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Corn Planting Date

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Abstract

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 a result of 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.

Keywords

Agronomy

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences

Corn Planting Date

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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 $P \leq 0.05$.

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 a result of 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 at the Ag Engineering/Agronomy Research Farm began in 2006 and will continue. Five planting dates were used, in approximately 10-day increments: April 14, April 24, May 4, May 14, and May 23. The study was placed on a corn-soybean rotation. A Pioneer hybrid (35Y62) was planted at 35,600 seeds/acre in 30-in. row spacing. The field was tilled prior to planting and weeds were controlled with pre- and post-emergent herbicide applications.

Individual plots were 10 ft wide \times 60 ft long; two center rows were harvested. Plant population (measured June 5), plant height, grain yield, and moisture were collected. All five planting dates were harvested October 4.

Results and Discussion

Only the plant population and yield results are presented in this report. Plant populations differed based on planting date (Table 1); $P=0.0037$ (significant) (where P is the level of probability). A difference (LSD) of 3,092 plants/acre is needed to determine whether a planting date had a significantly different plant population from another planting date. The May 4 and May 14 plantings had the highest populations; the May 23 planting had the lowest population although this was associated with rodent damage. 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 did cause significantly different yields; $P=0.0143$ (significant). A difference (LSD) of 10.3 bushels/acre is needed to determine whether a planting date yielded significantly different from another planting date. Corn planted May 23 yielded the least; April 14 and May 14 yielded the most. In general, yields were fairly consistent across April to mid-May. This is important to note, as it 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 population | Plant population significance | Grain yield adjusted to 15.5% moisture | Grain yield significance |
|---------------|------------------------|-------------------------------|--|--------------------------|
| | plants/acre | | bushels/acre | |
| April 14 | 31472 | ab | 196.0 | ab |
| April 24 | 30710 | bc | 187.2 | bc |
| May 4 | 34449 | a | 191.1 | bc |
| May 14 | 34268 | a | 202.7 | a |
| May 23 | 28060 | c | 184.0 | c |

LSD=3092

LSD=10.3

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