- 1999 Planting Date Study -

Planting Date Study: Ten acres in Field 1a used to determine the optimum time for planting organically grown soybeans to reduce weeds and to provide the best economic return as a balance of yield, weed control and crop quality.

Objective: Determine the affect of planting date on weed control, yield, and profitability for food-grade organic ridge-till soybeans produced in west-central Illinois. This is the second experiment for this study. The first experiment, in 1997, supported the contention that later plantings provide easier weed control; however, the yield loss at later plantings indicated that this is not economically feasible. The results of the 1997 study are supported by the 1999 results.

Planting Date Study: Crop: IA 3001 organic soybeans, Planting System: ridge-till
Planted Population: 182,000, Mechanical Weed Control:

Planting Date #1: May 22, 1999
Planting Date #2: June 1, 1999
Planting Date #3: June 15, 1999
Planting Date #4: June 25, 1999

Results: Weed control was easier with later planting dates, but crop reproductive development was inhibited and yields were significantly reduced at the later planting dates, **Table 1, Field 1a**. Some aspects of seed quality, i.e. % large beans, % unblemished, % brown stain and % splits, were improved by later planting dates, while other aspects of seed quality, i.e. % green and % damaged, were decreased by later planting dates, Table 1. The % purple stain and % shriveled seed were not significantly changed with planting date, data not shown. The % seed coat splits was lowest at the June 1st planting date, but increased at later dates. Since the later planting dates significantly reduced yields, we are terminating these studies.

Table 1 Summary of soybean yield and seed quality analyses. Each value represents the mean of four replicates. IA 3001 was used in this study.

Date Planted	Yield Bu/ac	% Large Beans*	% Unblemished	% Brown Stain	% Green Stain	% Damaged	% Splits	% Seed Coat Splits
5/22	38 $^{a+}$	63.4 ^{a}	5.1 ^{a}	74.5 ^{a}	0.3 ^{a}	1.4 ^{a}	25.3 ^{a}	24.6 ^{a}
6/1	26 ^{b}	80.0 ^{b}	9.9 ^{a}	66.6 ^{ab}	1.2 ^{ab}	6.9 ^{b}	23.0 ^{ab}	17.6 ^{b}
6/15	20 ^{c}	79.0 ^{b}	20.3 ^{b}	54.7 ^{c}	2.1 ^{b}	5.8 ^{b}	18.6 ^{ab}	19.8 ^{ab}
6/25	13 ^{d}	75.2 ^{b}	21.5 ^{b}	56.7 ^{bc}	2.5 ^{b}	6.7 ^{b}	12.9 ^{b}	24.7 ^{a}

* Large beans are defined as whole beans, (undamaged) which do not pass through a number 16 screen (7 mm round holes = 1/4")

+ Means in the same column, followed by the same letter are not significantly different at the 95% level of confidence using the Least Significant Difference method of analysis.