

## 2014 Flax Weed Control Trial



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**2014 FLAX WEED CONTROL TRIAL**  
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Flax (*Linum usitatissimum* L.) is a multi-purpose crop grown for its fiber, oil (linseed oil), and meal. The majority of production occurs in the Dakotas, Minnesota, and Montana. Recently there has been interest in growing flax in the northeast, both for human consumption and for animal feed, for its high levels of heart-healthy omega-3 fatty acids. Flax is a spring annual that is usually planted as early as the ground can be worked. However, one of the main challenges to successfully growing flax is weed control. Flax plants compete poorly with fast growing weeds due to its relatively short height (between 12 and 36 inches when mature) and tiny leaves. This trial was initiated to see if management, including different row spacing and cultivation, would affect weed densities in flax and improve yields.

## **MATERIALS AND METHODS**

This trial was planted at Borderview Research Farm in Alburgh, VT on 9-May 2014. General plot management is listed in Table 1. The previous crop was corn with rye cover crop. The field was disked and spike tooth harrowed prior to planting. Plots were seeded with variety 'Rahab 94' at a seeding rate of 50 lbs acre<sup>-1</sup>. The experimental design was a randomized complete block with four replications. Four weed control techniques were compared against a control of standard 6" row spacing and no cultivation (Table 2). The narrow row treatment was planted with a Kverneland grain drill at 4.5" row spacing. The wide row treatment was also planted with a Kverneland grain drill (by plugging every other hole in the hopper for 9" row spacing) and cultivated with a Schmotzer hoe on 9-Jun. The tine-weed treatment was planted with a Great Plains grain drill at 6" row spacing and tine-weeded on 2-Jun. The inter-seed treatment was planted with a Great

**Table 2. Weed control techniques.**

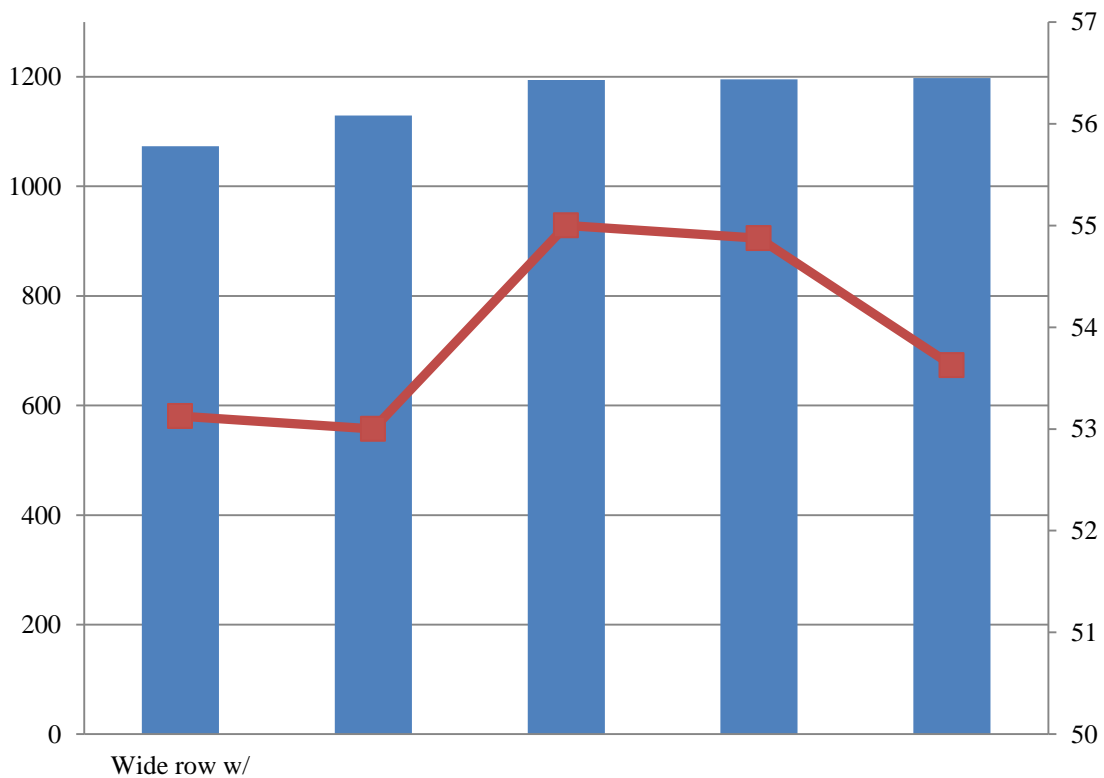
<b>Treatment</b>	<b>Row spacing inches</b>	<b>Planter</b>
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allowed the flax and weed biomass to dry down. Additional adjustments to the combine, such as turning the air off, prevented flax seed from being lost in the combine.

**Table 4. Harvest yield and test weight of flax grown with different weed control techniques, Alburgh, VT, 2014.**

	<b>Yield</b> lbs/acre	<b>TW</b> lbs/bushel
Wide row w/ Schmotzer hoe	1073	53.1
Inter-seed	1129	53.0
Tine-weed	1194	55.0
Narrow row	1195	54.9
Control	1198	53.6
Trial Mean	1158	53.9
LSD (p<0.10)	NS	NS

NS – No significant difference amongst weed control techniques.



**Figure 1. Yield and test weight of flax grown with different weed control techniques, Alburgh, VT.**

Overall, cultivation approximately one month after planting reduced weed pressure in the flax plots by about 90% (Table 5). Cultivating with a Schmotzer hoe removed 91% of all weeds, while tine-weeding removed 88%. There was no significant difference in the amount of weeds removed from either cultivation technique. Cultivation appears to be an adequate technique to control weeds in flax especially under moderate weed pressure. Timing of the cultivation is important for successful removal of weed species. The cultivation occurred when the weeds were in the cotyledon to first leaf stages making them easier to remove with mechanical equipment.

