University research finds ‘dramatic’ results using porous ceramics

BY MARK LESLIE
IOWA CITY, Iowa — Advocates of porous ceramics in root-zone mixes feel a University of Missouri study confirms their stance.

“We found pretty dramatic pictures” when top dressing dry spots with ceramics compared to straight sand, said Dr. David Minner, a Iowa State University professor who conducted studies on Profile Porous Ceramic Soil Modifier while at the University of Missouri.

Minner was commissioned for the study by Applied Industrial Materials Corp. (AIMCOR), which manufactures Profile. He said he also discovered lower temperatures both on the surface and in the top three inches of the soil, and higher infiltration rates than sand-peat mix.

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With one summer’s worth of preliminary data, Minner pointed particularly to results of research on dry spots. He used a 25-by-25-foot section of a Research Center putting green that — though built to U.S. Golf Association recommendations — required “extra syringing and was problematic.” Maintaining six replications of 2- by 2-foot plots, Minner core aerified them and top dressed them either with sand or Profile.

“As the dry-spot areas started to develop,” he said, “there were many more of them in the sand [top-dressed] areas, as opposed to Profile areas. We saw two keys: You had to continue syringing, or hand-watering; and it made your hand-watering program much more effective. The water was pulled down into the soil profile and held there for later use.”

“During a three-week dry-down phase in August, we hand-syringed, treating them just like a superintendent would — concerning them once or twice a day.”

Meanwhile, Minner also reported temperature relief where ceramics were top dressed into the soil profile. “The 10 plots were wilting less, and there were lower temperatures in the surface and the soil to three inches deep,” he said.

“We were seeing surface canopy temperatures as much as 20 degrees cooler. You can expect that if you have a plant that’s wilted as opposed to one that is not wilted. The plots with Profile would not wilt as much. The ones with sand would wilt quite readily. Soil temperatures were 1 to 3 degrees cooler, mostly. But on some days it was as much as 7 degrees cooler.”

Now that he has moved to Iowa State, Minner said he will construct some plots this fall to continue the study.

Mechanics set education conclave

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SUNY Cobleskill agricultural engineering instructor Larry Van DerVaal actually approached GCMA founder and President Steve Lucas of Weston, Mass., about conducting a school and began planning curriculum in May.

Teaching sessions like this are badly needed, Alford said, because “it’s getting so specialized and the equipment is getting more and more complex. A good course in electronics is a must now. No more is it simple automotive mechanics. You’re getting into computerization. And it isn’t stopping. I predict it’s just the beginning of computerization on this machinery.”

Since the association was formed two years ago, its membership has grown to approximately 300.

“Our membership now spans Massachusetts, New Hampshire, Maine, Connecticut, Rhode Island and New York,” Alford said. “We’ve been in contact with other associations, particularly Florida, and in Colorado. Eventually it will be nationwide. It’s in growing pains right now.”

More information is available from Alford at 617-245-6092. Golf Course News welcomes news from all mechanics associations.