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Surface Moisture Comparison on 'L-93' Creeping Bentgrass Among Foliar Fertility Treatments

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A one-month surface moisture study was conducted from November 16, 2004 through December 8, 2004 on an 'L-93' creeping bentgrass research green established in May, 2002. Two Progressive Turf liquid fertilizers (10-3-5 and 5-0-7) and one granular fertilizer (18-3-18) were evaluated to determine the amount of surface moisture remaining on the green after application. Both high and low rates of each product were evaluated. The three fertilizers studied are part of a separate two-year replicated foliar fertility study.

Surface moisture was recorded weekly by swiping a paper towel over the treated plot and then immediately placed in a plastic bag and weighed. The total amount of moisture in each bag ranged from 0.05 to 1.68 grams. This indicates that after mowing the green at sunrise and evaluating surface moisture content 2 hours later, insignificant moisture remained on the bentgrass green surface. *Also, regardless of fertilizer type (foliar or granular) and rate, no significant differences were reported among surface moisture.*

Volumetric soil water content (VSWC) was measured weekly using a time-domain reflectometer (TDR) (ML2, Delta-T Devices Ltd., Cambridge CB5 OEJ, England) soil moisture sensor. The TDR probe was placed approximately 2" into the ground and data converted into VSWC (cm^3/cm^3). Significant differences were noted within each week data was collected, however, there were no weekly trends between the different fertility treatments and products. This indicates that environmental conditions (temperature and humidity), not a treatment effect, may have influenced results between each rating date. In conclusion, after conducting a two-year replicated study using two Progressive Turf liquid fertilizers and a granular fertilizer at various rates, based on surface moisture and VSWC collected in this one-month moisture study:

Once the dew was removed at sunrise, an insignificant amount of water remained on the green for all treatments.

No significant differences in surface moisture were reported between foliar and granular applications.

No volumetric soil water content weekly trends were noted for the various fertility types and rates.

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