

Corn Planting Date

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Introduction

Producers attempt to plant corn earlier every year. For example, in 2006, 50% 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, which 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% 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 while still achieving 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 ISRF06-12). Research will continue in the future so that sound recommendations can be made for agronomists and producers. Only 2008 results are highlighted in this report.

Materials and Methods

Five planting dates were evaluated, in approximately 10-day increments: April 16, April 24, May 6, May 19, and June 2. Planting corn prior to April 16 was not possible due to excessive spring rains. The research was conducted in a corn-soybean system; with

soybean in 2007. A 109-day hybrid (Pioneer 34R67) was selected and planted at 32,000 seeds/acre in 30-in. row spacing. Weeds were controlled with one pre-emergent herbicide application on June 9.

Individual plots were 20 ft wide (eight rows) by 50 ft long, with rows 3, 4, 5, and 6 harvested for grain yield. Plant population (measured July 23) and grain yield (harvested October 27) were collected. Grain yield was adjusted to 15% 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 did not differ based on planting date (Table 1). Factors such as increased seed mortality and seedling stress can sometimes cause differences in plant populations, however, this did not occur at this location. Therefore, plant populations are not the cause for any yield variation among the planting dates evaluated.

Grain yield was different based on the planting date (Table 1). Grain yield increased as planting was delayed; this response is contradictory to other years and locations but not surprising given the 2008 growing season. Our normal expectation is to have higher yields associated with late April and early May planting dates. However, excellent weather, including a late frost, can result in high yields from late planting. Consider this data as 'preliminary' as it is only one location and one year. More data are needed before adjusting management practices related to planting date.

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

Planting date	Final plant population (plants/acre)	Plant population significance	Grain yield adjusted to 15% moisture (bushels/acre)	Grain yield significance
April 16	29,500	a	174	d
April 24	31,500	a	181	cd
May 6	30,100	a	185	c
May 19	31,600	a	198	b
June 2	29,100	a	211	a

NS

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