

## Tillage Studies in NE Iowa – Looking at Effects with Fungicide in 2007

In 2007 specific fungus disease issues were prevalent and concerned a large number of growers across the eastern to western Corn Belt. To better look at this potential limiting and yield reducing issue folks at the NE Iowa Experiment Station near Nashua, Iowa conducted a good study to see what effects tillage may play. Orthman was part of the study to provide a 6 row strip-till tool. Three other tillage systems were part of the study; chisel plow (chisel), moldboard plow (MB PL), no-till and strip-till. All of this was in 30 inch rows. Below is the data, the researchers used two corn varieties, LG Seeds and Dekalb with similar relative maturity and four plant populations (seed/acre). The fungicide used was Headline, a BASF product.

2007 LONG TERM TILLAGE \* POPULATION \* VARIETY \* HEADLINE FUNGICIDE

ISU NORTHEAST RESEARCH FARM  
3321 290TH ST., NASHUA, IA 50658

12.8526912 bu/ac LG2540 RR/YG+ Headline Adv.			NO FUNG. APPLICATION LG 2540 RR/YG+		HEADLINE APPLICATION LG 2540 RR/YG+		HEADLINE ADVANTAGE	HEADLINE DISADVANTAGE	FINAL
TILLAGE SYSTEM	PLANTED POP.	ROTATION	%Moisture	Bu/ac	%Moisture	Bu/ac	(+Bu/ac)	(+%H2O)	POP.
MB PL	26659	Corn/Soy	20.07	196.99	20.03	214.67	17.68	-0.03	24333.33
MB PL	31295	Corn/Soy	20.30	206.01	20.30	222.21	16.19	0.00	31000.00
MB PL	36068	Corn/Soy	20.03	204.29	20.13	223.51	19.22	0.10	34000.00
MB PL	40772	Corn/Soy	19.77	208.56	20.47	228.48	19.92	0.70	38000.00
			20.04	203.96	20.23	222.22	18.25 Bu/ac	0.19 %H2O wetter	
CHISEL	26659	Corn/Soy	18.33	193.83	19.33	203.86	10.03	1.00	26166.67
CHISEL	31295	Corn/Soy	18.23	201.35	18.93	215.34	13.99	0.70	29000.00
CHISEL	36068	Corn/Soy	18.17	199.18	19.17	214.14	14.97	1.00	34166.67
CHISEL	40772	Corn/Soy	19.13	192.88	19.60	213.44	20.56	0.47	39166.67
			18.47	196.81	19.26	211.70	14.89 Bu/ac	0.79 %H2O wetter	
NOTILL	26659	Corn/Soy	19.77	193.87	20.10	203.56	9.69	0.33	25166.67
NOTILL	31295	Corn/Soy	19.43	194.97	19.53	216.05	21.08	0.10	29500.00
NOTILL	36068	Corn/Soy	19.87	200.32	20.20	214.21	13.89	0.33	33166.67
NOTILL	40772	Corn/Soy	20.57	201.33	19.73	216.81	15.48	-0.83	37333.33
			19.91	197.62	19.89	212.66	15.04 Bu/ac	-0.02 %H2O dryer	
ST TILL	26659	Corn/Soy	18.07	201.86	19.20	206.70	4.85	1.13	26000.00
ST TILL	31295	Corn/Soy	18.33	203.12	18.53	208.76	5.64	0.20	31333.33
ST TILL	36068	Corn/Soy	18.13	208.12	19.17	209.06	0.94	1.03	35833.33
ST TILL	40772	Corn/Soy	17.97	210.24	19.17	211.75	1.51	1.20	40000.00
			18.13	205.83	19.02	209.07	3.24 Bu/ac	0.89 %H2O wetter	
9.26957983 bu/ac DKC52-40 RR/YG+ Headline Adv.			NO FUNG. APPLICATION DK C52-40 RR/YG+		HEADLINE APPLICATION DK C52-40 RR/YG+		HEADLINE ADVANTAGE	HEADLINE DISADVANTAGE	FINAL
TILLAGE SYSTEM	PLANTED POP.	ROTATION	%Moisture	Bu/ac	%Moisture	Bu/ac	(+Bu/ac)	%Moisture	POP.
MB PL	26659	Corn/Soy	16.93	196.71	17.20	201.43	4.73	0.27	26333.33
MB PL	31295	Corn/Soy	16.60	193.35	16.73	208.43	15.08	0.13	30833.33
MB PL	36068	Corn/Soy	16.60	196.88	16.70	211.75	14.86	0.10	36166.67
MB PL	40772	Corn/Soy	16.50	196.50	16.70	212.20	15.70	0.20	40833.33
			16.66	195.86	16.83	208.45	12.59 Bu/ac	0.18 %H2O wetter	
CHISEL	26659	Corn/Soy	16.73	186.10	16.70	200.17	14.06	-0.03	26166.67
CHISEL	31295	Corn/Soy	16.33	179.28	16.20	199.38	20.10	-0.13	31666.67
CHISEL	36068	Corn/Soy	16.13	186.69	16.23	195.89	9.20	0.10	36500.00
CHISEL	40772	Corn/Soy	17.00	187.48	16.10	195.69	8.20	-0.90	41666.67
			16.55	184.89	16.31	197.78	12.89 Bu/ac	-0.24 %H2O drier	
NOTILL	26659	Corn/Soy	16.70	178.95	16.73	193.65	14.71	0.03	26666.67
NOTILL	31295	Corn/Soy	16.90	190.50	16.23	193.26	2.76	-0.67	31000.00
NOTILL	36068	Corn/Soy	16.27	178.96	16.30	192.65	13.68	0.03	35166.67
NOTILL	40772	Corn/Soy	16.50	180.28	16.33	190.87	10.60	-0.17	39333.33
			16.59	182.17	16.40	192.61	10.44 Bu/ac	-0.19 %H2O drier	
ST TILL	26659	Corn/Soy	16.83	192.12	16.53	191.03	-1.09	-0.30	27333.33
ST TILL	31295	Corn/Soy	16.60	187.20	16.20	188.53	1.34	-0.40	31000.00
ST TILL	36068	Corn/Soy	16.47	183.34	15.97	188.29	4.94	-0.50	37166.67
ST TILL	40772	Corn/Soy	15.63	179.85	15.97	179.28	-0.56	0.33	40666.67
			16.38	185.63	16.17	186.78	1.16 Bu/ac	-0.22 %H2O drier	

### Observations.....

In the LG Seeds trials without fungicide the strip-till offers a small advantage to yield and then when the Headline product was added the moldboard system shows a definite improvement to yield. The fungicide was applied on the 20<sup>th</sup> of July 2007. In the Dekalb portion strip-till is the runner-up in the check (no fungicide) and does not show a positive effect that fungicide was improving yield compared to the others. There was no report of how much of an infection to Gray Leaf Spot, Anthracnose or Corn Blight with this report was affecting these plots.

We wanted you to have a look at what good work is out there with our partners at Iowa State.