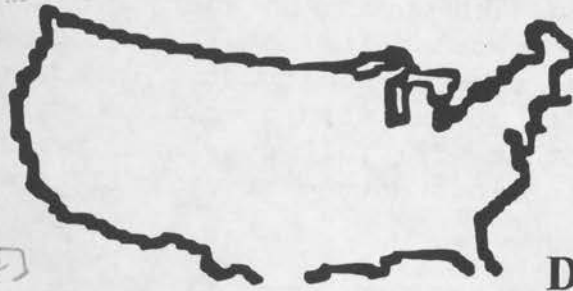


TurfComms



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

USGA VS. CALIFORNIA GREENS CONSTRUCTION - comments from Gary Grigg:

In the last issue I, your editor, commented on two recent articles on this subject. Gary, supt. at Royal Poinciana G.C. and past GCSAA President, sent the following comments he made in an memo to Sue Gibson, Editor of Turfgrass Trends on Harivandi's article. For the most part I agree with these comments but have a few comments on his. I have slightly modified this exchange of e-mails to condense it and make it more suitable for publication. The **bolding** is done by me to emphasis the most important parts.

Gary Grigg writes, "While I have the utmost respect for Dr. Harivandi, he makes some very basic errors in his article on the construction of golf course putting greens, regardless of the method one selects to use.

The quote, "Most greens are graded evenly at the subbase to have a 2% to 4% slope from back to front", may have been true 40 or 50 years ago but not nowadays. That is however, a requirement of the UC method of building greens and a requirement never understood or met by modern-day architects. If that requirement is not met the UC method may ultimately fail.

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He then goes on to say, "Since water reaching the green will infiltrate readily, surface drainage is not needed", and later, "A sand green does not depend on surface drainage to remove water". These statements are totally in error. Any green regardless of the type of construction needs good surface drainage. Show me greens with no surface drainage and I will show you greens that will fail over some period of time as the infiltration rate slows down---as it will, even with sand based greens.

He then states that new greens should be fertilized every two to three weeks until they are established. A superintendent that fertilizes new sand based greens every two to three weeks better have an up to date resume on hand because he may be looking for a new position. After owners spend millions of dollars building the course, they want fast grass. Light and frequent are the two key words for bringing in new greens and every 3 to 4 days is normal.

He also blasts use of natural organic fertilizers during grow-in as bad for infiltration. I ask this question: How else are the needed microorganisms going to survive in the UC method of building greens since all organic are removed from the mix? Over the last 30 years I have build and grown in over 500 greens and I was very successful with using high rates of organic fertilizers as a pre-plant fertilizer alongside the inorganic fertilizers.

Dr. Harivandi speaks as other researchers like to, from theory. In reality, he is off base and also very biased toward the UC method. Jim Moore of the USGA and I teach a popular seminar on golf course construction which includes an in-depth **comparison of USGA vs. California method of putting green construction. Either can be successful if the corresponding guidelines are followed closely.** Unfortunately some architects without good agronomic input, take liberty's with experimentation. When the greens fail the superintendent usually becomes the scapegoat.

As I stated at the beginning I have nothing but respect for Dr. Harivandi and enjoy his expertise in teaching agronomics, but he is really wrong at places in the article.

Concerning Gary's thoughts on this subject I found I was not in agreement with him on one area. That was the frequency of fertilization needed to bring in quality putting surfaces with UC sand base greens. I thought with the variations in nitrogen release rates for fertilizer products on the market today that there was no reason why quality greens can't be brought in with every two to three week fertilizations. Secondly, from my experience fertilizing every 3 to 4 days is not normal (average). It may be normal for the superintendent who is lucky enough to have a fertilizer injection system hooked to his irrigation system.

Gary gets upset with Harivandi's strong language about the use of natural organic fertilizers during grow-in as bad for infiltration. It would not surprise me to find that 100 to 200 pounds of

Milorganite per 1000 sq. ft. would reduce infiltration (percolation in the long run). Harivandi's use of the adverb "seriously" makes his statement rather strong but he is not the first agronomist I have heard make a similar comment. I, your editor, still continue to recommend the above Milorganite or Houactinite range for bent and bermuda greens. But, I also like to see percolation rate of the sand on the high end of the scale to start with.

Gary goes on to note great success with using organics at establishment of many greens in his career. But, did not the use of natural organics slow down the percolation rate on those greens? In reply to this Gary writes, "My first USGA Greens were in 1972. I have been back to many courses and all seem be doing good. After 20 or 30 years or even less, as you know, greens may fail for many reasons. How do you determine if it was due to using organic fertilizer?"

Gary asked who else had expressed that organics such as Milorganite were bad for the grow-in of putting greens. I am reasonably sure it was Leon Howard, golf course designer and researcher on original USGA specs. who expressed this strong feeling to me at a North Texas superintendents meeting a few years back. I, myself have questioned organic matter as a contributor to percolation problems when high levels of sodium were present in the irrigation water. I have another serious concern with any organic amendment which goes back to my experience with the use of Colorado native peat at Castle Pines. Some organic amendments are very high in silt and clay as was the Colorado native peat that caused these USGA greens not to meet spec. rates for percolation after they were constructed.

To check on the amount of ash (a measure of silt and clay) in Milorganite I called Jim Latham, formerly with the Milwaukee Sewage Commission, about the ash content of Milorganite and got this over the phone quick-top-of-the-head response, "I think the range of ash was 15 to 25 % and most of this was clay". He promised to dig up some hard data and send it to me. What he found confirmed this range of clay in Milorganite. Let us assume the worse: that 25% is clay and we applied Milorganite at 200 pounds/M. If mixed uniformly in the 12 inches of mix this 50 pounds of clay is very insignificant, less than 0.03%. But, when applied only to the surface it could become a significant layer of organic matter and clay. On the other hand if mixed uniformly in the upper 1 inch we have 50 lb./4 ton of mix or about 0.6% more clay added to the top inch. This amount of clay may reduce infiltration and percolation rates while increasing water holding capacity a measurable amount.

When I told Gary I intended to publish this e-mail exchange he wrote, I have never been one to not express my opinions. I'm sure I am not always right. However, if I do something that works then I continue to do it until someone shows me a better way. I think if built to their specs California greens will work. Few build them to their specs. I have three putting greens here, built to their specs, and for 3 years they have been doing as good as my USGA greens. Success can only be measured over time and only time will tell.

CULTURE OF NEW PUTTING GREEN BERMUDAGRASSES: If you have or are contemplating bermudagrass greens you need to read Dr. Richard White's article "**Unleash the Full Potential of New Bermudagrass Cultivars**" in USGA Green Section Record, Sept./Oct.

1999. In summary, "...Champion, Floradwarf, MiniVerde, and TifEagle accumulated an average of 14 times more thatch than Tifdwarf." when at an annual rate of 18 lbs. N/M. Now producing high quality putting surfaces does not require 18 lb./M but does require 10 according to his data. And at 10 Champion had ten times more thatch than Tifdwarf. It appears that the new cultivars will provide superior putting surfaces to the old Tifdwarf but he suggests at a cost of walk behind mowing, with more topdressing and vertical mowing. Overseeding appears to be restricted to *Poa trivialis* for best results.

DROUGHT RESISTANCE IN WARM-SEASON GRASSES by Sifers and Beard: This article in the Sept. Golf Course Management magazine caught my attention after the drought here in Greater Dallas and on the East Coast this summer. It is interesting to see how well the warm season grasses recover from drought as a group. St. Augustine and buffalograss cultivars recover 100% from severe drought stress while others vary more with cultivar differences sometimes being extreme. The one that really caught my eye was Oklawn centipede grass. This cultivar recovered nicely while many of the other centipede cultivars did not fair well. Meyer looked much better than Emerald but I sure would have liked to see a whole lot more cultivars of zoysia in the test. There were 4 or 7 St. Augustines that had minimal leaf firing after 158 days of drought. One of two seashore paspalums, no centipedes, zoysias, or buffalograsses and only one of three bermudagrasses.

Before I went to press I received Texas Turfgrass/Fall, 1999 with an evaluation trial done in Williamson county of 11 different cultivars grown without supplemental irrigation. Williamson Co. is just north of Austin, TX. This study includes 3 St. Augustines, 2 Buffalograsses, 3 Bermudagrasses, and 3 Zoysias. All but common bermudagrass and Top Gun buffalograss were sodded. All were planted in July 1997. The first season ended with Floratam looking great and the three zoysias (Crown, JaMur, and El Toro) looking bad. However, the zoysias did much better the second season and the test now is to see what will survive the long, hot drought that started in August of 1999 and went into the late Fall. I would expect some of the initial results in which the zoysias showed poorly were due to poor rooting of the zoysia sod.

THRUST BLOCKS: I have heard many horror tales of golf courses where these were not installed. But, had been told they weren't necessary on home irrigation systems. Well I just finished replacing a 1&1/4, 1&1/4, and 1&1/4 inch tee because none was installed by me 10 years ago when I built my system. There is one there now. If one is needed at 55 psi and reasonably steady city pressure imagine how quickly the tee blows under golf course conditions.

JANE: Many of you have been kind enough to inquire about Jane's health, thank you. She has spent 20 or more days out of the last 30 in the hospital. She is home now with hospice care and looking forward to seeing all the grandchildren for one last Christmas.

WE BOTH WISH YOU
HAPPY HOLIDAYS!