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Just when you thought summer was going to be one of the best growing years of the last five, Mother Nature decided to throw a curve and make this summer one of the more difficult for keeping turf alive. The third week in July where nighttime temperatures stayed in the mid to upper 70s with daytime highs in the upper 90s was the start of the turf distress. The turf looked fine on Friday, but by Monday morning some of the turf had stressed out due to the heat and disease, most likely pythium.

The second week became worse when some mornings the temperature began in the 80s and the dewpoint was in the mid-70s, creating excellent weather for an epidemic of several diseases. Superintendents had a difficult time controlling the turf losses, trying to grow cool season grasses in weather similar to that of Florida where bentgrass and Poa annua is almost unheard of. We were fortunate to have applied plant protection products before the weather turned bad but still lost some turf on three different fairways.

This golf season was the first time in my career that I had to send the crew home by lunchtime due to the fact the heat index was over 110. The temperature was 100+ and the dew point was around 75 or higher. The weather has now changed and things are back to normal. This would be a great time to take a weekend off and recover from a very stressful two weeks.

September is our Research Scramble. This year’s scramble will be held at The Legacy Courses at Cragun’s, one of Minnesota’s great new resort golf courses. Bring a team and enjoy a challenging day with friends.

— Thomas Fischer, CGCS
MGCSA President
Jeff Pint Wins 1999 MGCSA Championship
By Scott Turtinen

Reality Check
By Bob Vavrek

Punching Holes in Greens Now?
By James Snow

You Don't Always Have To Raise the Bar!
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Plan Now To Attend The MTGF Conference
By Bob Mugaas

MGCSA Announces Four Legacy Scholarship Awards

Bentgrass Putting Green Establishment
By Bob Vavrek

Educational Opportunities For the New Millenium
By Mike Klatte, CGCS

Kientzle's Legacy Team Advance to Olds Finals
By Ralph Turtinen

MGCSA Board Minutes
By Mike Brower

GCSAA Online Report

From Your President's Desk
By Tom Fischer, CGCS

Membership Report
By Tom Meier

Editor's Corner
By Steve Shumansky
Relatively little midsummer stress to *Poa annua* playing surfaces occurred over the past few seasons on golf courses across the north-central tier of states. In fact, the summer of 1995 was the last time intense heat stress and disease activity caused extensive injury to turf throughout the North-Central Region. It seems that every three or four years, Mother Nature feels the need to teach a refresher course in Latin. *Poa annua* is Latin for annual bluegrass. Annual bluegrass, an annual plant that (1) germinates from seed during fall, (2) may or may not survive the winter in the North-Central Region, (3) produces a flower (seedhead) during the spring, and (4) dies during the summer.

True, this life cycle is somewhat oversimplified because some plants will produce seed during summer through fall and seed germination can often occur all season long. Furthermore, some of the *Poa* plants in the playing surfaces dominated by *Poa annua* are perennial biotypes and a percentage of the stronger, annual biotypes might survive longer than one season under ideal weather conditions. The fact remains that many of the plants on greens, tees and fairways at older golf courses are true annuals and weather conditions during the summer are not always ideal. When the annual types of *Poa* begin to die off during midsummer, the best we can hope for is that they don't all die at once. Unfortunately, a considerable amount of *Poa annua* died on many golf courses within the span of several days during late July after an extended period of heat, high humidity and sporadic heavy rainfall events.

Observations made at Turf Advisory Service visits indicate that the *Poa annua* in the collars, the immediate surrounds to greens, and in the intermediate roughs appeared to have suffered the most during late July. *Pythium* and anthracnose were partly to blame, but direct, high temperature injury, wet-wilt, and concentrated wear from carts and mowing equipment seemed to be equally responsible for the severe losses of turf on many golf courses.

Bentgrass greens on a number of relatively new golf courses were affected by the stressful weather as well. It was no surprise that the smallest greens and greens built in shaded sites where air circulation is limited were the first to experience problems. Furthermore, playing surfaces that were sodded last fall or this spring seemed to melt in the hot sun during July — in spite of frequent aeration operations.

I often tell owners, Green Committees, and the like that *the greens never putt so good the day before they die*. This year it actually happened at one golf course when the superintendent was instructed to push the greens to increase speed for the Club Championship during the hot weather.

Superintendents in the northern states tend to forget what superintendents in southern states simply accept as a fact of life. Namely, fungicide applications do not guarantee disease free turf when environmental conditions for growth and development of a particular fungal pathogen are ideal. Thousands of dollars were spent this summer for fairway applications of various fungicides that, at best, protected the turf for only three to seven days.

The fallout after the devastation to turf that occurred this summer is not all bad. The smart superintendents have already come to the realization that they may have been putting a little too much faith in the power of pathogen prevention. Many more fairways, tees and greens will be aerated this fall. More cart paths will be constructed on high play golf courses. Antiquated irrigation systems will be replaced. Believe it or not, a few superintendents will be allowed to maintain greens at a higher height of cut next season.

**Reality Check 1999** — Timely fungicide applications are only one of the many important components of a sound golf course maintenance program. When the natural, organic fertilizer hits the fan during an exceptionally stressful summer, fungicides will not magically transform weak, annual biotypes of *Poa annua* into Kentucky bluegrass or creeping bentgrass.
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Punching Holes In The Greens Now?

By JAMES SNOW
National Director
USGA Green Section

Countless things we do in our lives can be considered preventative maintenance. From exercising a few hours a week to regularly changing the oil in the car, we’re constantly doing something that reduces or eliminates future problems.

Preventative maintenance also is an integral part of successful golf course management. One essential practice, despised by golfers when applied to putting greens, is called aerification. Golfers view it as an inconvenient exercise that takes the greens out of play for a day, pulling cores from the greens and leaving holes that can affect putting for many days before healing. To add insult to injury, aerification is best done in many parts of the country during mid-summer, at the height of the playing season and when most greens are in prime condition.

A conspiracy, you say? Of course not, but unless you understand how important aerification is to producing healthy turf, such thoughts can be excused.

Aerification achieves three important objectives. It relieves soil compaction, it provides a method to improve the soil mixture around the highest part of a green’s roots, and it reduces or prevents the accumulation of excess thatch.

When golfers by the thousand walk upon a green every month, the traffic causes the soil near the surface to become hard and compacted. The soil particles are pushed closer together until water and air have a difficult time moving to the miles and miles of small root hairs on every grass plant. When this happens the roots decline, the turf becomes weaker and diseases and other problems appear. Aerification pulls plugs from this compacted soil, allowing for an infusion of air and water that brings a resurgence of growth.

Older greens often are composed of soils with lots of silt, clay and fine organic particles and are prone to compaction. When greens are aerified with hollow tines and the cores are removed, it also allows filling these holes with sandy topdressing material that drains well and resists compaction. The periodic introduction of sand can improve a green's top layer over time, a course might avoid or postpone the expensive rebuilding or renovation of its greens.

Finally, the growth of turf adds to the production of a layer of organic matter on the surface. This layer, called thatch, is an accumulation of dead stems, leaves and roots. A little organic matter makes for a resilient green, but too much thatch invites diseases and insects. Topdressing with sand can prevent thatch buildup, and aerification is one of the best ways to reduce an existing layer and prevent an excess of thatch from becoming established.

There are many types of aerifying machines with different attachments that address different problems in the various stages of the life of a green. So the next time you’re ready to scream when the aerifiers are brought on the course, remember that a little preventative maintenance produces the best greens over the long haul.
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When Unrealistic Expectations and Environmental Alternatives Meet at a Crossroads, Choose the Environmental Approach.

By LARRY GILHULY
USGA

In March 1982 the USGA Turfgrass Research Committee was formed to guide the USGA’s long-range multi-million-dollar turfgrass research plans for the coming decade. “The purpose is to develop Minimal Maintenance Turfgrasses for Golf with particular emphasis on a 50% reduction in water use requirements and 50% lower maintenance costs overall.” — 1985 USGA Annual Turfgrass Research Report.

“It is the intent of the United States Golf Association (USGA) Executive Committee, through the USGA Foundation, to collect and disseminate substantial amounts of money for support of research to: 1) “produce improved turfgrasses which substantially reduce water use, pesticide use and maintenance costs...” —1995 USGA Turfgrass and Environmental Research Summary.

“Furthermore, the cost of working with their aggressive growth habits (new bents and hybrid bermudagrasses) and inherent problems, such as excessive thatch buildup, can be substantial in terms of increased maintenance labor and equipment” — May 1999 Golf Course Management magazine, page 22.

Wait a minute! The turf industry has been funding meaningful research for nearly two decades to reduce overall costs and impacts on the environment, and what we get are vastly superior putting surfaces that cost substantially more! Is there something wrong with this picture? You bet there is, and it is called a lack of understanding and expectation levels that are out of control. Let’s look at one example.

Several decades ago, seashore paspalum was introduced into Hawaii due to its ability to withstand poor water quality. The grass was spread from site to site over a 20- to 25-year period and became a highly adapted grass for oceanfront hotel complexes due to the combination of excellent color, the ability to withstand salts, less water inputs, a natural capacity to compete with weeds and a significantly reduced requirement for fertilizer, specifically nitrogen! Let’s see — a grass that uses poor quality water or seawater, requires ½ to ¼ the amount of nitrogen, naturally competes with weeds where seawater is used as a herbicide, apparently has no major disease or insect concerns and maintains a consistent green color. Doesn’t this sound exactly like the original goals of the USGA Research and Environmental Program? Wouldn’t you think that golfers and golf course superintendents would be all over this grass as the answer for the greens, tees, fairways and roughs in areas where it is adapted, to counter the environmental claims being made against golf courses in Hawaii? The answer should be an obvious yes; however, the reality has been less than enthusiastic, with some notable exceptions.

Why would a grass that obviously can address all of the worthwhile goals stated earlier not become the dominant and most desired grass? In Hawaii, it is called the Mauna Lani experience. On the mainland, you can relate to it as the Poa annua experience. When seashore paspalum is introduced into hybrid bermudagrass putting surfaces, the grass grows at a different rate than the bermudagrass because it is being overfertilized. The resulting playing surface is extremely bumpy, inconsistent and definitely not fun to play. This occurred at Mauna Lani through the late ’80s (Continued on Page 11)
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