

Linseed Coop Evaluation in Interlake

Project duration

2018-2020

Objectives

The purpose of the project is to compare yield and other growth parameters of newly registered flax cultivars (SVPG entries) and experimental lines (FP entries) from University of Saskatchewan, Crop Development Centre Flax Breeding Program with check flax varieties.

Collaborators

Dr. Helen Booker (flax breeder), CDC Saskatoon

Funding

Manitoba Flax Growers Association, BASF

Results

Significant yield differences were found among flax entries tested at Arborg site. The new entries FP2602, FP2604 & FP2605 & CDC Dorado were relatively low yielding lines in the test. No variety yielded higher than check CDC Glas (Table 1). CDC Bethune matured earlier than all other varieties tested, whereas FP2602 took almost 12 more days than CDC Bethune.

Table 1. Performance of different flax entries at PESAI Arborg site during 2020 season.

Variety	Yield (bu/ac)	% of CDC Glas	Days to maturity
Checks			
CDC Bethune	50.3abc	98	85.7d
AAC Bright	50.5abc	98	91.0abcd
CDC Glas	51.3abc	100	88.7bcd
SVPG Entries			
CDC Dorado	45.1cd	88	89.0bcd
AAC Marvelous	50.1abc	98	91.7abcd
AAC Prairie Sunshine	48.2bcd	94	92.3abc
CDC Rowland	49.8abc	97	92.3abc
Test Entries			
FP2573	53.9ab	105	90.7bcd
FP2591	56.8a	111	91.3abcd
FP2592	50.2abc	98	94.7abc
FP2599	53.6ab	104	91.0abcd
FP2600	52.9ab	103	92.3abc
FP2597	52.6ab	103	89.7bcd
FP2596	48.0bcd	93	88.3cd
FP2598	47.5bcd	93	90.7bcd
FP2601	47.0bcd	92	94.0abc
FP2602	44.2cd	86	97.3a
FP2603	47.2bcd	92	92.0abcd
FP2604	44.5cd	87	95.0ab
FP2605	42.4d	83	93.7abc
C.V. %	4.8		2.2
P	<0.0001		<0.0001

Means contain different letters are statistically different at $P < 0.05$.

Project Findings

The year 2020 was the third year of testing for the flax entries. The entries differed in their yield performance and days to maturity at Arborg site. A complete project report will be compiled by Dr Helen Booker.

Background / Additional Resources / References

The cultivation of linseed is particularly attractive to growers both for seed/oil and straw/fibre. The factors such as environmental variables, phenological traits, plant size and density significantly effect the productivity of linseeds (Fila et al 2018). Rainfall is beneficial to seed yield, both before and after flowering, whereas higher post-flowering air temperature has a negative effect.

The current coop trial was conducted at Melita, Roblin, Arborg and Carberry sites in Manitoba. There were also other sites across Saskatchewan, Alberta and Quebec in various soil zones but they will not be discussed in this report. For more information, flax breeder Dr Helen Booker can be contacted at 1-306-966-5878.

References

G. Fila, M. Bagatta, C. Maestrini, E. Potenza and R. Matteo (2018) *Linseed as a dual-purpose crop: evaluation of cultivar suitability and analysis of yield determinants. The Journal of Agricultural Science, Volume 156(2): 162 – 176*
[//doi.org/10.1017/S0021859618000114](https://doi.org/10.1017/S0021859618000114)[\[Opens in a new window\]](#).



Materials and Methods

Experimental Design – Randomised block design with three replications.

Treatments – Twenty flax entries (See Table 1).

Plot size – 7.1m²

Data collected – plant height, lodging, days to maturity, grain yield, stem dry down, determinate growth habit

Only yield results are presented in the current report and other results will be reported in the overall report by Dr Helen's team. Subsamples were sent back to the Crop Development Centre in Saskatoon for fatty acid and protein analysis.

Agronomic info

Stubble, soil type – Wheat, heavy clay

Fertility– Soil nutrient levels (N-P-K:lbs/acre): 112-22-380

Fertilizer applied (N-P-K:lbs/acre): 4-20-0

Pesticides applied – Centurion @75ml/acre + Amigo@1L/100L on June 3

Centurion @75ml/acre + Amigo@1L/100L on June 10

Reglone@0.83L/acre on Aug 25

Seeding/harvesting date – May 22 / Sept 10