

Rotation and Tillage Effect on Wheat Production

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Objective

To evaluate the effect of crop rotation and tillage on wheat production.

Background

Cooperator:	O.A.R.D.C. NW Branch	Fertilizer:	fall 300 # 10-26-26
County:	Wood		Mar 23, 09 topdress 20 GPA 28% N
Nearest Town:	Hoytville	Planting Date:	10-1-08
Drainage:	Tile, well-drained	Planting Rate:	1.8 million/acre
Soil type:	Hoytville, clay	Row Width:	7.5 in
Tillage:	notill & conservation	Herbicides:	none
Previous Crop:	see below	Harvest Date:	7-7-09
Variety:	Merril DT1A 15-23		

Methods

The entries were replicated eight times in a randomized complete block design. Plot size- 10 x 70 feet each entry. Harvest data collected from center rows. All systems compared no-till to conservation tillage which left 30% surface residue. Conservation tillage used shallow field cultivator in soybean residue and disk chisel and finish tool in corn residue. The same crop was planted on all treatments on the same day, using the same variety, and fertility.

RESULTS

2009 Wheat Yields (bu/ac)

2006	2007	2008	2009	Tillage	Yield (bu/ac)
Wheat	Corn	Soybean	Wheat	No-till	58.7 a
Wheat	Corn	Soybean	Wheat	Tillage	77.5 b
Soybean	Wheat	Soybean	Wheat	No-till	79.5 b
Soybean	Wheat	Soybean	Wheat	Tillage	85.3 c
LSD (0.05)					3.76

Summary

This experiment has been conducted for six years. In 2009 wheat yield was significantly better with the soybean: wheat rotation with conservation tillage. The soybean:wheat:corn no-till system was significantly lower in yield compared to the other wheat systems. These results are not normally found to be true. This plot may have had corn residue interfere with wheat planting and establishment.

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