## Soybean Response to Tillage Systems, Carrington, 2005

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A field study was conducted at the NDSU Carrington Research Extension Center to examine the performance of soybean under three tillage systems. Experimental design was a randomized complete block with four replications. The 2004 previous crop was wheat. The dryland trial was established on a Heimdal loam soil with 56 lb/A (0-24") nitrate-N, 10 ppm P205, 189 ppm K2O, 2.9% organic matter and 6.7 pH. Strip-till treatments were applied on November 8 using a Yetter strip-till opener with 22-inch row spacing using a 4- to 5-inch tillage depth that established a berm 6- to 8-inches wide. The conventional-till plots were tilled twice with a disk on November 8. Innoculated 'RG200RR' soybean was planted with a John Deere 750 no-till single-disk drill in 21-inch rows on May 17. The trial was harvested with a plot combine on September 21.

Plant development and growth were similar among tillage systems (Table). Plant stand averaged over 240,000 plants/A, with stands tending to be highest with conventional till. Root and seed disease were similar among tillage systems. Seed yield tended to be greater with strip till than the other two tillage systems. Seed quality was similar among treatments.

Table.																
Trt	Plant emerge	Plant stand	Ave root length	Ave root disease lesion length	Days to	PM	Plant height	Pod height	Seed yield	Test weight	250 KWT	Oil	Protein	Seed	Seed fungi	Seed bact
111	Jday	plt/A	mm	mm	Jday	Jday	inches	inches	bu/A	lb/bu	g	%	%	%	0-5	0-5
	Juay	PIUA	111111	111111	Juay	Juay	IIICIICS	11101103	bu/A	ID/DU	9	/0	70	70	0-3	0-3
conv	146	252329	129	26	183	240	8.0	25.3	21.7	58.7	35.0	20.6	35.5	96	2.4	1.1
no-till	146	230511	132	26	183	240	7.8	24.0	22.6	58.8	34.4	20.4	34.8	94	2.1	1.8
strip till	146	238100	130	24	183	241	7.5	25.5	23.4	59.0	35.5	20.7	35.2	96	2.5	1.3
mean	146	240314	193	25	183	240	25	7.8	22.6	58.8	35.0	20.6	35.2	95	2.3	1.4
CV (%)	0.4	13.1	11.5	20.4	0.0	0.4	6.5	11.6	11.2	0.5	2.2	1.6	1.1	5.8	21.7	26.4
LSD (0.05)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
(0.05)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS