

Corn Planting Date

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Introduction

Producers continue to plant corn earlier every year. In 2006, 50% of the statewide crop was planted by approximately April 25. Earlier planting dates are attributed to several factors: larger acreage per producer, less spring tillage, advancements in hybrids, and seed treatments. Planting the crop during the optimum window is important to 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. We believe that this planting window can be earlier while still achieving high yields. Planting date research requires multiple years and locations to negate the environmental variations that exist year to year, allowing overall trends to be identified. Research was initiated across the state in 2006, to determine when maximum yields are realized.

Materials and Methods

Research began at the Northern Research and Demonstration Farm in 2006 and will continue. Five planting dates were used, in approximately 10-day increments: April 10, April 22, May 7, May 18, and June 1. The study was placed in a corn-soybean rotation. A Dekalb hybrid (DKC 53-32) was planted at 33,000 seeds/acre in 30-in. row spacing. Field was tilled prior to planting and weeds were controlled with pre- and post-emergent herbicide applications.

Individual plots were 15 ft wide × 50 ft long and four center rows were harvested. Plant

population (measured June 23), plant height, grain yield, and moisture were collected. All five planting dates were harvested on October 20. Grain yield was adjusted to 15.5% moisture basis. SAS PROC GLM was the statistical program used in analyzing the data, with a significance level of $P \leq 0.05$.

Results and Discussion

Only the plant population and yield results are presented in this report. Plant populations did not differ based on planting date (Table 1); $P=0.2364$ (not statistically different) (where P is the level of probability). A statistically similar plant population was achieved across all planting dates. Therefore, plant population is not a factor that would have contributed to yield differences across the planting dates.

Planting date did cause statistically different yields; $P < 0.0001$ (significant). Yields were similar for planting dates April 10 to May 7 (Table 1). A difference (LSD) of 15.1 bushels/acre was needed to determine whether a planting date yielded statistically different from another planting date. Corn planted May 18 or June 1 yielded less than April 10, April 22, or May 7. Consistent yields across April and early May are important to note, as this provides an earlier planting window for producers. Consider this data only as 'preliminary,' and do not use it in adjusting management practices at this time. More data is needed.

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

Planting date	Final plant	Plant	Grain yield adjusted to	Grain yield
	population	population	15.5% moisture	significance
	plants/acre	significance	bushel/acre	
April 10	33,714	a	196.9	a
April 22	34,712	a	193.3	a
May 7	32,444	a	186.3	a
May 18	29,086	a	169.8	b
June 1	33,170	a	73.6	c

LSD=NS

LSD=15.1

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