

## GREEN PEA: CDC GREENWATER

**Breeder:** Dr. Tom Warkentin

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**Year released to Select Seed Growers:** 2014

**Sub-licensed outside of SK:** No

**International Distribution Rights:** Canterra Seeds Ltd./Meridian Seeds

**Plant Breeders Rights:** No

CDC Greenwater is a green cotyledon, semi-leafless field pea variety. CDC Greenwater has long vine length and very good lodging resistance. In nine years of testing in the Saskatchewan co-op and regional trials, CDC Greenwater yielded 99% of CDC Amarillo in the south and 92% in the north (Table 1). CDC Greenwater does not have PBR protection.

### Strengths:

- Good yield (similar to CDC Amarillo)
- Medium-long vine length
- Good lodging resistance, similar to CDC Amarillo
- Moderately resistant to Fusarium wilt
- Powdery mildew resistance

### Neutral:

- Good bleaching resistance
- Medium maturity
- Round seed shape
- Intense green cotyledon color
- Medium seed weight
- Moderate cooking time
- Fair resistance to Mycosphaerella blight

### Weaknesses:

- Rated 'fair' for seed coat breakage and dimpling

- Protein lower than CDC Amarillo



**Table 1: Agronomic Performance for CDC Greenwater 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: Disease Resistance Data of CDC Greenwater Compared to the Checks (Pea Co-op Test A, 2010-2011)**

| Variety               | Mycosphaerella Blight |            |             | Fusarium Wilt (%) | Powdery Mildew |
|-----------------------|-----------------------|------------|-------------|-------------------|----------------|
|                       | MB                    | SK         | AUDPC       |                   |                |
| CDC Striker (check)   | 5.0                   | 5.7        | 14.7        | 7.2               | 6.5            |
| Cooper (check)        | 4.7                   | 5.2        | 13.7        | 23.4              | 0.0            |
| <b>CDC Greenwater</b> | <b>5.4</b>            | <b>5.2</b> | <b>15.0</b> | <b>8.4</b>        | <b>0.0</b>     |
| # locations           | 2                     | 2          | 2           | 2                 | 2              |

*Source: CDC Pulse breeding group, U of S*

Myco=mycosphaerella blight assessed at Morden (MB) and Saskatoon (SK) where 1=No disease, 9=Completely blighted

AUDPC=mycosphaerella blight area under the disease progress curve assessed at Morden

Powdery mildew (0=No disease, 9=Completely mildewed)