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Corn Date of Planting and Maturity

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Corn Date of Planting and Maturity

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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 is always the question of what maturity should be planted. This trial was set up 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 ISU Northern Research Farm as well as six additional Iowa State University research farms across Iowa in 2014 and 2015. Each year the same three hybrids (P9526, P0407, and P0987) were planted at four target planting dates (April 15, May 10, June 5, and June 30). The plots were set up 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 35,000 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 peaked at the second date of planting (DOP) for each hybrid (Table 1 and Figure 1). Presumably, the first DOP resulted in depressed yields due to cool, wet planting conditions. In 2015, yields decreased with delay in DOP for each hybrid. However, in both 2014 and 2015, the latest DOP (July 9 and June 30, respectively) either saw dramatic yield declines or did not reach maturity. These results suggest that mid-April to early May is an ideal planting date window.

In 2014, the 104-day P0407 hybrid had the highest yield potential although the 109-day P0987 hybrid had the highest yield potential in 2015 (Table 1). Switching maturity selection to an earlier adapted hybrid may potentially improve yield potential at later DOP.

Acknowledgements

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Table 1. Corn grain yield and moisture of three hybrids at four planting dates at the ISU Northern Research Farm, Kanawha, Iowa in 2014 and 2015.

Actual date of planting	P9526 (95-day)		P0407 (104-day)		P0987 (109-day)	
	Grain yield (bu/ac)	Grain moisture (%)	Grain yield (bu/ac)	Grain moisture (%)	Grain yield (bu/ac)	Grain moisture (%)
5/6/14	141.1	18.8	125.0	21.4	144.1	21.3
5/18/14	158.6	19.3	160.8	22.0	154.9	23.0
6/3/14	140.2	23.1	130.6	24.8	134.8	27.6
7/9/14	Did not mature		Did not mature		Did not mature	
4/17/15	184.1	13.9	181.7	14.7	207.2	15.5
5/13/15	178.8	14.5	168.8	15.0	196.4	16.7
6/5/15	168.8	19.1	139.3	20.8	160.5	20.2
6/30/15	73.3	29.7	39.7	32.1	68.7	35.1

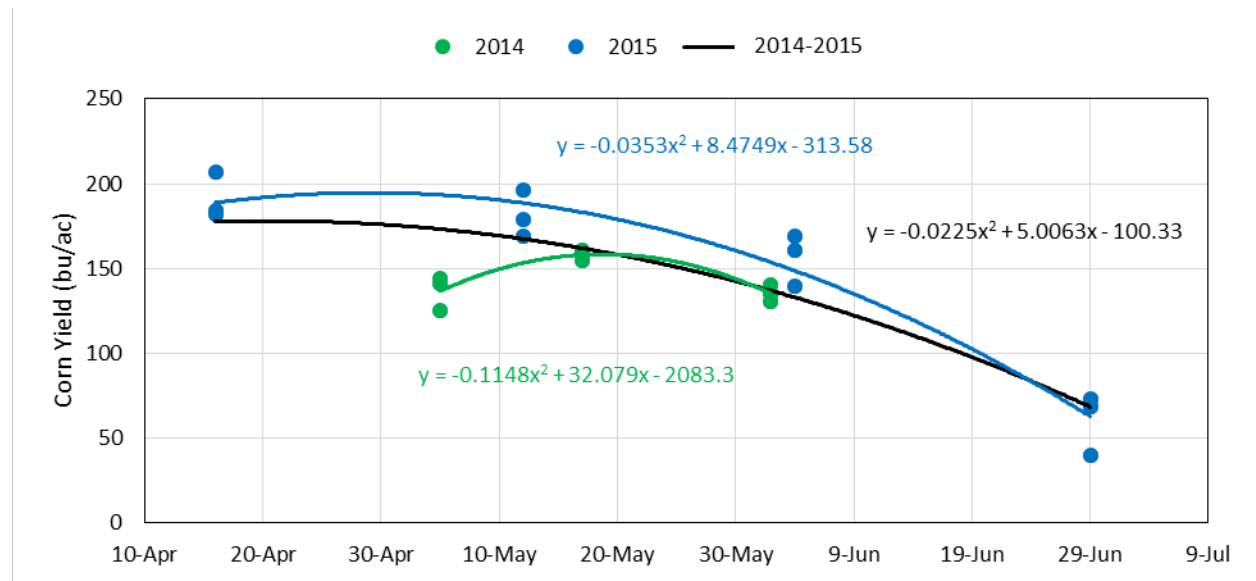


Figure 1. Corn grain yield loss associated with delays in planting at the ISU Northern Research Farm, Kanawha, Iowa in 2014 and 2015.