

GREEN INDUSTRY SHOWCASE

Tests show value of sand amendment

"Sand-Aid" is a new organic amendment for sand-based root zone mixes, from Emerald Isle, Ltd. of Ann Arbor, Mich.

Recent test results by an independent testing concern show dramatic increases in organic matter content.

Turf Diagnostics & Design, Inc. of Olathe, Kan., was hired to conduct tests on the product. Tests showed Sand-Aid also improved cation exchange capacity, moisture/nutrient holding capacity without disturbing desirable physical properties such as soil porosity and infiltration rates.

Sand-Aid is composed entirely of granulated sea plants. In USGA spec greens mixes, it is used as a companion to peat moss. In "straight sand" greens mixes, it is used to amend the root zone.

Other results of recently conducted tests include:

- Adding Sand-Aid increased the organic matter content of the sand/peat mixes and pure sand in all cases;

- Using the product at recommended rates increased organic matter content of the 80:20 sand/Canadian sphagnum peat mix by 60 percent;

- Sand-Aid at the recommended rate increased the organic matter content of the 90:10 sand/Dakota peat mix by 53.8 percent;

Pure sand treatments with Sand-Aid increased organic matter

- Tests showed no negative impact on the physics of the greens. According to Turf Diagnostics, Sand-Aid's ability to significantly increase organic matter content without "layering" is a "positive attribute."

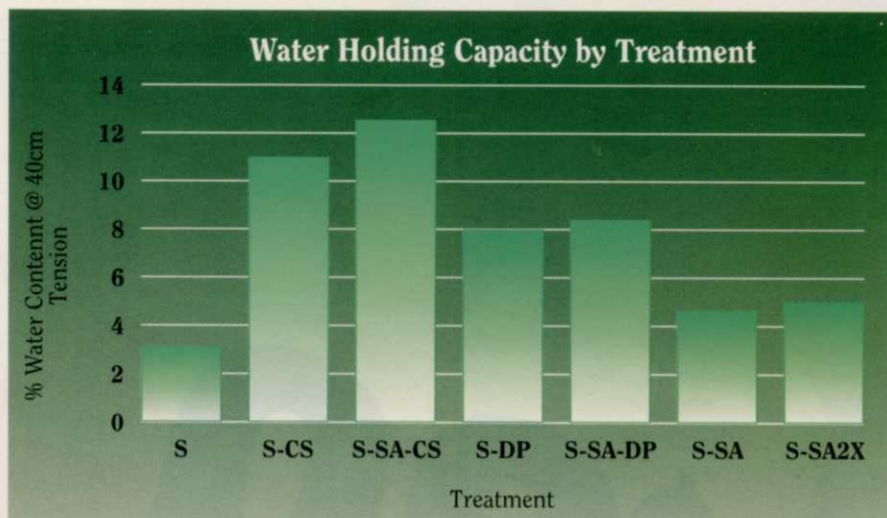
- As a companion amendment for peat, the increase in organic matter produced by Sand-Aid without any adverse effects on the physical properties of the mixes is

highly beneficial, says Turf Diagnostics.

Sand-Aid appears to have no negative impact on infiltration rates and water holding capacity. However, adding the amount of peat it would take to equal the increase in organic matter produced by

70 to 80 lbs. of Sand-Aid/1000 ft.² is to be incorporated in the upper six inches.

The sphagnum and Dakota Peat mixes were mixed and a 0.18 percent (weight basis) rate of Sand-Aid was added to the mix to simulate the 45 lb. rate. The pure sand treatments were made by using a 0.33 percent (weight basis) rate and by doubling the rate to 0.66 percent (by weight). After all the treatments were made the physical evaluation process was initiated.



Sand-Aid would have a significant negative impact on the mix's physical properties.

Turf Diagnostics and Design specializes in agronomic system assessments of construction materials and processes required for high performance turf systems.

The treatments or mixes used to determine the USGA physical evaluation are as follows:

S=Sand

S-SA= Sand + Sand-Aid

S-SA-CS=Sand+Sand-Aid+Canadian Sphagnum Peat

S-CS=Sand +Canadian Sphagnum Peat

S-SA-DP=Sand+Sand-Aid+Dakota Peat

S-DP=Sand +Dakota Peat

Emerald Isle recommends a rate of 40 to 50 lbs. of Sand-Aid/1000 ft.² be incorporated in the upper six inches of a sand-peat rootzone. For pure sand greens, a rate of

Sub-samples of the mixes were dried and processed to determine the organic matter content. The rates simulate an incorporation of material to a six-inch depth of rootzone mix.

The treatments with the additions of Sand-Aid increased the organic matter content of the mixes and pure sand in all cases. The addition of Sand-Aid increased the organic matter of the peat treatments by 0.6 percent to 0.7 percent. The pure sand treatments with Sand-Aid increased the organic matter content to 0.3 percent (recommended rate) and to 0.6 percent (2x the recommended rate). The water holding and infiltration rates were only slightly affected by the organic matter increases due to the Sand-Aid.

Results of the water holding tests are shown in the accompanying graph.

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