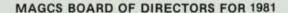
THE BULL SHEET, official publication of the MID-WEST ASSOCIATION OF GOLF COURSE SUPER-INTENDENTS.

Editor — Ray Gerber 865 Hillside Avenue Glen Ellyn, Illinois 60137 Phone — [312] 469-6467

Associate Editor —
Robert Breen
943 Bluestem Street
Batavia, Illinois 60510
Office Phone — [312] 653-5800

Bull Sheet printed by Ever-Redi Printing, La Grange, Illinois 60525. Phone: (312) 352-4378.



OFFICERS

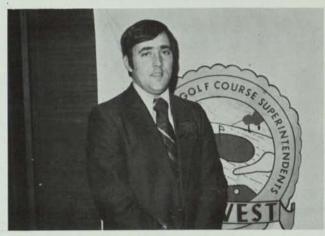
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President - Len Berg, CGCS

There is no President's Message in this June issue due to the Pres. Len Berg being in the hospital. We all hope it will be for only a short period of time, and that the problem is not serious.

The editor did not attend the May 4 meeting held at Deer Park G.C. This is the second one I missed in many years. Evidently the arrangement and the golf committee did not feel it was worthy of a couple lines. Therefore, the editor has no report on this meeting.

The sympathy of the M.A.G.C.S. is extended to the Jack Hanson family, due to the death of Mrs. Jack Hanson. Mrs. Hanson passed away suddenly on May 10th. Mr. Hanson is the golf course Supt. at Crystal Lake C.C.

Dear Dave,

Thank you very much for acknowledging me as an honorary member of the Midwest Association of Golf Course Superintendents. This is not only an honor for me personally to be associated with such an outstanding organization but it is a distinct honor for the CDGA to be represented in your Association.

The Chicago District Golf Association and MAGCS have enjoyed a very close working relationship through the years, which everyone at the CDGA treasures and respects. It is always a pleasure to work with such fine people and we look forward to many years of progress toward quality turf in our district.

Dennis F. Davenport Executive Director Chicago District Golf Association

July 13—meeting Sportsman G.C. Northbrook, IL Tim Miles, Host Supt. August 3—meeting
Village Greens of Woodridge
Woodridge, IL
Len Berg, Host Supt.

CELEBRATE ARBOR DAY--PLANT A TREE

Arbor Day was founded 100 years ago in Nebraska--on April 10, 1872--after much urging from Julius Sterling Morton, a journalist and member of the Nebraska Board of Agriculture. He got the Board to approve a plan to give prizes to those who planted the most trees in each county on that day. In a state that badly needed trees, the plan was immediately successful. For its early leadership in tree planting, Nebraska became known as "The Tree Planters' State".

Millions of living trees, planted on Arbor Days throughout the Nation, affirm the vitality of Morton's

vision.

Today all of the 50 states, plus Guam, Puerto Rico, and the Virgin Islands, recognize Arbor Day, though the dates are different to suit the best planting season.

For many years now, Arbor Day has seemed to be a

thing of the past.

But lately, people have been showing much concern for the future of Spaceship Earth. Planting a tree is one small way of activating that concern. It is one of the most rewarding tasks a man, woman, or child can perform.

Trees help supply oxygen we need to breathe.

Trees help keep our air supply fresh by using up carbon dioxide that we exhale and that factories and engines

Trees use their hairy leaf surfaces to trap and filter out ash, dust, and pollen particles carried in the air.

Trees provide food for birds and wild animals.

Trees lower air temperatures by using the sun's energy to evaporate water in the leaves.

Trees increase humidity in dry climates by releasing moisture as a by-product of food-making and evapora-

Trees give us a constant supply of products--lumber for buildings and tools, cellulose for paper and fiber; as well as nuts, mulches, oils, gums, syrups, and fruits.

Trees slow down forceful winds.

Trees shade us from direct sunlight better than any sombrero. They are welcome in parking lots on hot, sunny days.

Trees camouflage harsh scenery, and unsightly city dumps, auto graveyards, and mine sites.

Trees offer a natural challenge to youth climbers.

Tree roots hold the soil and keep silt from washing into streams.

Trees salve the psyche with pleasing shapes and patterns, fragrant blossoms, and seasonal splashes of color.

The selection of trees to be planted is important. They should be in harmony with existing plans and laws and must be suitable for climate and soil conditions. The Forest Service, the state forester, Soil Conservation Service, Extension forester, county adviser, and local nurserymen are always glad to help with selection. They will also provide guidance in planting the trees, the choice of planting tools needed, and subsequent care of the trees.

Arbor Day, April 24 this year, makes us all treeconscious at least once a year. Remember if prior generations had not planted trees, we would not have them to enjoy now. So plant a tree this year. Future Americans will appreciate you for it.

> James A. Fizzell, Senior Extension Adviser Horticulture, University of Illinois

Dear Ray.

I wrote to Lennie Berg resigning my position with the M.A.G.C.S.

Ben and I will be traveling and plan on spending some of the winter in Tucson, Arizona where we purchased a home. This winter was enjoyed in Florida, Arizona and on a two week Carribeen cruise visiting and touring the islands of Oranjestad, Aruba; LaGuaira, Venezuela; Bridgetown, Barbados; St. John's, Antigua; Philipsburg, St. Maarten; Charlotte Amalie, St. Thomas; and Santo Domingo, Dominican Republic. We were to visit Ocho Rios, Jamaica but due to the unrest we bypassed that port. We had lovely weather and the S.S. "Veendam" has to be the most immaculate ship afloat. Everything was superb - food, the stewards, the programs, orchestras, the officers and above all the cleanliness of the rooms and workers.

Last year we took a trip around the world visiting New Zealand, Australia, New Guinea, Bougainville, Guadalcanal, Solomon Islands, Bangkok, Thailand; Delhi, India; and Cairo, Egypt on to Frankfort, Germany and home. I rode the elephant in India and the camel in Egypt. We were gone 38 days. If and when I finish with my writing of our trip I will send you a copy.

If all goes well in September we hope to be among those Field Museumers on a tour of Kenya and the

Seychelles.

Dorothy H. Warren

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LEADERSHIP - A QUEST

The world has known some great leaders. Some have led by virtue of their great physical strength. Others accomplished the feat with keen minds that led with logic. Currently there are those who employed deception, cruelty, fear and assasinations to eliminate competition. The true concept of leadership often is masked by the overpowering urge to dominate at whatever cost.

True leadership has been exemplified by such men as Washington, Jefferson, Lincoln, Roosevelt and Churchill. No need here to recount their triumphs - they are immortal! It is for us to study them and to learn the ways of their eminence. Each one had his style - his way of convincing others. If there was one common denominator that spelled success for each it was TRUTH. How else could it be? Consider those fallen from high places in recent memory. The reason? They lied! Confidence fled!

We of the turf world are seeking leadership. As yet the industry is too young to have developed the kind of leadership that embraces all phases and concepts. Come it will, but a few more decades may have to pass before one is forged in the crucible of fierce competition and fragmentation.

Consider for a moment that virtually every great advance in the industry, and every organization of special interests, has developed within the living memory of many of us who are still active. This realization impresses us with the fluid juvenility of the turfgrass industry. It is still growing by leaps and bounds. The ingenuity of individuals continues to give us "breakthroughs" in various phases of the industry. This will continue in a fragmented way which is the only way it can happen. Never has there been enough money nor enough scientists to conduct the basic research needed to give the industry a solid scientific base from which to operate effectively.

Men of vision have developed effective machines, superior grasses, marvelous chemicals, dependable fertilizers and wide-ranging organizations which aid and assist various segments of the economy. It will be a long time before the fragments are welded into a whole because each segment has its own brand of leadership which seemingly is unwilling to yield to the good of the entire industry. Each group is sailing along well pleased with progress and success which has been acquired so very recently. As yet there has emerged no concept that is able to draw diverse interests together. A brave attempt has been made in the form of the American Council for Turfgrass. Possible diminution of identity keeps the fragmented groups apart. The NEED for collaboration within a single entity has not yet been realized sufficiently. Cooperation must come but the industry seems not to be ready.

For now this soliloquy must remain an "unfinished symphony". The train carrying leadership has been shunted to a side track where matters of current interests are considered in the light of quickly solving the problems with applied research inadequately funded with tax funds and industry grants. The leadership we seek will come when all special interest turf groups put aside selfserving identity-preserving concepts and get on with the larger task of adequately funding basic research on the graduate and postgraduate levels. Who knows - someday we may have a Nobel winner in Turfgrass Science.

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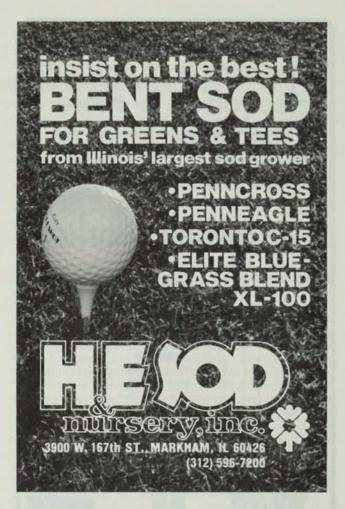


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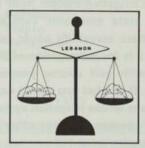
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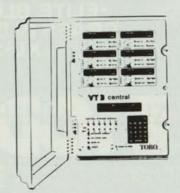
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THE MILLENNIUM NOT YET, BUT PROGRESS

Turfgrass breeders have been making up for the lost time in recent years. New varieties are constantly released, and are not confined to the favorite lawn species (Jacklin Seed, for example, has developed a new Canada bluegrass, Reubens; a new redtop, Streaker; and a low-maintenance bluegrass, Wabash). But progress with the most important lawn species - the Kentucky bluegrasses, the perennial ryegrasses and the fescues - give greatest cause for pride. Look how far Fylking and Glade Kentucky bluegrasses have come since they were foundlings first recognized a few years ago for superior performance in fine turf.

Fylking's history begins in Sweden, where it was first selected and quickly acclaimed for elegance. But it had to be honed to and proven for the vastly differing climates that make up continental America. The Fylking selection proved itself nationwide, and Fylking now has become one of the best recognized bluegrass varieties. It provides outstanding performance in all sections of the country. And Fylking displays a demeanor befitting its elegance, being quite compatible in mixtures rather than agressively competitive. Of course, no variety is invariably a huge success, in all ways, at all locations. But some of the commendations that have come Fylking's was are worth noting. Among them are salinity tolerance and ozone tolerance in California, excellent quality in Illinois, good autumn color and fine appearance under low mowing in Idaho, resistance to leafspot, smut and rust in New York, exceptional decumbency in Pennsylvania. On the East Coast, Fylking has endured acid habitat well, and in western Canada the variety has proven companionable with bentgrasses. Fylking has done well beyond bluegrass' normal range, as in El Paso, Texas, on the Mexican border. The variety is less afflicted by smog than most bluegrasses, and is remarkable nonchlorotic on alkaline soils of Colorado.

In contrast, Glade bluegrass is an outstanding domestic "find". The variety has behaved excellently in the shade almost everywhere, largely because of its resistance to mildew. Like Fylking, Glade is decumbent and suited to fine turf. It makes its presence felt particularly as the season progresses. Glade is not severely stricken by disease. In Michigan, Glade is rated a top performer, in sun as well as moderate shade, showing great uniformity and good winter color. Even though not as acclaimed southward as is Fylking, Glade ratings in Kansas have been good. In Illinois and throughout the Midwest, Glade has consistently shown tolerance to familiar diseases, in a region where disease is the bête noire of fine turf. The variety endures the acidity of eastern soils well, and thrives with only moderate maintenance. In Pennsylvania, Glade's procumbency increased as mowing height was raised, unusual for a turfgrass! The varieties named are but the tip of the iceberg. Lawn making, everywhere, is bound to benefit from tremendous strides in variety breeding underway today. Many new selections from the Jacklin research centers, and from outstanding firms throughout the country, can be expected to join Fylking and Glade in helping America have attractive, more efficient lawns. The quality of seed can be expected to match the high standards set by Fylking and Glade, which are sold essentially pure and free from weeds, sprouting exceptionally well.

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David Wehner recently joined the faculty of the Department of Horticulture at the University of Illinois with duties in turfgrass research and testing. Dr. Wehner came to Illinois from the University of Maryland where he had similar duties. Dave received his B.S. degree in chemistry from the University of Notre Dame and his M.S. and Ph.D. in agronomy from Pennsylvania State University. His Ph.D. thesis dealt with heat tolerance of Kentucky bluegrass and perennial ryegrass. While at Maryland, he worked in the areas of pesticide screening, chemical retardation of Kentucky bluegrass and tall fescue, and the effects of heat and drought stress on cool season turfgrasses. He also taught a course in turfgrass management. At Illinois, Dr. Wehner will be doing turfgrass research, teaching two courses in turfgrass management, and advising both graduate and undergraduate students.

Tom Fermanian has recently joined the faculty of the Department of Horticulture at the University of Illinois at Urbana-Champaign to assume the leadership of the turfgrass extension program. Tom's academic career began at the University of Wisconsin-Whitewater where he received a B.S. degree in Botany. Before entering graduate school, Tom studied two years at Oregon State University, working closely with a vegetable crops pathologist. During his stay in Oregon, Tom had the opportunity to work on a ryegrass seed farm for two years. Dr. Fermanian attained the degrees of M.S. and Ph.D. at Oklahoma State University. His Ph.D. thesis dealt with isolating toxins found in soil under bermuda-grass turf, affected by the disease Spring Dead Spot. In addition to his extension responsibilities, Dr. Fermanian will be conducting a research program in the areas of turfgrass weed control and nutrition and will advise graduate students.

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RESEARCH REVIEW OF SAND

A research review of sand as a seedbed or rootzone medium closely parallels the growth and development of the turfgrass industry and its role in the expansion of outrloc recreational activity, especially golf, and in more recent times, athletic fields. Sand is the most widely used soil textural class for construction and maintenance of turfgrass facilities, especially those areas like golf greens that receive intensive usage. Also, it is the most important because of its relationship to soil stability and to the soil air-water relationships.

Most early golf links in Scotland, England and The Netherlands were laid out along coastal areas. One may assume therefore that the dominant soil textural class was sand, or at the least, sandy loam. As the popularity of the game, and the number of courses increased, non-coastal areas came into play, especially in the U.S. Non-coastal sites more often than not were predominantly clay, clay loam, silt loam -- non-sandy; but, understandably, little thought was given to soil modification. In fact, in many areas local sedimentary peat -- black dirt, muck and similar -- often were added if the soil for greens (or athletic fields) proved to be too "sandy". However, as traffic or play increased, alert practitioners seeking to prevent or to avoid severe turf loss in times of stress, noted the relationship between soil texture, soil compaction, water logging of soil and similar problems. The need to research soil and soil related problems became apparent, and help was sought from a number of sources -- the land grant colleges, the U.S.D.A. and the U.S. Golf Association, Green Section.

The USGA Green Section played a key role in early research efforts. John Monteith, Fanny Fern Davis and Fred Grau were among the early Green Section directors responsible for conducting and supporting turfgrass research. In the late forties and early fifties, Grau granted USGA Green Section fellowships to a number of graduate students (among them Daniel, Harper, Nutter, Watson) to study soil and soil related problems. Within the ensuing decade, Marvin Ferguson, as Director of Research for the Green Section, gave support and direction to studies which culminated in the publication of the "Green Section Specifications for Building Putting Greens". Research contributions from work conducted by Garman, R. Davis, Kuntze and Howard, among others, provided basic information for these specifications. Garman helped to establish parameters for the organic matter fraction (20 percent or less). Howard and Kuntze developed infiltration rates (1+1/2 inch per hour) and porosity levels after compaction for putting green mixtures (30 to 35 percent total porosity, 12-18 percent non-capillary and 18-22 percent capillary pores). In addition to the 80-90 percent of sand found to be preferred for a seed bed mixture, a layer of coarse sand was used immediately below the mix to create a perched or false water table. (This is no longer called for in recent modifications of the Green Section specifications.)

During this same period (50's) and beyond, a number of other research workers were studying "sand". Among them: Lunt, Keen, Bingamen, Duich, Daniel, Ward, Horne, Madison, Schmidt, W. Davis and, more recently, Brown, Blake, Duble and others have continued to establish criteria for qualifying sand as a medium for turfgrass growth. Also, as in the case of Ferguson, his successor as Director of Research for the Green Section, Al Radko continued to support many of these as well as other projects.

Duich and associates established threshold values necessary in mixtures to ensure a bridging of coarse particles; confirmed that compaction occurs mostly in the top one inch and rarely exceeds a three inch depth—similar to the results obtained by Alderfer and Robinson working with heavily grazed pasture soils. Keen confirmed the importance of medium sand (0.25 or 0.50 mm) and also the importance of high percentages (85-90) of sand in the mixture. Madison and W. Davis delineated preferred particle sizes for construction and for topdressing—medium sand.

Concurrent with the work directed specifically toward golf greens, other investigators were studying soil problems of athletic fields. In this group one may expand the above list to include European investigators working almost exclusively on sports turf -- athletic fields. Skirde and associates in Germany; Petersen in Denmark; Adams in Wales; Jansen and Langvad in Sweden; and Daniel, Bingamen, Freeborg and Robey at Purdue were devoting most of their efforts toward development of rootzones for athletic fields.

Their studies and observations dealt with the role of sand as a factor in infiltration rates, percolation rates, surface stability and other pertinent soil physical properties. Their findings further confirmed the importance of sand, and demonstrated that in the correct amounts of the proper size, it performed in a manner similar to that found for putting greens.

While the above list of research workers is far from complete, it does serve to point out the wide range of studies devoted to sand as a stabilizing factor in intensively used turfgrass areas.

Gradually, the fund of knowledge accumulated from research and from field use contributed to a better understanding of the causes for success and failure with sand. Based on knowledge of its performance in golf greens and in athletic fields it is now being used as the base for turfed race tracks (horses). David and Madison of California have been the primary proponents of this approach.

The story of review of sand would be incomplete without brief mention of two other areas.

The first, **topdressing** with sand. Since Madison's report on sand as a topdressing material at the GCSAA conference in Portland, Oregon, much the same thing is happening as occurred when sand was first proposed as a medium for turfgrass growth. A number of golf course superintendents have adopted the practice, others are opposed to its use. There has been success and failure -- from all reports more success than failure! Research programs have been initiated but results are not yet forthcoming. More time is needed.

Secondly, there is a need to determine why the practice of using high sand contents for intensively used areas has not been more widely adopted. For the most part, failures can now be explained. Yet, many still do not use the material. And, in some cases — northern climes — there may be justification, for all the answers are not clearly evident. Perhaps it will fall upon some of you in this room to continue that research.

Yet, I am of the opinion that the problem of acceptance perhaps relates to other areas -- economics, unavailability of the right type of sand, lack of understanding of the importance of mineral origin, relationships of particle size and distribution.

What concerns me most, is that the problem may be one of **communications** -- failure or inability to communicate the basic concepts to those responsible for making the decision pertaining to seedbed mixes.

J. R. Watson, Vice President Agronomist, The Toro Co.



MIDWEST BREEZES

Wedding bells will be ringing at the home of **Donald** and **Lynn Gerber**, Wheaton, Illinois the later part of June, when their daughter will become the bride of **James DeBoer**. Donna is the lady that counted the steps that it took her to mow number 7 green last year at Chicago Golf Club. It required 3,200 steps, or equivalent to 1½ miles. I wonder if she will count her steps when walking down the church isle.

Congratulations **Donna** and **Jim**. We all hope the wind will always be to your back.

On April 20, 1981 this editor stopped in for a short visit with Oscar Miles, Supt. at Butler National Golf Club, the home site of the Western Open Golf Tournament. I am sure you remember the unfavorable remarks made in regards to the playing condition of the turfgrass on the greens in 1980. My observation is that this is all past history. After considerable reconstruction, the greens, tees and fairways were seeded with Peneagle. With a few more weeks of good growing conditions, there should be more smiles than frowns. Oscar Miles reports that if you bring your 1981 golf course Supt. membership card to the entrance gate, you will be admitted.

Most everything or everyone has a birthday; even the **Bull Sheet** has a birthday. Starting with the June 1981 issue the **Bull Sheet** will be thirty-five years old. It started as a two page mimeographed publication and has grown to twenty pages. The companies that advertise in the **Bull Sheet** not only expose their product to the proper people, it also brings in revenue for the **Bull Sheet**. If it were not for them we could not put out a publication such as the **Bull Sheet** is. Many times I have been asked what the cost is to publish the **Bull Sheet**. The cost of the April issue was, to have it put in your mail box, two dollars and thirty-three cents each. When someone wants me to put so and so on the mailing list there are times it becomes necessary to say "no".

During these past thirty-five years there has been several editors, but only one printer, The Ever-Redi printer in La Grange, Illinois. We thank them for the good job they have done for us and I am sure there were times it required a little patience. I am happy to report that we have several advertisers that were in the first **Bull Sheet**.

A big thanks to all of you that helped make the **Bull Sheet** a popular publication. The next time you are ready to make a purchase remember the **Bull Sheet** advertisers. We need them and they need us.

On April 28 **Paul Voykin's** best friends met at Hackney's in Wheeling to help him celebrate his big 5-0-. Paul, however, is taking President Reagan's cut back program to heart and is chopping five years of his age down to 45 which he claims most girls think he is anyway.

Editor note - Better start dyeing your hair again, P.V.

No doubt you have noticed in the **Bull Sheet** that **Bob Williams** name is no longer listed as the associate editor. Bob suggested to remove it due to him living in Florida for six months of the year. I am sure everyone joins me in thanking him for his **Bull Sheet** support for all the many past years, and also in being responsible for its name.

Dear Ray.

Summer soon will be here and the caution call, "Ready on the left, Ready on the right, Ready on the firing line", will come into effect.

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To face the turmoil of Summer's fling, Superintendents are blessed with a special thing. Ability to adjust to Summer's fickled ways,

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Kenneth R. Zanzig Green Garden C.C.

DETERMINE TRACTOR SPEEDS

The speed at which tractors operate on golf course turf whether for grass cutting or spray applications are extremely important to an efficient maintenance operation. Here is an easy method of determining the correct speed as described by Dr. John Biemer, Area Weed Specialist, Corpus Christi, TX in the North Texas Turf Culture of January 1981.

To determine the correct MPH, set the throttle to give the desired field speed and make this setting. Set two stakes 88 feet apart. (88 feet is 1/60 of a mile or 88 ft./minute = 1 MPH.

With the throttle set, check the time in seconds it takes to drive the course. Repeat and get an average number of seconds to travel 88 feet. Divide 60 by the number of seconds to drive the course and this will give speed in MPH.

Example: It takes 12 seconds to drive 88 ft. $-60 \div 12 = 5$ MPH.

Dear Dave,

Thank you and the Midwest for honoring me with membership in your Association. I am most appreciative and grateful for this honor.

Recently I gave a paper on "Research Review of Sand" at the Midwest (Purdue). Am enclosing a copy for your (and Ray's) consideration. Should you choose to run it please note that it was presented at the Midwest Regional Conference.

Dave, thank you again for the membership. Enjoyed your company in Anaheim and shall hope to see you this coming summer.

James R. Watson The Toro Company

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CLEARY'S 3336-F Fungicide



The dawn of a better technology. FLOWABLE.

Cleary's 3336 Systemic Fungicide has earned your confidence in the prevention and control of dollar spot and 6 other major diseases. Today W.A. Cleary announces the development of 3336-F, the first systemic in flowable form. Flowables are simpler and safer for the user to handle. Need little agitation. Will not clog spray nozzles. Offer a uniform particle distribution for excellent availability to the plant. Cleary's new 3336-F FLOWABLE.

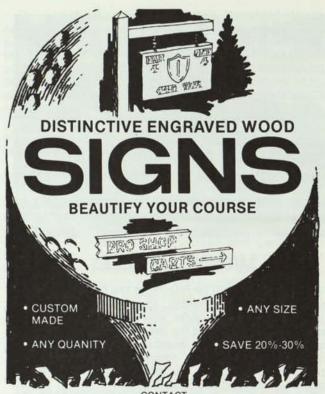
Now available at application cost less than systemic wettable powders

FOR FURTHER INFORMATION SEE YOUR LOCAL DISTRIBUTOR OR CONTACT



WACLEARY CHEMICAL

1049 Somerset St., Somerset, N.J. 08873 (201) 247-8000



CONTACT

Ed Stewart RIVER FOREST GOLF CLUB 834-0894

REMONT MFG./BOX 366/VILLA PARK, IL 60181/(312) 279-5920

