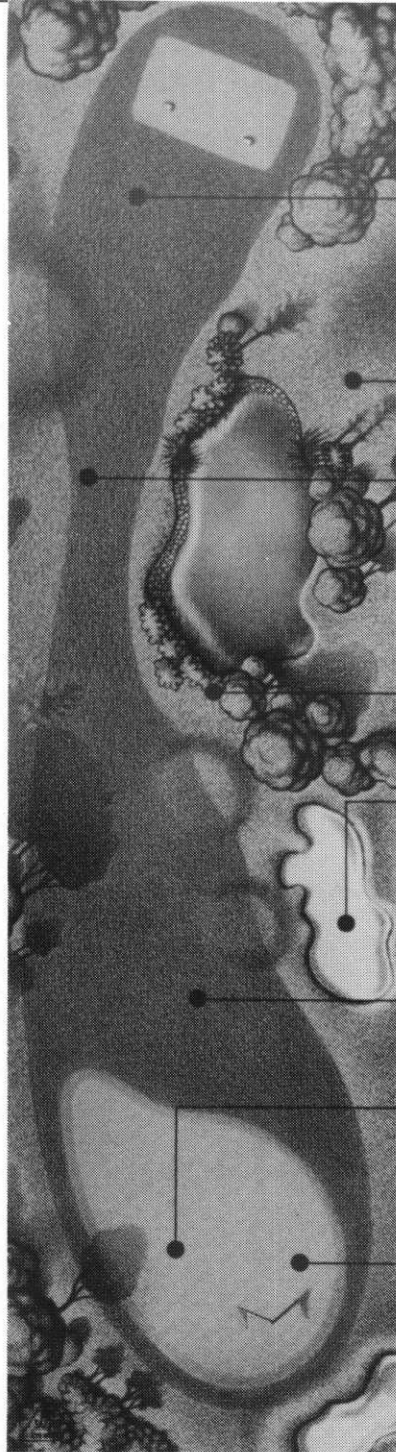


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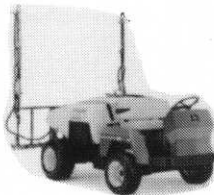


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Walk Don't Ride—

(Continued from Page 10)

to keep caddy programs going by an equitable balance between cart and caddy fees, and club rules mandating cart usages should be resisted. Clubs should provide four-bag cars where most players can walk each hole, and there must be continued reminders that golf is a healthful, physical fitness endeavor for players of all ages which will enhance both the quality of play and the number of years one will be able to enjoy the game.

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(<i>Stodola Scramble</i>) |
| October 9 | Chisago Lakes Golf Estates
Host Superintendent – David Zimmer |
| Dec. 6, 7 & 8 | MTGF/MGCSA Conference and Trade Show
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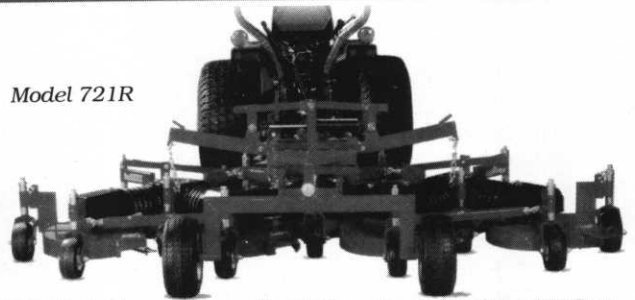
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SEGREGATION: Is it a Problem?

By Annue Uhring
Southern Golf

The once even-colored and finely cut bentgrass greens seemed to take on a winter fashion statement. Patchy, purple spots appeared on an otherwise healthy middle-aged green.

Is this cause for alarm? Can anything be done? Does the average golfer even know the difference, much less care? This strange phenomenon is called segregation.

"I think they should up the busing and make like grasses all go the same place. . . not my golf course!" laughs Lou Nash, a Texan from the Longwood Golf Club in Houston. "Besides, I'm in Bermuda country so I don't see bent greens."

Segregation is not a disease. Instead, it's the blending of different grass seed varieties, which tend to migrate toward each other, therefore "segregating" the varieties into like patches showing the color and texture difference between them. It occurs mostly during colder growing seasons.

Segregation is prominent in older bentgrass greens — usually apparent on the ever-popular Penncross bent greens. Some superintendents live with it, but others are adamant that segregation must go.

Some Say It's Strictly A Question of Cosmetics

"I don't worry about it," declared John Drewderry, from the Winter's Run Golf Club in Maryland. "I just rebuilt three greens and seeded into four different types of bentgrass. People say, 'Ah, you're crazy.' We'll see what happens."

"We get segregation," Drewderry continued. "I've got Penncross greens that are twenty-some years old. They've segregated. A neighboring golf course with a C-1, C-19 seed, the old congressionals, separated years ago. I don't find anything wrong with that. I kind of think it's interesting to look at. We certainly have enough segregation from Poa, and we live with that. So why do we worry about segregation from bent? I don't."

According to Joe Henderson at the Golf Club of Tennessee outside Nashville, segregation is just a cosmetic thing. "To me, it's not a big deal," he said. "I am not going to rip up a green because there is segregation on it."

Henderson continued, "Besides, all the segregation I see is in the wintertime. We have Penncross which does segregate. The greens are fairly new. The older they get, the worse you'll see it, but we're closed in the winter so, to us, it doesn't matter."

El Paso Country Club's Kirt Desiderio believes, "My experience is that segregated greens putt the same. So it's more of a cosmetic thing. The golfers say, 'Hey, what's this little patch right here? But, from what I have seen, when it warms up, it goes away. It's more the winter hardiness of certain genetic material that are in those greens that segregate out.'"

Desiderio continued, "At the time the greens were rebuilt 10 years ago at El Paso Country Club, there was a shortage of Penncross, so they put mostly Penneagle on the greens, and I just haven't had any segregation problems."

Jim Key from Phoenix's Point Resort doesn't worry about segregation either.

"My Penncross greens are six years old. In the winter I have purple spots which you don't notice when the weather is decent. If you're grooming, verticutting, topdressing and brushing, I don't really see any texture differences and growth habits that cause problems," Key said.

However, Penncross is noted for separation. It just happens. It may or may not be a putting problem or a playability problem.

Is it just visual? Allowing thatch to build up and not keeping the greens firm might cause it to start affecting the roll of the ball.

Others Say Segregation On Greens Has Got To Go

"Segregation is not strictly cosmetic," stated Ken Mangum of the Atlantic Athletic Club in Duluth, Ga. "It is a different plant with different leaf texture and density. You can see a different putting speed and a different grain in some of these older segregated patches. A cold-weather, end-use phosphorus deficiency gives you the purpling."

Chris Ganor, Superintendent at Las Campanas Country Club in Santa Fe, N.M., also has a problem with segregation. "It's worth fixing," he said. "You can see a big, big difference in the quality of the putting surface, when you have one bentgrass as opposed to many different kinds."

Ganor continued, "Some grasses are grainier than others; the leaf blade will lay over. The other grasses are more upright. You'll have a conflict between grass blades alone. That is not only aesthetic, but for putting reasons too."

"If you have a grainless and all of a sudden the grass stands up, then your ball is going to roll a little differently.

(Continued on Page 16)

SOIL CORE ANALYSIS A DIAGNOSTIC TOOL

By Joe Farina, Golf Course Turf Specialist
Read Sand & Gravel, Inc., Rockland, MA

(Reprinted with permission)

The turfgrass plant, much like a human being, requires a proper balance of air, water, food and a healthy environment to sustain life and survive in its flora world. The basic teachings of turf physiology have sharpened the expertise of many a superintendent to help combat against the elements that seek to upset this balance and to weaken, stress or kill our grasses. When an adverse condition is noticed—whether a pathogen, insect or climatic influence—the turf manager becomes a physician of sorts who analyzes, defines and resolves the problem using diagnostic methods of on site visual or off site laboratory tests. Most of the time this occurs after the damage has been done to some degree. We know that a weakened turfgrass plant is more susceptible to disease, stress and parasitic invasion. Identification of what causes a weakened plant in the first place could be the key to prevention and could increase the survivability of the turfgrass. A soil core analysis should be part of your check list.

True, many factors from close mowing to foot traffic or phytotoxicity can put a turfgrass plant in a weakened state, but the subsurface environment of the root zone area can set the stage for "do or die" of the turfgrass plant. Infiltration, porosity, organic content and particle distribution are the dynamics of a soil structure engineered for turf. Harmony and balance must exist among these root zone characteristics below the surface in order to support your cultural program atop the surface. When a soil imbalance exists, the turf cannot respond fully to the applications you apply to enhance its quality and vigor. Thus the turf plant becomes weak due to the soil environment in which it is anchored. Unfortunately, by the time the weakening effects are felt the mercury hits 90 plus, humidity is oppressive, there is a shotgun member guest at 12 o'clock, and you cancel lunch while you grab that bottle of antacid. Sound like the summer of '94? It's "no holds barred" with Mother Nature and the last thing on your mind is a soil test.

Spring and Fall are more opportune times to conduct a soil test analysis as a diagnostic tool prior to aeration and topdressing, and to make proper decisions on what material you should or shouldn't be amending the root zone with. Conventional soil testing methods are good for choosing a new root zone or topdressing material for greens and tees. However, for an existing soil profile in either a new high sand or an old push up green, a more surgical approach is required to locate, pinpoint and isolate a soil malfunction within a specific area from 0 to 12" so that you can implement the proper corrective action (a "smart bomb" analogy, if you will). Such a method has been developed

by International Sports Turf Research Center of Olathe, Kansas, to test intact, undisturbed soil cores inch by inch and evaluate the physical well-being of the soil medium as it relates to the root system and health of the turf plant. This is especially effective on golf greens where intense culture and abuse struggle to find an equilibrium. Now soil testing technology has devised a way to bring your golf green to the laboratory. Okay, sure, core samples have been done for years by using a cup cutter or pounding in random lengths of PVC, but never with this high degree of accuracy.

This New ISTRC SYSTEM cores with a plugger device and extracts a 2" diameter by 3" deep intact core into a copper sleeve that is then capped and sent off the the lab. Two types of cores are extracted which represent specific levels of the root zone for analysis. First, the most crucial upper tier — 0" to 3" — that is subject to general aeration practices, topdressing, soil amending, surface contamination and direct compaction. Second, the lower 3" to 6" tier that can harbor hard pan, fines build up, and is affected during vertidrain, deep tining and hydrojet practices. Additional lower tier cores may be extracted from 6" to 9" and 9" to 12", especially when considering deep tining or rebuilding. Identification of the make up of the soil profile with inch by inch accuracy is the intended purpose when subject to the following series of tests: USGA physical evaluation guidelines including infiltration rates; Walkley/Black organic; Particle distribution and textural analysis; Bouyoucous test; Porosity in capillary and non-capillary; Particle sphericity/angularity; and Root mass and feeder roots analysis.

Where and what are the most common soil problems found through core testing? Definitely in the upper tier 0" to 3". Buildup of organic and fine layers that seal off the root zone and impede proper infiltration, choking of the soil porosity creating an imbalance of air and water, the restriction of feeder roots from penetrating the depths of the root zone, and confining the root mass to the upper portion of the root zone. What could cause all the mayhem? The cause could be as simple as using improper topdressing material. Not that your topdressing material may be bad, but it just might be too much of a good thing such as high organics or particles too abundant in coarse or fines. Can you imagine what would happen to our cholesterol levels if we ate steak and eggs every day? Just as a blood test is a good diagnostic tool for human health, soil core analysis is a good diagnostic tool for the health of your turf.

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Segregation—

(Continued from Page 14)

I've worked at courses where the greens have six different bents and Poa Annuu," Ganor said. "It doesn't look too good in the spring and the fall. In the summer, it looks okay."

Mowing Reduces Segregation

"There is a difference in the putting surface, but the difference is really evident when your greens are mowed at a little higher height," said John A. Halms III at the Club Campestre in Monterrey, Mexico.

"When greens are mowed and rolled a little closer, the difference is minimized. But when greens are cut higher, above 5/32nds, there is a difference because some of those patches do tend to stay a little tighter and don't get leafy," Holms said. "I have that problem at the club I am at, and rolling seems to help in the wintertime. I do spray the iron, get the fertilizer on there and do try to help the color a bit."

Ken Mangum explained, "If you've ever seen a Penn-cross seed field you'd understand why you have segregation. I've got some of the oldest Penn-cross greens left in Atlanta. This time of year, the segregation shows up in huge distinct patches.

"We've got two research greens where we are looking at all the new bents. We've seeded nine holes with Crenshaw. It will be five to 10 years before we see how much, if any segregation we see from the new bents. But we know they're better. The parents are much more uniform than the old Penn-cross. I think the segregation will be less, but it will take time to see," Mangum concluded.

DNA Grass Blends May Help Provide Unity

A concern exists with the blends in the new grasses. What happens when two or three different bents are blended together? In some ways, it makes sense to try and utilize the strengths of each grass. The next question is whether or not the new seedling will bring its own segregation problems. Unfortunately, the results may not be known until five or 10 years down the road.

The good news is that, with most of the new bents, such as Tee-2-Green's six new cultivars to be introduced this fall, the leaf texture and density are said to be superior to what has been available in the past. The new varieties don't seem to change texture with fertilization as much as Penn-cross did.

With Penn-cross, if you fertilize at the wrong time of year, the result is a fat leaf blade that lays over. Newer varieties do not show those tendencies.

"DNA is going to help develop a more pure strand of grass and eliminate the segregation problem," believes Dick Blake (Axis Soil Conditioner 'Rep.'). former President of GCSAA.

"DNA will improve some strains of grass. I don't know of any other way to get rid of segregation without redoing the greens. People plug it out, but it still comes back,"

he said.

Being Held Hostage By Your Greens?

"Sure, we have bentgrass in Monterrey, Mexico. We are in the mountains," said John Holms, "With segregation, you are held hostage unless you want to change the grass on your greens. Some of the Penn-cross segregations are excellent. If you could get one segregated variety to cover the entire green surface it would probably be some of the best putting surfaces you would ever find."

He continued, "Because of the segregation in the three parent grasses that come from the Penn-cross, the big purple spots show up in the wintertime. With the new bent variety from the new one-parent grasses, you will probably never see the segregation in there," Holms concluded.

Mutations & Contaminated Greens Offer Strange Mixes

Mutations occur in other grasses as well. Oftentimes, interesting mutations are not predictable and really don't belong on the golf course, unless they're in the test plot.

Penn-cross greens contaminate with Poa Annuu are another interesting situation which some superintendents take great pains to eliminate. Others, however, are content to accept, groom and maintain their greens to above-average expectations. There are still other varieties, such as Dominant and Penntrio bents, which also are separating.

"We had some of the old 328 grass strains that mutated, so we started taking different mutations and putting it in dishes to cultivate them," explained Lou Nash from Houston. "We had plants that looked like chicken feathers and hanging baskets. It was really bizarre looking. Once it started on the course, you trapped it, killed it all and started over."

According to Robert Sterling, from the Boulders Course in Acworth, Calif., he's seen mutations in Bermuda.

"NuMex Sahara, a new seeded variety, has a tendency to look a lot like common at times, which is where it comes from," he said.

Greens Management Means Dealing With Segregation

From a greens management standpoint, it becomes more difficult when separation occurs. What is done in one spot can be detrimental to another area of the green.

The solution? Start over... it's almost impossible to overseed into a creeping bent green, especially if it's Penn-cross.

Member-Generated Articles

Articles written by members are the key to the success of a publication such as Hole Notes. We listen to each other's ideas and trust each other's common sense and advice, so why not share it? An experience of a superintendent at one golf course may be of use to a fellow superintendent at another course. Hole Notes needs you to put down those thoughts on paper and welcomes your suggestions for articles. Please contact Tom Johnson, Editor, Hole Notes.

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A Question of Ethics

Editor's Note: The following article appeared in the Spring issue of The Florida Green.

I am writing this in an anonymous fashion because I do not want to implicate anyone for wrongdoing, but I sincerely believe the subject that I am about to embark upon definitely needs to reach all of our people in the golf course management industry.

I recently experienced a problem with my putting surfaces at a facility where I was employed. The cause for the problem was beyond my control, but as we unfortunately see all too often, I was asked to resign my position because it is the easiest way for management to save face and calm down the membership.

After leaving, and a few weeks of self-evaluation, I felt that there were things I could have done better dealing with the situation, and know that at least I have learned a few things from this bad experience.

My reason for writing, however, is not for sympathy, but to tell of a situation that is to me, becoming very alarming in our profession. The number of people that encroached upon my position by calling my manager, trying to be the first to get their foot in the door, before an official announcement was issued, was beyond belief!

My manager was very professional and denied that there were going to be any changes made, but many he told me of were very aggressive and continued to call him. Many of the job seekers were people looking to move from the rank of assistant superintendent to their first head superintendent position.

The person who eventually took my place was a former employee of mine. He never had the ethical decency to call me to see what the situation with me was. He interviewed with our management and accepted the position, all without even calling to let me know he was involved in the process.

I realize that there are many people out there that are graduating from turf school and need to find golf course superintendent positions, but these people need to realize that the GCSAA has a good code of ethics in our business. It is everyone's responsibility to uphold it. I know for fact that my replacement took the job for a much lower salary than I was being paid. I believe he never had any concern for upholding the salary scale for my area. I doubt if he ever tried to find out what the range was.

Before I interviewed for the job, I first called the chapter leaders to introduce myself and to find out about the area salaries and other important information about their group of superintendents. It was very easy to do, and believe me, it helped me in my negotiations. It also helped the existing superintendents to continue to upgrade their salaries.

We all have a tremendous responsibility in our business, and it has taken a lot of hard work by all of us to get the due respect and compensation we are receiving today.

I am hearing about more and more superintendents being replaced by people that are coming in 10-15K less than the previous superintendent almost on a daily basis.

These people don't realize the tremendous amount of pressure that is associated with being the head superintendent. It is impossible to imagine until you are in that position. When I left the ranks of assistant superintendent, I fortunately listened to my boss, and although I was very eager to get my first head job, I went to the bargaining table determined to be paid for the responsibility that I was taking on, and to uphold the salary range of the superintendents in the region.

The kind of cut-throat behavior that I have experienced, and am hearing about, needs to stop. We are all facing more and more responsibility and pressures from the public and media, and I feel that well-educated, ethical and hard working golf course superintendents will meet these challenges head on.

As we become more and more responsible, we deserve to be compensated well for the great amount of time and effort required to do our jobs to the highest standard. We do not need our own people shooting us in the foot. They will be the ones who eventually will pay the price.

—Anonymous

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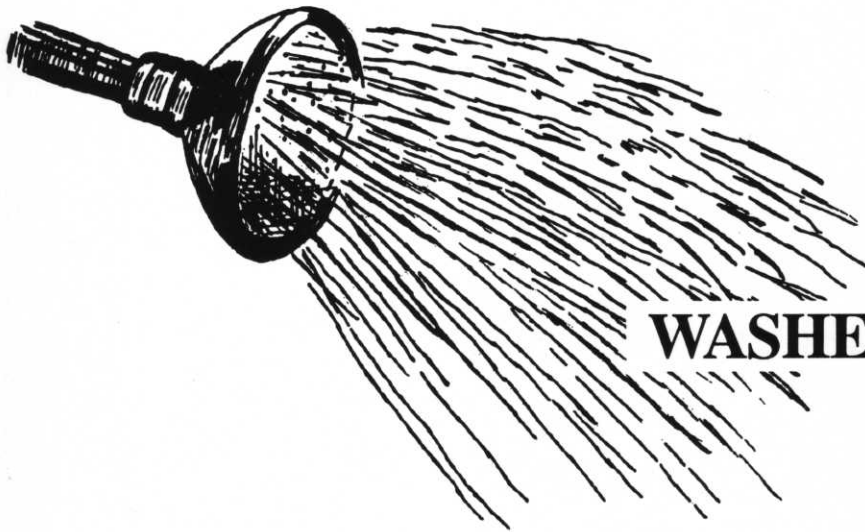
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