CULTIVAR DESCRIPTION

CDC Meadow field pea

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Warkentin, T., Vandenberg, A., Tar'an, B., Banniza, S., Barlow, B. and Ife, S. 2007. **CDC Meadow field pea**. Can. J. Plant Sci. **87**: 909–910. CDC Meadow, a yellow cotyledon field pea (*Pisum sativum* L.) cultivar, was released in 2006 by the Crop Development Centre, University of Saskatchewan for distribution to Select seed growers in Saskatchewan and Alberta through the Variety Release Committee of the Saskatchewan Pulse Growers. CDC Meadow has a semileafless leaf type, good lodging resistance, powdery mildew resistance, medium-sized, round seeds, and good yielding ability. CDC Meadow is adapted to the field pea growing regions of western Canada.

Key words: Field pea, *Pisum sativum* L., cultivar description

Warkentin, T., Vandenberg, A., Tar'an, B., Banniza, S., Barlow, B. et Ife, S. 2007. **Le pois de grande culture CDC Meadow**. Can. J. Plant Sci. **87**: 909–910. CDC Meadow est un cultivar de pois (*Pisum sativum* L.) de grande culture à cotylédons jaunes. La variété a été homologuée en 2006 par le Crop Development Centre de l'Université de la Saskatchewan à l'intention des producteurs de semences Select de la Saskatchewan et de l'Alberta, avec le concours du Comité d'homologation des variétés des Saskatchewan Pulse Growers. CDC Meadow se caractérise par un port mi-aphylle, une bonne résistance à la verse, la résistance au blanc, des graines rondes de calibre moyen et un bon rendement. CDC Meadow est acclimatée aux régions de l'Ouest canadien où l'on cultive le pois de plein champ.

Mots clés: Pois de grande culture, *Pisum sativum* L., description de cultivar

CDC Meadow is a field pea (*Pisum sativum* L.) cultivar developed by the Crop Development Centre (CDC), University of Saskatchewan. It was issued registration number 6105 on 2006 Apr. 18 by the Canadian Food Inspection Agency, Variety Registration Office.

Breeding Methods and Pedigree

CDC Meadow was developed from the cross CDC Mozart/3/Carneval/PI251051//Radley/CDC Vienna made in 1996. CDC Mozart (Vandenberg and Slinkard 2002) and CDC Vienna were developed by the Crop Development Centre, University of Saskatchewan. Carneval was developed by Svalof Weibull, Sweden. Radley was developed by Booker Seeds, UK. PI251051 is an accession from the USDA *Pisum* collection and was used based on its perceived high level of mycosphaerella blight [*Mycosphaerella pinodes* (Berk. & Bloxam) Vestergren] resistance. The objective of this cross was the development of a high-yielding cultivar with powdery mildew resistance and improved levels of lodging and mycosphaerella blight resistance. Powdery mildew resistant plants were selected in the F_2 generation. The F_2-derived F_3 family was evaluated in field trials in Saskatoon in 1998. Preliminary replicated yield trials were conducted in the F_4 in Saskatoon in 1999. An F_4 line, 653-8, was selected based on good yield, acceptable lodging resistance, and relatively early maturity. This line was evaluated in replicated multi-location yield trials in Saskatchewan in 2000 and 2001, and then entered as CDC 653-8, an $F_{2:7}$ line, in the Field Pea Co-operative Registration Test-A in 2002 and 2003. These trials were conducted by the following organizations at the following locations:

- British Columbia Ministry of Agriculture research site at Fort St. John, BC.
- Alberta Agriculture Food and Rural Development research sites at Westlock and Fairview, AB.
- University of Saskatchewan in Saskatoon, SK.
- Canada-Saskatchewan Irrigation Diversification Centre in Outlook, SK.
- Agriculture and Agri-Food Canada Research Centres located in Indian Head, Scott, Melfort, and Swift Current, SK and Morden and Brandon, MB.

Breeder seed of CDC 653-8, later named CDC Meadow, was derived by bulking 56 F_6-derived F_9 lines in 2004, after discarding phenotypic outliers.

Performance

In 2 yr of testing in the Field Pea Co-operative Test-A (16 site-years), CDC Meadow had significantly greater yield than the check cultivars CDC Mozart and Carrera, similar to Eclipse (Table 1). CDC Meadow had earlier maturity than CDC Mozart and Eclipse, similar to Carrera. CDC Meadow had longer vines than the check cultivars. In the lodging score CDC Meadow was superior to CDC Mozart and

Table 1. Summary of agronomic, quality, and disease data for CDC Meadow and check cultivars Carrera, Eclipse, and CDC Mozart for all station-years based on data from Field Pea Co-operative Test-A in western Canada, 2002–2003

Cultivar	Yield (t ha^{-1})	Maturity (d)	Vine length (cm)	Lodging score (1–9)[z]	Seed wt (g 1000 sd^{-1})	Seed shape (1–5)[y]	Seed coat breakage (%)[x]	Cooking quality[v]			Mycosphaerella blight (0–9)[u]	Powdery mildew (0–9)[t]	Fusarium wilt (%)
								Protein (%)[w]	Colour (1–5)	Granulation (1–5)	Puree viscosity (1–24)		
CDC Meadow	3.99	87	65	2.8	197	2.5	22	23.5	2.6	3.4	22	6.7	0.0	7
Carrera	3.15	87	48	4.3	231	2.4	27	25.0	2.9	2.7	21	6.7	9.0	39
Eclipse	3.77	90	57	2.5	229	2.5	21	25.4	3.1	3.1	22	6.3	0.0	16
CDC Mozart	3.29	90	53	4.3	191	2.4	23	25.4	2.8	3.2	22	6.7	0.0	18
LSD ($P = 0.05$)	0.31	1.5	3	0.8	13	0.2	13	0.9	0.4	0.4	2.5	1.2	0.0	38
Site-yr (n)	16	16	16	14	8	7	7	7	7	7	7	2	2	2

[z]1 = no lodging, 9 = completely lodged, assessed at physiological maturity.
[y]1= round, 5 = cubed.
[x]Based on Reichert et al. (1986) with the following modifications: seed equilibration to 14% moisture content, use of equal seed volumes per well, instead of equal numbers of seeds per well, and without arcsin data transformation.
[w]Dry, N × 6.25, by NIR.
[v]Colour of puree and granulation of pulp: 1 = very good and 5 = poor; viscosity of puree: 1 = high (well cooked), 24 = low (poorly cooked).
[u]0 = no disease; 9 = whole plant severely blighted.
[t]0 = no disease; 9 = whole plant severely mildewed.

Carrera, similar to Eclipse. CDC Meadow was lower than Eclipse and Carrera, similar to CDC Mozart in seed weight. CDC Meadow had similar seed shape, seed coat breakage (Reichert et al. 1986), and cooking quality compared to the checks, but lower protein content. CDC Meadow is adapted to the field pea growing region of western Canada.

Other Characteristics

CDC Meadow has a semileafless leaf type, white flowers, yellow cotyledons, opaque seed coat and round, smooth seed. CDC Meadow was evaluated in a field disease nursery at Morden, Manitoba as part of the Field Pea Co-operative Registration Test in 2002 and 2003. CDC Meadow was resistant to powdery mildew, as were CDC Mozart and Eclipse, while Carrera was susceptible. CDC Meadow was moderately susceptible to mycosphaerella blight and had a Fusarium wilt [*Fusarium oxysporum* Schlecht. emend. Snyd. & Hans. f. sp. *pisi* (van Hall) Snyd. & Hans] rating similar to the checks (Table 1).

Availability of Propagating Material

Breeder seed of CDC Meadow is maintained by the Crop Development Centre, University of Saskatchewan, 51 Campus Drive, Saskatoon, Saskatchewan, Canada S7N 5A8. Distribution rights for CDC Meadow are held by the Saskatchewan Pulse Growers (104-411 Downey Road, Saskatoon, Saskatchewan, Canada S7N 4L8). Breeder seed of CDC Meadow was first distributed in 2006 to Saskatchewan and Alberta seed growers qualified as Select growers by the Canadian Seed Growers Association.

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