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1989 Board of Directors

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President's Message

If you stop your education the world will pass you by. In a dynamic profession like golf course management we must keep up with the current technology of the industry. The members of the Midwest Association of Golf Course Superintendents are fortunate to have a number of offerings available in the area of continuing education. I hope you all take advantage of the learning opportunities before we are back to the hectic pace of the growing season.

The North Central Turfgrass Exposition is one of the stronger regional conferences and shows in the country. We are fortunate to have had this held in St. Charles for the past few years. Next year we will participate in the NCTE in Peoria. I encourage all of our members to make plans to attend the NCTE and be supportive of the efforts of the Illinois Turfgrass Foundation.

Each January the MAGCS co-sponsors a seminar or two with the GCSAA. This year the topic was "Golf Course Construction Techniques and Management." Over 70 people were in attendance at this year's seminar and many were placed on a waiting list. Pete Leuzinger has worked in conjunction with our Education Committee in scheduling these seminars and we appreciate his efforts. If you have any ideas for next year's seminar contact our Education Committee.

The MAGCS Education Committee developed a super program for our January meeting. Mike Crandal did an outstanding job of showing us how to enhance our performance. His ideas on attitudes for success and raising levels of expectations should prove to help all of us in our personal and professional lives. We look forward to some exciting programs like this at most of our MAGCS monthly meetings.

The GCSAA Conference & Show is being held in Orlando this year and a little later than normal. I hope that many of our members are able to attend the "Greatest Show on Turf." The show gets bigger and better every year. The pre-conference seminar offerings have something for everyone. The concurrent educational sessions have grown over the years and GCSAA should be commended for their educational program. Several MAGCS members are scheduled as speakers at the conference. Please try to attend their sessions.

With all of these educational offerings to update us and keep us informed we are quite fortunate in Chicago. If you are still hungry for knowledge or merely wish to take a trip back to your alma mater then think about attending the conferences at Penn State, Purdue, or Michigan State. Another fine conference is right across the border in Wisconsin at the Milwaukee Turf Symposium.

Don't let the world pass you by. Take advantage of the numerous offerings in continuing education. Stay current with the rapidly changing regulations and legislation. Keep up with the latest technology. Continuing education is one of the most important factors for success in our industry. See you at the next meeting or seminar.

Best wishes for continued success.

Bruce R. Williams, CGCS
President, MAGCS

Director's Column

New Committees Developed for MAGCS

by Bruce R. Williams, CGCS

I am pleased to announce the addition of two new committees this year to the Midwest Association of Golf Course Superintendents. The first committee is the Commercial Member Advisory Committee. This committee has been developed to open the lines of communication between the Board of the MAGCS and our commercial members. We value the input of our commercial members and they now have a voice to address the board of our association. Phil Taylor has been appointed chairman. Joining Phil on the committee are: John Lebedevs, Kerry Anderson, Mark Johnson, Dave Louttit, and Jim Reed. We look forward to hearing from this segment of our membership. Without their support it would not be possible to develop and implement many of our fine programs throughout the year.

The second committee will be a Past Presidents Council chaired by Roger Stewart. We look to our past presidents for their wisdom and experience in helping us chart a course for the Midwest Association of Golf Course Superintendents. To my knowledge, this is a source of infinite information that has been overlooked in the past. I hope all of our Past Presidents will give us some feedback concerning the operation and direction of the association. Reger will be contacting all of you shortly.

These committees have been added to our regular standing committees for 1990. I am sure the productivity of the committees will ensure their appointment by future Presidents. My thanks to all of those members that are participating on these new committees.

Spring Fever Jive

Short February tells us January's gone,
Soon March will sing it's springtime song.
How easy it is to jump ahead,
When thoughts of spring and golf, fill the head.
Anxious for a brand-new start,
As new year, new season, stirs the heart.
Great expectations tease the mind,
When leaving last year, last season, far behind.
Spring Fever makes a brand new season glow,
Even in the midst of Winter's drifting snow.

— Kenneth R. Zanzig

From Your C.M.A.C.

Phil Taylor, Chairman

While applauding the efforts of Bruce Williams and the newly formed Board of Directors, I was honored to have been selected to chair the Commercial Members Advisory Committee.

Who are we and what are we all about? Selection of the committee members was a relatively easy task since there are many capable and willing Class E members within our association. Phil Taylor (Illinois Lawn Equipment), John Lebedevs (Turf Products, Ltd.), Kerry Anderson (Rhone-Poulec Ag Company), Mark Johnson (Nadler Golf Car Sales), Dave Louttit (Scotts Pro Turf), and Jerry Hough (Arthur Clesen, Inc.), comprise the committee. The diversity of each of our backgrounds will prove to be invaluable as we focus on our goals for the coming year.

The purpose of this committee in general terms is to improve communications between MAGCS members, Class E members and manufacturers. We consider ourselves as liaisons between our customers, who have ideas about what their needs are, and manufacturers of chemicals and equipment, who attempt to meet those needs with their products. The more input we, the committee, can generate from the membership through verbal communication and perhaps written surveys, the greater affect we can have on our manufacturers and the products they produce.

I'm looking forward to working with my committee this coming year and to hearing from you, the membership. Improved communications will eventually prove of benefit to everyone involved in our business.

MAGCS COMMITTEES
1989-90

NOMINATIONS:	Chairman - Dave Meyer Roger Stewart
FINANCE/BUDGET:	Chairman - Ray Schmitz Dave Meyer, Tim Kelly, Bruce Williams
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PAST PRESIDENTS COUNCIL:	Chairman - Roger Stewart
COMMERCIAL ADVISORY COMMITTEE:	Chairman - Phil Taylor
EDITORIAL:	Chairman - Fred Opperman Roger Stewart, Ray Schmitz, Dudley Smith

An Epidemiologist's View on Lawn Care

Dr. Stanley H. Schuman
Medical University of South Carolina

The perspective of the epidemiologist as related to pesticides used for lawn care is vital to a clear understanding of safe use of a wide variety of chemicals. Dr. Stanley Schuman has recorded the following thoughts as a guide for discussion.

• Studies on birth defects tend to become complex. Animal studies on toxicology lead to studies on human births concerned with epidemiology. With animal defects, we can eliminate the animal (put it out of its misery). We do not eliminate people with defects. We identify more defects with humans then we do with animals, in general.

• Toxicological data accumulates rapidly. We may draw conclusions on rats that have nothing to do with people. The appearance of truth in interpretation may be highly distorted.

• Raspberries, peppers, root beer, and peanut butter cannot pass safety tests. There are some 10,000 more carcinogens in the daily diet than in the environment around us. Food is a major source of harmful chemicals.

• Plants like marigold and chrysanthemums generate nature's own pest control chemicals. These will not pass safety tests. There are mutogens (from mutations) such as:

Teratogen
Carcinogen
Co-carcinogen
Oncogene

that cause birth defects — chromosomal abnormalities. Defective ova and sperm may develop. There are intrauterine factors and hemolytic diseases.

• Environmental conditions that are considered health hazards include:

irradiation
drugs
alcohol
tobacco
viruses
heavy metals
plant toxins.

• With mutogens such as carcinogen it's a matter of luck or chance in early cell development. It's a chance that something can go wrong.

• What about pesticides and birth defects?

10 percent are caused by environmental conditions;
25 percent are genetic or chromosomal related;
65 percent remain unexplained.

The 65 percent lend themselves to so-called witchcraft explanations and are fair game for legal action in the courts. For example, 4 percent of normal women will have a child with a birth defect. Five percent of agent orange exposed fathers will contribute to a birth defect in their off-spring.

• The media pick up enough information on these defects to arouse public concern. When one major defect or 3 minor defects are possible for every 100 live births, this touches pretty close to home. The importance of close survailance of birth defects is thus important. Monitoring began in 1970 with an

(cont'd. on page 6)

(An Epidemiologist's View cont'd.)

early warning system under development. There were 13 million births in 1982 and 16.5 million births in 1987. Defects are identified in 160 clinical categories of which 33 are major or life threatening. Three — Downes, club foot and cleft lip — account for 25 percent of the total major forms.

• There have been no changes in birth defects attributed to increases in the use of pesticides.

• Nerual tube defects are particularly sensitive to environmental influences. Trends for this defect are decreasing internationally. Most trends for defects are flat, indicating no change. This one decreasing trend is never reported on the news. There is an information gap; that prevents material considered not newsworthy from being used.

• From 1970 to 1983 in the birth defects category, 22 were reported as stable or decreasing and 11 were described as increasing. Five of the eleven were cardiovascular — found to be increasing. This is likely the result of specialists working in this area with more data available. More accurate reports are likely when more specialists get involved. Thus, 6 of 11 were non-cardiovascular.

• Sylvex has been alleged to have caused problems, but the studies have been found flawed. 2,4,5-T has been given bad ratings and the media caught on to this right away. Regulatory services have had an influence. There has been much fear associated with myth in these instances. Such reports as "The Apolcolipities", "The Toxic Terror", and "The Coerciae Uptopians" have produced a vision of things going from bad to worse.

• Aging is the greatest threat to life at the present time. New information is providing better control of aging. With rats, one out of three die of old age. The age of cells is of critical importance.

• There are major limitations in measuring pesticides in ground water and to correlating this with human defects. Herbicides are often singled out as most dangerous (more so than fungicides or insecticides) probably because of dioxin. Where the dollars go, the publicity goes along with the media. The public cannot see the forest for the trees. Only 1 percent of the people are sensitive to chemicals. Five percent of people have allergies or are sensitive to irritants such as:

sulfur
dust
poison ivy
pollon
certain plants.

Some people that start out allergic, outgrow this condition.

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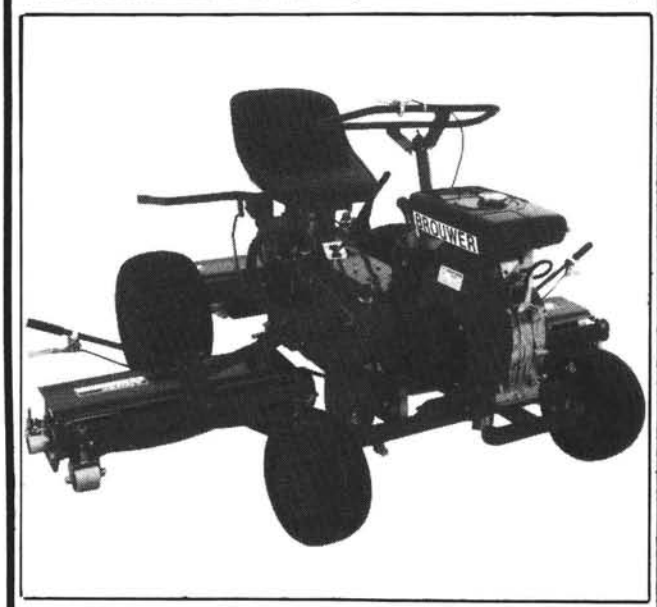

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Why is Annual Bluegrass So Successful?

by Steve Poitras and Bill Johnston
Washington State University
From "Turfgrass Topics/Fall 1989

When dealing with a species that is a weed one must keep in mind why an environment is favorable to the species as well as the biological adaptations of the species that allow it to invade. Often the cultural practices used to promote healthy turf also favor invasion of less desirable species, such as annual bluegrass. Some of the cultural practices that favor annual bluegrass invasion are high fertility, excessive irrigation, and close mowing.

What are the special adaptations that enable a plant to become an invading species? H. G. Baker, in his studies on the genetics of colonizing species, has outlined what he believes make an ideal weed, ideal meaning successful in terms of maintaining itself as a viable population. Baker lists fourteen attributes that a weed may possess in order to be a successful invader. A species does not need to have all of these characteristics to be an invading species; however, annual bluegrass has many of these characteristics.

Annual bluegrass progagation, according to T. K. Koshy, is mainly from seed, especially in the annual types. The perennial biotypes produce seed, but are also able to vegetatively reproduce indefinitely from the formation of new tillers and rhizomes. Koshy states that annual bluegrass' success as a weed is due in part to its high versatility in seed formation. **Poa annua** is self compatible, that is, it is able to self-pollinate. However, it also is able to undergo cross-pollination. The ability to undergo self-pollination is a very important characteristic for an invading species. If one seed falls in an open niche and conditions are favorable for germination and growth, the plant will be able to flower and produce seed even if there are no other plants of the same species present for pollination. The process of cross-pollination will lead to different biotypes in the population and is probably the reason that perennial types have developed.

Viable seed can be obtained from annual bluegrass on the same day anthesis (flowering) occurs. From a turfgrass management point of view this can present a problem. If the turf is cut daily, in order to remove seed heads as they are produced, there will still be viable seeds in the clippings or clinging to the machine to be deposited elsewhere and continue the spread.

Another advantage of annual bluegrass seed production is that seed can be produced under many different environmental conditions. J. B. Beard cites studies that show the optimum temperature for seedhead production is approximately 27°C. However, even under less than ideal temperatures (as low as 10°C) seed can be produced. The ideal photoperiod for seed production is a 12-hour day, but once started the plant can produce seed over a wide range of photoperiods all season long, according to Beard. A. J. Renny reports that annual bluegrass is able to produce seed the entire growing season if conditions are favorable, and feels this is the reason annual bluegrass can produce so much seed. Renny found that one plant may produce up to 360 seeds over a 4 month period. It has been shown that the soil surface lay may contain up to 30 million seeds per acre where an annual bluegrass population exists.

(cont'd. on page 10)

(Annual Bluegrass cont'd.)

The seeds of annual bluegrass do not exhibit much dormancy. The perennial biotype produces seeds that are ready to germinate immediately on exposure to favorable conditions, whereas, the annual biotype seeds need an afterripening period of approximately 3 months, accorrding to T. G. Tutin. The seeds of both types will remain viable in the soil for approximately 2 years, according to H. B. Sprange. Even though this is not a long period of dormancy, a large reservoir of seed can be built up in the soil.

Germination and seedling growth are very important for the success of any weedy species. Baker says that successful invaders will have no special requirements for germination. Annual bluegrass can germinate over a wide range of temperatures, (4°C to 21°C). Subsequent seedling growth, however, requires higher temperatures. Low germination temperature allows annual bluegrass to become the first grass in a turf mixture to initiate growth in the spring and to outcompete other species for space and nutrients, Beard reports.

There is a strong light requirement for the germination of annual bluegrass seeds, according to Beard. This can be a benefit for a species, such as annual bluegrass, that has a very small seed size. The light requirement will inhibit the seed from germinating in deep soil. If germination takes place too deep in the soil, food reserves will be used up before the plant can emerge. Also, seed would fail to germinate in highly shaded areas that are not conducive to growth. Annual bluegrass is a problem in areas that are continually mowed, have barespots, and where shading is at high light intensities, Sprague reports, it can effectively adapt to shaded conditions. Since neither Kentucky bluegrass or creeping bentgrass are well adapted to shade, annual bluegrass can often outcompete these desirable turf grasses in shaded environments.

The time from germination to flowering is an important factor in the weediness of a species. Also, if the time between flowering and seed set is short the plant will put a large share of its resources into reproductive production than into vegetative growth, and thus produce more seeds. A plant that has a short time to flowering and seed set is more able to produce its seed and escape potentially adverse environmental conditions. The annual biotype of annual bluegrass has a relatively short vegetative phase. Flowering will begin within approximately 50 days after emergency, while the perennial type takes longer, approximately 80 days, according to Beard. This relatively short time to flowering will allow the plants to have several flowering dates in a single season, and could help in the continual repopulation of the species.

According to Beard, the root system of annual bluegrass is commonly reported as being shallow. However, in most of these observations the plants were growing on compacted sites such as golf greens. Sprague and Burton have done studies that show the root system of annual bluegrass is comparable to Kentucky bluegrass or creeping bentgrass under non-compacted soil conditions. Annual bluegrass can adjust to compacted sites and lower oxygen concentrations better than Kentucky bluegrass or creeping bentgrass. Sprague reports the performance of these two desirable turfgrasses declines under compacted soil conditions the competitive abilities of annual bluegrass become apparent as it becomes the dominant species.