

SUPPLEMENTAL N ON SOYBEANS AFTER FLOWERING

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This one year study evaluated the yield response of soybeans to three urea-N sources applied at R3 (early pod), R5 (early bean fill), and R6 (late bean fill) growth stages. Nitrogen sources were urea, urea plus a urease inhibitor (Agrotain[®]) and a controlled-release N (POLYON AG[®] polymer-coated urea). Seventy-five lb per acre of actual N was applied by hand to 10 x 40 foot plots. Experimental design was a completely randomized block with four replications. Analysis was a 3 x 3 factorial and a zero check. Yields were not different between application dates averaged over N sources. Differences were detected among N sources. Urea plus a urease inhibitor had larger yields than urea or the controlled-release N. There was no interaction between application date and N source. Even though all treatments had larger yields than the zero check (except controlled-release N at R6), only urea plus a urease inhibitor at the R5 and R6 growth stages were significantly greater than the zero check ($P \leq 0.05$). Rainfall amounts of ½-1 inch occurred within one week after each application. This one year study would suggest that soybeans may respond to supplemental N after flowering. Even though statistical differences were not detected between application dates, the significantly larger yields for urea plus a urease inhibitor at R5 and R6 growth stages over the zero check would suggest a greater chance for a response during bean fill. Results from this study would also suggest the use of a urease inhibitor with urea. The scope of this study was to determine if soybeans would respond to N on soils formed from glacial lakebeds. Further studies would be needed to determine rates and economics.

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