

Industrial Hemp Variety Trial

Project duration: May 2017 – October 2017

Objectives: To estimate varietal differences in grain and fibre yield for industrial hemp in Manitoba.

Collaborators: Craig Linde – Diversification Specialist, Manitoba Agriculture
James Frey – Diversification Specialist, Manitoba Agriculture

Results

The average grain and fibre yields by variety are provided in Figures 1 and 2, respectively. Least significant differences for grain yield were 290lbs/ac and 190lbs/ac for Carberry and Melita, respectively. Least significant differences for fibre yield were 0.5, 0.6 & 0.3 tons/ac for Arborg, Carberry and Melita, respectively. Percent cannabidiol results are provided in Table 1. Due to high coefficients of variability, some results for Arborg are not included, and no results for Roblin are included.

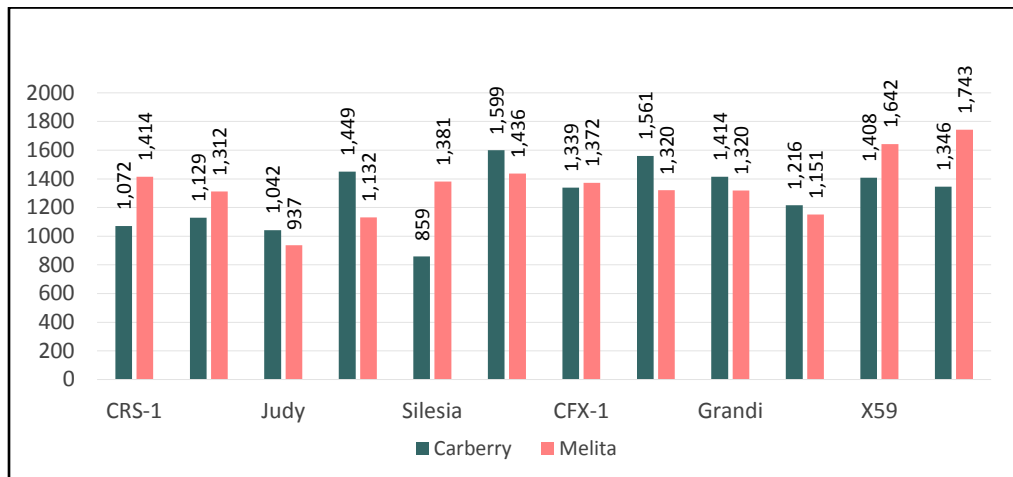


Figure 1: Hemp grain yield (lb/ac) 2017

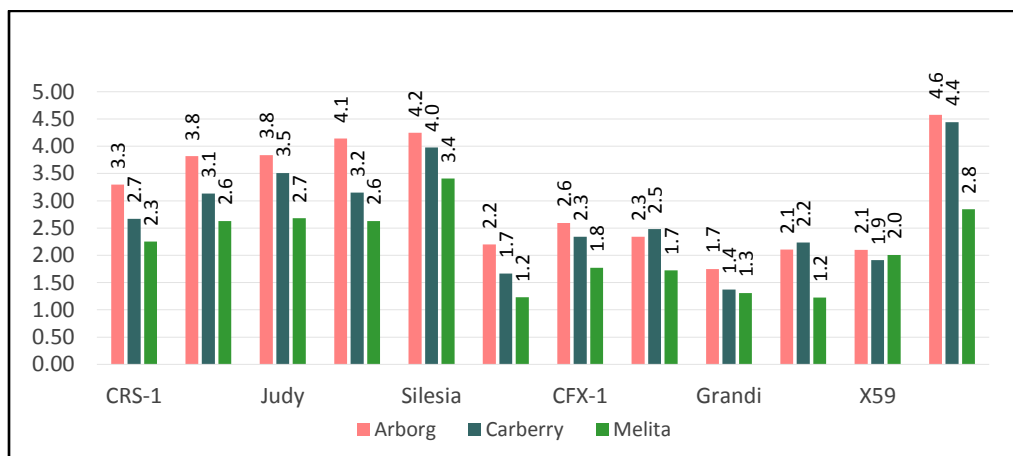


Figure 2: Hemp fibre yield (tons/ac) 2017

Table 1: Total cannabidiol (CBD) content (%) of upper stem leaf material removed at grain harvest (chaff)

Average of Total CBD	Location			
Variety Name	Arborg	Carberry	Melita	Average
Canda	0.39	0.48	0.70	0.52
CFX-1	1.89	0.94	1.81	1.55
CFX-2	1.07	0.72	1.70	1.16
CRS-1	0.98	0.85	1.78	1.20
Grandi	0.67	0.78	1.48	0.90
Joey	1.84	0.63	1.25	1.24
Judy	1.23	0.82	1.46	1.17
Judy X	1.14	0.34	1.35	1.04
Katani	0.96	0.89	1.53	1.13
Piccolo	0.99	0.62	1.53	1.17
Silesia	0.25	0.30	0.66	0.40
X59	0.87	0.58	1.65	1.03
Average	1.00	0.66	1.41	1.04

Project findings

Grain yield results are available through the SEED Manitoba guide (2017).

Background

The Manitoba Diversification Centres participated in a hemp variety trial, in partnership with private industry and the Canadian Hemp Trade Alliance.

Materials & Methods

Experimental Design: Randomized complete block design
 Entries: 12 varieties

Table 2: Varieties included in variety trial, 2017

Canda	CRS-1	Judy	Piccolo
CFX-1	Grandi	Judy X	Silesia
CFX-2	Joey	Katani	X59

Table 2: Agronomic info for all sites

ITEM	Melita	Carberry	Roblin	Arborg
Legal Location	NE 27-3-27W1	SW 8-11-14W	NE 20-25-28 W1	RL 37-22-2 E
Soil Series	Waskada Loam	Wellwood Loam	Erikson Clay Loam	Heavy Clay
Soil Test (0-24")				
N - lbs/ac		33	60	138
P- ppm		12	11	15
K - ppm		250	194	300
S - lbs/ac		22	64	1634
Burnoff Date			June 3	
Product			RoundUp Transorb	
Seed Date		May 15	June 2	May 23
Seed Depth		1"	0.75"	0.75"
Spring Fertilizer Application - lbs/ac				
N		110	75	25
P		0	10	25
K		0	0	0
S		0	0	0
Spring Fertilizer Date		Side-banded at seeding	Side-banded at seeding	Side-banded at seeding
In-crop Herbicides Date		N/A	N/A	June 19
Product		N/A	N/A	Brotex 240 @0.5L/ac
Fibre Harvest Date		Aug 17	Aug 18	Aug 10
Grain Harvest Date		Aug 25	Sept 11	Sep 14