

Late planting of early-maturing soybeans in Manitoba (2015-2017)

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Cooperators

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Background and Objectives

Soybean varieties currently available in Manitoba range in maturity from 107-123 days. The relatively recent availability of very early maturing soybeans could allow farmers to plant beyond current seeding deadlines. The objective of this study is to evaluate the potential for planting soybeans beyond current seeding deadlines. Three soybean varieties of varying maturity (very early, early and mid) were evaluated within three seeding windows (normal, late and very late) in each of the three crop insurance test areas of Manitoba.

Materials and methods

Design – Split plot design

Replications – Three

Plot size – 8.22 m²

Treatments

Factor 1 – Seeding date – June 6, June 13, June 20

Factor 2: Variety

- a. P002T04R (108 DTM, 2300 CHU, 00.2) – very early
- b. NSC Reston (112 DTM, 2325 CHU, 00.1) – early
- c. 24-10RY (117 DTM, 2425 CHU, 00.5) – mid-season

Weed control – Round up (1L/Acre) pre-plant on May 16

Fertilizer – 27 lbs of actual P at the time of seeding

Harvesting – October 12

Table 1. Seeding dates for 2016 late planting trials at Morden, Portage and Arborg

<i>Seeding window</i>	<i>Area 1 - Morden</i>		<i>Area 2 - Portage</i>		<i>Area 3 - Arborg</i>	
	<i>Target</i>	<i>Actual</i>	<i>Target</i>	<i>Actual</i>	<i>Target</i>	<i>Actual</i>
<i>Normal</i>	<i>May 31-June 6</i>	<i>June 8</i>	<i>May 24-30</i>	<i>May 19</i>	<i>May 24-30</i>	<i>June 6</i>
<i>Late</i>	<i>June 7-11</i>	<i>June 14</i>	<i>May 31-June 4</i>	<i>June 7</i>	<i>May 31-June 4</i>	<i>June 13</i>
<i>Very Late</i>	<i>June 12-18</i>	<i>June 20</i>	<i>June 5-10</i>	<i>June 16</i>	<i>June 5-10</i>	<i>June 20</i>

Preliminary Results

The second year of this 3-year study was successfully established in all three sites as proposed (Table 1). The Portage site received hail on August 15 and had to be terminated. The Arborg site was delayed due to rain, resulting in all seeding dates being 7-10 days behind the target. Arborg and Morden were very successful sites and data on plant population, plant productivity, and detailed staging and maturity ratings were successfully collected. As of October 6, there had been no killing frost at Arborg or Morden allowing all varieties and seeding dates to reach maturity, which is well outside the normal expected fall frost date for both sites. Yields for all treatments were very good at Arborg (42-60 bu/ac) and markedly better than 2015. Due to varying maturity, harvest moisture varied by treatment and seed quality analysis is being planned.

In terms of maturity and potential for extending seeding deadlines, only the varieties planted at the *normal* planting date and the *very early* variety planted *late* reached physiological maturity within 5 days of the normal frost date. The *early* and *mid* variety planted *late* and all varieties planted *very late* reached maturity 5-15 days after the normal frost date, which indicates high risk. This is what would be expected in crop insurance test area 3 which has a shorter growing season than area 1 and 2. Statistical analysis has not been conducted yet.



Figure 1. Maturity of three soybean varieties (*very early*, *early*, *mid*) at three seeding dates from left to right (*normal*, *late* and *very late*) in Arborg on September 19, the normal date of first fall frost (0 °C).

Project findings

Another year of study is planned for 2017 and detailed reported will be prepared by Manitoba Soybean and Pulse Growers based on three year data.