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Corn Planting Date

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Abstract
Producers continue to plant corn earlier each 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.

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Introduction

Producers continue to plant corn earlier each 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 McNay Research and Demonstration Farm in 2006 and will continue. Five planting dates were used, in approximately 10-day increments: April 6, April 14, May 5, May 17, and June 1. The study was placed on a corn-soybean rotation. A DeKalb hybrid (DKC 6380 RR) was planted at 30,136 seeds/acre in 30-in. row spacing. The field was tilled prior to planting and weeds were moderately controlled with pre- and post-emergent herbicide applications. Moisture stress occurred across all planting dates.

Individual plots were 15 ft wide × 50 ft long; four center rows were harvested October 24. Plant population (measured June 16), plant height, grain yield, and moisture were collected. Data from the April 6 planting date was omitted due to problems at planting. 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=0.3046 (not significant) (where P is the level of probability). Plant populations were consistent across the four planting dates.

Planting date caused a difference in yields; P=0.0007 (significant). A difference (LSD) of 36.6 bushels/acre was needed to determine whether a planting date yielded significantly different from another planting date. Corn planted June 1 yielded significantly less than the three earlier planting dates. Consistent yields from May 5 to May 17 are important to note, as this documents consistent yield levels in early and mid-May. 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 population	Plant population significance	Grain yield adjusted to 15.5% moisture	Grain yield significance
	plants/acre		bushels/acre	
April 6	-	-	-	-
April 14	27853	a	154.0	a
May 5	27384	a	164.4	a
May 17	27921	a	164.8	a
June 1	26440	a	71.9	b
		LSD=NS		LSD=36.6

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