



TURFGRASS USE

A Research Report From Colorado State University

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Summary of Research Results

1. Moisture retention curves determined in the CSU Soils Laboratory show that additions of Isolite 1 mm (5%, 7.5% & 15%) to sand significantly increase the water retention characteristics of the sand, and that the extra water held in the sand/1 mm mixes is available for plant use. This behavior would reduce rapid percolation of water through sand, probably resulting in more efficient use of water and reduced losses of pesticides and fertilizer nutrients.
2. When incorporated into a sand-based golf green, Isolite at rates of 1, 1.5, & 3 lbs. per square foot [incorporated to 4" (10.16 cm) depth] significantly increased volumetric moisture content (compared to the control) under two different irrigation regimes.
3. A greenhouse pot study with perennial ryegrass showed that Isolite 1 mm incorporated into sand at the 10% rate delayed wilting (compared to the "sand only" controls, which wilted an average of 6.3 days after being irrigated to field capacity) by almost 2 days. Ryegrass grown in 100% 1 mm wilted an average of 12.3 days following irrigation to field capacity.
4. Isolite 1 mm and 2 mm (at 1.5 and 3 lbs/square foot, incorporated to 4") significantly delayed the appearance of wilt on Kentucky bluegrass grown on a native clay-loam soil, as compared to the untreated control.
5. In a sand-based bentgrass green, Isolite 1 mm significantly increased root production in the surface 4 inches. The effect was especially pronounced under the driest irrigation treatment (when the volumetric moisture content in the surface 4 " was allowed to drop to 40% of field capacity before water was applied to return the soil to field capacity). Under a more frequently-irrigated regime (water applied when soil moisture dropped to 60% of field capacity), Isolite 1 mm addition also enhanced rooting. Root growth in the 4-12" depth was not affected in any way by the use of Isolite.
6. Additions of 1 mm or 2 mm to a clay-loam soil significantly increased the resiliency of Kentucky bluegrass turf by more than 25% (as measured with a Clegg Impact Tester). Infrequently irrigated, dry turf with incorporated Isolite was more resilient than the well-irrigated control plots.

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