

Corn Planting Date

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Introduction

Producers attempt to plant corn earlier every year. For example, in 2006, 50 percent of the statewide crop was planted by approximately April 25. Earlier planting dates are attributed to several causes: larger acreage per producer, less spring tillage, advancements in hybrids, and seed treatments. However, in contrast to this, Iowa producers in 2008 did not have half of Iowa's corn acreage planted until May 13 due to weather; this is 18 days later than 2006. Planting the crop during the optimum window is one management practice that is generally important in achieving high yields.

Previous Iowa State University (ISU) recommendations for 100 percent maximum yield, relative to planting date, were identified as April 20 to May 19 (refer to Corn Planting Guide, PM 1885). We believe that this planting window can be earlier and still achieve high yields. Planting date research requires multiple years and locations to identify overall trends and manage risk. Research has been conducted at this location since 2006 (refer to Corn Planting Date report ISRF06-35). Research will continue in the future so that sound recommendations can be made for agronomists and producers. In this report only 2008 results are highlighted.

Materials and Methods

Five planting dates were evaluated, in approximately 10-day increments: May 1, May 15, May 22, June 2, and June 17. The research was conducted on a corn-soybean system; with soybean in 2007. A 115-day hybrid (Pioneer 33D49) was selected and planted at 30,135 seeds/acre in 30-in. row

spacing. The field was tilled twice prior to planting, and fair weed control was obtained through the application of pre- and post-emergent herbicides.

Individual plots were 15 ft wide (six rows) by 50 ft long, with the three inner rows harvested for grain yield. Plant population (measured October 2) and grain yield (harvested November 10) were collected. Grain yield was adjusted to 15 percent moisture basis. SAS PROC MIXED was the statistical program used in analyzing the data, with a significance level of $P \leq 0.05$.

Results and Discussion

Plant populations were similar across all planting dates (Table 1). Final populations averaged approximately 29,500 plants/acre, which amounts to a 2.2 percent mortality from seeding to final stand.

Average grain yield was 160 bushels/acre, and yields were similar across all planting dates evaluated (Table 1). Our normal expectation is to have higher yields associated with late April and early May planting dates. However, spring and early summer conditions in 2008 were cold and wet, which prevented early planting dates from maximizing yield, relative to later planting dates, as found in previous years. Excellent weather late in the season, including a late frost, likely benefitted the late planting dates substantially. Consider this data as 'preliminary' since it comes from one location and one year.

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Table 1. Planting date influence on final plant population and grain yield.

Planting date	Final plant	Plant	Grain yield adjusted to	Grain yield
	population	population	15% moisture	significance ¹
	plants per acre	significance ¹	bushels/acre	
May 1	29,011	A	156.5	A
May 15	28,750	A	160.4	A
May 22	30,318	A	156.3	A
June 2	28,750	A	154.6	A
June 17	30,448	A	170.7	A

¹Treatments means with any letter in common are not significantly (NS) different from one another.