

18. Do you talk "shop" over cocktails on social occasions?
19. Do you wake up in the night worrying about business problems?
20. Do your dreams tend to center on work-related problems?
21. Do you play as hard as you work?
22. Do you tend to become restless on vacation?

The true workaholic will probably answer nearly all of the questions in this way:

(1) Yes (2) Yes (3) Yes (4) Yes (5) Yes (6) Yes (7) Yes (8) No (9) Yes (10) Yes (11) Yes (12) Yes (13) No (14) Yes (15) Yes (16) Yes (17) Yes (18) Yes (19) Yes (20) Yes (21) Yes (22) Yes

Well adjusted people may give many of the same answers as "workaholics"; the difference lies in the number of "yes" answers. If you answer more than 18 yeses, you may be heading towards true "workaholism" which can be a danger signal.

It is generally agreed that coping successfully with today's frenetic pace is dependent on a variety of personality and behavioral tendencies. Let me list them for you:

1. The healthy individual knows himself or herself at all levels and works to understand and accept his or her own strengths and weaknesses. He or she analyzes these strengths and weaknesses and recognizes personality traits which cannot be changed and capitalizes on those skills, social and professional, which enhance the Superintendent's position.
2. The healthy individual is one who has developed a lot of interests outside of the world of work. He or she has a variety of satisfactions in life and has a lot of irons in many fires and these interests relating to family, recreation, other business are actively pursued.
3. The healthy individual has a variety of reactions to conditions which he or she finds stressful. For example, if the President of the Board makes an inappropriate request, the Golf Course Manager doesn't always develop a headache, or get depressed when confronted with a minor threat. The person rolls with the punches and bounces back quickly from stressful situations.
4. The healthy individual acknowledges that others have different sets of values, attitudes and opinions and accepts these as a fact of life.
5. The healthy individual is active and productive not only at work but in other similar situations in the community and in family live.

The popular saying in Ecclesiastes which goes like this: "There is a time for everything and to everything there is a season" is indeed a saying to live with. If people can hold a proper perspective in all areas of life, home, family, work, friendships then the supporting mechanisms provided in these different areas will go a long way towards making our G.A.S. reactions healthy and production.

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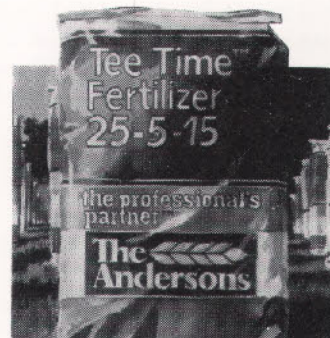
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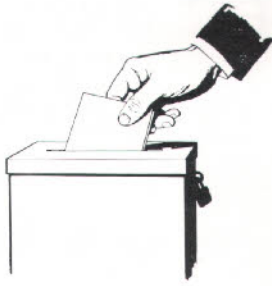
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WGCSA ELECTION UPDATE

Bill Roberts, WGCSA Vice-President and candidate for GCSAA Executive Committee membership, reports campaign activities are progressing on schedule for the upcoming election to be held at the Golf Course Superintendents Association of America Conference and Show.

Individual GCSAA members from across the country have been contacted by telephone and correspondence in an effort to consolidate support for Roberts' candidacy. GCSAA Voting Delegates and Alternate Delegates are targeted for contact in early January. Roberts has traveled to the Minnesota GCSA Conference, the Northwestern Illinois GCSA Annual Meeting, the Midwest Turfgrass Conference and the North Central Turfgrass Exposition, primarily to speak on his SentryWorld operation, but, also, to solicit further support for the WGCSA election effort.

Plans for the Wisconsin Golf Course Superintendents Association "Hospitality Suite" will be finalized at the January Board meeting. A volunteer sign-up sheet has been circulated for those wishing to help with the "Hospitality Suite" and, although the initial response has been enthusiastic, the Election Committee continues to seek the assistance of any and all WGCSA members travelling to Washington, D.C.

According to Roberts, "The election process has given us the opportunity to make new friends and acquaintances all over the country and for that alone it has been well worth the effort. However, the most gratifying aspect for me has been the amount of energy and enthusiasm from my fellow Wiscon-

sin GCSA members. I'm convinced that the hard work will be rewarded in Washington, D.C. in February and I want to say thanks to everyone in Wisconsin for the support."

Although time grows short and there is still much work left to complete, we of the Wisconsin Golf Course Superintendents Association continue to be up to the task at hand and believe this goal will be realized.

PROJECTED SEED AVAILABILITY FOR THE 1984-1985 SEASON

*By Dr. Richard H. Hurley
Director of Research
Lofts Seed, Inc.*

Seed shortages experienced last year have brought renewed interest in seed crop harvests and estimated availability for this year. The results of the 1984 crop of seed harvest are projected availability for 1985 are listed below:

1. Turf-type Perennial Ryegrasses (most varieties) —

The crop was excellent with more than adequate supplies to last through the summer of 1985.

2. Fine Fescues — (i.e., chewings, hard, creeping red)

Crop was average and we expect no shortages on these species.

3. Tall Fescues —

Turf-type fescues will be available in greater abundance during the fall of 1984 and spring of 1985 compared to last season. Expect shortages to crop up late spring and early summer of 1985.

4. Bentgrasses —

With Penncross and Penneagle the harvest was significantly larger when compared to last

year. Expect adequate supplies through early spring of 1985. There may be shortages of Penncross due to dwindling inventory in late spring and early summer of 1985. For anticipated summer of '85 seedings with Penncross I would suggest purchasing the seed this fall or winter and warehousing it.

5. Kentucky Bluegrass —

All varieties will be in short supply till new crop of 1985. Of all the cool season turf grasses Kentucky Bluegrass will be in the shortest supply. Some varieties (i.e., Eclipse, Glade, Adelpia, Ram I) and other popular varieties will be sold out shortly. I strongly suggest anyone anticipating seeding Kentucky Bluegrass during the spring or summer of 1985 to purchase the necessary seed as soon as possible.

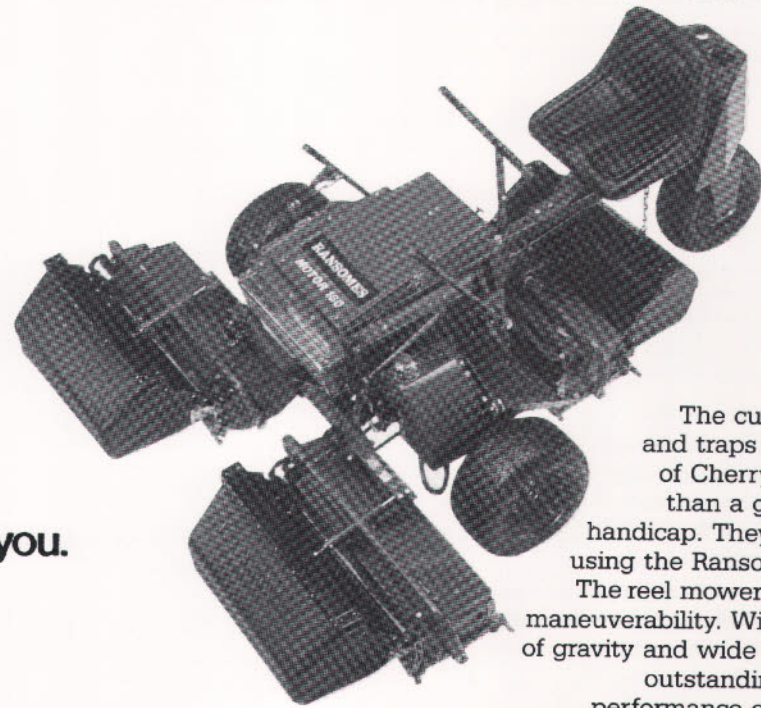
The **GRASSROOTS** is a bimonthly publication of the Wisconsin Golf Course Superintendents Association. Editor and Publisher — Monroe S. Miller, Blackhawk Country Club. Business Manager — Danny H. Quast, Milwaukee Country Club. Printed in Madison, Wisconsin by Kramer Printing. No part or parts of the **GRASSROOTS** may be reprinted without expressed written permission of the Editor.





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RANSOMES

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Editor's Note: The following two articles lend some evidence to the fact that the debate of "what's in a name" is not a new one. The first article, which appeared in the March 1937 issue of "The Greenkeepers' Reporter" was written by Harold Stodola of Keller Park Municipal Golf Course in St. Paul, Minnesota. Mr. Stodola was president of the GCSAA from 1941 to 1945. He had a partial success in his argument over names — our national association changed its name from the National Association of Greenkeepers to the Greenkeeping Superintendents Association in 1938. The GCSAA name change did not come until 1951.

The second article was printed in the July 1937 issue of "The Greenkeepers' Reporter." It expressed the thoughts of Kent Bradley, who authored a regular feature in the magazine called "Kibitzing with Kent Bradley."

GREENKEEPER?

By Harold Stodola

The name "greenkeeper" is an old name originated, I believe, by the Scotch. Yet it is still misspelled and misunderstood by many people.

Dr. Monteith told the Minnesota Association that "greenkeeper" is made up of two words—green and keeper. He said green means the entire golf course. Therefore a greenkeeper is keeper of the entire golf course. What could be more specific?

Superintendent is a general word that means to supervise something—it may be anything from a shoe factory to goodness knows what. Isn't that too general? To superintendent you would have to add golf course or something else to define it, and still you would not call attention to fine turf like "greenkeeper" does.

Doctor is a general title. Neurologist is a nerve specialist. For nerve cases the doctor recommends the neurologist who draws the largest fee because he is a specialist. You will not draw more money for generalizing your name; in fact you will cease to be a specialist and consequently will be paid less. We have been blessed with a traditional name, full of meaning, that just breathes specialized work, and this is the age of specialists.

They say the word "greenkeeper" is not in the dictionary. Is that a reason why we should borrow a shop-worn word to take its place? We are big enough to put "greenkeeper" in the dictionary and then we will have accomplished something and retained our originality.

No matter who runs the golf course, the greenkeeper maintains the turf. He is the man to recognize. Let us push the name, not sidetrack it for something common.

If you want to separate this organization from the credit for maintaining the finest turf, just change your name to superintendent and tie yourself up with other general superintendents. To try to elevate a profession by changing the name is folly.

Perhaps some think our name is too simple and homely. It is simple and homely, and so are the words of the Gettysburg Address which will always be a masterpiece.

When did golf courses start to go ahead? When the job became too much for one man who really was a superintendent and the greenkeeper stepped in making greenkeeping his profession.

Do you want to go backwards by becoming superintendents and general men with a general title? Stick to a specialized title like "greenkeeper." Live up to the name, and you will be recognized as a turf specialist and will be well paid for it.

Kibitzing with Kent Bradley

THE DISCUSSION on "superintendent vs. greenkeeper" appears to be not as a tempest in the teapot, but rather a trend of the times. A large percentage, if not a majority of organizations, whether affiliated or not, are changing their name to "superintendents."

SURVEYING THE situation as a little toad in a big puddle, the following was found to be true in New York. The Metropolitan District has ten golf courses. One superintendent is over ten golf supervisors who have charge of the maintenance of the courses and clubhouses.

FURTHER INVESTIGATION reveals several "rich counties" (i.e. high tax rates) who have—

1. Head foreman over three courses having "greenkeepers."
2. Head greenkeeper over three greenkeepers recruited from the ranks of the WPA.
3. Chief horticulturist over two foremen-greenkeepers.
4. Assistant engineer-golf superintendent over greenkeeper.
5. On a daily time report, the golf course superintendent was formerly to sign the sheet after the title of "foreman," and there was a column for time recording listed under "greenkeeper" along with the course labor distribution cost.

THE NEW YORK Metropolitan District employees are under civil service, which applies both to officials and labor. Frequently they are unable to get the same men back each year and often have to break in a new crew with the aid of the WPA men who claim golf course experience.

WITH THE above in mind, one questions the championing of the name "greenkeeper." It is as futile as the efforts of the "Sons & Daughters of I Will Arise"—plenty of smoke, but little fire.

* * *

IT HAS been suggested to call the National Association, "The Professional Greenkeeping Society." In a back issue of the old "National Greenkeeper," Professor L. S. Dickinson said that when a man thinks he is ripe, he begins to get rotten. Apparently only those who have an open mind to learn, keep "green" and are able to grow. Many greenkeepers do not keep green. Those who do not procrastinate progress are of higher calibre and they desire and deserve a better name. It is well known that many of the best greenkeepers are on the worst courses. They are needed there, or there just wouldn't be any golf course.

* * *

ON A COMPLIMENTARY golf course labor distribution sheet, the name "greenkeeper" and "greenskeeper" appear with two spellings. Who is to decide on the correct spelling, let alone the proper defining of the word? In the event Messrs. Funk & Wagnall print the name, what then? Too few people read the Bible and the dictionary. The average person's vocabulary is limited to only a few hundred words—hence the popularity of newspaper tabloids.

BRAYTON MEETING A SUCCESS

By Ric Lange

On Thursday, December 6, Brayton Chemical Technical Representative Joe Wollner hosted the company's first annual turf information meeting at the Holiday Inn Southeast in Madison. The main speaker for the meeting was Dr. Robert Shearman, Professor of Agronomy at the University of Nebraska. Other guest speakers included Paul Steinbrick, Technical Representative of Rigo Chemicals Corporation; Robert Hefta, Technical Representative of Union Carbide Corporation; and Steve Bird, District Sales Manager for Brayton.

The meeting convened shortly after 9:00 A.M. following a registration hour highlighted by coffee, sweet rolls and extensive and friendly discourse among attending turfgrass managers. Dr. Shearman began his talk by addressing problems of weed control in turf. He stressed the importance of Integrated Pest Management (IPM) as the best method of weed control, with chemicals representing only one aspect of an entire and complete program. Prevention and control can be achieved to a great extent non-chemically by manipulating genetic, cultural, physical and biological factors. Dr. Shearman did note, however, that chemicals remain a strategic component in most weed control programs. Careful selection and use of herbicides and Plant Growth Regulators (PGR), in addition to other facets of a good IPM scheme, can effectively and economically control the majority of weeds in turf.

Weed control in general was broken down into three parts, based on the type of weed to be controlled (both annual and perennial grasses, and broadleaf weeds).

The discussion of annual grassy weeds included the plant, the environment, and the conditions that favor germination. Field test results showed DCPA (Dacthal) and Oxadiazon (Ronstar) offering better than average control, with

Benefin (Balan) and Bensulide (Betasan) offering control that allowed escapes of foxtail and *Poa annua*. Weedy perennial grasses appear to be controlled best by late season applications of glyphosate (Round-up) and reseeding.

Annual broadleaf weeds can be controlled by early pre-emergent applications or with well timed post-emergent applications of broadleaf herbicide. Difficulty in controlling *Oxalis* (wood sorrel) may be lessened by use of one of the new broadleaf herbicides such as Weedone DPC or Turflon.

The morning program was followed by a delicious prime rib lunch and again, time to visit with friends and colleagues. The afternoon program began with an enlightening talk of wetting agents by Rigo Tech Rep Paul Steinbrick. Rigo is a formulator of wetting agents and related products. The discussion hinged on the need for surfactants, both spreaders and stickers in the management of turfgrasses.

Dr. Shearman's afternoon talk covered areas of efficient water management, effects of cultural practices on rootzone development, and *Poa annua* pest management. Research on water requirements for turfgrass is being conducted with two goals in mind — long and short term. Long term goals are the development of new turfgrasses that require less energy input, thereby reducing water requirements. Results of these research efforts will be seen in the not-so-distant future. Short term research is assessing the effects of mowing, fertilizing, and the use of wetting agents and PGR's on water requirements on turf. Frequent mowing reduces water use by keeping leaf surface as small as possible and thereby reducing evapo-transpiration by the plant. Potassium fertility has a significant effect on water use, with deficiencies resulting in susceptibility to drought stress and greater water needs. Wetting agents conserve water by reducing evapo-transpiration in turfgrasses, and PGR's can reduce plant growth rates, resulting in less water consumption.

Dr. Shearman expressed his recommendations for rootzone modifications. Light applications

of sand topdressing on a frequent basis, combined with the use of wetting agents and timely aeration, show very desirable results when compared with the heavy and infrequent topdressing approach. The talk was concluded by some research notes on the use of PGR's on *Poa annua*. Herbicidal effects have been seen when these materials are applied late season at proper rates. The following spring leaves remaining *Poa annua* in a very weakened condition. PGR's appear to be yet another useful tool in the eradication of *Poa annua*.

The final speaker of the day was Robert Hefta, Union Carbide Technical Representative. Mr.

Hefta spoke of Weedone DPC production techniques and gave some tips on mixing and using phenoxy herbicides.

Brayton held a drawing in the afternoon for a two-gallon Solo sprayer. The lucky (absentee) winner was Don Lawrence, Golf Course Superintendent of Atwood Golf Course in Rockford, Illinois.

The Brayton meeting was a very enjoyable and informative gathering and was appreciated by all. According to Joe Wollner, we can expect at least one Brayton meeting per year, with the possibility of smaller regional summer meetings at various golf courses around the state.



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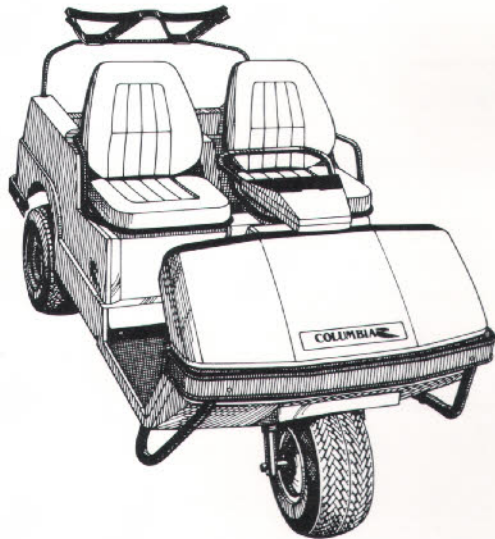
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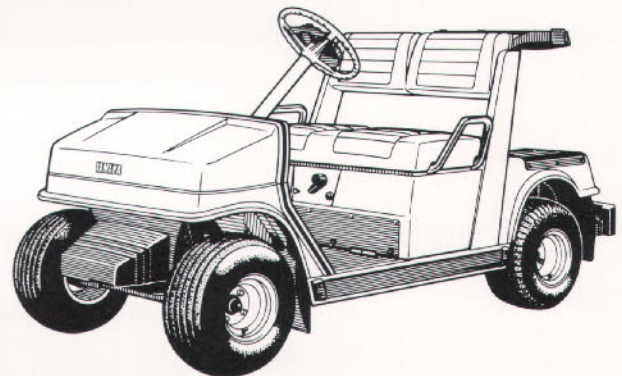
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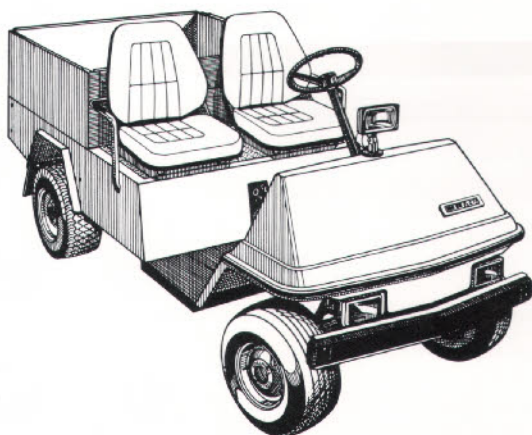
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Frame On Management

INDIVIDUALIZE YOUR MANAGEMENT

By Ron Frame

A pastor friend remarked to me after a particularly difficult marriage counseling session, "Loving people is really pretty easy; the difficulty arises in loving them one at a time." Much the same can be said about managing people; the challenge, or to be a bit negative, the problem, lies in the one-on-one aspects of the relationship.

Like managers in many professions, superintendents tend to speak in terms of groups — usually crews. Reference to groups is certainly conversationally convenient, but such "group-speak" offers even more; it keeps us safe through anonymity, it neutralizes the power and dilutes the impact of individual personalities, it establishes a "King's X" protection from responsibility (everyone knows that there are "individual exceptions").

The fact is, "group-think" is damaging to management effectiveness. Superintendents do manage crews, but to do so properly requires that they manage the individuals comprising the crew. Management is inescapably a one-on-one relationship between the manager and the managed. The entire fabric of the human resource management process is predicated upon the idea that one individual (the manager) acts and another (the managed) responds.

The management action may be directed at a group of subordinates (a crew), but each member responds to it as an individual, whether properly or improperly. Policies are written for the group, but are followed or violated by individuals; plans are prepared on the valid assumption that individuals will implement them; responsibility and authority are delegated to individuals; problems are both created and solved by individuals; people are hired as individuals and fired the same way.

But still, the concept of people management is almost always considered a group process. Remember those clichés common to advice on managing people?

"You must treat everyone alike," "individual favoritism is the father of unionization," "you must not discriminate; if they work as a group, treat them as a group," "keep the staff at arm's length, it doesn't pay to get to know individuals too well."

Vince Lombardi was reported to have said, "Teamwork never won a football game; individual effort to achieve understood team goals makes for winning teams. No football game has been won without those individual efforts."

In truth, a manager manages one person at a time. Each person is an identifiable, individual resource for the accomplishment of organizational goals. As such, each person must be selected carefully, trained unendingly, maintained in both preventative and emergent ways and provided with means of motivation leading to profitable levels of productivity. These are management responsibilities that simply cannot be discharged through other than an individualized orientation.

A manager's personal career rests heavily upon the people he manages. The reverse is also largely true — their successes depend heavily upon him. It is a mutual thing, boss and subordinate, each contributing to each other's success. It's a function of morale — the enjoyment of success — and

morale is best available through a process of recognition; individualized recognition through individualized management.

Does all this sound a little exaggerated? Perhaps that depends upon your personal vantage point; that of the manager. But keep something securely in mind; while you may be a manager of a group, you are also managed within a group! From that perspective, how does the importance of individualized management look to you?

Editor's Note: Ron Frame is an independent Human Resource Management consultant with a ten year practice focusing upon training and development in management processes. He works primarily through the presentation of speeches, workshops, seminars and individual tutorials for a wide variety of clients on a national scale.

He is a native of Kansas and was educated at the University of Kansas with academic concentrations on Business, Psychology and English. His professional employment includes fifteen years in banking and higher education. He has served GCSAA as a consulting faculty member since 1975, conducting seminars and workshops regionally and at each annual conference and show.

The direction of his twenty-five years experience has been upon the human aspects of organizational and managerial effectiveness. He views employees at all levels as being resources for the achievement of organizational goals; resources that are expensive to the extreme and require both development and conservation to serve the organization effectively.



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(Continued from page 1)

along highways and roadsides. Well maintained, high quality turfs such as desired on golf courses, home and industrial lawns, parks, and cemeteries cannot tolerate the undesirable effects inherent in pesticides that stop plant growth.

Turfgrasses grown for their aesthetic value or to maintain a high quality recreational surface must continue to grow in order to provide a dense, healthy stand. A pesticide that allows growth to continue but results in a reduction in stem elongation and a more compact plant, offers significant opportunity for managers of high quality turfgrass areas.

One such class of pesticides **currently under experimental development** by Elanco Products Company is the pyrimidine methanols. Two members of this group, in particular, will be discussed to illustrate the potential opportunities they may bring the turfgrass manager.

Rubigan® Systemic Fungicide for Turfgrass Disease Control

One of the compounds is Rubigan (fenarimol, Elanco Products Company) and its primary biological activity is as a locally systemic fungicide. As a fungicide, Rubigan inhibits the biosynthesis of the fungal sterol, ergosterol. Turfgrass pathogens sensitive to Rubigan's mode of action include those causing dollar spot, large brown patch, *Fusarium* blight, striped smut and the snow mold causing pathogens. Several other turfgrass pathogens have also exhibited sensitivity to Rubigan and research efforts are continuing to fully define application rates and timing.

During the course of the research and development of Rubigan as a turfgrass fungicide, a secondary biological effect was noted. This effect deals with the reduction of the biosynthesis of GA in an annual weedgrass commonly associated with golf course putting green culture. This species is annual bluegrass (*Poa annua*). At higher fungicidal application rates, Rubigan acts to reduce the biosynthesis of gibberellic acid in the true annual species of *Poa annua*. When Rubigan is used on cool season turfgrass areas where *Poa annua* survives throughout

the summer, continuing applications over several seasons in a preventive fungicide program can gradually reduce *Poa annua* populations while competing perennial turfgrass species increase in the population.

A shift in population dynamics such as this can only occur when the competitive advantage normally enjoyed by *Poa annua* is altered to favor the other competing species. Rubigan's mode of activity is expressed in *Poa annua* at significantly lower dosages than in perennial turfgrass species such as creeping bentgrass, perennial ryegrass, and Kentucky bluegrass. This selective response enables the perennial turfgrasses to grow uninterrupted at their normal rate while *Poa annua*'s competitive edge is reduced or eliminated. Cultural practices and environmental conditions which favor *Poa annua*'s growth and survival will obviously impede this population shift.

Rubigan's biological activity in *Poa annua* not only occurs on existing plants treated fungicidally but can also effect *Poa annua*'s seedling vigor when germination occurs during the late summer or early fall. Rubigan's ability to significantly reduce *Poa annua*'s seedling vigor will depend on the total quantity of compound applied during the summer

is no single quantity of Rubigan that can be expected to result in the desired growth modification. This is due to the extreme variability that exists in the *Poa annua* species itself, varying environmental conditions, cultural practices, and soil conditions. Minimum amounts necessary each season are generally in the range of 2 to 3 ounces of formulated product (50% Wettable Powder) applied over the course of the dollar spot control application season. It must be emphasized here, that Rubigan should only be used as recommended for turfgrass disease control. The potential to reduce *Poa annua* populations must be recognized as a secondary benefit and just part of an ongoing *Poa annua* management program.

As an example, Rubigan 50W applied in a preventive disease control program at 0.4 ounces/1000 sq. ft. every 3 weeks beginning on June 1st will result in the following additive totals over the course of the spray season.

The above disease control program will provide excellent control of dollarspot under all disease pressure situations and good control of brownpatch under low to moderate pressure from that pathogen. If environmental conditions occur which are favorable to high disease incidence of brownpatch, an effective fungicide

Application Date	Rubigan 50W/1000 Sq. Ft.	
	Quantity Applied Per Application	Total Amount Applied To Date
June 1	0.4 ounces	0.4 ounces
	+	
June 22	0.4 ounces	= 0.8 ounces
	+	
July 13	0.4 ounces	= 1.2 ounces
	+	
August 3	0.4 ounces	= 1.6 ounces
	+	
August 24	0.4 ounces	= 2.0 ounces
	+	
September 14	0.4 ounces	= 2.4 ounces
	+	
October 5	0.4 ounces	= 2.8 ounces

disease control program. Residual quantities of Rubigan remaining in the *Poa annua* germination zone plus continuing fungicidal applications will reduce *Poa annua* seedling vigor and competitiveness by the same biological mechanism of action as already described. There

for its control should be tank mixed as appropriate with the Rubigan.

Poa annua will likely begin its late summer-fall germination cycle during mid-August. At this time, in the example used above, the total amount of Rubigan 50W applied is 1.6 ounces. It should be apparent

that to enhance Rubigan's growth effect on the *Poa annua* seedlings, applications should continue into the early fall.

It should be emphasized that reducing *Poa annua* populations in this manner is a gradual process. Success will depend on a number of factors. Several of the more important ones include the following:

1. Presence in the turfgrass population of a sufficient percentage of aggressive perennial turfgrass cultivars to encroach on the competitively disadvantaged *Poa annua* plants.

Note: This approach to *Poa annua* conversion should not be attempted on turfgrass areas dominated by *Poa annua* (greater than 75% of population) until sufficient numbers of perennial plants have been introduced into the turfgrass stand through sound overseeding practices.

2. Utilization of cultural practices designed to discourage *Poa annua* growth and favor the growth of perennial species. These include, but are not limited to, the following:

- a. Judicious use of irrigation based on the physiologic needs of the perennial species in the turfgrass population.
- b. Fertilization timed to enhance perennial grass growth.
- c. Management of soil conditions to improve internal drainage and soil aeration and avoid any disturbance of the turfgrass surface during primary *Poa annua* germination periods.

3. Continuation of the program over several consecutive growing seasons. The circumstances that resulted in the *Poa annua* problem did not lead to the overnight appearance of this weed species. It is not reasonable to expect that this trend can be reversed overnight.

This example of the utilization of the growth modifying properties of a new **experimental pesticide** illustrates a secondary benefit from the proper use of a turfgrass fungicide.

To more dramatically illustrate the opportunities that exist in modifying turfgrass growth, an examination of the biological activity of another member of this same

family of chemicals is appropriate. Whereas, the biological activity of Rubigan is dominantly fungicidal with a low level of growth modifying potential, the biological activity of Cutless™ (flurprimidol, Elanco Products Company, A Division of Eli Lilly and Company, Indianapolis, Indiana) is dominantly growth modifying in nature with little or no fungicidal activity.

Cutless™ — Turfgrass Growth Modifier

Cutless works in turfgrass plants in the same manner as Rubigan works in *Poa annua*. Cutless, however, reduces the biosynthesis of gibberellic acid in turfgrass plants at much lower application rates and across a broad range of perennial as well as annual plant species. When Cutless is applied to well maintained, actively growing stands of turfgrass (particularly golf course fairway turfs) the following responses have been noted:

1. A general reduction in the rate of growth without a stoppage of growth and a general reduction in plant height.
2. An increase in plant tillering and lateral spread resulting in an overall improvement in stand density.
3. A reduction in mowing frequency and clipping volumes.
4. A darkening of normal green coloration.
5. Improvement of the turfgrasses' tolerance to moisture stress.

Once again, it is important to emphasize that the primary biological activity of Cutless is as a growth modifier for desirable perennial turfgrass species. Its potential benefits to the turfgrass manager are listed above while its effect on *Poa annua* are strictly secondary in nature. Were *Poa annua* not to exist, the benefits of Cutless use on a golf course fairways would still be as attractive.

Along with the largely positive benefits associated with Cutless' use, a few necessary precautions should also be noted. Since the turfgrass stand is growing at a much reduced rate, the potential for damage from some turfgrass disease organisms or foliar feeding insects may be increased. Normal preventive pesticide programs targeted at either occurrence will alleviate any concerns.

Cutless should only be used during periods of active plant growth. There can be no management benefit to further decreasing the plant's growth during periods of normally reduced growth.

As one might expect, the same growth response described for *Poa annua* treated with Rubigan occurs more dramatically when *Poa annua* is treated with Cutless. In fact, one of the primary areas of Elanco's development efforts with Cutless are targeted at the conversion of *Poa annua* infested golf course fairways to fairways comprised largely of more desirable perennial turfgrass species.

Unlike the fungicidal use of Rubigan, Cutless applications in *Poa annua* infested fairways are timed solely to reduce the competitiveness of *Poa annua* during its two most aggressive growth periods. These occur in the early spring and fall of the year. Application rates for this facet of Cutless' activity are lower than those suggested for general turfgrass growth modification of perennial turfgrass species. Because Cutless is considerably more active than Rubigan, *Poa annua*'s response to treatment is more dramatic. Plant growth is severely reduced, resulting in a chlorotic appearance and a slight browning of *Poa annua*'s leaf tips. Treatment also results in a delay in the flowering of *Poa annua* and a retention of its seedheads for a longer period than normal. The retention of the seedheads is due primarily to failure of the flowering stem to elongate sufficiently to be removed by mowing. The combined visual impact of these responses is greater on areas containing high *Poa annua* populations.

It is important to note that while treated *Poa annua* plants are severely stressed by this treatment, they do not die. During the period of Cutless growth reduction of *Poa annua*, competing perennial turfgrasses continue to grow more aggressively and in the absence of *Poa annua*'s normally aggressive growth are able to rapidly encroach on areas occupied by *Poa annua*.

Cutless also exhibits considerable potential for modifying cool season perennial turfgrass growth at application rates higher than those required to reduce *Poa*