

MEMORANDUM

TO: Prairie Recommending Committee for Pulse and Special Crops
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DATE: January 11, 2023
SUBJECT: **Request for support for registration of yellow cotyledon field pea variety CDC 6138-10**

Strengths

- Improved yield (104%) compared to the mean of the yellow checks (CDC Spectrum and AAC Lacombe)
- Improved protein-yield (103%) compared to CDC Spectrum (100%) and AAC Lacombe (95%)

Neutral traits

- Good lodging resistance, similar to the checks
- Medium-long vine length, longer than CDC Spectrum, similar to AAC Lacombe
- Medium maturity, similar to the checks
- Medium seed weight, greater than CDC Spectrum, less than AAC Lacombe
- Round seed shape, similar to the checks
- Moderate seed protein concentration, similar to CDC Spectrum, greater than AAC Lacombe
- Moderate seed coat breakage score, less than AAC Lacombe, similar to CDC Spectrum
- Powdery mildew resistance, same as the checks
- Fair mycosphaerella blight resistance, similar to the checks
- Moderate Fusarium root rot resistance, slightly more resistant than CDC Spectrum, similar to AAC Lacombe

Description

Yellow cotyledon, semileafless field pea variety CDC 6138-10 was tested in the Field Pea Co-operative Registration Test-B in 2021 and 2022. Performance data for CDC 6138-10 are summarized in accompanying Table 1. Seed photos for CDC 6138-10 and check varieties are in Fig 1.

Table 1. Performance of yellow pea variety CDC 6138-10 compared to the checks (Pea Co-op Test-B, 2021-2022)

Variety	[18]	[18]	[19]	[17]	[12]	[12]	[15]	[5]	[15]	[4]	[1]	
	Yield		Seed									
	kg/ha	% of yellow	DTM	VLTH	PHL (1-9)	Weight (g/1000)	Shape (1-5)	Protein (%)	Myco (0-9)	SCB (per 50)	FRR (1-7)	PM
CDC Spectrum	3359	102	91	63	3.0	235	2.6	24.2	1.8	4.9	5.6	R
AAC Lacombe	3251	98	90	69	2.7	255	2.5	23.7	2.2	9.6	5.1	R
CDC 6138-10	3448	104	90	72	2.8	245	2.6	24.4	1.9	5.0	4.9	R
CV	10.0		1.7	8.4	16.4	4.2	7.2	3.8	22.2	67.7	8.4	na
LSD	176.6		0.8	3.0	0.3	6.7	0.1	0.6	0.5	2.4	0.6	na

Yield: % of yellow = percent yield of the average yield of yellow checks;

DTM = Days to maturity; VLTH = Vine length (cm); PHL = Pre-harvest lodging score (1=upright, 9=flat);

Shape: 1=round, 5=blocky;

SCB=seed coat breakage, number of broken seed coats out of 50 seeds tested

Myco: mycosphaerella blight, where 0=no disease, 9=completely blighted

FRR: Fusarium root rot, where 1=healthy, 7=completely decayed, PM: powdery mildew where R=resistant, S=susceptible

[X] number of locations

Fig. 1. Scans of seed samples from the 2022 Pea Co-op Test-B at Melfort, SK of CDC 6138-10 and check varieties CDC Spectrum and AAC Lacombe.

