



## APPLICATIONS UNDER EXAMINATION

PEA

PEA  
(*Pisum sativum*)

**Proposed denomination:** 'CDC Citrine'  
**Application number:** 20-10156  
**Application date:** 2020/04/16  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Breeder:** Tom Warkentin, University of Saskatchewan, Saskatoon, Saskatchewan

**Varieties used for comparison:** 'CDC Hickie', 'CDC 4999-5', 'CDC 5286-2' and 'CDC 5301-1'

**Summary:** *The pod of 'CDC Citrine' is longer than the pods of 'CDC Hickie', 'CDC 4999-5', and 'CDC 5286-2'. The pod of 'CDC Citrine' is wider than the pod of 'CDC 4999-5'. At maturity, the stem, including the first two nodes of 'CDC Citrine' is shorter than the stems of 'CDC 4999-5' and 'CDC 5301-01'. The 100 seed weight of 'CDC Citrine' is greater than the 100 seed weight of 'CDC 5286-2' and less than those of 'CDC Hickie' and 'CDC 5301-1'.*

### Description:

PLANT: field type, no anthocyanin colouration, green foliage, flowers mid-season

STEM: no anthocyanin colouration of axil, no fasciation, few to medium number of nodes up to and including the first fertile node

LEAF: leaflets absent

STIPULE: medium length from axil to tip, lobe below axil short to medium in length, medium to dense flecking

FLOWER: maximum of two per node

STANDARD: white, medium width, level to moderately arched base, absent or very weak to weak undulation

UPPER SEPAL: medium to broad, acuminate apex

POD: blunt shape of distal end, entire parchment, absent or very weak to weak curvature, light to medium intensity green, suture strings present

IMMATURE SEED: light green

SEED: ellipsoid, simple starch grains, yellow cotyledon, matures early to mid-season

HILUM: colour darker than testa

**Origin and Breeding:** 'CDC Citrine' (experimental designation CDC 5296-2) originated from the cross between 'P3-E4-CO-18' / 'CDC Amarillo' and 'MP 1907' conducted in the fall of 2012 at the Crop Development Centre at the University of Saskatchewan, Saskatoon, Saskatchewan. The variety was developed from a single plant selection from the F2 population. At the F9 generation, 40 sub-lines were selected to establish breeder seed in 2020. 'CDC Citrine' was selected based on grain yield, days to maturity, vine length, resistance to lodging, seed weight, resistance to seed coat breakage, disease resistance, crude protein concentration and cooking time.

**Tests and Trials:** The comparative tests and trials for 'CDC Citrine' were conducted at the Sutherland Field Site of the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan during the 2021 and 2022 growing seasons. The trials were arranged in a RCB design consisting of 2 replications per variety. Each replicate consisted of 3 rows spaced 30 cm apart, with a row length of 3.66 metres and a planting density of 84 seeds per square metre. The measured characteristics were based on 20 measurements per variety per year, except for seed weight which was based on 8 measurements per variety per year. The mean differences were significant at the 5% confidence probability level based on a paired Student's t-test.

Comparison table for 'CDC Citrine'

	'CDC Citrine'	'CDC Hickie**'	'CDC 4999-5**'	'CDC 5286-2**'	'CDC 5301-1**'
<i>Pod length (cm)</i>					
mean 2021	7.0	6.0	6.2	6.3	6.8
std. deviation 2021	0.5	0.6	0.4	0.5	0.5
mean 2022	7.6	7.0	6.8	6.7	7.5
std. deviation 2022	0.5	0.3	0.5	0.3	0.6
<i>Pod maximum width (cm)</i>					
mean 2021	1.3	1.3	1.2	1.3	1.4
std. deviation 2021	0.1	0.1	0.1	0.1	0.1
mean 2022	1.3	1.3	1.2	1.2	1.3
std. deviation 2022	0.1	0.1	0.1	0.1	0.1
<i>Stem length (at maturity) (cm)</i>					
mean 2021	46.7	49.3	49.6	47.4	50.3
std. deviation 2021	3.0	5.5	5.2	4.9	4.4
mean 2022	67.2	70.1	71.9	72.5	71.3
std. deviation 2022	6.0	5.8	4.8	5.6	4.7
<i>Seed weight (grams per 100 seeds)</i>					
mean 2021	22.9	23.8	23.3	21.9	23.7
std. deviation 2021	0.2	0.3	0.8	0.4	0.3
mean 2022	25.8	26.7	26.6	24.0	27.0
std. deviation 2022	0.5	0.3	0.6	0.3	0.4

\*reference varieties



Pea: 'CDC Citrine' (top left) with reference varieties 'CDC Hickie' (top right), 'CDC 4999-5' (bottom left), 'CDC 5286-2' (bottom centre) and 'CDC 5301-1' (bottom right)