

Corn Date of Planting and Maturity in Southwest Iowa

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Introduction

Inevitably, every year corn planting gets delayed or needs to be replanted because of weather somewhere in Iowa. Even if corn planting starts and progresses in a timely manner, there always is the question of what maturity should be planted. This trial was setup to determine what maturities are well suited for a given geographic location, but also how maturity selection should be adjusted as planting dates get pushed into late spring.

Materials and Methods

This project was conducted at the Armstrong Research Farm as well as six additional Iowa State University research farms across Iowa in 2014 and 2015. Each year the same three hybrids (P0636, P1151, and P1365; a 106-, 111-, and 113-day maturity hybrid, respectively) were planted at four target planting dates (April 15, May 10, June 5, and June 30). The plots were setup in a split plot arrangement with four replications. Target planting date was the whole plot and hybrid was the split plot. A target seeding rate of 35,600 seeds/acre was used. Data collection included growth staging, stand counts, grain yield, and grain moisture.

Results and Discussion

In 2014, the corn grain yields declined with each delay in date of planting (DOP) for each hybrid (Table 1). In 2015, yields decreased with delay in DOP for the 106- and 113-day hybrid, although no difference was found in the 111-day hybrid. These results suggest mid-April to early May is an ideal planting date window in southwest Iowa. Additionally, in both 2014 and 2015, the latest DOP (July 3 and July 1, respectively) either saw dramatic yield declines or did not reach maturity.

In both years, the 113-day P1365 had the highest yield potential (Table 1). Switching maturity selection to an earlier adapted hybrid did not improve yield potential at later DOP.

Yield loss/day of delay in planting was 0.84 bushels averaged across 2014 and 2015 (Figure 1). In 2014, yield potential at early DOP was greater than 2015 (Figure 1), although yields at the middle DOP were fairly similar.

Acknowledgements

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Table 1. Corn grain yield and moisture of three hybrids at four planting dates at the ISU Armstrong Research Farm, Lewis, IA in 2014 and 2015.

| Actual date of planting | P0636 (106-day) | | P1151 (111-day) | | P1365 (113-day) | |
|-------------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
| | Grain yield (bu/ac) | Grain moisture (%) | Grain yield (bu/ac) | Grain moisture (%) | Grain yield (bu/ac) | Grain moisture (%) |
| 4/18/14 | 215.4 | 12.9 | 235.6 | 12.8 | 240.8 | 13.0 |
| 5/10/14 | 186.8 | 12.6 | 212.3 | 14.6 | 216.6 | 15.0 |
| 6/3/14 | 117.3 | 15.2 | 185.8 | 15.9 | 161.3 | 18.7 |
| 7/3/14 | 25.9 | 41.0 | 48.2 | 39.7 | 45.2 | 44.9 |
| 4/16/15 | 197.7 | 14.0 | 191.0 | 14.2 | 216.8 | 14.6 |
| 5/13/15 | 190.9 | 14.5 | 215.0 | 15.2 | 192.5 | 15.6 |
| 6/6/15 | 171.1 | 15.1 | 187.3 | 15.9 | 168.7 | 15.6 |
| 7/1/15 | Did not mature | | Did not mature | | Did not mature | |

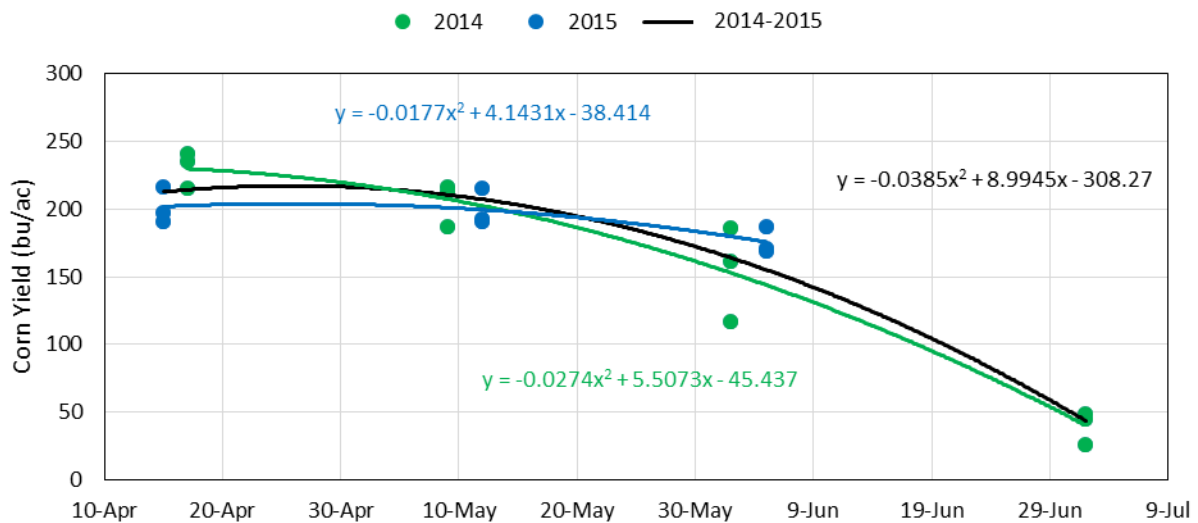


Figure 1. Corn grain yield loss associated with delays in planting at the Armstrong Research Farm, Lewis, IA in 2014 and 2015.