

CHIPS & PUTTS

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Does Bentgrass Overseeding Work? FRANK S. ROSSI, CORNELL UNIVERSITY TURFGRASS TEAM

Plaver expectations continue to increase for superior playing conditions. In particular, the putting green is the most scrutinized, managed area on the golf course. It follows then that golf course superintendents regularly strive to utilize all available technology to produce the highest quality The golf course construction product. boom of the 1990's resulted in hundreds of new putting surfaces across the country, built with the aid of the latest technology in root zone and plant materials. In addition, superintendents are becoming more aware of the advantages of using the "new generation" of bentgrass cultivars. This has occurred because golfers are playing on the new surfaces and pressuring superintendents (a phenomenon that has increased following the U.S. Open Championship at Pinehurst where the greens were converted to a new cultivar), or as a result of research on cultivar performance. In either case, there is significant appeal to providing acceptable quality at mowing heights below 0.125" with the ability to produce ball roll distances in the 11 to 13 feet range.

Most golf facilities are not in a position to reconstruct the putting greens; however, they would like the benefits of new technology, especially increased ball roll. As a result, golf course superintendents at established facilities have been interested in introducing the new cultivars into existing putting greens. This desire to alter the species composition of the putting green is not new. For years, superintendents have attempted to increase populations of bentgrass in mixed stands of annual bluegrass (Poa annua) and creeping bentgrass. The major obstacle to successful population shifts has been the obtrusiveness of the practices required to affect a noticeable change. Simply, it has been a challenge to shift populations in a way that is transparent to

the golfer. Herein lie the ecological principles that govern shifts in populations of organisms. Competition for Resources

In the early years of golf course management, it was common to manage weeds through the drastic manipulation of soil pH. For

example, large amounts of elemental sulfur or lime would be applied to alter the pH so that the weeds could not be successful. This is a practical example of "altering a niche."

A niche is described as the range of conditions that are required for a species to survive and reproduce. In the example above, by drastically altering the pH, the niche is altered to the point that the resource needs of the weed are unable to be met. In addition, while severely weakened, the turf is still able to exploit the available resources so that it will successfully compete with the weeds and survive. The result is a population shift in favor of the turf.

Researchers have suggested that there are significant similarities among the resource requirements for bentgrass cultivars. It was implied that the existing cultivar would always have the competitive advantage because it is established and already utilizing the resources that a new cultivar being introduced would also require. Therefore, it appears that without substantial alteration of the niche, the conversion

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In this issue Do Winter Covers Work? Meeting Schedule for 2000 **Drought Notes**



President's Message.....

The second meeting of the year is over and I would like to thank our two hosts, Greg Kozar and Tony Grieco, CGCS, for providing us with their facilities and the great day of golf! There is a lot of work and time put into setting up these meetings. The host and the PTGA Golf Chairman, Greg Phillips, are busy each year planning and coordinating these monthly meetings.

The PTGA Board received a letter from one of our members in regards to the seemingly ever-increasing monthly meeting costs. I sent a personal letter back to this member, and he has since responded with appreciative remarks. However, I will now address this concern to all, in hopes to explain our position with host clubs.

We are very fortunate to have members who offer to host our monthly meetings and knowingly incurring lost revenue from that day. Each meeting, we the PTGA, hope to break even. In the past, more often than not, we did incur a slight loss at these meetings. Now, with improved accounting practices in place, we have been able to come closer to a break-even event or, in some cases, have a small profit.

As you know, the host clubs are in the golf business to make money. We make every effort for them to limit their revenue loss on our meeting day as much as possible. Your fee for the day includes the following: Cart fee, prizes, lunch, dinner, speaker fees, tax and gratuity. We also have been fortunate to have members who have provided a donation to offset a portion of the lunch cost. Thank you! More often than not we try to keep our monthly meeting cost below \$65 per person. That is a great bargain when you consider what you are receiving. I know, I know... not all of our members have their meeting costs picked up by their club...That's their fault. If they still do not see they are getting a great value for that day...

The Association is in constant change. The only way we can get better is by letting your PTGA Directors know of your concerns and problems. They should address such items at the time and bring them forward to the rest of the Board. If no action or an explanation is given, call me.

We have come a long way, and we still have a long road ahead of us. Get involved!

See you all at the meetings!

Ron Garrison, CGCS

From the Editor's Desk.....

Another month goes by and we all find ourselves in the thick of readying our courses for yet another season. From talking to many superintendents I think the general consensus across the region has been totally different from last spring, as the turf seems to have made it through winter in good shape. Ice damage was replaced by some minor desiccation, and turf loss was low to none for most of us. Spring is an important time of the year as we begin our maintenance practices. I thought the cover article was of particular interest as we begin aerification/seeding procedures and can be used as a reference when we prepare for fall overseeding. I believe the theme of the article is one that can be applied to most situations on the golf course. It's message is: *Without some minor (and sometimes major) inconveniences in playability (to the golfer), improvements cannot and will not be realized!*

As always, your comments are welcome.

Darrin Batisky



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(Continued from page 1) seems a formidable challenge. Conversion Techniques Annual Bluegrass Conversion

The process of conversion begins with recognizing the necessary requirements for altering the niche. This has been shown to include timing of procedures, chemical suppression of existing vegetation, mechanical surface disruption, introduction of the new cultivar, and post-plant care. Individually or collectively, these techniques are used to weaken the existing vegetation, establish a seedbed and implement practices that favor seedling growth.

The conversion process is similar to previous work conducted to investigate techniques for population shifts of

bentgrass/annual bluegrass surfaces. Research on the conversion from annual bluegrass has been primarily conducted on fairway height turf. While it might seem an easier task to convert from annual bluegrass to bentgrass. Based on the previous assertion that different species may have different niches, annual bluegrass is well adapted to disturbed environments. Therefore, not only must practices address existing plants, but also must consider the contribution from the seedbank when the surface is disrupted.

Researchers have identified several important aspects of the species conversion process that involve cultural practices. These cultural practices, such as clipping removal, were suggested to result in altered soil fertility, potential allelopathic effects of clippings and reduced contribution to the seedbank. Furthermore, our research here at Cornell University indicates that annual bluegrass population shifts occur naturally in response to environmental factors and independent of conversion

Researchers have identified several important aspects of the species conversion process.....

management procedures.

The types of cultural and environmental influences observed with annual bluegrass and bentgrass are not likely to exert a significant influence on existing bentgrass stands. In addition, the surface

> disruption on putting greens is more frequent and intense than what would occur on a fairway. Consequently, if high populations of annual bluegrass exist on surfaces where new bentgrass cultivars are to be introduced, techniques must consider altering the niche for the surface vegetation while taking into account contributions from the seedbank, likely to exploit a highly disrupted surface. Bentgrass Conversion

> Without the competition from the seedbank, it appears that weakening the existing vegetation combined with mechani-

cal surface disruption could lead to successful conversion. However, several issues remain to be resolved such as, will this be transparent to the golfers? What are effective post-plant procedures that do not weaken seedlings? And finally, how is cultivar conversion determined?

Research funded by the GCSAA and the USGA has involved conversion of existing Penncross greens to either Crenshaw, L-93, or Penn A-4. In each case, a significant amount of effort went into determining a precise method for distinguishing among cultivars, so that conversion could be quantified. The researchers developed genetic marking techniques that allows for separation of the cultivars. Unfortunately, in some cases the cultivars are so closely related genetically that it is difficult to find marker differences. Nevertheless, sufficient data were available to make some conclusions based on the conversion techniques that were investigated.



Dr. Richard White at Texas A & M University conducted experiments at the Extension Center and at the Dallas Country Club. Plots were interseeded in April 1995 and evaluated for up to 14 months. It was concluded that mechanical disruption did not substantially influence species conversion and that topdressing following seeding was all that might be needed. This is not surprising when the size of a bentgrass seed is considered. In addition, chemical suppression with glyphosate resulted in a 95% increase in Crenshaw population. However, it was observed that recovery of existing vegetation and the seedlings was not sufficient to be a practical option. Interestingly, at the Dallas Country Club, initial (4 week) evaluation indicated a significant conversion; by the 6month evaluation Crenshaw made up less than 10% of the stand.

Drs. Sweeney and Danneberger at Ohio State University observed conversion of a Penncross green over a 4-year period. Mechanical disruption and seeding followed by alteration in mowing heights to possibly encourage the new cultivars that are more adapted to close mowing, resulted in little if any new cultivars being introduced. These researchers utilized the genetic marker methods similar to those employed in the Texas study.

Dr. Dan Bowman at North Carolina State utilized combinations of mechanical disruption, chemical suppression and seeding to convert Penncross greens to either L-93 or Penn A-4. Preliminary results are similar to previous reports, however, a one year 20% increase in Penn A-4 using a shallow surface cultivation procedure (Jobsavers) and low use rates of trinexepacethyl (Primo) was demonstrated. It was concluded that subsequent years will include more aggressive mechanical disruption procedures.

Altering the Niche

Mark Wilson, CGCS of Valhalla Golf Club in Louisville, KY has been attempting to convert 12 year old greens for the past several years and serves as a good example, both of the practical aspects of conversion and the principles of ecology (how plants respond to the environment), specifically altering the niche. Conversion begins by weakening the existing vegetation and allowing the greens to thin during the summer months by reducing fertility. Next, chemical suppression is utilized to further weaken existing vegetation, followed by aggressive mechanical disruption (2 or 3 passes with a core cultivator). Seed is applied then managed to favor seedling growth over existing vegetation by reducing mowing, topdressing and light, frequent watering. These practices, "put a priority on the post-plant watering and fertility of the seeding procedures, and not on everyday golf play." Therefore, it could be concluded that this is not transparent to the golfer, and why should it be? Success of these practices at Valhalla may not be as precisely determined

as in the controlled research studies, however, Mark has indicated that there is improved quality of the

surfaces, whether the new cultivars are present or not. Summary

Altering a niche in a way that favors one species over another, such as annual bluegrass versus bentgrass, has been shown to present a formidable challenge. In addition, where there has been success reported, severe reduction in quality is followed by a significant alteration of management. Therefore, based on the latest information available, without severe suppression (or kill) of existing bentgrass surfaces, the overlap in resources required (similarity of niches) make successful conversion a formidable challenge. This will require a well-articulated action plan that informs the golfers of the transition expected during the conversion process and the likelihood of long-term success without significant short-term reductions in playability. In essence, bentgrass overseeding can work, but not without significantly altering the playing quality of the surface.

It was put best by Goethe, "One must obey nature's laws even while he denies them; he is forced to produce with her aid even when he imagines that he is able to work against her."

Reprinted from: Cornell University Turfgrass Times; Volume Ten, Number Four Winter 2000



Do Winter Covers Work?

Throughout the northern climates, there is considerable concern regarding turfgrass winter injury. It is estimated that many northern turf areas will suffer some form of severe winterkill at least once every 3 to 5 years. This is particularly problematic on high value areas such as golf putting greens where snow cover is inadequate to protect the turf from temperature extremes. Consequently, golf turf managers have been using various types of protective covers to essentially mimic the protective effects of snow cover, with literally no scientific data to support any benefits.

To address this important issue from a scientific perspective, researchers at Laval University in Canada, investigated the influence of various winter protective covers on turfgrass winter injury, soil and crown level temperatures. The study was conducted at locations in Quebec City, with thick, stable snow cover on creeping bentgrass, and in Montreal with thin, unstable snow cover on annual bluegrass. Five covers plus an uncovered plot were tested including, 1) permeable and 2) impermeable Evergreen covers, 3) a curled wood-shaving mat (AKA, Excelsior Mat); and 4) 2 inches of air space plus an impermeable cover, and 5) 7 inches of straw with an impermeable cover. Covers were applied in early to late November prior

to snow cover.

The Quebec site that sustained deep snow cover resulted in no significant difference in injury or measured temperatures, however significant injury was noted from snow mold disease. In contrast, the Montreal site demonstrated a clear benefit of the protective covers that maintained an air space below an impermeable cover, in fact, covers without the air space resulted in significant winterkill of the annual bluegrass. Therefore, it can be concluded that under prolonged snow cover the most important aspect of survival is disease prevention, yet under fluctuating snow cover, insulating materials such as curled wood mat, straw or air space under an impermeable cover can reduce soil temperature fluctuations, minimize the influence of freezing temperatures and thin snow cover consequently enhancing the winter survival of golf greens.

From: Dionne, I., PA. Dube, M. Laganiere, and Y. Desjardins. 1999. Golf green soil and crown-level temperatures under winter protective covers. Agronomy Journal 91.227-233.





WILLIAM SMITH



MEETING & EDUCATION CALENDAR 2000

The Education and Golf Committees have composed the golf/speaker schedule for the monthly meetings this year. An array of topics will be covered that, hopefully, everyone can learn a thing or two and have some fun on the golf course. If anyone has any comments or suggestions on the topics chosen please contact Jason at (570) 759-6480 or grass-man72@hotmail.com. Start thinking about topics to be discussed at the roundtable meeting for July and let Jason know.

	Jason Barndt, Education Chair Gary Phillips, Golf Chair
April 24 [.] Silver Creek CC	Roger Stewart with the GCSAA Topic - Professional Development Initiative
May 16 [,] Water Gap CC	Greg Solt from Penn State Cooperative Extension Topic - Effective plantings to attract wildlife & goose control
June 13, Woodloch Springs CC	Ron Tugent (our Association's accountant) Topic - Establishing a 401K or Pension at your club
July 18, Stonehedge GC	Topic - Roundtable Discussion
August 14, Pocono Farms CC	Clam Bake
September 19, Mountain Valley	Terry Laurent, CGCS, from Saucon Valley C.C. Topic - Review of hosting the 2000 U.S. Senior Open
October 17, Blue Ridge Trail	Annual Elections

Winners of the April Meeting at Silver Creek CC (better ball of partners)

Low Net

#15

Longest Drive

60 - John Segui/Lou Amando

61 - Jim Carville/Bill Rawlings

62 - Doug Ray/Chris Ward

Steve Ehrhart

Low Gross

- 1st 71 Kirby Putt/Pete Ramsey
- 2nd 72 Dave Teed/Kurt Schaubel
- 3rd 73 Mark Albino/Gary Phillips, Jr.

Closest to the Pin

- #9 Jim MacLaren
- #13 Lou Amido



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A message from your golf course superintendent and GCSAA





SOME NOTES ON DROUGHT REGULATIONS

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On Tuesday, January **25**, a group of Pennsylvania golf course superintendents, along with Dr. Pete Landscoot of P.S.U. and Keith Happ of the U.S.G.A. met with representatives of DEP to discuss our current drought regulations. The key points of the discussions were: statewide metering of golf course water usage, percentage reduction of water usage during a drought emergency and flexibility for the superintendent to use the allotted water in a manner that best suited the needs of his golf course. The two groups came to agreement on all points and the revised proposed drought regulations will be made available to the public in early February.

I think it is important to note that the persons contacted for these meetings were golf course superintendents. Would that have been the case 15-20 years ago? I doubt it. The golf course superintendent was largely an unknown commodity to everyone except his peers and golfers that played his course. In Central PA we have at least five superintendent/general managers and most superintendents today also enjoy at least a parallel position with other managers within their club. Was this the case fifteen years ago? I don't think so. The framework for this development began with Superintendents like Riley Heckert, Whitey Suttles and John Boyd and has been carried on by guys like Kenny Dietrich and Terry Wueshinski. The common denominator for this group has been integrity. Now that responsibility rests on each and every one of our shoulders. The proposed drought regulations will give every superintendent the ability to obey the law, and maintain his facility. The current regulations were, for the most part, abused or ignored by most golf course superintendents, owners and memberships. As a result, the golf community got a black eye in the view of DEP, SRBC, law enforcement officials and the general public. In closing, I'm not trying to pull the wool over anyone's eyes. Obeying the proposed drought regulations and maintaining a guality golf facility will require planning, resourcefulness, hard work, creativity and of course, integrity, but it can be done.

Bill Wall

Bio on Bill Wall: Bill is the superintendent at Dauphin Highlands Golf Course in Oberlin, PA, and has been an advocate for turfgrass management and golf course superintendents at the state level in PA for 20+ years. He is a member of GCSAA and the Central PA Golf Course Superintendents Association.







play to win-



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POCONO ROUNDUP

NEWS AND VIEWS FROM THE POCONO TURFGRASS ASSOCIATION

For those of you not aware, **Paul Weiss** has been retired from Blue Ridge C.C. and has been replaced by his most capable Assistant, **Pete Beblavy**. We wish them both well. Paul has moved to Bedford, PA and his new address is as follows: 300 Cumberland Road, Bedford, PA 15222, 814-623-5965.

Jason Barndt, Supt. at Berwick C.C. has been blessed with a new maintenance building, large enough to hold an old fashion country dance.



As you have no doubt read in local publications, Glenmaura National G. C. is hosting the buy.com (formally the Nike) golf tournament this year. A phone call to **Andy Jubinski** or his assistant **Jeff Koch** offering assistance either in moral support, equipment loan, or slave labor would be in order.

Four Season G.C. in Exeter has been purchased by Gothem Golf. Their local holdings also include Edgewood in the Pines and Mt. Laurel G.C. Good Luck to **Bob Price**, Supt.

As mentioned earlier in this edition, thank you's were expressed to Tony Grieco, CGCS, and his staff at Silver Creek. For those of you who have hosted meetings in the past, you know how much work is involved by not only the golf course crew, but also the Pro Shop Staff and the Food Service Staff. This meeting was exceptional because of the LARGE turnout from all three associations, the previous wet weather, and the fact that the clubhouse was supposed to be closed on Monday. A sincere thank you again from all persons who enjoyed the day. Also, Tony, who supervises the golf course staff, took a week off prior to the meeting to play golf in Scotland and broke 85 in all his rounds of golf, including the Olde Course at St. Andrews. This attests #1 to his golfing prowess and also the talents of his assistant, John Regenve.

As of this writing, we are in a cold/wet spell which I am sure has many superintendents in a quandary as to when Spring will be here, or are we going right into Summer. In some locations Sky-Bit had crabgrass germinating, then it went back to zero because of the frosts. Sky-Bit has been a very useful tool for those who are on the program.



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