Project Title: Soybean planting date experiment - 2018

Objective: To examine the planting date effect on yield and agronomic performance for soybean cultivars in Northwestern Montana

Personnel: J.A. Torrion, Ze Fang, Amanda Shine

Summary:

This experiment utilized a split-plot design with planting date as the main block and varieties (maturity group) as subplots replicated three times. The three planting dates (PD) were 5/15, 5/29 and 6/12. The five relative maturity groups (MG) were 002, 005, 006, and 008. Harvest time was determined by observation when all the pods turned brown (i.e., 10/1 for PD 5/15 and 10/10 for the other two PDs).

Inoculant was inadvertently omitted during the seed preparation, so urea was added as rescue nitrogen (N). To minimize N loss of the applied urea, irrigation was applied immediately after urea broadcast. Table 1 is the detailed management information.

All MG (002-008) yielded similarly with planting date. The yield of PD May 15 averaged 28.8 bu/A. Delaying PD decreased yield. The PD May 29 yielded, on average, only 16.0 bu/A, and the latest PD (June 12) had near zero yield (Figure 1). This experiment was planted with 30-inch row spacing and narrower rows will be tried in 2019 with wider MG and PD ranges.

Table 1. Management information

Seeding date:	May 15, May 29, June 12	Harvest date:	October 1, October 10
Julian date:	135, 150, 166	Julian date:	274, 283
Seeding rate:	About 115,000 plants/A	Soil nutrient residual (lbs/A):	93-7-84 (Fall, 2017)
Previous crop:	Spring wheat	Nutrient fertilizer applied (lbs/A):	120-50-0
Tillage:	conventional	Fungicide:	Priaxor (at begin pod stage – R3)
Irrigation:	0.5 inches	Inoculant	None
Soil type:	Silt loam	Seed treatment:	Cruiser 5FS, Apron Maxx RTA

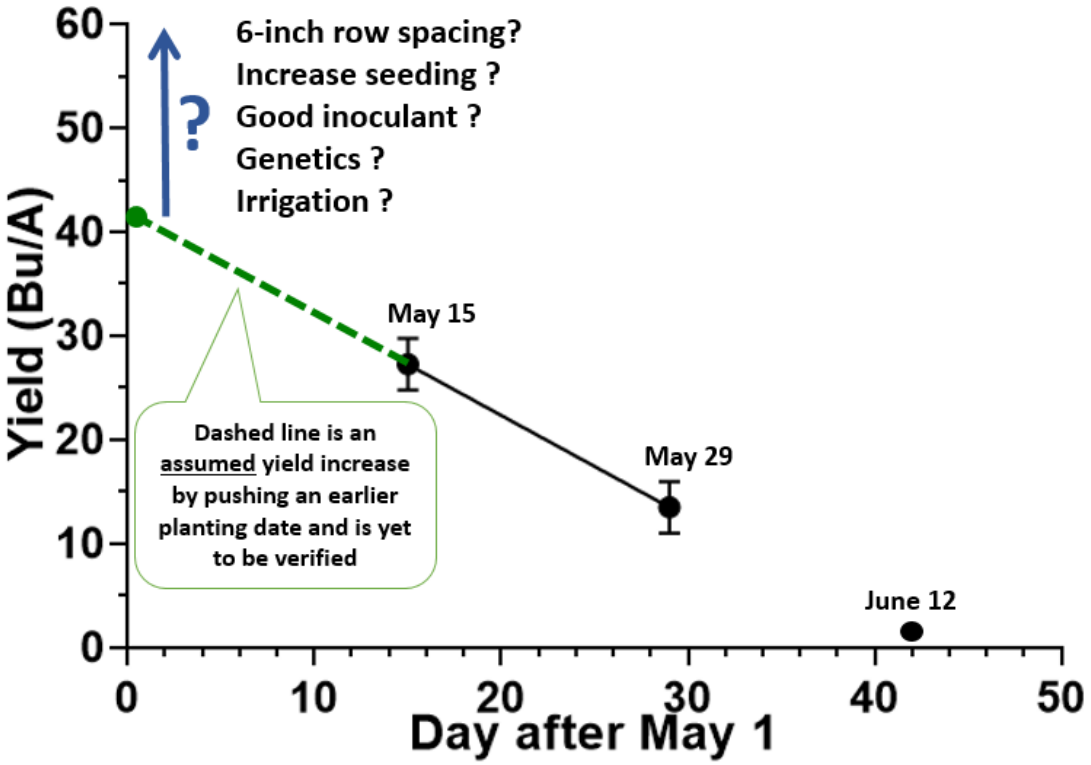

Figure 1. Average yield of soybean varieties in 2018 with respective planting dates May 15, May 29, and June 12 planted on silt-loam soil.