

Wetting Agent Comparisons

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In these studies Precision Labs Super Wetter at rates of .5, 1, 2, 4, 8, and 16 oz per 1000 square feet were compared to AquaGro and LescoWet at their highest recommended rate for effects on dew, phytotoxicity and soil moisture. The treated area is Pennlinks creeping bentgrass turf maintained at 5/32 inch, which is a common height for bentgrass putting greens. An isolated dry spot study is being conducted and the results show no treatment effect on recovery from isolated dry spot.

The dew ratings show that the 8 oz rate of Super Wetter is as effective in reducing dew as 16 oz of Super Wetter and 1 oz of LescoWet (Table 1). AquaGro was most effective at reducing dew. It must be noted that the AquaGro and LescoWet were applied the highest recommended rate. You will also note in the phytotoxicity data that AquaGro at this rate had an injurious effect on the turf (Table 2). In the phytotoxicity study, AquaGro and Super Wetter at 16 oz were the most damaging to the turf. Super Wetter at 8 oz and LescoWet at 1 oz are approximately equal in phytotoxicity.

Soil moisture data shows no initial effect on the July 11 sampling (Table 3). The July 27 date shows that Super Wetter at the 4, 8 and 16 oz rate was equal to the AquaGro and LescoWet treatments. However, the 16 oz rate of Super Wetter had significantly more moisture than the 4 and 8 oz rates of Super Wetter.

Table 1.

Precision Labs SuperWetter Dew Reduction Ratings Treatments Applied 7-9-91 1=heavy dew, 9=no dew					
Treatment	Rate/M	7-10	7-15	7-18	7-26
SuperWetter	.5 oz	1.0 C*	1.0 C	1.0 C	1.5AB
SuperWetter	1.0 oz	1.0 C	1.0 C	1.0 C	1.2AB
SuperWetter	2.0 oz	2.3 C	1.0 C	1.0 C	1.2AB
SuperWetter	4.0 oz	1.8 C	1.0 C	1.0 C	1.0 B
SuperWetter	8.0 oz	4.8 B	3.5 B	1.5 BC	1.0 B
SuperWetter	16.0 oz	8.5A	4.5 B	2.0 B	1.2AB
AquaGro	8.0 oz	8.5A	7.0A	4.3A	1.0 B
LescoWet	1.0 oz	5.3 B	3.3 B	1.8 BC	1.0 B
Check	-----	1.0 C	1.0 C	1.0 C	1.8A

* Means followed by the same letter are not significantly different at the 5% level using the LSD range test.

Table 2.

Precision Labs SuperWetter Phytotoxicity Study Treatments Applied 7-9-91 1=no phytotoxicity, 9=heavy burn, 3= unacceptable burn					
Treatment	Rate/M	7-10	7-15	7-26	7-31
SuperWetter	.5 oz	1.0 B*	1.2 C	1.0 D	1.25 C
SuperWetter	1.0 oz	1.0 B	1.0 C	1.5 CD	1.8 C
SuperWetter	2.0 oz	3.0AB	1.0 C	1.2 D	1.5 C
SuperWetter	4.0 oz	1.0 B	1.2 C	1.5 CD	1.8 C
SuperWetter	8.0 oz	1.2AB	2.8 B	2.2 BC	3.0 B
SuperWetter	16.0 oz	3.2A	4.8A	2.5 B	4.2A
AquaGro	8.0 oz	2.0AB	4.5A	3.8A	4.2A
LescoWet	1.0 oz	1.0 B	1.5 C	1.8 BCD	2.0 BC
Check	-----	1.0 B	1.0 C	1.5 CD	1.2 C
* Means followed by the same letter are not significantly different at the 5% level using the LSD range test.					

Table 3.

Precision Labs SuperWetter Soils,Moisture Data Treatments Applied 7-9-91 Moisture Data in Volumetric Soil Moisture			
Treatment	Rate/M	7-11	7-27
SuperWetter	.5 oz	24.5A*	22.9 C
SuperWetter	1.0 oz	25.6A	23.6 C
SuperWetter	2.0 oz	24.5A	23.3 C
SuperWetter	4.0 oz	25.2A	23.5 BC
SuperWetter	8.0 oz	24.8A	23.6 BC
SuperWetter	16.0 oz	26.1A	26.4A
AquaGro	8.0 oz	26.6A	24.6ABC
LescoWet	1.0 oz	26.3A	25.8AB
Check	-----	25.2A	23.6 BC
* Means followed by the same letter are not significantly different at the 5% level using the LSD range test.			

These studies show that care should be taken when using wetting agents at high rates. Damage was to the leaf tissue only. Soil moisture increases are related to wetting agent use. Continuing investigations into the action of wetting agents on soil moisture are underway, including studies to evaluate the effect of these products on evapotranspiration and infiltration.