

GREEN PEA: CDC SPRUCE

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Year released to Select Seed Growers: 2016

Sub-licensed outside of SK: SeCan

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Plant Breeders Rights: PBR'91

CDC Spruce is a green cotyledon, semi-leafless field pea variety. In two years of testing in the field pea co-op registration test "A" in 2012 – 2013, CDC Spruce yielded 109% of the green pea check varieties CDC Striker and Cooper (Table 2). In seven years of testing in the co-op and regional trials in Saskatchewan, CDC Spruce yielded 13% higher than CDC Striker southern regions and 19% higher in the north (Table 1). Relative to the yellow pea check variety CDC Amarillo, CDC Spruce yielded 94% in the south and 99% in the north. CDC Spruce has PBR protection.

Strengths:

- Medium vine length
- Powdery mildew resistance

Neutral:

- Good lodging resistance
- Medium maturity
- Medium seed size
- Round seed shape
- Good resistance to bleaching
- Moderate protein (similar to CDC Amarillo)
- Moderate cooking time
- Fair resistance to Mycosphaerella blight and Fusarium wilt

Weaknesses:

- Rated fair for seed coat breakage and dimpling



Table 1: Agronomic Performance for CDC Spruce from Co-op and Regional Trials in Saskatchewan – Adapted from Varieties of Grain Crops 2019

Variety	Year registered	Years Tested	Yield % Amarillo		Maturity	Lodging (1-9)	Vine Length	Resistance to:						Seed Weight (g/1000)	Protein vs. CDC Amarillo
			1, 2 & South 3*	North 3 & 4*				Mycosphaerella Blight	Powdery Mildew	Fusarium Wilt	Seed Coat Breakage	Seed Coat Dimpling	Bleaching		
CDC Amarillo (check)	2012	10	100	100	Medium	3.5	85	4.5	R	MR	F	F	n/a	230	23.0
Blueman	2018	3	91	88	Medium	4.5	85	4.5	R	I	n/a	G	F	220	+0.3
AAC Comfort	2016	4	90	99	Medium	4.5	85	4.5	R	I	G	G	G	250	-0.4
Cooper	2004	8	89	80	Medium	4.0	80	5.0	R	I	F	G	F	270	+0.9
CDC Forest	2017	6	100	101	Medium	4.0	85	4.5	R	I	G	G	G	230	-0.2
CDC Greenwater	2014	9	99	92	Medium	3.5	90	4.0	R	MR	F	F	G	230	-1.1
CDC Limerick	2012	10	95	90	Medium	3.5	85	4.0	R	I	G	G	G	210	+2.8
CDC Patrick	2008	10	87	86	Medium	4.5	80	4.5	R	MR	G	G	G	190	-1.0
CDC Pluto	2010	8	92	84	Medium	5.5	80	4.5	R	I	G	G	G	160	-0.2
AAC Radius	2014	6	77	77	Medium	5.0	85	4.5	R	I	VG	G	G	230	+0.5
CDC Raezer	2011	10	81	80	Early	3.5	85	5.0	R	MR	G	G	G	220	-0.3
AAC Royce	2014	5	92	84	Medium	5.0	70	5.0	R	I	F	F	G	260	+0.4
CDC Sage	2005	5	73	71	Medium	4.0	80	5.0	R	MR	G	F	G	220	n/a
CDC Spruce	2016	7	94	99	Medium	4.0	85	4.5	R	I	F	F	G	240	+0.1
CDC Striker	2002	10	81	80	Medium	3.5	80	4.5	S	MR	VG	G	G	240	+2.0

Source: Varieties of Grain Crops 2019 (2019 SaskSeed Guide)

*Area 1: Brown soil zone; Area 2: Dark Brown; Area 3: Black; Area 4: Dark Gray

Lodging score: 1=Upright; 9=Completely lodged

Mycosphaerella blight score (1-9) 1=No disease, 9=Completely blighted

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

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

Table 2: Performance of CDC Spruce Compared to the Checks (Pea Co-op Test A, 2012-2013)

Variety	Yield (kg/ha)	Yield (% mean of checks)	Days to Maturity	Vine Length (cm)	Lodging	Seed Weight (mg)	Shape	Crude Protein (%)	Cooking Time (min)
CDC Striker (check)	4627	99	97	78	3.6	241	2.5	25.1	20.6
Cooper (check)	4715	101	99	81	3.5	263	2.9	23.7	11.7
CDC Spruce	5111	109	99	90	3.7	244	2.6	23.7	12.9
CV	8.5								
LSD 05	259		0.74	3.2	0.45	6.4	0.11	0.6	6.5
# locations	21		19	17	21	21	21	11	2

Source: CDC Pulse breeding group, U of S

Lodging score: 1=Upright; 9=Completely lodged

Seed shape: 1=Round; 5=Cubic

Cooking time = Mattson cooking time (min)

Table 2: Disease Resistance Data of CDC Spruce Compared to the Checks (Pea Co-op Test A, 2012-2013)

Variety	Mycosphaerella blight (MB)	Mycosphaerella blight (SK)	AUDPC-MB	Fusarium wilt (%)	Powdery mildew
CDC Striker (check)	4.4	5.8	13.4	29	7
Cooper (check)	3.5	6.5	10.7	43	0
CDC Spruce	4.4	5.7	13.4	31	0
LSD 05	1.6	1.6	3.1	18.9	0.4
# locations	2	2	2	2	2

Source: CDC Pulse breeding group, U of S

Mycosphaerella blight (MB)=mycosphaerella blight assessed at Morden, MB (1=No disease, 9=Completely blighted); Mycosphaerella blight (SK)=mycosphaerella blight assessed at Saskatoon, SK.

AUDPC=mycosphaerella blight area under the disease progress curve assessed at Morden; Powdery mildew (0=No disease, 9=Completely mildewed)