



## APPLICATIONS UNDER EXAMINATION

PEA

PEA  
(*Pisum sativum*)

**Proposed denomination:** 'AAC Beyond'  
**Application number:** 20-10403  
**Application date:** 2020/12/24  
**Applicant:** Agriculture & Agri-Food Canada, Lacombe, Alberta  
**Agent in Canada:** Agriculture & Agri-Food Canada, Saskatoon, Saskatchewan  
**Breeder:** Deng-jin Bing, Agriculture & Agri-Food Canada, Lacombe, Alberta

**Varieties used for comparison:** 'Earlstar' and 'AAC Julius'

**Summary:** *The stipule of 'AAC Beyond' is wider than that of 'AAC Julius'. The pod of 'AAC Beyond' is longer than that of 'AAC Julius'. At maturity, the stem, including the first two nodes, of 'AAC Beyond' is shorter than the stems of 'Earlstar' and 'AAC Julius'.*

### Description:

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

STEM: no anthocyanin colouration of axil, no fasciation, medium length, many to very many nodes up to and including the first fertile node

PETIOLE: medium length from axil to first tendril

LEAF: leaflets absent

STIPULE: medium length and width, very sparse to sparse flecking

PEDUNCLE: medium length from stem to first pod

FLOWER: maximum of two per node

STANDARD: narrow to medium width, level to moderately arched base

UPPER SEPAL: acuminate to acute apex

POD: medium to long, medium width, entire parchment, weak curvature, green, medium number of ovules

IMMATURE SEED: medium green

SEED: ellipsoid, simple starch grains, yellow cotyledon, medium weight, matures mid to late season

HILUM: same colour as testa

**Origin and Breeding:** 'AAC Beyond' (experimental designation P0938-4055) originated from the cross between 'Earlstar' and 'CDC1897-3' conducted in the winter of 2008-2009 at the Agriculture and Agri-Food Canada Lacombe Research and Development Centre in Lacombe, Alberta. The breeding method used was pedigree selection in combination with single seed descent for generation advancement. In 2014, an F6 line designated P0938-4055 was selected based on maturity, pod canopy and lodging resistance and further evaluated in a replicated preliminary yield test in Lacombe, Alberta in 2015. In 2016, P0938-4055 was tested in multiple locations in Western Canada, selected as a candidate for registration trials and in 2017, increased and purified in 2 x 15 metre strips in Lacombe, Alberta. 'AAC Beyond' was entered into the 2018-2019 Western Canada Field Pea Cooperative Registration Test-B and further tested in multiple locations in Western Canada.

**Tests and Trials:** The comparative tests and trials for 'AAC Beyond' were conducted at the Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, Lacombe, Alberta, in 2020 and 2021. The trials consisted of 4 replicates in a RCB design. Each replicate consisted of 4 rows spaced 25 cm apart, with a row length of 5 metres and a planting density of 85 viable seeds per square metre. The measured characteristics were based on 20 measurements per variety per year, except seed weight which was based on 4 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 'AAC Beyond'**

	'AAC Beyond'	'Earlstar**'	'AAC Julius**'
<i>Stipule width (cm)</i>			
mean 2020	5.0	4.5	4.5
std. deviation 2020	0.4	0.5	0.5
mean 2021	3.1	3.1	2.7
std. deviation 2021	0.3	0.3	0.2
<i>Pod length (cm)</i>			
mean 2020	7.8	7.3	6.9
std. deviation 2020	0.4	0.5	0.4
mean 2021	7.1	7.0	6.3
std. deviation 2021	0.4	0.4	0.4
<i>Stem length (cm)</i>			
mean 2020	123.4	134.1	136.8
std. deviation 2020	10.1	10.3	8.1
mean 2021	66.9	82.6	72.9
std. deviation 2021	3.3	4.7	5.1

\*reference varieties



Pea: 'AAC Beyond' (left) with reference varieties 'Earlstar' (centre right) and 'AAC Julius' (right)

**Proposed denomination:** 'AAC Julius'  
**Application number:** 20-10404  
**Application date:** 2020/12/24  
**Applicant:** Agriculture & Agri-Food Canada, Lacombe, Alberta  
**Agent in Canada:** Agriculture & Agri-Food Canada, Saskatoon, Saskatchewan  
**Breeder:** Deng-jin Bing, Agriculture & Agri-Food Canada, Lacombe, Alberta

**Varieties used for comparison:** 'Agassiz', 'Earlstar' and 'AAC Beyond'

**Summary:** *The stipule of ‘AAC Julius’ is longer than the stipule of ‘Earlstar’ and narrower than that of ‘AAC Beyond’. The peduncle, from the stem to the first pod, of ‘AAC Julius’ is shorter than that of ‘Agassiz’. The pod of ‘AAC Julius’ is shorter than those of the reference varieties. At maturity, the stem, including the first two nodes, of ‘AAC Julius’ is longer than that of ‘AAC Beyond’. The seed weight of ‘AAC Julius’ is less than that of ‘Agassiz’.*

**Description:**

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

STEM: no anthocyanin colouration of axil, no fasciation, medium length, very many nodes up to and including the first fertile node

PETIOLE: medium to long from axil to first tendril

LEAF: leaflets absent

STIPULE: medium length and width, very sparse to sparse flecking

PEDUNCLE: short to medium length from stem to first pod

FLOWER: maximum of two per node

STANDARD: medium width, moderately arched base

UPPER SEPAL: acuminate to acute apex

POD: short to medium length, medium width, entire parchment, absent or very weak to weak curvature, green, medium number of ovules

IMMATURE SEED: medium green

SEED: ellipsoid, simple starch grains, yellow cotyledon, medium weight, matures mid to late season

HILUM: same colour as testa

**Origin and Breeding:** ‘AAC Julius’ (experimental designation P0937-4006) originated from the cross between ‘Agassiz’ and ‘CDC1897-14’ conducted in the winter of 2008-2009 at the Agriculture and Agri-Food Canada Lacombe Research and Development Centre in Lacombe, Alberta. The breeding method used was pedigree selection in combination with single seed descent for generation advancement. In 2014, an F6 line designated P0937-4006 was selected based on maturity, pod canopy and lodging resistance and further evaluated in a replicated preliminary yield test in Lacombe, Alberta in 2015. In 2016, P0937-4006 was tested in multiple locations in Western Canada, selected as a candidate for registration trials and in 2017 increased and purified in 2 x 15 metre strips in Lacombe, Alberta. ‘AAC Julius’, was entered into the 2018-2019 Western Canada Field Pea Cooperative Registration Test-B and further tested in multiple locations in Western Canada.

**Tests and Trials:** The comparative tests and trials for ‘AAC Julius’ were conducted at the Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, Lacombe, Alberta, in 2020 and 2021. The trials consisted of 4 replicates in a RCB design. Each replicate consisted of 4 rows spaced 25 cm apart, with a row length of 5 metres and a planting density of 85 viable seeds per square metre. The measured characteristics were based on 20 measurements per variety per year, except seed weight which was based on 4 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 ‘AAC Julius’**

	‘AAC Julius’	‘Agassiz’*	‘Earlstar’*	‘AAC Beyond’*
<i>Stipule length (cm)</i>				
mean 2020	8.9	8.7	7.9	8.9
std. deviation 2020	0.9	0.4	0.7	0.6
mean 2021	6.3	5.7	5.6	5.7
std. deviation 2021	0.4	0.4	0.4	0.4
<i>Stipule width (cm)</i>				
mean 2020	4.5	4.5	4.5	5.0
std. deviation 2020	0.5	0.4	0.5	0.4
mean 2021	2.7	2.8	3.1	3.1
std. deviation 2021	0.2	0.3	0.3	0.3

*Peduncle length (from stem to first pod) (cm)*

mean 2020	9.3	11.1	7.6	9.2
std. deviation 2020	1.9	1.8	1.6	1.1
mean 2021	3.5	5.2	3.5	3.7
std. deviation 2021	0.7	1.0	0.6	0.7

*Pod length (cm)*

mean 2020	6.9	7.5	7.3	7.8
std. deviation 2020	0.4	0.5	0.5	0.4
mean 2021	6.3	7.1	7.0	7.1
std. deviation 2021	0.4	0.4	0.4	0.4

*Stem length (cm)*

mean 2020	136.8	128.5	134.1	123.4
std. deviation 2020	8.1	12.0	10.3	10.1
mean 2021	72.9	77.3	82.6	66.9
std. deviation 2021	5.1	5.0	4.7	3.3

*Seed weight (grams per 1000 seeds)*

mean 2020	186.0	206.0	181.0	180.0
std. deviation 2020	5.4	6.1	7.3	4.9
mean 2021	187.0	207.5	185.0	184.4
std. deviation 2021	4.3	7.2	8.6	2.6

\*reference varieties



Pea: 'AAC Julius' (left) with reference varieties 'Agassiz' (centre left), 'Earlystar' (centre right) and 'AAC Beyond' (right)

**Proposed denomination:** 'CDC 4999-5'  
**Application number:** 19-9929  
**Application date:** 2019/05/31  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Breeder:** Tom Warkentin, University of Saskatchewan, Saskatoon, Saskatchewan

**Varieties used for comparison:** 'CDC Meadow', 'CDC Amarillo', 'CDC Inca', 'CDC Spectrum' and 'CDC Tollefson'

**Summary:** *The pod of 'CDC 4999-5' is narrower than that of 'CDC Inca'. The pod curvature for 'CDC 4999-5' is weak while the pod curvature for 'CDC Inca' is absent or very weak. The hilum of 'CDC 4999-5' is darker than the colour of the testa while the hilum of 'CDC Meadow', 'CDC Amarillo', 'CDC Inca' and 'CDC Spectrum' is the same colour as the testa. The seed weight for 'CDC 4999-5' is greater than the seed weight of 'CDC Meadow' and less than that of 'CDC Tollefson'.*

#### Description:

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

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

LEAF: leaflets absent

STIPULE: short to medium length, narrow, medium length from axil to tip, lobe below axil short to medium in length, medium density of flecking

FLOWER: maximum of two per node

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

UPPER SEPAL: medium width, acuminate apex

POD: medium to long, medium width, entire parchment, weak curvature, medium green, medium number of ovules

IMMATURE SEED: light to medium green

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

HILUM: colour darker than testa

**Origin and Breeding:** 'CDC 4999-5' originated from the cross between 2936-7 and 2949-7 conducted in 2011 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 with 23 F9 sub-lines selected to establish breeder seed in 2019. 'CDC 4999-5' 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 4999-5' were conducted at the Sutherland Field Site of the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan during the 2019 and 2021 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 4999-5'

	'CDC 4999-5'	'CDC Meadow'*	'CDC Amarillo'*	'CDC Inca'*	'CDC Spectrum'*	'CDC Tollefson'*
<i>Pod width (cm)</i>						
mean 2019	1.2	1.2	1.2	1.3	1.2	1.2
std. deviation 2019	0.1	0.1	0.1	0.1	0.1	0.1
mean 2021	1.2	1.2	1.3	1.4	1.2	1.4
std. deviation 2021	0.1	0.1	0.1	0.1	0.1	0.1

*Seed weight (grams per 100 seeds)*

mean 2019	23.9	22.5	23.9	23.3	24.3	25.1
std. deviation 2019	1.3	0.2	0.6	0.5	0.5	0.3
mean 2021	23.3	19.6	22.6	22.0	23.7	24.4
std. deviation 2021	0.8	0.3	0.4	0.4	0.5	0.4

\*reference varieties



Pea: 'CDC 4999-5' (top left) with reference varieties 'CDC Meadow' (top centre left), 'CDC Amarillo' (top centre right), 'CDC Tollefson' (top right), 'CDC Inca' (bottom left) and 'CDC Spectrum' (bottom right)

**Proposed denomination:** 'CDC 5286-2'  
**Application number:** 19-9931  
**Application date:** 2019/05/31  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Breeder:** Tom Warkentin, University of Saskatchewan, Saskatoon, Saskatchewan

**Varieties used for comparison:** 'CDC Meadow', 'CDC Amarillo', 'CDC Inca' and 'CDC Spectrum'

**Summary:** *At the second flowering node, the stipule of 'CDC 5286-2' is larger than the stipule of 'CDC Inca' and wider than that of 'CDC Spectrum'. The pod of 'CDC 5286-2' is narrower than the pod of 'CDC Inca'. The pod curvature for 'CDC 5286-2' is absent or very weak while the pod curvature for 'CDC Meadow', 'CDC Amarillo' and 'CDC Spectrum' is weak. At the second fertile node, before seed development, the pod of 'CDC 5286-2' has less ovules than the pod of 'CDC Spectrum'. The hilum of 'CDC 5286-2' is darker in colour than the testa while those of the reference varieties are the same colour as the testa. The seed weight for 'CDC 5286-2' is greater than the seed weight of 'CDC Meadow' and less than that of 'CDC Spectrum'.*

**Description:**

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

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

**LEAF:** leaflets absent

STIPULE: medium to long, medium to broad, medium to long from axil to tip, lobe below axil short to medium in length , medium density of flecking

FLOWER: maximum of two per node

STANDARD: white, medium to broad, level base, very weak to weak undulation

UPPER SEPAL: medium in width, acuminate apex

POD: medium length and width, entire parchment, absent or very weak curvature, light to medium green, few to medium number of ovules

IMMATURE SEED: medium green

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

HILUM: colour darker than testa

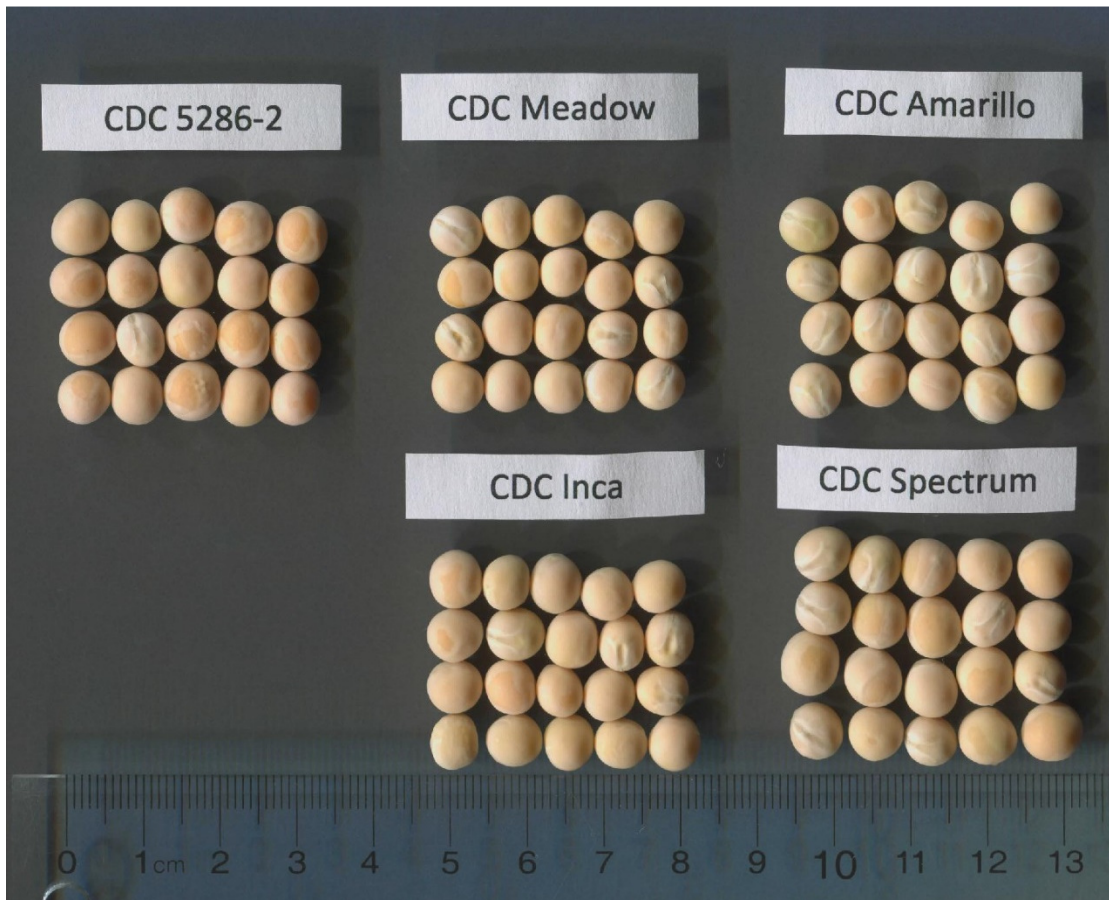
**Origin and Breeding:** ‘CDC 5286-2’ originated from the cross between P3-E4-C1-22 and ‘CDC Amarillo’ conducted in 2012 at the Crop Development Centre at the University of Saskatchewan, Saskatoon, Saskatchewan. The variety was developed from a single plant selection from the F2 population with 7 F9 sub-lines selected to establish breeder seed in 2019. ‘CDC 5286-2’ 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 5286-2’ were conducted at the Sutherland Field Site of the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan during the 2019 and 2021 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 5286-2’**

	‘CDC 5286-2’	‘CDC Meadow’*	‘CDC Amarillo’*	‘CDC Inca’*	‘CDC Spectrum’*
<i>Stipule length (cm)</i>					
mean 2019	5.6	4.7	4.8	4.9	5.2
std. deviation 2019	0.7	0.6	0.9	0.6	0.9
mean 2021	4.5	4.9	4.1	3.8	4.1
std. deviation 2021	0.8	0.6	0.8	0.5	0.6
<i>Stipule width (cm)</i>					
mean 2019	3.1	2.6	2.5	2.7	2.6
std. deviation 2019	0.5	0.4	0.6	0.4	0.6
mean 2021	2.4	2.7	2.2	2.0	2.0
std. deviation 2021	0.4	0.4	0.5	0.3	0.4
<i>Pod width (cm)</i>					
mean 2019	1.2	1.2	1.2	1.3	1.2
std. deviation 2019	0.1	0.1	0.1	0.1	0.1
mean 2021	1.3	1.2	1.3	1.4	1.2
std. deviation 2021	0.1	0.1	0.1	0.1	0.1
<i>Pod number of ovules (count)</i>					
mean 2019	5.4	5.8	5.6	5.6	6.9
std. deviation 2019	0.7	0.9	1.1	0.8	0.8
mean 2021	4.8	5.3	5.3	5.4	5.4
std. deviation 2021	0.8	1.0	1.0	0.7	0.9
<i>Seed weight (grams per 100 seeds)</i>					
mean 2019	23.8	22.5	23.9	23.3	24.3
std. deviation 2019	0.6	0.2	0.6	0.5	0.5
mean 2021	21.9	19.6	22.6	22.0	23.7
std. deviation 2021	0.4	0.3	0.4	0.4	0.5

\*reference varieties



Pea: 'CDC 5286-2' (top left) with reference varieties 'CDC Meadow' (top centre), 'CDC Amarillo' (top right), 'CDC Inca' (bottom left) and 'CDC Spectrum' (bottom right)

**Proposed denomination:** 'CDC 5301-1'  
**Application number:** 19-9932  
**Application date:** 2019/05/31  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Breeder:** Tom Warkentin, University of Saskatchewan, Saskatoon, Saskatchewan

**Varieties used for comparison:** 'CDC Meadow', 'CDC Amarillo', 'CDC Inca', 'CDC Spectrum' and 'CDC Tollefson'

**Summary:** *The stipule lobe below the axil of 'CDC 5301-1' is very short to short while the stipule lobe below the axil of 'CDC Meadow' is medium to long and that of 'CDC Spectrum' is short to medium in length. The flower standard of 'CDC 5301-1' is wider than that of 'CDC Spectrum'. The pod of 'CDC 5301-1' is larger than those of 'CDC Meadow', 'CDC Amarillo' and 'CDC Spectrum' and longer than that of 'CDC Inca'. The pod curvature for 'CDC 5301-1' is weak while the pod curvature for 'CDC Inca' is absent or very weak. The seed weight for 'CDC 5301-1' is greater than the seed weight for 'CDC Meadow' and less than that of 'CDC Tollefson'.*

**Description:**

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

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

**LEAF:** leaflets absent

**STIPULE:** short to medium length, medium width, short to medium length from axil to tip, lobe below axil very short to short, medium to dense flecking



FLOWER: maximum of two per node

STANDARD: white, medium to broad, level base, absent or very weak undulation

UPPER SEPAL: medium to broad, acuminate apex

POD: medium to long, medium width, entire parchment, weak curvature, light to medium green, medium number of ovules

IMMATURE SEED: light to medium green

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

HILUM: colour same or darker than testa

**Origin and Breeding:** ‘CDC 5301-1’ originated from the cross between P5-E3-C1-52 and MP1907 with a subsequent cross to 3360-7, conducted in 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 with 15 F10 sub-lines selected to establish breeder seed in 2019. ‘CDC 5301-1’ 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 5301-1’ were conducted at the Sutherland Field Site of the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan during the 2019 and 2021 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 5301-1’**

	‘CDC 5301-1’	‘CDC Meadow’*	‘CDC Amarillo’*	‘CDC Inca’*	‘CDC Spectrum’*	‘CDC Tollefson’*
<i>Flower standard width (cm)</i>						
mean 2019	2.7	2.6	2.6	2.6	2.4	2.6
std. deviation 2019	0.2	0.2	0.3	0.2	0.3	0.2
mean 2021	2.3	2.5	2.3	2.2	2.2	2.3
std. deviation 2021	0.1	0.2	0.2	0.1	0.1	0.2
<i>Pod length (cm)</i>						
mean 2019	7.4	6.5	6.5	6.4	6.9	6.9
std. deviation 2019	0.4	0.4	0.3	0.5	0.4	0.4
mean 2021	6.8	6.0	6.0	6.3	6.2	7.0
std. deviation 2021	0.5	0.7	0.5	0.5	0.7	0.6
<i>Pod width (cm)</i>						
mean 2019	1.3	1.2	1.2	1.3	1.2	1.2
std. deviation 2019	0.1	0.1	0.1	0.1	0.1	0.1
mean 2021	1.4	1.2	1.3	1.4	1.2	1.4
std. deviation 2021	0.1	0.1	0.1	0.1	0.1	0.1
<i>Seed weight (grams per 100 seeds)</i>						
mean 2019	23.7	22.5	23.9	23.3	24.3	25.1
std. deviation 2019	1.1	0.2	0.6	0.5	0.5	0.3
mean 2021	23.7	19.6	22.6	22.0	23.7	24.4
std. deviation 2021	0.3	0.3	0.4	0.4	0.5	0.4

\*reference varieties



Pea: 'CDC 5301-1' (top left) with reference varieties 'CDC Meadow' (top centre left), 'CDC Amarillo' (top centre right), 'CDC Tollefson' (top right), 'CDC Inca' (bottom left) and 'CDC Spectrum' (bottom right)

**Proposed denomination:** 'CDC Hickie'  
**Application number:** 19-9927  
**Application date:** 2019/05/31  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Breeder:** Tom Warkentin, University of Saskatchewan, Saskatoon, Saskatchewan

**Varieties used for comparison:** 'CDC Meadow', 'CDC Amarillo', 'CDC Inca' and 'CDC Spectrum'

**Summary:** *The stipule of 'CDC Hickie' is longer than the stipule of 'CDC Inca'. The plants of 'CDC Hickie' flower mid to late season while those of 'CDC Meadow', 'CDC Amarillo' and 'CDC Spectrum' flower early to mid-season. The flower standard of 'CDC Hickie' has a moderately raised to level shaped base while that of 'CDC Meadow' has a level to moderately arched base. The pod of 'CDC Hickie' is wider than the pods of 'CDC Meadow' and 'CDC Spectrum'. At maturity, the stem, including the first two nodes, of 'CDC Hickie' is longer than that of 'CDC Spectrum'.*

**Description:**

**PLANT:** field type, no anthocyanin colouration, green foliage, flowers mid to late season

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

**LEAF:** leaflets absent

**STIPULE:** long, medium to broad, 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, moderately raised to level base, absent or very weak undulation

**UPPER SEPAL:** medium to broad, acuminate apex

**POD:** medium length and width, entire parchment, absent or very weak to weak curvature, medium green, medium number of ovules

**IMMATURE SEED:** medium green

SEED: ellipsoid, simple starch grains, yellow cotyledon, medium weight, matures mid-season  
 HILUM: colour same to darker than testa

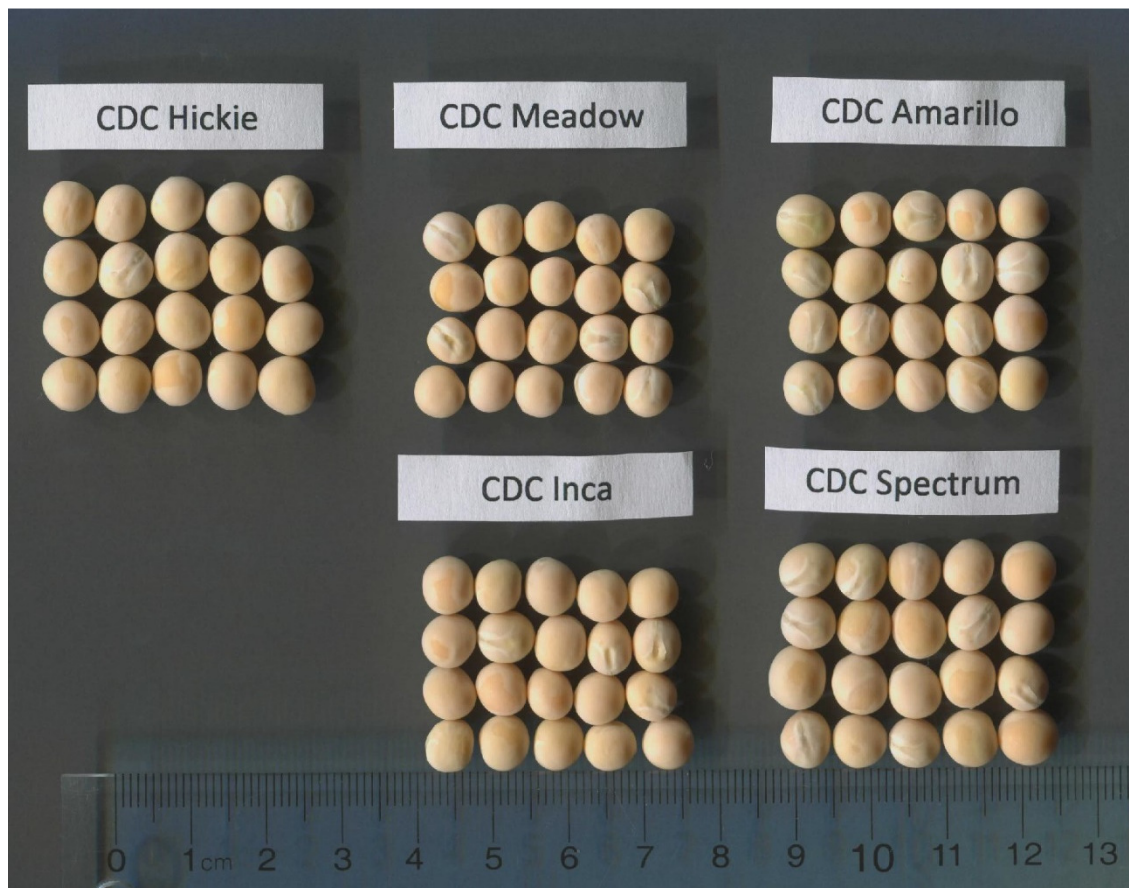
**Origin and Breeding:** ‘CDC Hickie’ (experimental designation CDC 4900-13) originated from the cross between ‘CDC 2283-17’ and PO410-16 conducted in 2011 at the Crop Development Centre at the University of Saskatchewan, Saskatoon, Saskatchewan. The variety was developed from a single plant selection from the F2 population with 20 F9 sub-lines selected to establish breeder seed in 2019. ‘CDC Hickie’ 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 Hickie’ were conducted at the Sutherland Field Site of the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan during the 2019 and 2021 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 Hickie’**

	‘CDC Hickie’	‘CDC Meadow’*	‘CDC Amarillo’*	‘CDC Inca’*	‘CDC Spectrum’*
<i>Stipule length (cm)</i>					
mean 2019	5.6	4.7	4.8	4.9	5.2
std. deviation 2019	0.7	0.6	0.9	0.6	0.9
mean 2021	4.4	4.9	4.1	3.8	4.1
std. deviation 2021	0.7	0.6	0.8	0.5	0.6
<i>Pod width (cm)</i>					
mean 2019	1.3	1.2	1.2	1.3	1.2
std. deviation 2019	0.1	0.1	0.1	0.1	0.1
mean 2021	1.3	1.2	1.3	1.4	1.2
std. deviation 2021	0.1	0.1	0.1	0.1	0.1
<i>Stem length (cm)</i>					
mean 2019	86.5	72.8	80.5	78.3	80.4
std. deviation 2019	9.0	10.0	9.4	6.7	5.9
mean 2021	49.3	47.3	48.9	48.2	42.4
std. deviation 2021	5.5	5.6	4.5	4.6	5.8

\*reference varieties



Pea: 'CDC Hickie' (top left) with reference varieties 'CDC Meadow' (top centre), 'CDC Amarillo' (top right), 'CDC Inca' (bottom left) and 'CDC Spectrum' (bottom right)

**Proposed denomination:** 'CDC Rider'  
**Application number:** 19-9926  
**Application date:** 2019/05/31  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Breeder:** Tom Warkentin, University of Saskatchewan, Saskatoon, Saskatchewan

**Varieties used for comparison:** 'CDC Striker', 'CDC Limerick', 'CDC Greenwater' and 'CDC Forest'

**Summary:** *The stipule of 'CDC Rider' is narrower than those of 'CDC Limerick' and 'CDC Forest'. The pod of 'CDC Rider' is smaller than the pod of 'CDC Striker' and larger than the pod of 'CDC Limerick'. The pod curvature for 'CDC Rider' is weak while the pod curvature of 'CDC Greenwater' and 'CDC Forest' is absent or very weak. The immature seed of 'CDC Rider' is medium green while the immature seed of 'CDC Limerick' is light green. When mature, the stem including the first two nodes of 'CDC Rider' is longer than that of 'CDC Striker'. The seed weight of 'CDC Rider' is less than the seed weight of 'CDC Striker' and 'CDC Greenwater' and greater than that of 'CDC Limerick'.*

**Description:**

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

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

**LEAF:** leaflets absent

**STIPULE:** short to medium length, narrow, medium length from axil to tip, lobe below axil of medium length, medium density of flecking

FLOWER: maximum of two per node

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

UPPER SEPAL: medium width, acuminate apex

POD: medium length and width, entire parchment, weak curvature, light to medium green, medium number of ovules

IMMATURE SEED: medium green

SEED: ellipsoid, simple starch grains, green cotyledon, medium weight, matures mid-season

HILUM: colour darker than testa

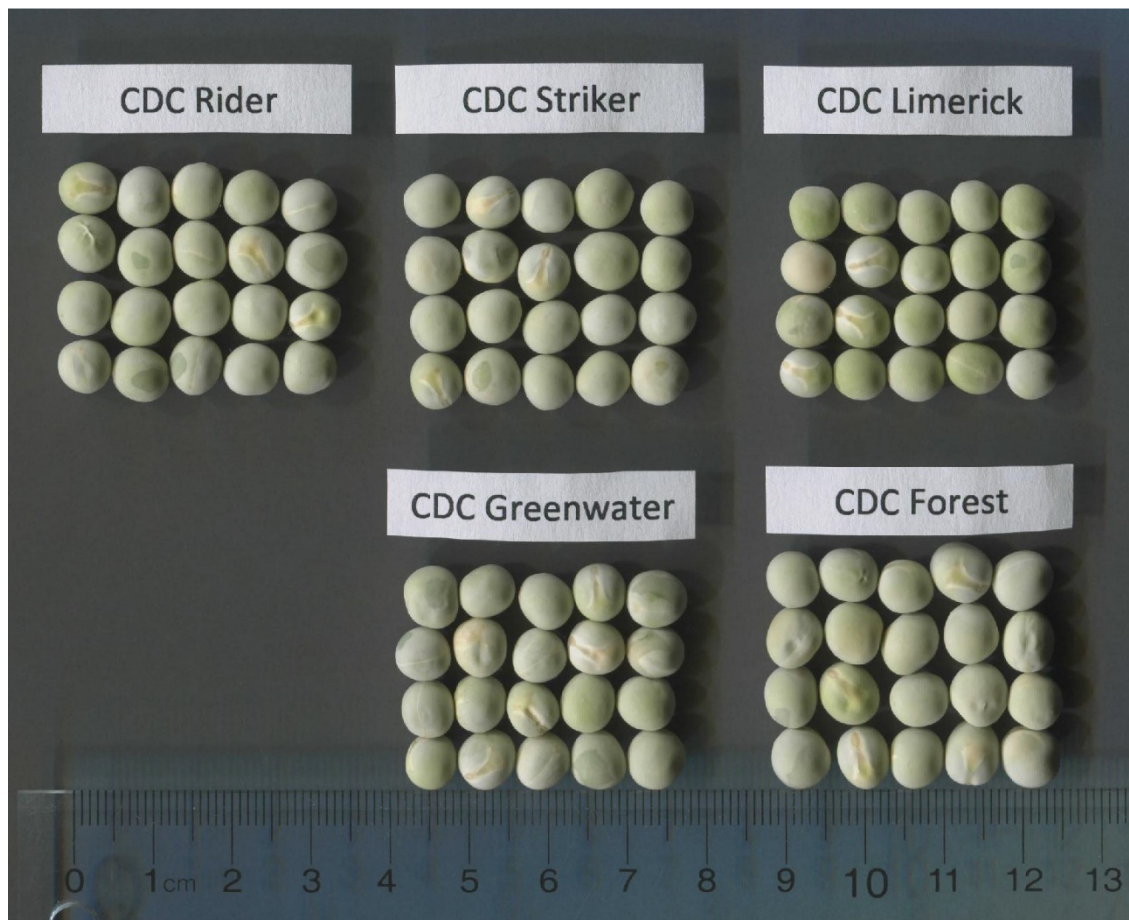
**Origin and Breeding:** ‘CDC Rider’ (experimental designation CDC 4506-4) originated from the cross between 2856-14 and 2472-4 conducted in 2010 at the Crop Development Centre at the University of Saskatchewan, Saskatoon, Saskatchewan. The variety was developed from a single plant selection from the F2 population with 38 F11 sub-lines selected to establish breeder seed in 2020. ‘CDC Rider’ 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 Rider’ were conducted at the Sutherland Field Site of the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan during the 2019 and 2021 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 Rider’**

	‘CDC Rider’	‘CDC Striker’*	‘CDC Limerick’*	‘CDC Greenwater’*	‘CDC Forest’*
<i>Stipule width (cm)</i>					
mean 2019	2.6	2.6	3.0	2.5	3.1
std. deviation 2019	0.7	0.4	0.5	0.4	0.6
mean 2021	2.0	2.2	2.3	2.2	2.5
std. deviation 2021	0.4	0.3	0.3	0.3	0.4
<i>Pod length (cm)</i>					
mean 2019	6.9	7.3	6.3	6.7	7.0
std. deviation 2019	0.5	0.5	0.4	0.5	0.4
mean 2021	6.4	7.0	5.9	6.0	6.1
std. deviation 2021	0.5	0.7	0.5	0.5	0.5
<i>Pod width (cm)</i>					
mean 2019	1.2	1.3	1.1	1.3	1.2
std. deviation 2019	0.1	0.1	0.1	0.1	0.1
mean 2021	1.3	1.4	1.2	1.3	1.2
std. deviation 2021	0.1	0.1	0.1	0.1	0.1
<i>Stem length (cm)</i>					
mean 2019	75.2	59.9	75.7	85.9	79.3
std. deviation 2019	10.0	5.9	6.9	5.5	9.1
mean 2021	48.7	45.2	44.8	43.7	46.1
std. deviation 2021	3.3	5.8	3.9	5.4	4.7
<i>Seed weight (grams per 100 seeds)</i>					
mean 2019	24.1	25.1	21.9	25.9	24.7
std. deviation 2019	0.3	0.5	0.4	0.3	0.8
mean 2021	22.2	22.6	21.3	22.8	23.1
std. deviation 2021	0.4	0.2	0.9	0.6	0.3

\*reference varieties



Pea: 'CDC Rider' (top left) with reference varieties 'CDC Striker' (top centre), 'CDC Limerick' (top right), 'CDC Greenwater' (bottom left) and 'CDC Forest' (bottom right)

**Proposed denomination:** 'CDC Tollefson'  
**Application number:** 19-9928  
**Application date:** 2019/05/31  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Breeder:** Tom Warkentin, University of Saskatchewan, Saskatoon, Saskatchewan

**Varieties used for comparison:** 'CDC Amarillo', 'CDC Inca', 'CDC Spectrum', 'CDC 4999-5' and 'CDC 5301-1'

**Summary:** *The pod of 'CDC Tollefson' is longer than those of 'CDC Amarillo' and 'CDC Inca'. The pod curvature for 'CDC Tollefson' is weak while the pod curvature of 'CDC Inca' is absent or very weak. The hilum of 'CDC Tollefson' is darker in colour than the testa while those of 'CDC Amarillo', 'CDC Inca' and 'CDC Spectrum' are the same colour as the testa. The seed weight for 'CDC Tollefson' is greater than the seed weight of the reference varieties.*

**Description:**

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

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

**LEAF:** leaflets absent

**STIPULE:** long, broad, small to medium size, medium length from axil to tip, lobe below axil short, 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: medium to long, narrow to medium width, entire parchment, weak curvature, light to medium green, medium number of ovules

IMMATURE SEED: medium green

SEED: ellipsoid, simple starch grains, yellow cotyledon, medium weight, matures mid-season

HILUM: colour darker than testa

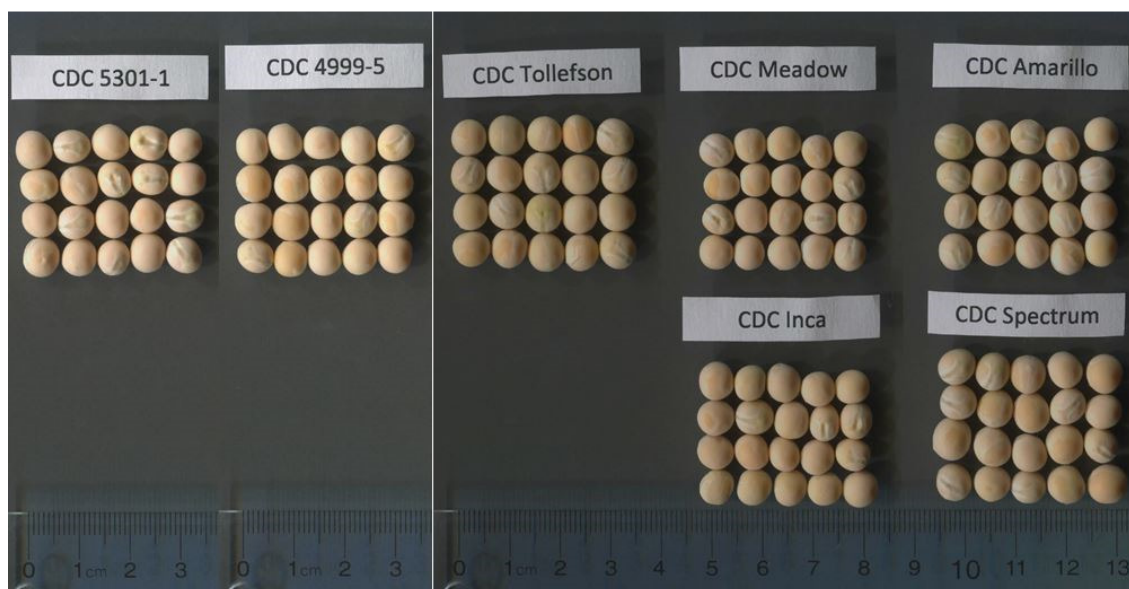
**Origin and Breeding:** ‘CDC Tollefson’ (experimental designation CDC 4947-2) originated from the cross between MP1899 and 2847-21, with a subsequent cross to CDC 2648-21. The cross was conducted in 2011 at the Crop Development Centre at the University of Saskatchewan, Saskatoon, Saskatchewan. The variety was developed from a single plant selection from the F2 population with 19 F9 sub-lines selected to establish breeder seed in 2019. ‘CDC Tollefson’ 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 Tollefson’ were conducted at the Sutherland Field Site of the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan during the 2019 and 2021 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 Tollefson’**

	‘CDC Tollefson’	‘CDC Amarillo’*	‘CDC Inca’*	‘CDC Spectrum’*	‘CDC 4999-5’*	‘CDC 5301-1’*
<i>Pod length (cm)</i>						
mean 2019	6.9	6.5	6.4	6.9	6.8	7.4
std. deviation 2019	0.4	0.3	0.5	0.4	0.5	0.4
mean 2021	7.0	6.0	6.3	6.2	6.2	6.8
std. deviation 2021	0.6	0.5	0.5	0.7	0.4	0.5
<i>Pod width (cm)</i>						
mean 2019	1.3	1.2	1.3	1.2	1.2	1.3
std. deviation 2019	0.1	0.1	0.1	0.1	0.1	0.1
mean 2021	1.4	1.3	1.4	1.2	1.2	1.4
std. deviation 2021	0.1	0.1	0.1	0.1	0.1	0.1
<i>Seed weight (grams per 100 seeds)</i>						
mean 2019	25.1	23.9	23.3	24.3	23.9	23.7
std. deviation 2019	0.3	0.6	0.5	0.5	1.3	1.1
mean 2021	24.4	22.6	22.0	23.7	23.3	23.7
std. deviation 2021	0.4	0.4	0.4	0.5	0.8	0.3

\*reference varieties



Pea: 'CDC Tollefson' (top centre) with reference varieties 'CDC 5301-1' (top left), 'CDC 4999-5' (top centre left), 'CDC Meadow' (top centre right), 'CDC Amarillo' (top right), 'CDC Inca' (bottom left) and 'CDC Spectrum' (bottom right)