

## On-farm Soybean Tillage Trials

RFR-A1316

### Methods

In 2013, ISU FARM conducted two trials in Pottawattamie County that investigated the effect of various tillage systems on soybean grain yield. In Trial 1, a fall vertical tillage system and a fall disking were compared with a no-till system. In Trial 2, a fall vertical tillage system was compared with no-till. Vertical tillage systems are marketed as systems that lightly till the soil while leaving most of the crop residue on the surface. All treatments were replicated three or more times in each trial. Details of the trials can be found in Table 1.

### Results

There was no significant difference in soybean grain yield among any of the tillage systems in either trial (Table 2). This agrees with much of the earlier work done in the Midwest showing very little difference in soybean yields with different tillage systems.

**Table 1. Variety, row spacing, planting date, planting population, and previous crop from vertical tillage trials in soybean.**

Exp. No.	Trial	County	Variety	Row spacing (in.)	Planting date	Planting population (seeds/A)	Previous crop
130604	1	Pottawattamie	Pioneer 31M11	15	5/12/13	165,000	Corn
130605	2	Pottawattamie	Asgrow 2931	7.5	5/24/13	165,000	Corn

**Table 2. Yield from soybean tillage trials.**

Exp. No.	Trial	Treatment	Yield (bu/A)*	P-value
130604	1	Fall vertical tillage	71.7 a	0.57
		Fall disk	70.0 a	
		No-till	68.8 a	
130605	2	No-till	53.8 a	0.29
		Fall vertical tillage	57.2 a	

\*Values denoted with the same letter within a trial are not statistically different at the significance level 0.05.