



POA PROPAGANDA

By Robert Erdahl

See if you can relate to this incident: I'm in the pro shop talking to a group of members when the conversation turns to some aspect of putting green management. In order to make my point, I find it necessary to mention some of the differences between *Poa annua* and bentgrass. I try my best not to get too technical, but by the time I have finished explaining hairy ligules, crown hydration and the deadly threat of *Magnaporthe poae*, most of my audience is either confused or has already left for the first tee. I leave the pro shop frustrated and wondering whether my lecture was worth the effort.

I'm sure all of you have found yourself in almost the exact same type of situation with similar results. Why does this happen? Don't members care about the technical aspects of golf course maintenance? Sometimes yes, but most of the time they just want to tee it up and have a good time. After all, you are the one getting paid the big bucks to solve all the problems on the golf course; including those caused by *Poa annua*.

Ah, the problems caused by *Poa annua*! We could all write a book about how this turfgrass plant has shaped our lives. Some chapters would read like a romance novel and others like tales from a horror story. I don't think our books would be on the best seller list, but I do think that there is an audience that needs to hear our stories. It's that captive audience we refer to as our members. Now wait a minute! I just got done complaining that most members really don't care about the technical aspects of golf course maintenance; all they care to know is that green is good and brown is bad. So how do you get their attention and keep it when you discuss golf course issues?

Well, how about this for a really radical idea — Why don't you explain to your members how difficult it is to manage *Poa annua* on your golf course. No! No! Not just once like in the pro shop encounter. I'm talking about overloading them with the information that YOU want them to know about *Poa annua* management. You can call it public relations if you want; I'll call it what it really is — Propaganda. My dictionary defines propaganda as "a systematic effort to persuade a body of people to support or adopt a particular opinion, attitude or course of action." That's perfect; let's see how we can use it.

In order to develop your own "Poa Propaganda" campaign, you need to do two things. First, you have to formulate a strategy for managing *Poa annua* on your golf course. Since I'm sure all of you already have a plan in place, my suggestion would be to fine tune that plan so that your members can understand it. Start out by giving them some background information about *Poa annua*'s good and bad points. Be sure to explain whether your management strategies are pro or anti *Poa annua* and why. Throw in some technical jargon but don't get too carried away. Remember that this is your version of propaganda, so you want to sway your members towards your way of thinking. You don't always have to tell the truth, the whole truth and nothing but the truth about *Poa annua*. You can give the truth a little bit of your own "Spin", but don't make the truth so dizzy that you may not be able to regain your balance — or keep your job.

Second, you have to use every possible means of communication at your disposal to convince your members that your program is the correct way to manage *Poa annua*. I've found that talking to members, no matter what the forum, is usually not a satisfactory way to explain something as complicated as the management of *Poa annua*. You have to get it on paper so that they can digest it and understand what you are trying to accomplish. Since only a small percentage of your members will probably read a one shot explanation, your strategy must be to keep after them. Put your propaganda in the club's newsletter, in memos to the board of directors and in special reports that are sent out with the monthly bills. In addition, you should have written information available at the annual meeting, in the pro shop, in the men's and women's locker rooms and in the club's business office. You get the picture, this propaganda strategy requires you to be aggressive. Heck, if you think it might work, you might even try dropping leaflets out of an airplane on men's day!

I think a key factor that is often overlooked in this whole area of communication with your members is how important it is that your members hear about golf course maintenance issues, such as the management of *Poa annua*, from you before they get their information from some other source. Never forget that you are their resident expert on golf course management. If they get their information from you first, chances are that they will be more inclined to agree with you rather than what they see on TV, read in *Golf Digest* or hear in the golfer's bar. This is definitely a case where a good offense is your best defense.

Let's look at an example of how this might work at your golf course. Imagine that you run into your green committee chairman and he is all pumped up about the bentgrass overseeding program that he saw on the fairways at Agrostis Country Club while he was on vacation. If you had not kept him informed about the pros and cons of a similar program at your golf course, you would have to defend your programs

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and it may sound like you were making excuses. If, on the other hand, you had kept your chairman up to date on all the latest bentgrass overseeding techniques and why they would or would not work on your golf course, you would have a much better chance at controlling the conversation and convincing him that your way was the right way.

Now let me give you an example of how I use "Poa Propaganda" at North Shore Country Club. About two years ago, my frustration over explaining the *Poa annua*/bentgrass situation to my members had reached the boiling point. Rather than give up, I decided to develop a propaganda strategy that would both educate my members about the differences between *Poa annua* and bentgrass and also promote my point of view on how to increase our bentgrass populations throughout the golf course.

As part of my "Poa Propaganda" campaign, I prepared a report on *Poa annua* that I now get into my members hands whenever I get the chance. To date, I estimate that one third of my members have received a copy of the report. It they read it, great: if they file it in the garbage, at least they are aware that I must have had something important to say about the subject of *Poa annua*.

My report, which is presented at the end of this article, is titled simply "*Poa annua* at North Shore Country Club". In it, I attempt to accomplish three main goals. First, I explain what *Poa annua* is and how it compares to bentgrass. Second, I present my pro-bentgrass management programs. And third, I touch on the possibility of using new technologies to control *Poa annua*.

As you read my report, be sure to keep in mind that the target audience is my members; not my peers and certainly not the scientific community. I'll be the first to admit that the report contains some facts and figures that are not 100% accurate. I am also quite sure that many of you will disagree with some of my conclusions. But you see, that doesn't really matter to my members. They will read the report, believe most of what I tell them, and hopefully be convinced that I am right. Ah, the beauty of propaganda - no wonder the communist dictators lasted so long!

POA ANNUA AT NORTH SHORE COUNTRY CLUB

What is *Poa annua* ?

Poa annua is the scientific name for a species of bluegrass that is commonly called annual bluegrass. The genus *Poa* includes all 200 species of bluegrass. The species designation *annua* describes a bluegrass that displays annual growth characteristics in an otherwise perennial genus. These annual growth characteristics will be described throughout this report.

When the Scientific Name *Poa annua* is used, the P in *Poa* must be capitalized and the entire name must be written in italics or underlined. Articles found in golf magazines and television "experts" often refer to *Poa annua* as just plain *Poa*. Referring to *Poa annua* as just plain *Poa* is similar to calling a Bald Eagle just a bird.

Where is *Poa annua* found on golf courses?

Poa annua is quite common on golf course greens, tees and fairways where bentgrass is usually considered the desirable turfgrass species. *Poa annua* can be identified by looking for the light green patches (usually 1"-4" in diameter) that are randomly dispersed throughout the bentgrass. *Poa annua* has a vertical growth habit and produces seedheads in May-June and again in August-September. Bentgrass, on the otherhand, is a darker shade of green, has a horizontal growth

habit and usually does not produce seedheads at low mowing heights. For those of you willing to take a closer look, *Poa annua* leaf tips have a shape similar to the bow of a ship while bentgrass leaf tips are flat.

How does *Poa annua* get into greens, tees and fairways?

Poa annua is not an intended part of the grass seed mixtures used when golf courses are constructed. Instead, it tends to be ubiquitous in the turfgrass environment and waits for a weakness in the bentgrass population then invades just like any other species of weed. Opportunities for invasion include poor initial seeding, thin areas due to fungal disease, drought, heat stress or insect activity and damage due to the actions of golfers - divots, ballmarks and spikemarks. In addition, the heavy foot traffic and intense maintenance that greens, tees and fairways are subjected to both serve to increase the competitiveness of *Poa annua* against bentgrass.

Why is *Poa annua* inferior to bentgrass?

1. It is susceptible to a greater number of fungal diseases.
2. It has a lower tolerance of heat and drought stress.
3. It is not as resistant to winter damage.

Items 1-3 result in *Poa annua* behaving more as an annual plant rather than a perennial plant when faced with environmental stress. For example: In a year with a hot, dry summer followed by a long, harsh winter, a large portion of the *Poa annua* plants will not survive. However, in a year with both a mild summer and a mild winter, the majority of *Poa annua* plants will probably survive.

In addition, *Poa annua* is a prolific producer of seeds. On greens, these seedheads cause little bumps that interfere with putting. The biggest problem with seeds, however, is their ability to maintain or expand the *Poa annua* population. Once produced, a *Poa annua* seed remains viable in the soil for years, waiting for the chance to replace a dead *Poa annua* plant or to fill in the space vacated by a bentgrass plant that died due to environmental stress or was damaged by the action of golfers — divots, ballmarks or spikemarks.

The combination of *Poa annua*'s tendency to die during periods of environmental stress and it's ability to replace itself and/or increase it's population through seeds presents one of today's most challenging golf course management problems.

How serious is the *Poa annua* situation at NSCC?

Greens	Less than 10% <i>Poa annua</i>	10 Greens
	10-25% <i>Poa annua</i>	10 Greens
	26-50% <i>Poa annua</i>	7 Greens
Tees	Less than 10% <i>Poa annua</i>	15 Tees
	10-25% <i>Poa annua</i>	8 Tees
	26-50% <i>Poa annua</i>	4 Tees
Fairways	Less than 10% <i>Poa annua</i>	9 Fairways
	10-25% <i>Poa annua</i>	10 Fairways
	26-50% <i>Poa annua</i>	8 Fairways

While bentgrass remains the predominant turfgrass species on our greens, tees and fairways, the percentages of *Poa annua* have slowly increased over my 10 year tenure at NSCC. Because of this increase and the inherent inferiority of *Poa annua*, I feel it is time to take a more aggressive approach towards *Poa annua* control.

Can *Poa annua* be controlled?

Yes and No. Certain management programs have shown limited success in controlling *Poa annua* and chemical con-

trols for *Poa annua* have been recently introduced that show definite promise. However, unsuccessful *Poa annua* control programs remain one of the most common causes of unemployment for golf course superintendents.

Before starting any program to control *Poa annua* in bentgrass, it must be understood that *Poa annua* and bentgrass are closely related members of the Grass Family and share many similarities in structure and physiological function. Therefore, it is difficult to develop a control program for *Poa annua* that does not also adversely affect bentgrass; just as it is difficult to have a pro-bentgrass program that is not also pro-*Poa annua*.

How can NSCC control *Poa annua*?

A successful *Poa annua* control program at NSCC must be based on a two part plan. The first part of the plan will focus on all of the management programs that can be fine tuned so that they favor bentgrass over *Poa annua*. The second part of the plan will involve the testing of chemical controls for *Poa annua* through a series of experiments during 1994. The chemical controls that show the most promise in the experiments will be given expanded use in 1995 and beyond.

Under my direction, management programs at NSCC have always tried to favor bentgrass over *Poa annua* by taking advantage of the subtle differences in growth characteristics that exist between these close relatives of the Grass Family. Given the slowly increasing percentages of *Poa annua* in our greens, tees and fairways, it might appear that my maintenance programs have not had an affect on *Poa annua*. I strongly believe, however, that without my management programs, the increase in *Poa annua* would have been much greater.

Highlights of My Pro-Bentgrass Program

1. IRRIGATION

Differences in root growth characteristics between bentgrass and *Poa annua* make proper irrigation techniques the most important management tools available for the control of *Poa annua*.

Bentgrass is a deep rooted grass (12") that responds well to heavy and infrequent applications of water. A typical irrigation schedule for a week in July would involve 2 applications of water — 1/2" of water at a time. This provides enough water to wet the soil profile down to where the bentgrass roots like to grow and also allows time in between applications for the soil profile to dry out — another requirement for maintaining deep bentgrass roots.

Poa annua is a shallow rooted grass (2-3") that responds well to light and frequent applications of water. A typical irrigation schedule for a week in July would involve nightly applications of 1/8" of water at a time. This provides just enough water to maintain a consistently high level of moisture in the top 2-3" of the soil profile. This type of irrigation schedule also provides the perfect environment for both the germination of any *Poa annua* seeds that are present in the soil and the development of young *Poa annua* plants.

My irrigation programs for greens, tees and fairways have always tried to favor bentgrass without putting too much stress on the *Poa annua*. I think the time has come, however, to tip the balance even more in favor of bentgrass. What this will mean is firmer playing conditions, especially on greens. The complaints about hard greens that do not hold a shot are bound to increase. This is because golfers have grown accustomed to overwatered greens that perform well as landing areas rather than firm greens that perform well as

putting surfaces.

2. RATE AND TIMING OF FERTILIZER APPLICATIONS

Over fertilization with nitrogen has long been known to favor *Poa annua* over bentgrass; that is why it is important to understand the nitrogen fertility requirements of both grasses.

Bentgrass and *Poa annua* differ in their requirements for both the amount and the timing of nitrogen fertilizer. *Poa annua* prefers a moderate level of nitrogen fertilizer (4 pounds of nitrogen per 1,000 square feet per growing season) that is applied evenly throughout the growing season. Bentgrass, on the other hand, responds well to lower levels of nitrogen fertilizer (2 pounds of nitrogen per 1,000 square feet per growing season) applied mainly in September-November.

For the past 10 years, my nitrogen fertilization program has been based on the needs of bentgrass. I believe the program has been a success and should be continued. The only problem with this program has been some complaints about the many different shades of green that bentgrass can display under a low nitrogen fertility program. This is caused by the slight variation in genetic material from one patch of bentgrass to the next. When this occurs, it is important to remember that the color of the bentgrass will not effect the speed or trueness of the putting surface.

3. AERIFICATION

Greens, tees and fairways are aerified to relieve compaction that has been caused by foot traffic, golf cart traffic and maintenance equipment traffic. The primary response of any turfgrass area to aerification is an increase in the number and depth of roots. Additional benefits include increased water infiltration, increased movement of air into and out of the soil and the creation of openings for overseeding.

Poa annua has the ability to compete successfully against bentgrass under compacted soil conditions because of its shallow root structure. Once the soil is aerified, the bentgrass roots are able to grow deeper in the soil and give bentgrass the advantage over *Poa annua*.

At NSCC, I try to stay ahead of soil compaction by aerifying the greens, tees and fairways at least twice every year. Despite the inconvenience this level of aerification causes the golfers, it must be maintained in order to insure the long term health of the bentgrass.

4. OVERSEEDING

In conjunction with the aerification of greens, tees and fairways, bentgrass seed is often placed in the aerifier holes. This process is called overseeding and it is important for basically two reasons:

1. If bentgrass can be overseeded into areas dominated by *Poa annua*, then subsequent application of management programs that are pro-bentgrass (and possibly some chemical control of *Poa annua*) can lead to a gradual reduction in the *Poa annua* population.

2. Areas dominated by bentgrass can be improved through the overseeding of new and improved bentgrass varieties that are more upright in growth and more resistant to disease. Here at NSCC, our 28 year old greens are dominated by Penncross, a variety of bentgrass that is prone to a horizontal growth pattern that requires special maintenance practices to control it's growth — verticutting, sweeping and frequent topdressing. If some of the newer, more vertical growing bentgrasses can be introduced into our greens, the need for some of these special maintenance procedures may eventually decline. (Continued on page 45)

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Unfortunately, overseeding is not as simple as placing bentgrass seed into aerifier holes and watching it grow. In order to survive, overseeded bentgrass must overcome the following pitfalls:

1. Germination

When a bentgrass seed is trying to germinate, it must compete for space, light, water and nutrients with the existing population of turfgrass. More often than not, this competition is too great and the bentgrass seed does not germinate. The best chance for successful germination occurs when the existing turfgrass has been thinned due to winterkill, disease or some other factor. Knowing this, the chemicals controls for *Poa annua* will be tested to see if they can limit the growth of *Poa annua* enough to allow overseeded bentgrass to become established.

2. Development

Once a bentgrass plant begins to grow, its short term survival (2-3 months) depends on the weather. Bentgrass overseeded in the Spring may not develop roots fast enough to survive the heat and moisture stresses of the summer. Bentgrass overseeded in the Fall may not mature enough to withstand the rigors of winter. The ideal time to overseed bentgrass in our area is around mid-August when the stresses of Summer are subsiding and there is plenty of time for the young bentgrass plants to prepare for winter.

3. Physical Damage and Disease

Young bentgrass seedlings are more susceptible than the surrounding mature turfgrass plants (bentgrass and/or *Poa annua*) to the physical damage inflicted by equipment and golfers. Greens are the most difficult areas to overseed due to the tremendous amount of foot traffic and the constant wear and tear of mowing equipment.

In addition, young bentgrass seedlings are also more susceptible to fungal pathogens, insect damage and any other environmental stress factor.

Even though the survival rate of bentgrass overseeded into greens, tees and fairways is relatively low under most conditions, it is important to realize that if only 5-10% of the overseeded bentgrass plants survive to maturity, the shift in the turfgrass population can be quite significant in only a few years. Thus, NSCC will continue to overseed bentgrass whenever the greens, tees and fairways are aerified.

5. Harvesting Clippings

Harvesting (catching) clippings has been practiced for many years on greens and tees simply to get rid of the clippings so they do not interfere with play. Two hidden benefits to harvesting clippings have also been shown to help control *Poa annua*. First, harvesting clippings removes *Poa annua* seeds so they can not build up in the soil and form a source of future *Poa annua* plants. Second, harvesting clippings lowers the nitrogen level in the soil by removing plant material that would otherwise decompose and recycle its nutrients.

Many golf courses are now harvesting clippings on fairways to take advantage of these two hidden benefits that help to control *Poa annua*. In the past, the time and labor expense associated with the harvesting of clippings from fairways have prevented NSCC from using this technique to control *Poa annua*. Starting this year, clippings will be harvested on all of the fairways on the Blue Nine from May 15-September 15. During the course of the golf season, I will be closely monitoring these fairways to determine if the benefits are great enough to justify expanding the program to the Red and White Nines in future years.

Testing of *Poa annua* Control Chemicals

Pesticide manufacturers have searched for years to discover a chemical that would control *Poa annua* without harming bentgrass. In the last few years, four such chemicals have become available for use on golf courses. Three of these products are growth regulators that effect both the vertical and horizontal growth of *Poa annua* and bentgrass. They are Turfgrass Regulator from O.M. Scotts, Cutless from ELANCO and Primo from CIBA-GEIGY. The fourth product, Progress from NORAM, is a true herbicide that selectively kills *Poa annua*.

The manufacturers of all four of these products can produce dozens of testimonials from satisfied golf course superintendents. The problem is that you never get to hear from golf course superintendents who had problems with the products.

In order to reduce the risk of using these products at NSCC, I am going to test all four products on some experimental plots this summer. The work will be done in conjunction with Dr. Frank Rossi, Turfgrass Professor at the University of Wisconsin-Madison, who will be gathering data for his research.

Some of the questions that I hope to have answered by this work include:

1. How do these products effect the comparative growth rates of *Poa annua* and bentgrass under the soil and environmental conditions found at NSCC?
2. Will the use of these products slow the growth of *Poa annua* enough to allow for the successful overseeding of bentgrass?
3. Can these products slow the growth rate of *Poa annua* and bentgrass enough to reduce the number of required mowings?

The experimental plots will be located on the first half of 7 White fairway and on the nursery green near the golf course maintenance facility. My hope is to gather information about these products that will help me decide what level of chemical control for *Poa annua* can safely be used on the greens, tees and fairways at NSCC.

Summary

The gradual increase of *Poa annua* in our greens, tees and fairways is cause for concern, not cause for alarm. I believe that the management programs I have described above form a solid foundation upon which to build a chemical control program for *Poa annua*. The details of such a program will be worked out after the results of this year's experiments have been analyzed. 🍷

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