Agriculture Agri-Food Canada Conventional Soy Protein Variety Evaluation

Project duration: May 2019 – October 2019

Objectives: The project tests 20 varieties of conventional soybean as part of a broader project examining protein differences between eastern and western Canada sites

Collaborators: Elroy Cober – Research Scientist, soybean breeding and genetics, AAFC
Kirsten Slusarenko – Soybean breeding AAFC

Background

Roblin is one of many sites across Canada taking part in this project to determine soybean protein content differences between eastern and western Canadian growing sites.

Materials & Methods

Experimental Design: Rectangular lattice
Entries: 20 entries; 4 replications
Seeding: May 23
Harvest: Oct 21

Data collected	Date collected
Emergence:	Jun 3-20
Population Score:	Jun 20
Heights:	July 16
Maturity:	Sept 27
Lodging:	Oct 21
Yield:	Oct 23-24
Moisture:	Oct 23-24

Agronomic info

Previous year's crop: Barley
Soil Type: Erickson Loam Clay
Landscape: Rolling with trees to the east
Seedbed preparation: Heavy harrowed twice

Table 1: Spring 2019 Soil Test

	Available	
N	71	lb/ac
P	33	ppm
K	272	ppm

Table 2: Added N and P

Blend	Blend (actual lbs/ac)	Actual lbs N	Actual lbs P
46-0-0	-	-	0
11-52-0-0	19.23	2.12	10
Total	-	2.12	10

Inoculant added with seed; P banded with seed

Table 3: Pesticide Application

Crop stage	Date	Product	Rate
Pre-emerge	May 23	RoundUp	0.64 L/ac
		Heat	28 g/ac
In-crop	Jul 19	Quizalafop	0.3 L/ac
		Viper	0.4 L/ac

Results

The results for the varieties grown in Roblin are presented in Figure 1.
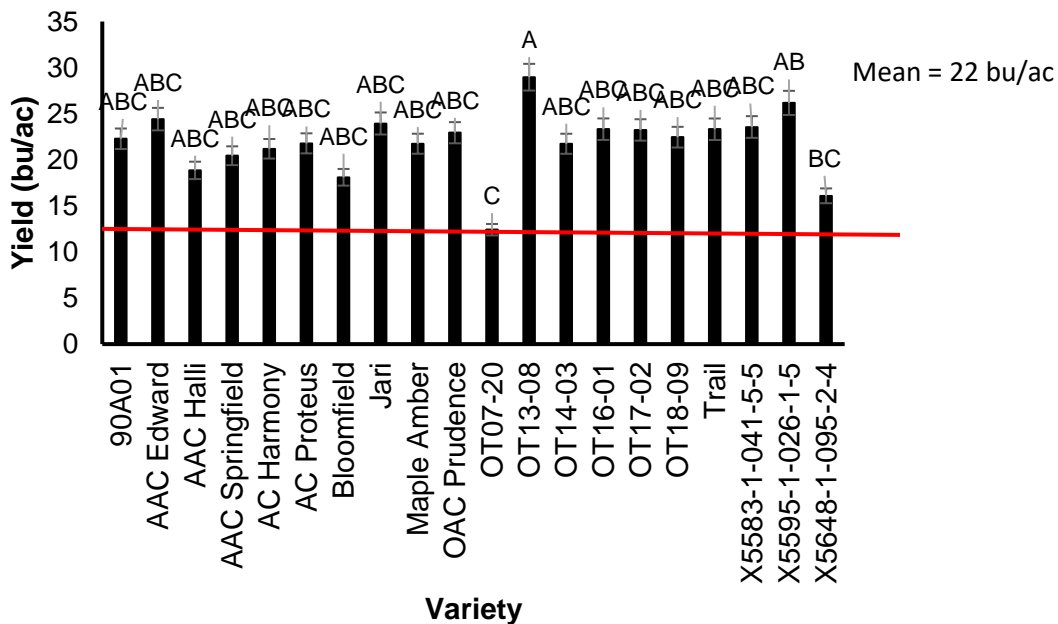

Figure 1: Yield by soybean variety in Roblin 2019.

Varieties not connected by the same letter are statistically significant from each other. After smoothing data for missing plots and irregular emergence, the coefficient of variation for the trial is 12.4%. This project is part of a long-term 5-year multi-site study across Canada, led by Elroy Cober. Complete research findings will be made available by Elroy Cober and team. For general information related to corn research conducted by Elroy Cober, see his Agriculture and Agri-Food Canada webpage.