

# AGRICULTURAL ENGINEERING INFORMATION SERIES

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## Sugar Beet Planter Evaluation <sup>1</sup>

### *Summary*

*Two sugar beet planter evaluation trials were established at the Saginaw Bean and Beet farm comparing four planters, two planting speeds and two seed treatments. Stand was evaluated both as plants per 100 ft of row and based on uniformity of spacing between plants. Varying planting speed did not have a consistent impact on plant stand but spacing uniformity tended to improve at the slower planting speed. Pelleted seed tended to improve the uniformity of plant spacing compared to fasonated seed in trial 1, but not in trial 2. Yield, sugar and beet size uniformity were much more variable in the later planted trial 2.*

Two sugar beet evaluation trials were established to compare four planters: 1) an **Accord** plate-type beet planter, 2) a **Deere 7300** vacuum planter, 3) a **Monosem** vacuum planter and a **Stanhay** vacuum planter. Trial 1 was planted following spring tillage of a single pass of a spike-tooth/rolling harrow finishing tool in a stale seedbed. Trial 2 was planted following spring tillage with a single pass of a field cultivator and two passes of a danish-tine seedbed tillage tool to level and firm the soil surface.

The plant spacing uniformity charts indicate the frequency of plants in increasing spacing intervals for 14 planter comparisons.

An ideal planter profile would have a single spike at the 4 to 6 inch interval. Several short spikes indicate great variation in plant spacing.

In trial 1, the plant stands provided by the Deere planter were among the highest in stand count, but the stands lacked the spacing uniformity of the Accord or Monosem planters. Each of the planters provided the most uniform stand when using pelleted seed at 3 mph. There was little difference in rate of emergence of the pelleted or fasonated seed.

In trial 2, the Accord and Monosem provided both high stand counts and a uniform plant spacing. There was not a consistent

Table 1. Planting and crop care information.

<b>Planting date:</b>	4/18 and 5/26/00	<b>Row cultivate:</b>	6/5 (1) and 6/30 (2)
<b>Target spacing:</b>	5.5 inches	<b>Previous crop:</b>	Navy Bean
<b>Planting depth:</b>	1 inch	<b>Spray schedule:</b>	
<b>Planting speed:</b>	3.0 and 4.5 mph	<b>Herbicides</b>	Nortron
<b>Variety:</b> E-17	4m PAT pellets or #3 Fasonated		Pyramin DF
<b>Fertilizer:</b>	broadcast March 3 120 lb N as 46-0-0	<b>Fungicides</b>	SuperTin
			Emminent
		<b>Soil:</b>	Zilwaukee Silty Clay
		<b>Soil type:</b>	Zilwaukee Silty Clay

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advantage for pelleted seed or the slower planting speed.

The plant spacing and beet weight uniformity charts indicate the frequency of plant spacings in 2 inch increments for each

planter/seed/speed combination with a narrow spike representing the frequency of each 0-2, 2-4, 4-6 inch etc. increment. A similar chart is provided for beet weight uniformity in one-half pound increments.



