Soybean Performance with Special Inputs

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Field trials were conducted during 2005-08 at the NDSU Carrington Research Extension Center to examine the performance of soybean with selected special inputs. The trials were established on a Heimdal Emrick loam soil with spring wheat as the previous crop. Best management practices were used for soybean production. Complete soil analysis was obtained from the trial area each year to identify potentially soil deficient secondary and micro nutrients. The special inputs included the basic categories of fertilizers, fungicides, and growth enhancers; and combinations of the three. Application timing included preplant incorporated, seed treatment, in-furrow during planting, and foliar [vegetative (V2-3) and reproductive (R1-3) stages]; and combinations. In 2008, only foliar treatments were tested.

Table 1 indicates the trial environment (dryland or irrigated), number of treatments, yield of the untreated check, and seed yield and quality response with the special inputs compared to the untreated check. In the 2005 trial, statistically significant yield increase occurred with several treatments. However, yield increases did not occur during the following three years, including under high yield environments with irrigation in 2007-08. Research reports for each year of the trial that include a listing of special input treatments and soybean performance can be obtained by contacting the Carrington Center or viewing the website www.ag.ndsu.nodak.edu/carringt/.

Table. Soybean performance with special inputs, Carrington, 2005-08.

Year	Environment	Number of Treatments	Yield of untreated check	Increase vs. untreated check[1]		
				Seed Yield	Test Weight	Protein
			bu/A	bu/A	lb/bu	%
2005	dryland	15	36.7	*	NS	NS
2006	dryland	21	26.2	NS	NS	NS
2007	irrigated	15	58.0	NS	NS	NS
2008	irrigated	16	47.3	NS	NS	NS

[1]*=statistically significant (0.05); NS=no difference in yield with special input treatments compared to untreated check.