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2012 Corn Crop To Be The Earliest Ever Planted?

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April 18, 2012

***farmdoc daily* (2):72**

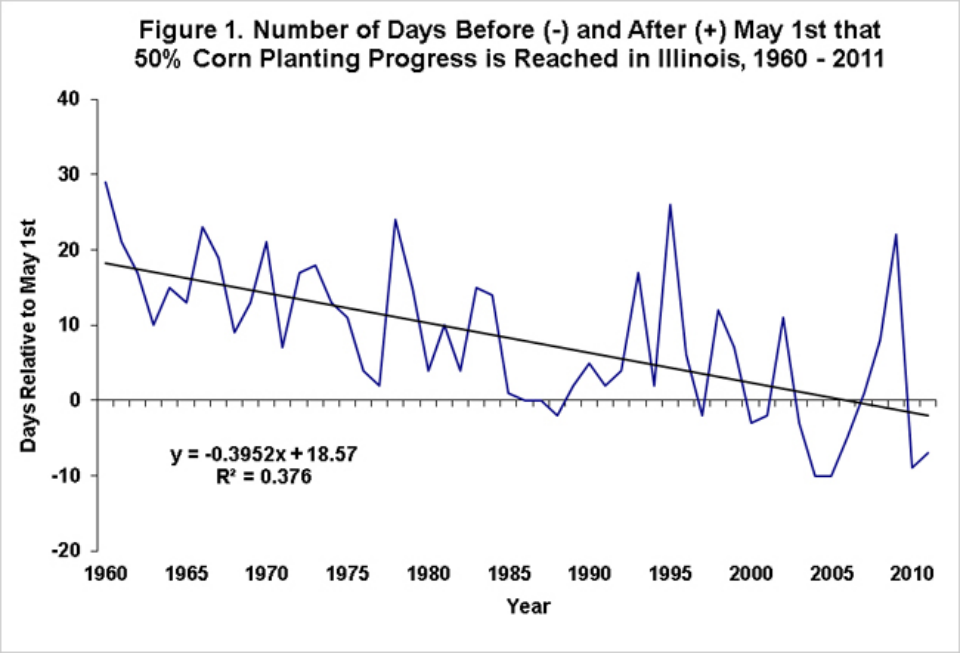
Recommended citation format: Irwin, S. and D. Good. "2012 Corn Crop To Be The Earliest Ever Planted? ." *farmdoc daily* (2):72, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, April 18, 2012.

Permalink: http://farmdocdaily.illinois.edu/2012/04/2012-corn-crop-to-be-the-earli.html

Unusually warm weather in March and early April provided the opportunity to start planting the 2012 corn crop earlier than normal. While there is little doubt that some corn has been planted much earlier than usual, determining whether the crop in total is being planted at a record pace is not as straightforward as it may seem at first glance. The problems include: i) corn planting is generally spread over a relatively long time period, ii) the timing of planting differs substantially by region of the country, and iii) there are several ways to characterize how early or late the crop is planted. One consistent measure is the date at which planting in those states in the heart of the Corn Belt reaches 50 percent completed, as reported in the USDA's weekly *Crop Progress* report. We previously examined this measure in the report found here.

Here we review the history of corn planting progress in the states of Illinois, Indiana, and Iowa for the period 1960 through 2011. We calculate the number of days before or after May 1st that planting reached 50 percent complete in each of the three states. Since planting progress is reported on a weekly basis, the date of 50 percent completion is calculated assuming equal daily planting progress during the week that 50 percent was reached or exceeded. For example, if planting progress for a particular state was reported at 42 percent on May 1st and 63 percent on May 8th, we assume that 3 percent of the crop was planted each day during the week and that planting progress reached 50 percent on May 4th. For that year, planting progress reached 50 percent 3 days after May 1st.

The history of the number of days before and after May 1st that planting progress reached 50 percent in Illinois is shown in Figure 1. The first observation is that over time there has been a clear trend of reaching 50 percent completion earlier. In the 1960s the 50 percent date tended to be about 15 days after May 1st while in recent years it has tended to fall near May 1st. This implies that corn is planted in Illinois about two weeks earlier than was the norm five decades ago. More formally, the fitted trend line indicates that 50 percent planting progress in Illinois has been reached nearly 0.4 days earlier each year since 1960. The trend is smaller, but similar, in Iowa (0.34 days) and Indiana (0.26 days).



The overall tendency towards earlier planting over time means that a 50 percent date that is 15 days after May 1st in say, 1975, is comparable to a 50 percent date of May 1st in 2012. So, in order to make "apples-to-apples" comparisons of planting progress over time we de-trended the 50 percent planting date observations, much like yield observations over time are de-trended to reflect changing production technology and management practices. This is accomplished by subtracting the fitted trend line prediction each year from the actual 50 percent observation. The result is a "de-trended" series of 50 percent dates that are comparable over time.

Figures 2 through 4 present the trend-adjusted calculations of the number of days before or after May 1st that corn planting progress reached 50 percent in Illinois, Indiana, and Iowa, respectively. Several observations can be made. First, the number of days before or after May 1st of 50 percent completion has been in a much narrower range for Iowa than for the other two states. Second, planting tends to reach 50 percent complete later in Indiana than in the other two states. Third, the range in the trend-adjusted date of reaching 50 percent completion has been larger in all three states over the past two decades than in the previous three decades, particularly in Illinois and Iowa.

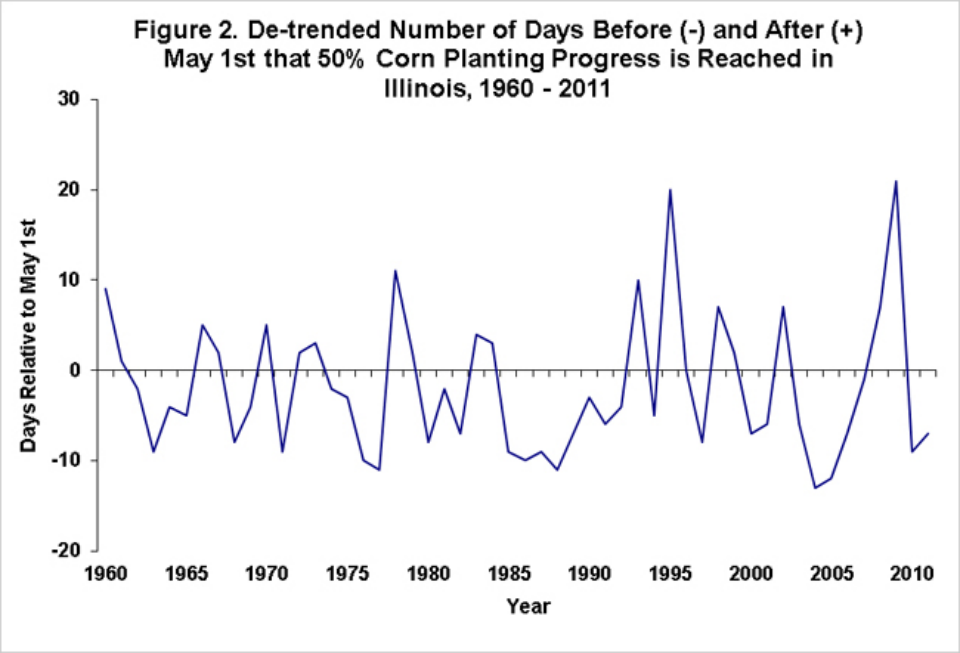


Figure 2. De-trended Number of Days Before (-) and After (+) May 1st that 50% Corn Planting Progress is Reached in Illinois, 1960 - 2011
Days Relative to May 1st
30
20
10
0
-10
-20
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
Year

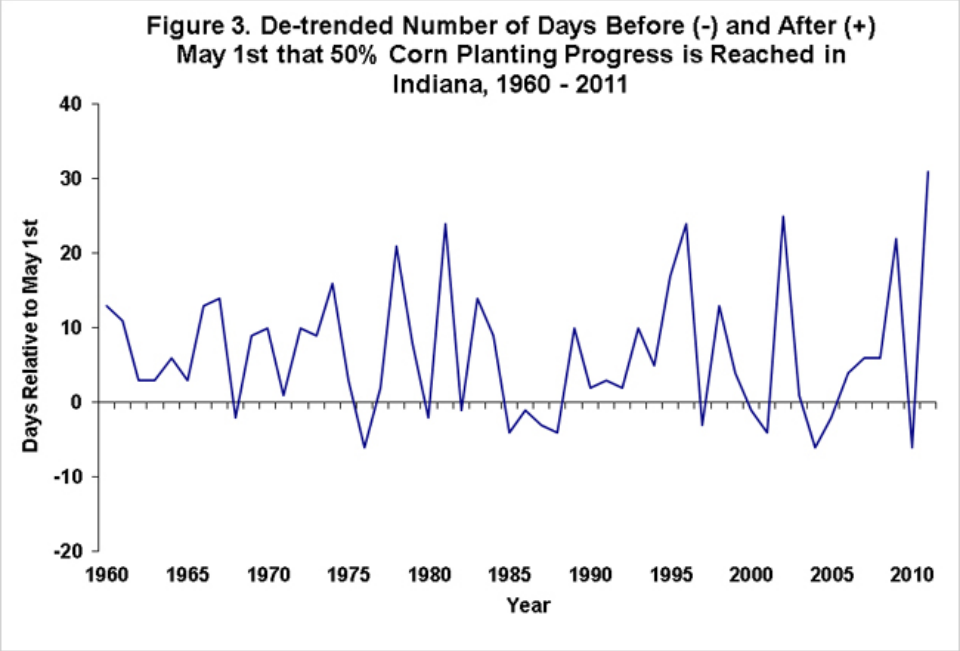
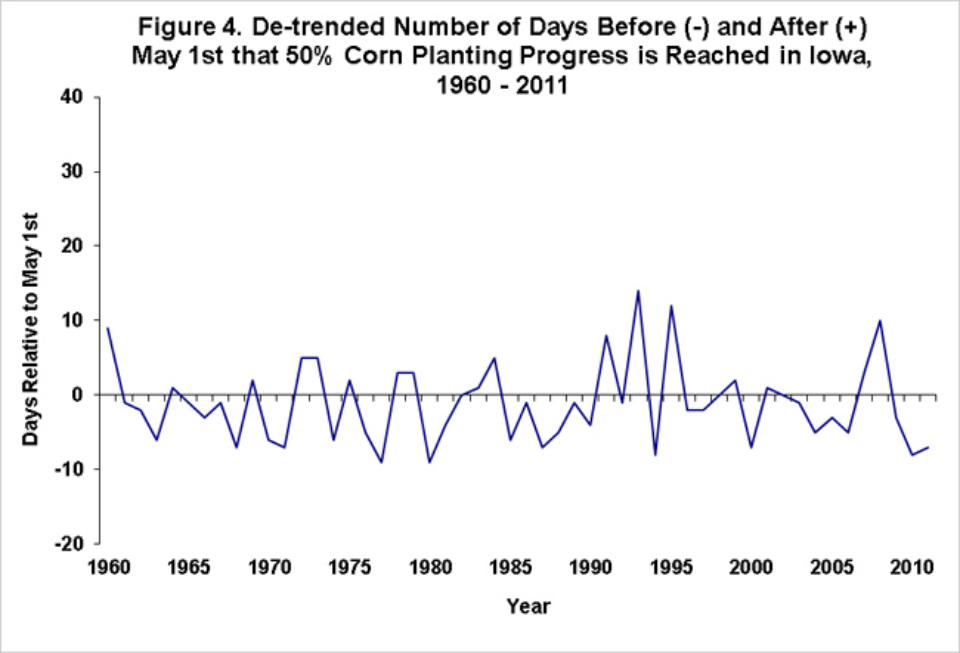


Figure 3. De-trended Number of Days Before (-) and After (+) May 1st that 50% Corn Planting Progress is Reached in Indiana, 1960 - 2011
Days Relative to May 1st
40
30
20
10
0
-10
-20
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
Year



For Illinois, the earliest trend-adjusted planting season was in 2004 when 50 percent planting completion was reached 13 days before May 1st. Other years when 50 percent completion was reached 10 or more days before May 1st included 1976, 1977, 1986, and 1988. For Indiana, 50 percent completion was reached 6 (trend-adjusted) days before May 1st in 1976, 2004, and 2010. Other early planting seasons included 1985, 1988, and 2001 when 50 percent completion was reached 4 days before May 1st. For Iowa, 50 percent completion was reached 9 (trend-adjusted) days before May 1st in 1977 and 1980. Planting reached 50 percent completion 6 to 8 days before May 1st in 11 other years.

What about 2012? The USDA's *Crop Progress* report released on April 17th (delayed one day due to technical difficulties) indicated that as of April 15th planting progress had reached 41 percent in Illinois, 24 percent in Indiana, and 5 percent in Iowa. For planting to equal the previous record early date, an additional 9 percent of the crop needs to be planted by April 18th in Illinois (3 percent per day after April 15th), an additional 26 percent needs to be planted by April 25th in Indiana (2.6 percent per day after April 15th), and an additional 45 percent needs to be planted by April 22nd in Iowa (6.4 percent per day after April 15th). It appears that a new record early date for reaching 50 percent planting completion could be reached in Illinois this year and perhaps in Indiana as well. It is less likely for record early planting to occur in Iowa. The April 23rd *Crop Progress* report will encompass the previous record early planting dates for Illinois and Indiana, with the report on April 30 to encompass the previous record early date for Indiana.

The trend calculations for 2012 are for planting to reach 50 percent complete on April 28th in Illinois, April 29th in Iowa, and May 8th in Indiana. For planting to reach 50 percent complete in Indiana by the trend date of May 8th, only 1.1 percent of the crop needs to be planted per day after April 15th. Similarly, to reach 50 percent complete by the trend date of April 29th in Iowa, only 3.2 percent of the crop needs to be planted per day after April 15th.

Implications

Corn planting in 2012 will reach the 50 percent completion date earlier than any other year since 1960 in Illinois and perhaps in Indiana as well. While Iowa is not likely to set a record early date, it is likely that Iowa will reach 50 percent complete well before its trend date. While some records will be set in 2012 it is important to keep in mind that other years have seen corn planting almost as early. The main market implication is that a smaller than average percentage of the U.S. corn crop is likely to be planted late (after May 20) and incur the yield penalty associated with late planting. As indicated in our post of March 23a smaller than average portion of the crop planted late supports the expectation for the 2012 corn yield

to be about two bushels above trend, if there are no other offsetting factors later in the season.