annua's growth and at similar rates on the hybrid bermudagrasses and other warm season turfgrass species where *Poa annua* is not a summer growing season problem. The benefits of this type of usage were listed previously but can generally be summarized to result in an overall improvement in turfgrass quality.

Emphasis must be made here that the most favorable growth modification results have been obtained when Cutless is applied to high quality, well maintained stands of turfgrass relatively free of coarse textured contaminant grasses. It should also be apparent that the general growth modification rates for cool season perennial turfgrasses should not be used on areas containing excessive quantities of *Poa annua* unless treatment is accompanied by an aggressive reseeding program.

There are obviously many variables associated with the proper use of a biological agent with the activities of Cutless. A considerable amount of research has been completed and additional field studies are underway and planned to fully characterize all aspects of Cutless' activity. This endeavor spans both the cool and warm season turfgrass species and will seek to utilize the observations and experience of professional golf course superintendents along the way.

In summary, the concept of controlling the growth of turfgrasses has long been an attractive goal. The goal has been extremely illusive due to the contradictory demands of a healthy, vigorous turf and any chemical that totally stops plant growth. A new generation of chemical tools is on the horizon and their ability to modify the way in which plants grow can put the control in the hands of the turfgrass manager where it belongs. When considering the future opportunities such developments may bring, old terms such as "growth inhibitor" or even "growth regulator" are no longer appropriate. Both carry the stigma of previous products that were not suited to use on the fine turfgrasses. This new generation should clearly be termed "Plant Growth Modifiers."

Editor's Note: Dr. A. Thomas Perkins was born in Youngstown, Ohio.

He attended Muskingum College for two years prior to transferring to Pennsylvania State University where he received his B.S. degree in Turfgrass Science (Agronomy) in 1964. He continued his education at Penn State, receiving his Ph.D. in Agronomy in 1969.

During his graduate program Dr. Perkins was a full time instructor in the Agronomy Department teaching golf course superintendents in training. After receipt of his doctorate, Dr. Perkins joined the resident faculty in the Turfgrass Science area.

In 1970, Dr. Perkins joined Lilly Research Laboratories as a Senior Plant Physiologist working in the area of new product discovery and development for the green industry. From that time through 1983, he has held several positions, all associated with the development of new pesticidal product for this market.

In 1984, Dr. Perkins assumed his current position as Manager of Technical Chemicals Sales and Market Development for Elanco Products Company.

BEST WAY TO WELCOME LATHAM? SUBSCRIBE TO USGA GREEN SECTION TAS FOR 1985!

Jim Latham is already settled in his Milwaukee office and looking forward to continuing the good work Stan Zontek gave to the Wisconsin golf course industry. The USGA office in Far Hills, New Jersey is taking applications for the 1985 Turf Advisory Service. Those who are past subscribers to this outstanding program of the Green Section will testify that it is easily the best bargain to be had in our business of managing golf course turf. The price is fair, the advice and counsel are solid, and you are able to select the time of the golf season you want the visit made. Let's show Jim the kind of support we feel, and make his first year with the Green Section in Wisconsin rewarding and successful!

Jim Latham and Stan Zontek — the old guy is the new guy!

Reinders Turf Conference Set For March 13 and 14

Reinders Brothers has had the pleasure to host Wisconsin's Largest Turf Conference every other year since 1973.

The 7th edition will be held March 13-14, 1985, at the Waukesha Expo Center.

In the past, there have been many nationally renown speakers — Dr. Houston Couch, Dr. John Hall, Dr. Al Turgeon, Dr. Joe Vargas, Dr. Bill Daniels, Dr. Gayle Worf, Dr. Robert Newman, Dr. Jim Love, and many more.

This year will be no exception! Here is the tentative program for 1985. The finishing touches are being put on the program as of this date, but here are some of the topics and speakers.

"The New Messiah — Fairway Clipping Removal"
Dr. Joe Vargas, Michigan State University
"Topdressing, Fertility, and Wetting Agents — FACTS"
Dr. Robert Sherman, University of Nebraska
"Turfgrass Seed — Now and the Future"
Dr. Jerry Pepin, Pickseed West
"Trends in the Lawn Care Industry"
Mr. Bob Early, Group Publisher (*Lawn Care Industry Magazine*)
"Turfgrass Renovation — Repair or Replace"
Dr. Robert Newman
"I've Got Ring Spot, It's Your Fault & What Are You Going To Do"
Dr. Gayle Worf
and many others!

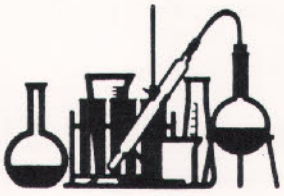
The Reinders Turf Conference was the very first event held in the Waukesha Expo Center when it opened in 1973. Fortunately, as the Show has grown over the past 12 years, so have the Expo facilities.

It was felt when this Show began in 1973, that there was a real need to present the turfgrass industry in Wisconsin with educational seminars as well as exhibits that will aid in keeping everyone informed as to trends and innovations. Most turfgrass people never had an opportunity to attend National Trade Shows outside of Wisconsin.

In conjunction with the Show, there will be an irrigation service school, irrigation educational seminars, as well as an equipment service school. Something for everyone!

This year there will be approximately 35 exhibitors from all areas of the industry. There will be in excess of $500,000.00 worth of equipment and supplies on exhibit as well as many qualified suppliers who will be glad to assist everyone with their particular problem.

Final details and registration material will be sent very soon.



Herbicide Research

NEW GENERATION OF HERBICIDES DEVELOPED

Basic research has led to the development of a new generation of herbicides that some day will undoubtedly find their way into golf course management programs. This herbicide is nonpolluting and makes weeds literally "commit suicide" while leaving nontargeted plants unaffected. The work on this new group of herbicides has been done at the University of Illinois. The development work to this point has been with weeds that affect agricultural crops such as corn, barley and wheat. It is only a matter of time before other applications are available.

The active ingredient in the herbicide is an amino acid found in all plants and animals. It is used by weeds in creating the chlorophyll that gives them their green color and uses sunlight to produce food in the form of sugars. By spreading the amino acid over crops at night, weeds are given the chance to "load up" on the light sensitive substance so that when the sun comes out the next day the light reaction is so great that it kills the plants. This represents a whole new mechanism of killing plants.

These "laser" herbicides are a practical outgrowth of basic research into how plants produce chlorophyll. When it was discovered that different families of plants have different ways of producing chlorophyll, U of I plant physiologists decided to investigate if these differences could be exploited to produce a herbicide.

The prime ingredient of the new herbicide is delta-aminolae-vulnic acid, known as ALA, a critical substance in the manufacture of chlorophyll within plants. One family of plants, including such weeds as lambsquarter, mustard, red-root pigweed and common purslane, normally metabolize small amounts of ALA all day long. Loading them up with the substance at night creates a situation analogous to pouring gunpowder into a keg. When these biochemical precursors accumulate slowly and "burn" a little at a time as they accumulate, as happens in the daylight, nothing much more than a fizzle results. But if they are allowed to build up in large amounts and ignite them all at once with sunlight, the whole plant system explodes. The weeds, unable to metabolize so much ALA at once, wither and die within hours after sunrise. The key to the selectivity of the herbicide is the fact that corn, barley, oats and wheat are able to metabolize ALA even in large quantities. Other crops such as soybeans, kidney beans and cotton exhibit some severe leaf damage when exposed to ALA at night, but these plants usually recover and produce new leaves.

Generally, twenty-four hours after its application the laser herbicide has evaporated, leaving no trace in the environment. Scientists feel there is no environmental impact at all in using this herbicide.

This development represents a fundamental change in the way herbicides are usually discovered, through trial and error work with chemicals. The new understanding of basic biochemical processes in green plants should lead to more herbicides and other strains of specific crops, such as turfgrasses, that will exhibit traits needed by growers.

ROBERTS SEEKS INPUT ON GCSAA SCHOLARSHIP & RESEARCH

William R. Roberts, CGCS, WGCSA Vice-President, has accepted an invitation from John E. Laake, CGCS, Chairman of the GCSAA Scholarship & Research Committee, to serve on that Committee. Although the first formal article of business associated with this assignment will be a formal meeting to be held in conjunction with the GCSAA Conference in Washington, D.C., Roberts is soliciting the advice, input, comments and concerns of all WGCSA members, in advance, relative to the GCSAA S & R program in general and the following items in particular:

A.) What is the purpose of the Scholarship & Research program?
   1.) What is the number one priority of the S & R program?
   2.) Does the present S & R program address that number one priority?
   3.) What are other S & R priorities and does the present program adequately address them?
   4.) Should the program remain the same? Should the program be re-directed?

B.) If we continue to fund a Scholarship & Research program —
   1.) How should funds be raised?
   2.) Who is responsible for fund raising?
   3.) Should we solicit funds only from GCSAA members?
   4.) If we solicit funds from others (outside organizations), which ones and how?
   5.) Should we pursue joint fund raising with other organizations?

C.) What percentage of funds should go to Scholarship and what percentage of funds should go to Research?
   1.) Scholarship —
      a.) Should GCSAA evaluate schools? If so, how?
      b.) Should scholarships be given to two year students? Four year students? Mix?
      c.) What are the minimum and maximum dollar amounts to be given?
      d.) What qualifications are required of scholarship applicants and how should they be

evaluated?
1.) interview, recommendations, grade point average, need, experience, et cetera?
e.) Should scholarship applicants be specifically interested in becoming Golf Course Superintendents?
2.) Research—
a.) What qualifications, parameters, et cetera are required when grants are requested?
b.) What are the minimum and maximum dollar amounts to be granted?
c.) What are the minimum and maximum periods of time to commit to?

Your input can be of invaluable assistance in the decision making that will evolve from the Scholarship & Research Committee activities. Please direct all correspondence to:

WILLIAM R. ROBERTS, CGCS
SENTRYWORLD SPORTS CENTER
2200 NORTH POINT DRIVE
STEVENS POINT, WI 54481

or give him a call at (715) 346-7719. Your participation is always needed and appreciated.

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Wisconsin Turfgrass Association Annual Meeting
January 24, 1985

The Wisconsin Turfgrass Association is pleased to join again with the College of Agricultural and Life Sciences, University of Wisconsin-Madison, and the University of Wisconsin Extension in sponsoring a combined Research Conference and Annual Meeting.

The date is January 24, 1985, and the location is the Public Events Building, Arlington Experimental Farm, located north of Madison approximately 14 miles, just to the west of highway 51. Please note the program and the map giving directions to the location. *(See reverse side.)*

About 170 turf specialists attended the third such conference last year when we had the opportunity to visit many turf exhibits and visit with colleagues and university specialists. The same informal format will be supplemented this year with more formal research presentations. Starting time is 9:00 a.m. which will allow time for both informal and formal learning opportunities.

Fees for the conference are $15.00 for WTA members; $18.00 for non-members including lunch. Advanced registrations and checks are urgently needed to plan for lunches, which will be catered to the event. There can be no lunch guarantees for those who do not **advance register by January 18, 1985.**

There are no nearby restaurants. Any profits made by the event will be used to support further turf research and education in Wisconsin. We hope you are planning to attend!

The event is planned "rain, snow or sunshine" — but in the event of inclement weather conditions you may wish to call Dr. Robert Newman, (608) 262-1490 to be certain of its status.

Advanced Registration Form

Wisconsin Turfgrass Research Conferences and Annual Meeting

Name: _____ Telephone No: _____

Mailing Address: _____

Company or affiliation: _____

Make check payable to: Wisconsin Turfgrass Association ($15.00 each member; $18.00 for non-member)
Mail check to: Wisconsin Turfgrass Association, 500 Kensington Drive, Madison, Wisconsin 53704

Annual Wisconsin Winter Turf Days
Public Events Building
Arlington Experimental Farm
January 24, 1984

Co-Sponsors:	Wisconsin Turfgrass Association College of Agricultural and Life Sciences University of Wisconsin-Madison
9:00 a.m.	Registration and Coffee Research and Education Displays 1984 Research Results Informal discussion Shared information
10:00 a.m.	Research reports and Topics of Current- University Staff A number of topics are planned, including a discussion on dried sewage sludge products for turf fertilization; Turfgrass **Ataenius** research; turfgrass herbicides; "patch" disease update — the organisms involved, and what they are doing to our turf.
12:30 p.m.	Catered lunch Remarks by Donald R. Peterson, Associate Dean, College of Agricultural and Life Sciences, and University of Wisconsin Extension
1:45 p.m.	Annual meeting of Wisconsin Turfgrass Association
2:30 p.m.	Exhibits Continued
3:30 p.m.	Adjourn

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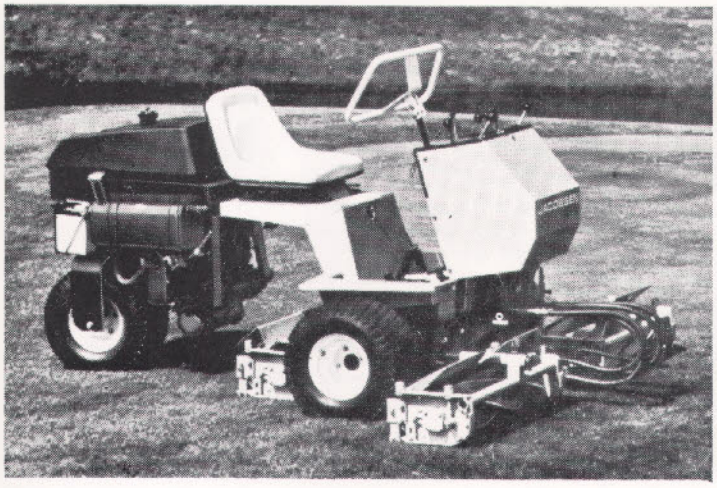

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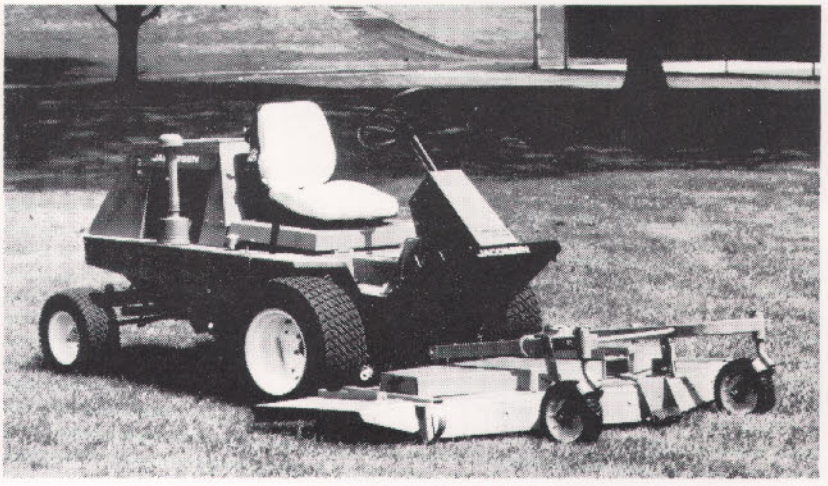

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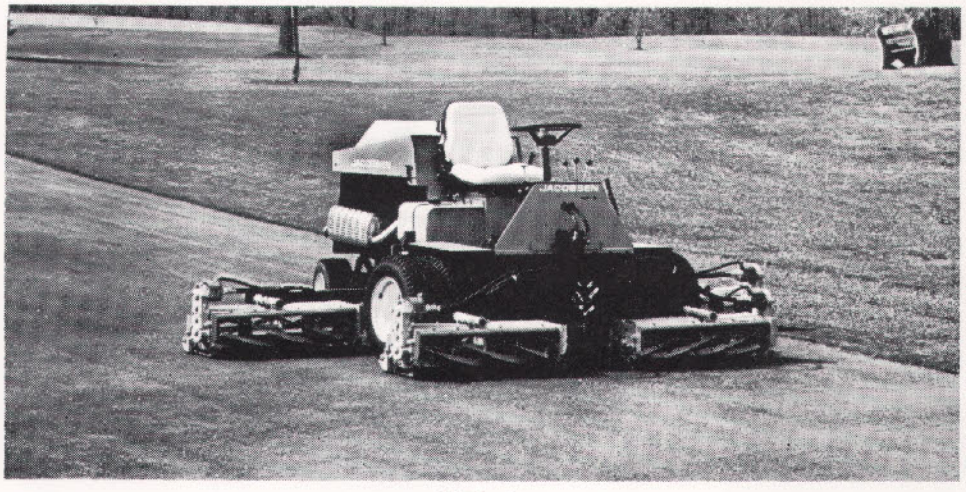

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ALL-AMERICAN FLOWER WINNERS ANNOUNCED

Five annual flowers have been selected as 1985 "All-America" varieties. They are available in seed catalogs and will be in garden centers this spring as starter plants. The selections are made on the strength of their success in test gardens in many parts of the United States by members of **All-America Selections**, a non-profit organization that evaluates new seed-grown flowers (and vegetables). Descriptions of each are as follows:

Verbena Trinidad, has sizzling rose blooms, a new color for verbena. The plant grows comfortably upright to 10 inches and has excellent prolonged flower display because the flowers are held up above the foliage.

Zinnia Yellow Marvel, is distinguished by bright, bold yellow blooms. The plant height is 15" to 20", and its double and semi-double blooms, 1½ to 3-inches. It has shown some tolerance to alternaria, the late-season disease that often curtails the life of zinnias under hot, humid conditions.

Rose Diamond Geranium, a hybrid geranium grown from seed, produces bright, rose-pink blooms and was judged a winner for three outstanding characteristics. It flowers two to three weeks earlier than any rose geranium known, and the base-branching plant develops three to five flower stems with medium-sized flower heads rapidly for constant garden display. Also, the leaves are distinctly zoned, creating an attractive, variegated foliage show prior to flowering.

Celosia Century Mixed, a plumosa type celosia with extra-large 12-inch plumes on semi-dwarf plants, with velvety red shades that makes other celosia flower colors appear muted when grown nearby. This plant retains the flower color longer than others.

Gazania Mini-Star Tangerine, introduces a totally new color to the garden scheme with a clear orange daisy-like flower. The blooms, 2½ to 3 inches in diameter, are held upright over the rosette of leaves.

Outstanding 9-Hole Golf Courses In Wisconsin Recognized By NGF

The National Golf Foundation has identified and recognized outstanding nine-hole golf courses in America, and among these finest are five courses in Wisconsin. The Wisconsin golf courses recognized by the NGF are:

Evansville, Golf Club, Evansville (daily fee)

Minocqua Country Club, Minocqua (private)

Rhinelander Country Club, Rhinelander (private)

Rolling Oaks Golf Course, Barron (municipal)

Waupaca Country Club, Waupaca (private)

Congratulations!

Cornish Receives National Golf Foundation Outstanding Service Award

Mr. Geoffrey E. Cornish of Amherst, Mass., recently was named recipient of the NGF Outstanding Service Award. Mr. Cornish, a renown golf course architect, was a speaker at the 1984 Wisconsin Golf Turf Symposium. He is also the author of an absolutely magnificent book, "The Golf Course." Our applause to both Mr. Cornish for his accomplishments and to the National Golf Foundation for making such an excellent choice.

WGCSA 1985 dues and assessment are to be paid by Feb. 1, 1985

JOB OPENINGS

Baraboo Country Club Golf Course Superintendent

Nine holes, semi-private club. For information call 356-5392 nights or send resume to:
Paul Swain, President
Baraboo Country Club
1010 Lake Street
Baraboo, WI 53913

MAPLE GROVE COUNTRY CLUB in West Salem, WI is seeking a Green Superintendent on a year round basis for their 18-hole golf course. Terms and salary are negotiable depending upon experience. This position will be available after January 1, 1985.

If interested, please send resume to:
Maple Grove Country Club
Route 1
West Salem, WI 54669
c/o Tony Ceresa, President
Phone (608) 786-1500

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18 hole semi-private, fully irrigated (fairways manual, tees and greens automatic)

Known for quality of Penncross greens and tees; common bluegrass and bent fairways.

Seeking working superintendent with either several years experience as a first assistant at a quality facility or 2-5 years experience as a superintendent.

Must be thoroughly familiar with maintenance of all cool season grasses including sand top-dressing and equipment maintenance.

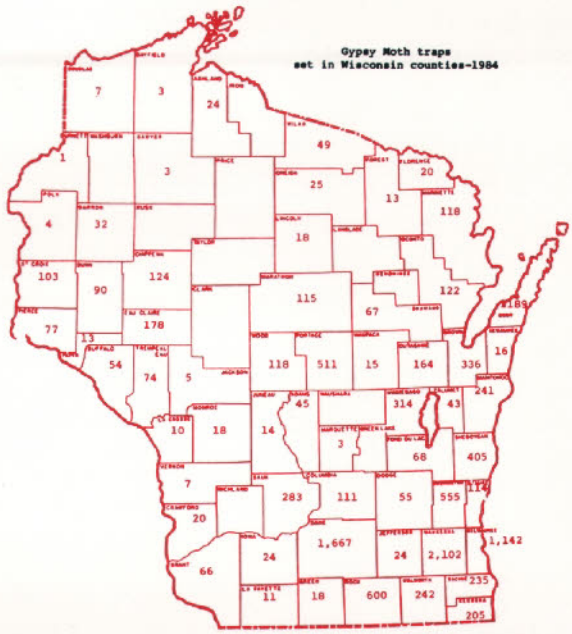
Prefer degree in soil science but not mandatory.

Salary and fringe benefits negotiable.

Send resume to the above address.

WISCONSIN GYPSY MOTH STATUS REPORT

By Julie Nara
Plant Industry Specialist
Wisconsin Department of Agriculture



Thanks to all of you who cooperated in gypsy moth trapping this year. Mr. Harold Line and I appreciate your help very much. Your trapping complemented the trapping done by our summer employees very nicely; in some cases traps set by cooperators were the only ones set in the whole county.

Approximately 11,480 delta traps were set in 61 Wisconsin counties for control, delimitation and detection of gypsy moth infestations in 1984. This number is second only to the record 13,000 traps set in 60 counties last year. As in previous years, trapping was a cooperative effort between the Wisconsin Department of Agriculture, Trade and Consumer Protection, the U.S. Department of Agriculture, the Wisconsin Department of Natural Resources, many municipal and county Forestry Departments, and also many private cooperators.

Statewide, 79 male moths were captured, continuing the trend of decreasing catches since 1981, when 365 moths were trapped. Infestations identified and delimited in the last 3 years have been increasingly smaller and have not inflated total numbers to cause noticeable peaks.

Delimitation of multiple catches failed to lead to identification of any infestations in Madison (Dane County), Wisconsin Dells (Columbia County), and Lake Delton (Sauk County).

The infestation in Elm Grove (Waukesha County) appears to have been eradicated. The infestation in Monona (Dane County) is down from 236 moths at the peak in 1981 to 7 moths this year, we hope that trapping next year will show that the infestation is eradicated.

An infestation in Hubertus, Washington County, was found to be restricted to one property. It was treated with high density trapping this year, and a second year of high density trapping is planned for 1985, possibly combined with ground spray of a pesticide.

The infestation in the neighboring townships of Summit and Oconomowoc, Waukesha County, has had a long and eventful history since 1978, when 666 male moths Multiple catches, indicating possible infestations, were also found in Bonduel (Shawano County), and Sheboygan in Sheboygan County. Male moths continue to be trapped in Mellen (Ashland County) around a lumber mill which gets logs from low risk gypsy moth areas in the northeastern United States. Gypsy moths were also trapped here in 1981 and 1982. While the numbers have never been very large, there does seem to be a problem of reintroduction on logs, and continued trapping is indicated.

As you may know, gypsy moth infestations, like so many other things, tend to go in cycles. While trapping results in the last few years have been very encouraging, we do need to maintain our trapping efforts so that we can detect infestations in the early stages, when treatment and eradication are still relatively easy.

I hope that you will continue to cooperate in gypsy moth trapping in the coming year, which I hope will be a very happy one for you and yours!