it costs money to belong to an association, it is logical to ask "What can an association do for me?" A probable answer could be nothing! An association can do things with you (with your support, expertise, cooperation, etc.), but not for you, per se. Apply the same principles to your business — it can't do anything for you unless you do something for it.

You invest money in a business as well as your time and energy. The degree of success depends on the talents, time and energy expended, even more than the amount of money invested.

The same holds true for associations. The dues dollars represent an investment, just as it does in one's business. There are certain functions and services which the association, acting in concert with its membership, can perform — but to be successful in its efforts, the association requires the support and involvement of its members. It needs the collective thinking of all concerned to formulate plans, and it requires the physical effort of its membership to put those plans into operation.

A recent survey indicates that 85% of all economic failures were firms not connected with a trade association. It would appear also that the busniessman who rebels against paying association dues is always the first to criticize and to say that an association does him no good. However, he is always on the front line to take the benefits that come his way as a result of the association and its dues-paying members. These benefits just don't happen. They are the result of a lot of hand work and effort by a great number of individuals who devote time and energy to get the tasks done.

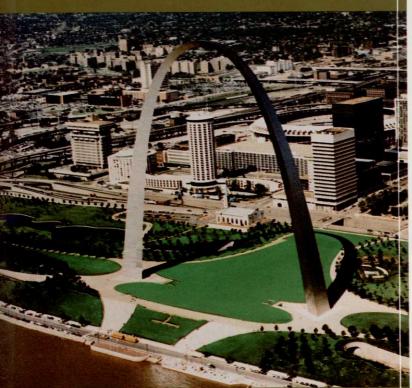
Just as 100 individuals going their separate ways in trying to dam a river — dig a tunnel or build a highway — would result in disorganized chaos, so it is with industry aims which lack the power of an association effect. But, just as the efforts of those 100 individuals (organized under a single leaderhship with mutually-agreed plans and specs) can dam that river, push a tunnel through or get a highway down — so does an association function, by taking many small parts and joining them into a cohesive mass that gives the group power.

But, there is more to association membership benefits. One, which is pure bonus, is the benefit of business coming one's way simply because of memberhsip. Given equal cost and service, association members just naturally prefer to do business with those who share the load of maintaining their trade group. Many have found that this "fringe" benefit will more than offset dues and other costs of participation. That makes it a refutation, so to speak, for the old adage, "you can't eat your cake and have it, too."

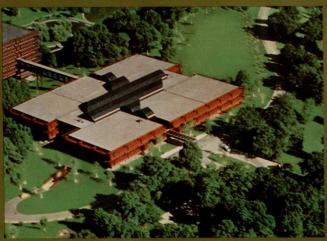
Granted that benefits of association memberhsip are many and varied, there still are those who fail to see how it will benefit them. My answer to this group is simply, "Come on in and find out. Get your feet wet."

Associations, after all, are a lot like insurance. When one has no problems, he has no need for insurance. When he does have a problem, if he doesn't have insurance, it's too late for it to help.

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