

Soybean Date of Planting and Maturity

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Introduction

Inevitably, every year soybean planting gets delayed or needs to be replanted because of weather somewhere in Iowa. Even if soybean planting starts and progresses in a timely manner, there always is the question of what maturity group 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 Northwest Research Farm as well as six additional Iowa State University research farms across Iowa in 2014 and 2015. In 2014, three varieties (P22T51, P25T51, 92Y75) were planted at four target planting dates (May 1, May 20, June 10, and July 1). In 2015, P19T01 replaced 92Y75 with the same target planting dates. 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 140,000 seeds/acre was used with a Kinze brush-style planter. Data collection included growth staging, grain yield, and grain moisture.

Results and Discussion

In both years, the late April to early May dates of planting (DOP) had higher yields than subsequent DOP (Table 1). A yield potential of 85 percent or greater was achieved when planting prior to May 19 or 20. These results support the ISU Extension and Outreach planting date recommendations of planting in late April or early May as long as soil temperature and the weather forecast are favorable.

In both years, the highest yield was achieved with the 2.5 maturity (Table 1). Yield potential was not improved by switching to shorter season varieties at later planting dates, however, grain moisture was approximately 2 percent wetter with longer season varieties planted later.

Averaged across years, yield loss/day of delay in planting was approximately 0.1 bushels in mid-May compared with 0.6 bushels early to mid-June (Figure 1). In both 2014 and 2015, peak yields were attained at the earliest planting date.

Acknowledgements

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Table 1. Soybean grain yield and moisture of three varieties at four planting dates at the ISU Northwest Research Farm, Sutherland, Iowa, in 2014 and 2015.

Actual date of planting	Grain yield (bu/ac)	Grain moisture (%)	Grain yield (bu/ac)	Grain moisture (%)	Grain yield (bu/ac)	Grain moisture (%)
	P22T69 (2.2 MG)		P25T51R (2.5 MG)		92Y75 (2.7 MG)	
5/5/14	67.8	11.2	70.5	11.3	68.9	11.2
5/20/14	62.4	11.1	64.3	11.5	59.6	11.3
6/11/14	52.8	11.1	56.4	11.3	54.5	11.2
7/3/14	30.0	11.9	31.5	13.1	27.1	13.1
	P19T01 (1.9 MG)		P22T69 (2.2 MG)		P25T51R (2.5 MG)	
4/30/15	72.7	11.0	72.3	11.2	75.0	11.7
5/19/15	67.4	12.2	67.0	11.9	70.5	11.7
6/9/15	61.6	11.4	60.3	10.7	62.5	11.4
6/30/15	48.8	12.0	52.2	12.1	57.0	12.5

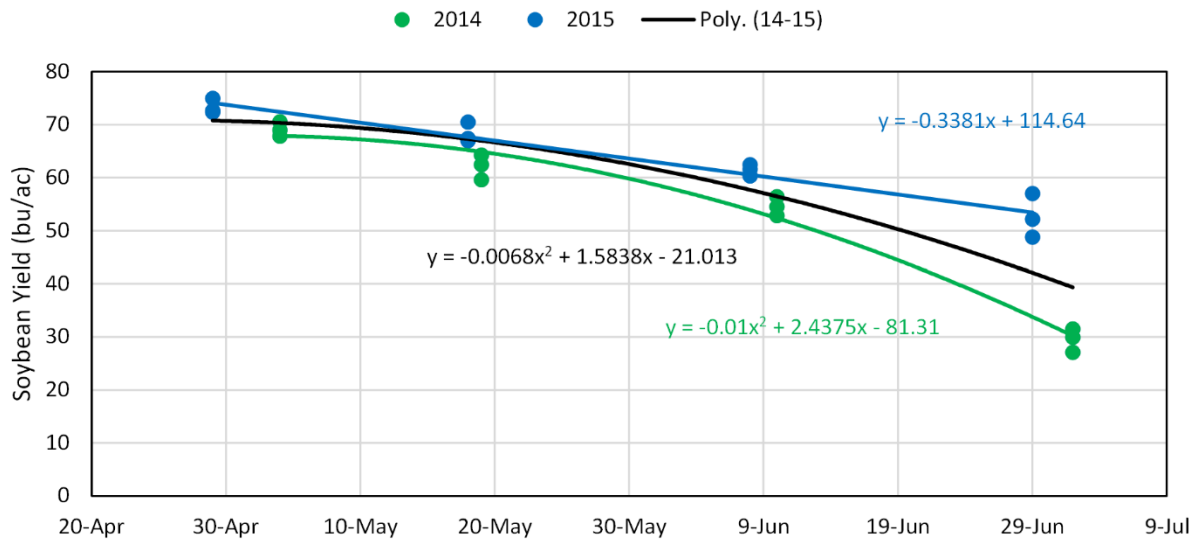


Figure 1. Soybean grain yield loss associated with delays in planting at the ISU Northwest Research Farm, Sutherland, Iowa in 2014 and 2015.