

MEMORANDUM

TO: Prairie Recommending Committee for Pulse and Special Crops
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DATE: February 10, 2022
SUBJECT: **Request for support for registration of yellow cotyledon field pea variety CDC 5947-4**

Strengths

- Improved yield (104%) compared to the mean of the yellow checks (AAC Lacombe and CDC Amarillo)
- Greater seed protein concentration than the checks
- Low seed coat breakage percentage, less than the checks

Neutral traits

- Good lodging resistance, similar to the checks
- Medium-long vine length, similar to the checks
- Medium maturity, similar to the checks
- Medium seed weight, slightly greater than CDC Amarillo, less than AAC Lacombe
- Round seed shape, similar to the checks
- Powdery mildew resistance, same as the checks
- Fair mycosphaerella blight resistance, similar to the checks
- Moderate Fusarium root rot resistance, similar to the checks

Description

Yellow cotyledon, semileafless field pea variety CDC 5947-4 was tested in the Field Pea Co-operative Registration Test-A in 2020 and 2021. Performance data for CDC 5947-4 are summarized in accompanying Table 1. Seed photos for CDC 5947-4 and check varieties are in Fig 1.

Table 1. Performance of yellow pea variety CDC 5947-4 compared to the checks (Pea Co-op Test-A, 2020-2021)

Variety	[21]	Yield			Seed							
	kg/ha	% of yellow	[19] DTM	[19] VLTH	[17] PHL (1-9)	[13] Weight (g/1000)	[12] Shape (1-5)	[13] Protein (%)	[4] Myco (0-9)	[11] SCB (%)	[2] FRR (1-7)	[1] PM
CDC Amarillo	3780	100	91	71	2.9	226	2.5	22.7	4.2	16.8	3.5	R
AAC Lacombe	3798	100	91	71	2.9	254	2.7	23.3	3.9	10.6	3.8	R
CDC 5947-4	3936	104	92	73	2.9	233	2.6	23.8	4.1	3.3	3.9	R
CV	7.1		1.4	6.7	19.4	3.4	10.9	3.2	6.6	53.1	17.1	na
LSD	135.7		0.7	2.6	0.3	5.2	0.2	0.5	0.3	2.4	1.4	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;

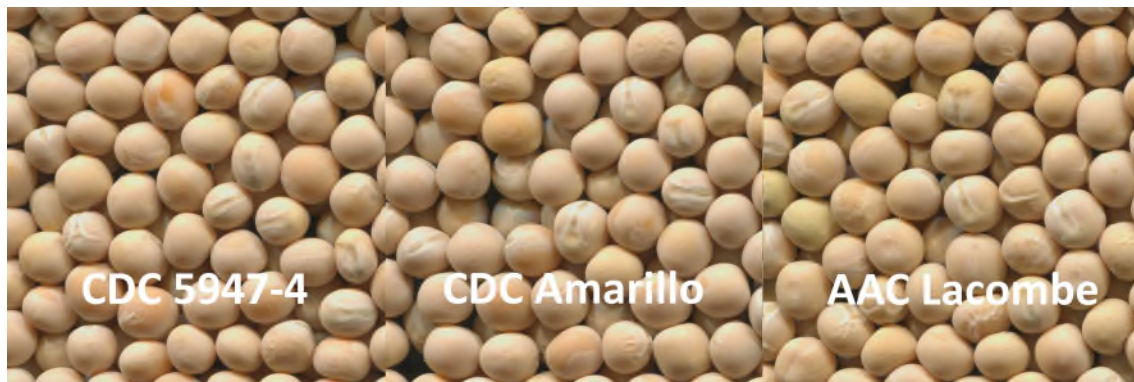
SCB=seed coat breakage

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

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

[X] number of locations

Fig. 1. Scans of seed samples from the 2021 Pea Co-op Test-A at Brandon, MB of CDC 5947-4 and check varieties AAC Lacombe and CDC Amarillo.



Request for support CDC 5947-4 yellow pea-part 2

Field Pea: Main Characteristics of Varieties

Variety	Years tested ¹	- Yield as % CDC Amarillo			Maturity	Lodging (1-9) ²	Vine length (cm)	Resistance to: -----					Seed weight g/1000	Protein vs. CDC Amarillo		
		1.2 & South 3	North 3 & 4	Irrigation				Myco. blight ³	Powdery mildew	Fus. root rot	Seed coat breakage	Bleach			Seed coat dimpling ⁴	Greenness ⁵
Yellow																
CDC Amarillo	14	100	100	100	M	3.5	85	4.5	R	MR	F	n/a	F	G	230	23.0
CDC 5947-4	3	106	107	na	M	3.5	85	4.5	R	I	G	n/a	G	G	240	23.9

¹ Co-op and regional trials in Saskatchewan

² Lodging score (1-9) where 1=completely upright, 9=completely lodged

³ Mycosphaerella blight score (1-9) where 1=no disease, 9=completely blighted

⁴ Seed coat dimpling: VG = 0-5%; G = 6-20%; F = 21-50%

⁵ Greenness: Good = 0-15%; Fair = 16-40%

Key features of CDC 5779-1

Strong yield in south and north Saskatchewan

Good agronomic package in terms of maturity, lodging resistance, vine length

Good disease resistance package in terms of powdery mildew, mycosphaerella blight, and root rot

Good seed quality package in terms of seed coat breakage, dimpling and greenness

High protein, nearly 1% greater than CDC Amarillo

Medium size, round, smooth yellow cotyledon seeds