

Sunflower Response to Nitrogen

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An experiment was conducted at the Carrington Research Extension Center in 2008 to evaluate sunflower response to nitrogen (N) rates. The study was established using conventional tillage practices. A fall 0-2 soil foot test indicated 53 lbs. N/ac at the dryland site. The previous crop was spring wheat. The nitrogen was pre-plant incorporated on April 10. The N source material was urea. Nutrisphere-N (www.simplot.com) is a polymer coated urea from Simplot (Table). Spring soil samples taken May 9 from the untreated check plots indicated 71 lb N in the 0-2 foot sample and 168 lbs. N in the 2-4 foot sample. Mycogen '8N358CL' oil sunflower was planted with a John Deere 71 4-row flex planter in 30-inch rows on May 14. The N rates were 0, 30, 60, 90, and 120 lbs. N/acre. The trial was harvested October 27.

With 239 lbs. of total N available in the top four feet, it is no surprise that additional N did not increase seed yield when compared to the untreated check (Table).

Table. Sunflower response to nitrogen.

Nitrogen Rate lb/ac	Plant Population #/ac	Plant Height inch	Test Weight lb/bu	Seed Yield bu/ac
0	21417	63.2	30.7	1458
30	23595	61.7	31.0	1602
60	24684	60.8	30.6	1432
90	23958	61.0	31.2	1511
120	26136	61.0	31.1	1432
30 + Nutrisphere-N	25047	62.8	31.0	1533
60 + Nutrisphere-N	24770	62.0	30.9	1378
90 + Nutrisphere-N	24684	62.5	31.4	1687
LSD (P=.05)	NS	NS	NS	NS
CV (%)	16.6	1.9	1.8	13.2
Grand Mean	24286	61.9	31.0	1504