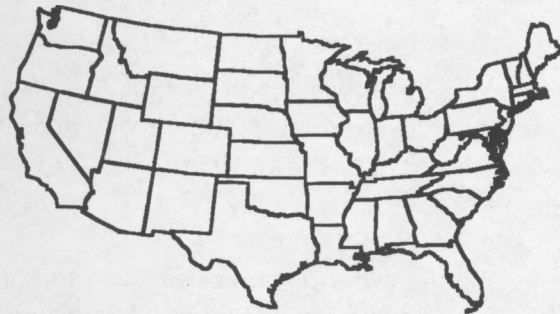


TurfComms



Vol. 11, I. 5

Nov. 27, '98

PURPOSE: To pass on what we learn willingly and happily to others in the profession so as to improve turf conditions around the country.

PRIMO for SHADE: Two consultants to premier clubs said that Primo was great for all sorts of grasses in the shade. One asked where I'd been. He wrote that he had been recommending it with good results "for the last 5 years, based on the success of the Michigan State indoor turf research which led to the Silverdome project." The rates he recommends are 0.1 to 0.15 oz./M every 14 to 21 days. So Try It - You'll Like It. Norvatis's unofficial word - "no other research results available. It won't help grass already stressed but if applied prior to stress it may help."

OKLAHOMA TURF CONFERENCE: My visit to this mid-November conference began with an interesting conversation with a **zeolite** salesman. Like almost all salesman I quickly found out that I had to take what he said with a grain of salt. But, a caution to all, there are all sorts of zeolites out there. Some types may be disastrous for your soil mix other types may or may not be good for your soil mix. Be patient the research results are not in yet so try it if you wish on small plots but insist that it be low in sodium (<3%) and free of clay and silt.

Turf quality readings taken at University research plots are a measure of cultivar adaptation to that environment points out Dr. Martin. And with that he noted, that of the **fine fescues** he looked at none gave good quality turf in Stillwater, OK. The chewing types proved to be marginally better in general than the creeping red, hard, and sheep types at that location.

He gave 22 **tall fescue cultivars** that did very well there among them were Plantation, Crossfire II, SRX8500, Twilight II, Arabis, Coronado Golf, Mustang II, and Bonsai 2000. The cultivar

TURFCOMMS is published at unpredictable intervals by the editor and publisher:

e-mail address is dhawes@dallas.net

Douglas T. Hawes, Ph.D.
Certified Professional Agronomist
Specializing in Golf Course
Maintenance Consulting

2408 Roundrock Trail
Plano, Texas 75075
(972) 867-0176
Fax (972) 519-9263

Subscription cost is \$15. Send checks to Doug Hawes at the above address.

Tulsa did not make his list although it looked good until clobbered by Brown Patch. He went too fast for me to get all the 22 cultivars. He has not seen much difference between tall fescue cultivars in the shade.

And now, the best **creeping bentgrass** cultivars: top group (A-4, A-1, G-6, L-93), second group (Cato, Providence, G-2, Imperial, Crenshaw), third group and still with very good performance (SR1020 and Southshore). Dr. Martin expressed continuing concern over the thatch forming potential of Penn State's A & G series.

Want to do your part on protecting the water resources adjacent to your turf? Dr. Martin gives three recommendations based on the results of OK research results: 1) don't apply pesticides to saturated soils. 2) Make border strips wider and taller. 3) Use low water solubility products whenever possible.

BRIAN MALOY, USGA Agronomist, noted at the OK Conf. that the Green Section specifications for putting green mixes were not going to drop organic matter from the mix. Rather, instead of the current 1 to 5% range the specifications were going to state as needed to meet other specifications, or something to that effect. He noted that they continue to find a wide range in testing lab. results from lab. to lab. for the same sample.

He talked a lot about this last **summer's heat** and what worked to get **bentgrass greens** through it. He emphasized the matty high organic layer at the surface and the need to get oxygen through it. Successful superintendents accomplished this with a combination of wetting agents and summer aerification. The summer aerification was done with one or more of the following: the hydroject, spiking tines, small hollow or solid tines including needle tines on the Soil Reliever™. He seemed quite impressed with use of the latter. Using one of those hand held surface temperature measuring devices he was impressed with the 15 to 20°F cooler turf temperatures he found where fans were in operation. Other management tools that resulted in summer survival was a sensible height of cut for the cultivar used and solid rollers.

He saw a lot of **stunt mite** damage in bermudagrass roughs which looked like dry spots till you got down close and saw all the excessive branching of the bermudagrass. Diazinon works best for control as long as you're not on a golf course. Then you will have to use some other insecticide. He suggested Mavrik. He also learned that coyotes cut traffic control ropes during the night with their teeth.

Dr. Martin showed the old (1959) classic **Water Movement in Soil** film. Which reminded me of why old aerifier holes don't help infiltration and oxygen diffusion. They become plugged at the top with organic matter and silt; thus the top of the open channel is closed after six months to a year. Depending some on the frequency of topdressing. Theoretically old aerifier holes should remain active the longest on a green maintained on a light and frequent sand topdressing program.

Cale A. Bigelow of North Carolina State Univ. gave two talks. One on Rootzone modification and another on a new research project that involves the Sub-air™. The goal of the research is to see whether vacuuming air out through the drainage system or forcing it back in through the system will improve root growth and creeping bentgrass quality. After one year of research on

new plots built to USGA specification there was no differences between treatments due to the use of the Sub-air. But, we all know the roots go down to the gravel layer in a USGA Green the first season. So we will have to be patient and wait for next year's data. The Sub-air did reduce water in the mixes 25 to 50% when turned on for 5 to 10 minutes.

Dr. Richard Schmidt (introduced jokingly as **Dr. Biostimulant**) gave a talk on biostimulants from the point of view of being anti-oxidants. Most of the talk was on seaweed extracts and humic acids. Although he typically avoided naming names a few brand names were discussed. He had found that humic acid applications helped plants increase their antioxidant concentration; and that as this went up the amount of roots increased.

He noted that Roots™ was helpful in offsetting salt problems that normally prevented root development. That Banner or Primo treated sod rooted better than untreated sod. He found that biostimulate treated plants absorbed water better when under stress; that biostimulants reduce the rate of aging of plants and reduce injury from preemerge herbicides. He also had data to show that biostimulants reduced nematode feeding in turf. He reported that humic acid combined with a seaweed extract increased photosynthetic activity which is most critical in cool season grasses in hot weather. (see HUMIC ACID article below)

He recommended using low dosages of biostimulants frequently at least a week prior to stress.

HUMIC ACID: Ahh! At last some positive humic acid research I can show some excitement for and it was done on creeping bentgrass to. Liu, Cooper, and Bowman of NC State U. report in HortScience, V.33(6), pg.1023, Oct. '98 that "*400 mgL⁻¹ significantly enhanced net photosynthesis on all four observation dates.*" But note that 100 and 200 mgL⁻¹ (ppm) of humic acid generally did not result in enhanced net photosynthesis; and these lower rates resulted in "*actually reduced length*" of roots. They reported at the 400 ppm rate to have found increased root mass regrowth and root dehydrogenase activity.

Now how does one put on enough humic acid to obtain 400 ppm in the soil solution? First, let us assume there is 1/4 inch of moisture in the top inch that we wish to bring up to 400 ppm humic acid. An acre inch equals 27,154 gallons. Therefore, an acre 1/4 inch = 6788.5 gal.

$$\frac{x}{6788.5 \text{ gal}} = \frac{400}{1,000,000} \quad x = 2.7 \text{ gal. of pure humic acid/A}$$

Now **you** find me a seller of humic acid containing products who tells you how much humic acid is present in their product and I'll give you the gallons of that product you will need to apply to obtain improved photosynthesis and rooting of your bentgrass greens according to the above research.

SEEDED BERMUDAGRASS CULTIVARS: I've been rather negative when it comes to the bunch of new seeded bermudagrass cultivars on the market these days. But this summer I did see one that I thought was a decided improvement and that was **Princess**. This new release of Seeds West Inc. is a dense ground hugging improvement over common. It should do well at tee or

fairway height of cut and I stuck my neck out and recommended it for such at a California course this summer.

In the November issue of Golf Course Management, pg. 62, there is an article that discusses this and other seeded bermudagrass cultivars. Princess is rated high there for density, quality, and finer leaf texture (not 419's standards but approaching). Winter hardiness may be better than Arizona common the first winter but seeing this cultivar does not produce a lot of rhizomes its winter hardiness may make it best suited for temporary turf or for South Texas and the like. The full word on winter hardiness is not in yet. Seed production is poor so you'll pay a fair amount more for the improved quality. A California study found all seeded cultivars in their trial of better quality than Arizona common, but Princess was not in that study. (from latest Calif. Turfgrass Culture)

METHYL BROMIDE: I keep suggesting to a few customers who need to change cultivars or get rid of *Poa annua* or bermudagrass in greens that they need to act quickly. On page 67 of the Nov. issue of GCM there is a good article on the alternatives for golf courses. I'll quote two sentences to give you the author's opinion on alternatives. "...no other methyl bromide alternative research is being conducted on turfgrass. Therefore, the future of pre-plant fumigation in turfgrass does not look promising."

ARSENIC: When someone mentions this element my first thought is *Poa annua* control. According to a recent World Press Review article (Dec. '98, pg. 35) this would be easy to accomplish in the West Bengal state in India. The deep wells there have been poisoning the local population since 1962 with this element. Then my brother sent an e-mail about its use in curing cancer (leukemia). An interesting element in that both plants and animal metabolisms tend to substitute arsenic for phosphorus in the energy transfer system. But alas, it doesn't work in those systems. It also is reported to "encourage" cancer in some situations.

ORGANIC MATTER and FOOD FOR THOUGHT: In the IPM Practitioner, XX(8) August 1998, pg. 17 is a review of the book Soil Ecology in Sustainable Agriculture Systems. In the review the authors are noted as finding that conventional tillage leads to bacterial predominance in the soil with a great loss of organic matter. Notill systems (turf maintenance can surely be included here) on the other hand leads to a fungal based food web and greater retention of soil nitrogen.

Now in turf do we want a fungal based food web and accumulation of organic matter. Not usually in mature turf. Thus we should core aerify as much as possible breaking up the cores and working the soil back into the turf. To 1) reduce organic matter and 2) to encourage bacterial growth.

SOIL TEST BEFORE TREE PLANTING: Most of you have a pretty good idea of the soils profile and fertility before planting on your golf course. But if you don't, or have reason to believe the soil in the rough is completely different than what you have encountered elsewhere on the course it would be a good idea to soil test before planting. There is a good article on this in Tree Care Industry, Nov. 1998.

- End -