

USGA

Poa annua Seed Head Suppression

By: Patrick J. Gross, Agronomist, USGA Green Section

Spring is in the air — the flowers are starting to bloom, the birds are singing in the trees and yes, *Poa annua* seed heads are covering your greens. Managing or suppressing *Poa annua* seed heads on greens has been a challenge for superintendents for decades. The seed heads cause bumpy surface conditions and turn the greens a white color. Before you can go about controlling *Poa annua* seed heads, you must first know your enemy.

Research on the physiology of *Poa annua* has produced many interesting facts. *Poa annua* can produce seed under a wide range of temperature and light conditions. Dr. Vic Youngner noted that seed production can occur between 50 to 80 degrees F, with most rapid seed production occurring at 80 degrees F. The photo period requirement for seed induction can range from six hours per day up to twenty-four hours. Youngner noted that floral induction is not governed by day length, however, shade can reduce seed populations. Although seed production appears to be heaviest in the spring, the *Poa annua* plant can produce seed throughout the year. Studies in British Columbia indicate that a single *Poa Annua* plant can produce 360 seeds in a period of four months. The researchers estimated that this equates to more than 30 million seeds per acre. Seed production does not appear to be heavily influenced by soil pH or fertility, however, higher levels of phosphorus and potassium along with a moderate to high pH are reported to increase seed production. Research by Dr. Vic Gibeault indicates

that the most important factor for seed production appears to be the morphological variability within the annual bluegrass plant, with many annual and perennial biotypes found throughout the United States. With such an adaptive plant, it is easy to see why *Poa annua* is so prolific throughout the world.

Since we can't manipulate the climate or day length, what are the options of managing *Poa annua* seed heads? The best place to start is by taking a look at your mowing and grooming practices. Most superintendents feel that this is the safest and most dependable method to suppress seed head formation. You may wish to consider incorporating some of the following grooming practices into your program.

Vertical mowing - Aggressive vertical mowing is normally required during peak seed head production. Vertical mowing should be performed one or two times per week in two directions. This should be followed by regular mowing to remove any dislodged seed heads.

Brushing or grooming - The use of steel or nylon brushes in front of the putting green mower is helpful in dislodging seed heads and standing up the leaf blades. Light brushing can be performed on a daily basis without damaging the turf. It may take two to three days of brushing to get a tight, uniform cut on the greens. The use of groomer attachments on putting green mowers is another popular method to manage *Poa annua* seed heads. The grooming reels should be set just below the

effective cutting height. Grooming can be performed on a daily basis during maximum seed head production if the groomers are not set too deep into the turf canopy.

Double cutting - Double cutting the greens one or two times per week will also help to remove additional *Poa Annua* seed heads. For improved labor efficiency, you may wish to consider making the initial cut with a triplex mower and follow-up with walk-behind putting green mowers.

Light topdressing - Monthly applications of light sand topdressing can aid in smoothing the surface of the green. Generally, an application of 1/3 cubic yard or sand per 5,000 square feet provides enough material to filter into the turf canopy without leaving excessive sand on the surface.

Does fertility influence seed production? I am sure it does, but there does not seem to be a magic fertilization program at this point to eliminate *Poa annua* seed head production. If you are managing primarily *Poa annua* greens, be sure to provide proper nutrition for healthy turf growth. Many superintendents found out the hard way that eliminating phosphorus from the program does not eliminate seed heads. Light applications of phosphorus should be included in your fertility program along with adequate amounts of potassium based on the results of soil tests. Many would agree that it is better to manage *Poa annua* with seed heads than trying to manage dirt.

What about wetting agents and turf growth regulators? Many have used products such as *Aquagrow-L*, *Embark*, and



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Primo with success, however, there is always a potential for disaster! Turf discoloration and damage can occur especially if stress factors are introduced such as heavy frost, increased salinity, or turf desiccation. The key to using these products effectively appears to be proper timing. Applications are usually recommended when the seed head is forming in the crown of the plant and before full seed emergence. Before using any of these products, it is strongly recommended to conduct experiments on the turn nursery at various rates so you are very comfortable with the program.

Dealing with *Poa annua* seed heads is frustrating for golfers and superintendents alike. The key to getting through the heavy *Poa annua* seed head period is to stay on a good mowing and grooming program to keep the greens as smooth as possible. /

Turf Day Set For April

Plans for the **1997 Turf Day** have been announced by the events sponsor, Automatic Rain. The fifth annual event is scheduled for Wednesday, April 16th at the Alameda County Fairgrounds in Pleasanton.

Turf Day is an opportunity for professionals to attend seminars, receive hands on product demonstrations and find out about the latest innovations in the turfgrass industry. Over 17 seminars will be offered this year, many of them providing CDFA credit.

The program runs from 7:00 a.m. to 2:30 p.m. Admission is \$15.00 by March 22nd or, \$20.00 at the door. The registration fee includes lunch. To receive more information and a registration packet call (415) 328-2700.

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