

## Corn Planting Date

Lori Abendroth, agronomy specialist  
Roger Elmore, professor  
Leslie Freehill, research assistant  
Department of Agronomy

### 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 contributed to several reasons: 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 Southeast Research and Demonstration Farm in 2006 and will continue. Five planting dates were used, in approximately 10-day increments: April 5, April 18, May 2, May 17, and May 30. This study was placed on a corn-soybean rotation. A Pioneer hybrid (34A16) was planted at 32,000 seeds/acre in 30-in. row spacing. Field was tilled prior to planting and weeds were controlled with pre-emergent herbicide applications.

Individual plots were 20 ft wide × 50 ft long; three center rows were harvested. Plant population (measured June 27), plant height,

grain yield, and moisture were collected. All five planting dates were harvested October 19. 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 differed based on planting date (Table 1);  $P < 0.0001$  (significant) (where P is the level of probability). The May 17 and May 30 plantings had the highest plant population; April 5 planting had the lowest population. The populations associated with April 18 and May 2 plantings were in between. The yield data appears independent of these population differences; yet reduced populations for some of the planting dates may have limited their realized yield.

Planting date caused a difference in yields as well;  $P < 0.0001$  (significant). Highest yields were from the April 18 and May 17 plantings (Table 1). A difference (LSD) of 11.5 bushels/acre was needed to determine whether a planting date yielded differently from another planting date. Corn planted May 30 yielded less than the four earlier planting dates. Consider this data only as 'preliminary' and do not use it in adjusting management practices at this time. More data is needed.

### Acknowledgments

Appreciation is extended to Kevin Van Dee, farm superintendent at the Southeast Research and Demonstration Farm for his efforts in establishing, maintaining, and harvesting the trial. Appreciation is also extended to Lesa Andersen, corn production research assistant.

**Table 1. Planting date influence on final plant population and grain yield.<sup>1</sup>**

Planting date	Final plant	Plant	Grain yield adjusted to	Grain yield
	population	population	15.5% moisture	significance
	plants/acre	significance	bushels/acre	
April 5	31,668	c	186.2	b
April 18	32,452	b	200.9	a
May 2	32,147	b	188.5	b
May 17	34,151	a	206.7	a
May 30	34,456	a	147.9	c
		LSD=356		LSD=11.5

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