

Fertilizer Research at Les Bolstad U of M G.C.

By Charlie Pooch

Les Bolstad University of Minnesota Golf Course

To get a better understanding of the fertilizers available for our use on the golf course, we set up an experiment on our practice range using three different fertilizers.

The three types we used were:

1. Turf Management 24-3-12 Greenscote which consists of 1.2% ammoniacal N and 22.8% urea N of which 10.8% is polymer coated urea. This product was donated for our use on this test by John Wiley at Turf Supply Co.

2. Scott's 25-3-20 NPK Turf Fertilizer with Poly S, what we currently use on our fairways. Nitrogen source is 1.1% ammoniacal N and 23.9% urea with 17.4% coated slow release.

3. Wilbur-Ellis 24-4-12 with Nutralene of which the nitrogen source is 1.57% ammoniacal N, 4.93% urea, 7.25% water insoluble N, and 10.25% slowly available water soluble N. This product was provided to us by Larry Thornton at Wilbur-Ellis.

On May 27, we divided our driving range into 14 plots, each 50 feet x 80 feet, and applied the following: 1½ lbs. N of Turf Management Greenscote, 1 lb. of Scott's Poly S, and 1¼ lb. of Wilbur-Ellis Nutralene, rates requested by each distributor. We left two plots unfertilized to serve as check plots.

Our basic goals were: 1. Test the difference in amount of clippings. 2. Test the quality of turf color. 3. Check for differences in disease incidence.

Notes taken from various examinations of this first application include:

June 18. After receiving 3 inches of rain the prior 2 days, we mowed a 20-foot strip with a Toro triplex greens mower set at ¼ inch, collected the clippings and emptied the contents from each plot next to one another to make a visual comparison. The Turf Management Greenscote had approximately twice as much clippings as the Scott's Poly S and Wilbur-Ellis Nutralene. Scott's Poly S and Wilbur-Ellis Nutralene were approximately equal, with the check much less. There was no noticeable difference in color among the four.

June 25. Scott's Poly S and Turf Management Greenscote had equal amounts of clippings with Wilbur-Ellis Nutralene less and check plot much less. Color: equal, with check plot yellowing.

July 2. Scott's Poly S appeared to have nicest turf followed by Turf Management Greenscote. Wilbur-Ellis Nutralene shows some yellowing. Poly S had the most clippings, Greenscote next, Nutralene not having much more than the check. This is 5 weeks after the original application and cool weather for the end of June.

July 16. After 6.5 inches of rain the prior two weeks, the fertilized plots appeared equal in color with the check plot even looking fairly good. Clipping amounts were about equal for the three fertilized plots with the check plot still

much less. Some dollar spot showed up in the check plot, but none in any of the fertilized areas.

Results so far seemed to pretty much show what the weather dictated. The extra N applied with the Turf Management Greenscote along with the extra percentage of urea left noticeable amounts of clippings on those plots compared to the Wilbur-Ellis Nutralene and Scott's Poly S being quite uniform. Turf color of all the fertilized plots was excellent except for the Nutralene on July 2. That, however, recovered very nicely with the rains and nicer weather.

Next, we wanted to check the amount of clippings with equal amounts of N applied to each plot.

July 22. We fertilized all plots with one pound of actual N/1000 sq. ft.

On the Wilbur-Ellis plots we applied 20-0-20 with Nutralene. We also borrowed a scale from Dr. Ward Stienstra to help give us a more accurate measure of clipping amounts. Again, we would take a 20-foot cut from a designated plot, empty the contents of the three baskets into a bucket and weigh the contents.

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August 6. Turf Management Greenscote 2 pounds clippings/20 feet. Scott's Poly S 1.90 lbs. Wilbur-Ellis Nutralene 1.40 lbs. Check .5 lbs.

The color of all the fertilized plots appeared excellent with the check appearing very "hungry" for N. No disease appearing in any plots.

August 10. (After 4 inches rain)

Turf Management Greenscote .85 lbs.

Scott's Poly S .70 lbs.

Wilbur-Ellis Nutralene .35 lbs.

Check .25 lbs.

August 20.

Turf Management Greenscote 1.80 lbs.

Scott's Poly S 2.30 lbs.

Wilbur-Ellis Nutralene 1.65 lbs.

Check .75 lbs.

Color appeared uniform with all plots except the check.

August 27.

Turf Management Greenscote 2.00 lbs.

Scott's Poly S 1.80 lbs.

Wilbur-Ellis Nutralene 1.45 lbs.

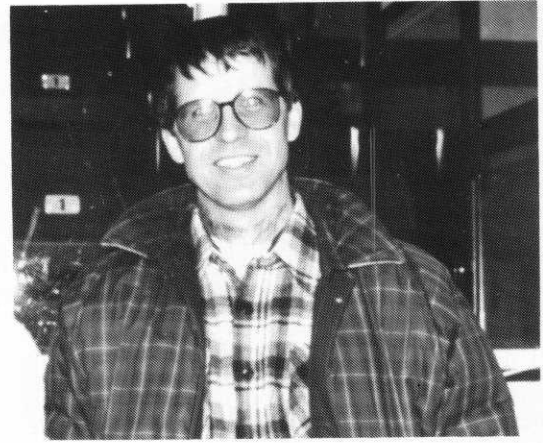
Check .60 lbs.

Again, plots all looked excellent, except for the check.

September 3.

Turf Management Greenscote 1.80 lbs. clippings.

Scott's Poly S .80 lbs.



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Wilbur-Ellis Nutralene .80 lbs.

Check .75 lbs.

Turf color appeared uniform except for the check plot. No disease.

Any samples taken after Labor Day would not give us any measurements because the weather cooled and growth in all the plots slowed to almost a halt.

This test was not done to prove any fertilizer better than the other, but just to give me an indication of how well each performs when applied next to one another under the same climatic conditions. Thanks to Larry Thornton of Wilbur-Ellis and John Wiley of Turf Supply for supplying some of their products so we could do the comparison.



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