

## Rebuilding Greens - Where The Rubber Meets The Road, Ideas To Take To The Field

By Mike Huck, Agronomist

I am sure that many of you were surprised to read that the test for saturated conductivity (commonly referred to as infiltration or percolation rates) has the most "slop" in it, plus or minus 3.8" per hour! Of all the performance tests this is the most difficult to repeat with any accuracy. In fact, this inconsistency was the reason that infiltration rates were omitted from the 1989 revision of the construction recommendations. The fact that contractors, suppliers, architects and superintendents screamed so loud is why these guidelines were included in the 1993 revision of the recommendations, even considering their shortcomings.

Admittedly, I was also guilty of placing too much emphasis on infiltration rates when selecting a mix. So, let me borrow a quote from Tom Hoogheem of Monsanto and say "Don't base past actions on present knowledge." Since we now know infiltration is an extremely variable number, be the wiser for it, place more emphasis on particle size distribution and porosity. Particle size distribution is the most accurate and

repeatable data. If you have good particle size distribution, good internal drainage should follow, the same applies with air-filled and capillary porosity. With that behind us let's move onto a few hints to take to the field.

When sending samples for analysis, enclose a letter to the lab to let them know about your local climate, irrigation requirements, water quality, and any site specific information that may influence their recommendations. You cannot expect a laboratory located across the country to be aware of local conditions at each site, so help them out. Don't just perform a physical analysis, also test the mix's chemistry. Soil pH, and lime content are important to know. In fact, an Arizona lab reported a sand, fitting particle size guidelines, were so calcareous it nearly dissolved when treated with acid used to estimate lime content. A sand like this would fail following a few years of acidic fertilizer applications.

Generally, during large projects the sand supplier blends large batches to stockpile for

the project. Prior to accepting delivery, visit the supplier and collect samples from each "batch" for laboratory testing to be sure you will receive what was specified. Also test each delivery to your site. Who is to say that a loader operator at the sand plant did not mistakenly take the mix out of the wrong pile! Testing every third green at delivery would be a minimum. Testing every green would be ideal.

If there is no way to build adequate funds into the budget for testing, then collect rootzone mix samples from each green and store them in 1 gallon paint cans in the shop. If a problem develops at a later date you will have a representative sample of the original mix from each green. Testing the mix a year down the road will deliver different results because things change as roots grow, slough off and decay, not to mention what may be introduced by poor quality water.

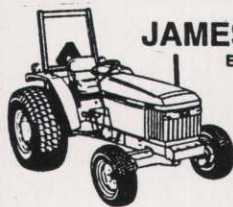
If you are concerned about moisture being drawn from the rootzone into the native

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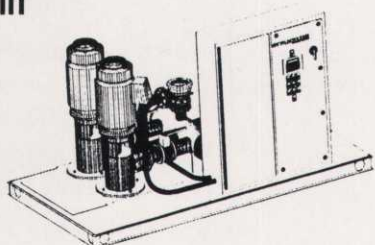
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