Weekly Farm Economics: Late Planting and Tools in FAST

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Little planting so far this spring and the continued prospects of rain bring on the potential for farmers to shift from corn to soybeans. The *Planting Decision Model*, a part of *FAST* Microsoft Excel spreadsheet series, includes a "Returns by Planting Date" module which calculates projected returns from corn and soybeans by planting date in northern, central, and southern Illinois. There also is an online version of this tool. According to projections in this tool, corn will be the more profitable to plant in all areas until late May. In central Illinois, corn is projected more profitable than soybeans into June.

Accessing the "Returns by Planting Date" Module

The "Returns by Planting Date" is a module in the *Planting Decision Tool*. The *Planting Decision Tool* is a Microsoft Excel spreadsheet that is available for download from the *FAST* section of farmdoc (click here for the download). Besides the "Returns by Planting Date", the *Planting Decision Module* has modules that examine returns from rotations, compare prevented planting crop insurance payments to planting, and help evaluate replant decisions.

An online version of the "Returns by Planting Date" module has been made as well. It can be accessed here. The online version of the tool does not include all modules that are included in the *Planting Decision Module*.

Yield Projections and Corn-Minus-Soybean Returns

The "Returns by Planting Date" module contains defaults for northern, central, and southern Illinois. Central Illinois is further broken down into high and low productivity farmland. Regional defaults give yields by planting date based on agronomic research conducted in the Department of Crop Sciences at the University of Illinois.

Panel A of Table 1 shows corn and soybeans yields for the four default areas. For northern Illinois, the highest yield of 195 bushels per acre is projected for April 15. Yield then decline to 182 bushel by May 6th and 116 bushels by June 10. The highest soybean yields of 55 bushels per acre are projected to occur on April 22 and 29. Yields then decline to 42 bushels by June 10.

Table 1. Yields and Corn-Minus-Soybean Returns by Planting Date[1].

Date	Northern Illinois		Central Illinois High Productivity		Central Illinois Low Productivity		Southern Illinois	
Panel A. Projected Yields by Planting Date[2]								
	Bu/acre	Bu/acre	Bu/acre	Bu/acre	Bu/acre	Bu/acre	Bu/acre	Bu/acre
1-Apr	192	50	193	53	180	48	157	43
8-Apr	194	52	196	55	183	50	159	44
15-Apr	195	54	198	57	185	52	159	46
22-Apr	193	55	198	58	185	53	157	47
29-Apr	189	55	197	58	184	53	153	48
6-May	182	54	195	57	182	52	146	48
13-May	174	53	191	56	178	51	138	48
20-May	163	52	187	55	174	50	128	47
27-May	149	49	180	52	167	47	114	45
3-Jun	133	46	172	49	159	44	100	43
10-Jun	116	42	164	45	151	40	84	40
Panel B. Corn-Minus-Soybean Returns[3]								
	$/acre		$/acre		$/acre		$/acre	
1-Apr	$178		$193		$178		$135	
8-Apr	$164		$183		$167		$129	
15-Apr	$147		$171		$155		$113	
22-Apr	$124		$158		$142		$86	
29-Apr	$102		$155		$139		$55	
6-May	$74		$149		$133		$18	
13-May	$42		$144		$128		($22)	
20-May	$6		$141		$125		($66)	
27-May	($42)		$134		$118		($118)	
3-Jun	($88)		$130		$114		($168)	
10-Jun	($132)		$131		$115		($214)	

1 Generated from defaults in the 2013 version of the Planting Decision Module, a FAST Microsoft Excel Spreadsheet available for download from farmdoc.

2 Based on default parameters contained in the Planting Decision Model, a FAST Microsoft Excel spreadsheet.

3 Based on harvest time prices of $5.30 for corn and $12.00 for soybeans, yields in Panel B, and costs from *2013 Illinois Crop Enterprise Budgets*.

Note that these yields are expectations and actual yields can vary a great deal from these expectations. Actual yields will depend on weather during the growing season. As illustrated by yields in 2011, favorable weather can result in good yields even with late planting.

Projected yields are combined with commodity prices and costs to arrive at corn-minus-soybean returns. Positive corn-minus-soybean returns means that corn is more profitable than soybeans and vice versa. Panel B of Table 1 shows corn-minus-soybean returns for the four regions of Illinois. These returns are based on a $5.30 per bushel corn price, a $12.00 per bushel soybean price, and costs contained in the 2013 Illinois Crop Enterprise Budgets.

For northern Illinois, corn-minus-soybean returns are positive untill the end of May (see Table 1). On May 27th, corn-minus-soybean returns are -$42, indicating that planting soybeans is projected to be the more profitable alternative. Corn-minus-soybean returns are always positive in central Illinois. In southern Illinois, corn-minus-soybean returns become negative on May 13.

Summary

It will be late May before switching to soybeans will be projected to be more profitable than planting corn. The "Returns by Planting Date" module aids in accessing returns. This tool is available online here and as a FAST spreadsheet here.