



APPLICATIONS UNDER EXAMINATION

PEA

PEA
(Pisum sativum)

Proposed denomination: 'AAC Asher'
Application number: 17-9360
Application date: 2017/12/27
Applicant: Agriculture & Agri-Food Canada, Lacombe, Alberta
Agent in Canada: Agriculture & Agri-Food Canada, Lacombe, Alberta
Breeder: Deng-jin Bing, Agriculture & Agri-Food Canada, Lacombe, Alberta

Varieties used for comparison: 'AAC Lacombe' and 'Agassiz'

Summary: *The fully mature plants of 'AAC Asher' have many nodes per stem while the plants of 'AAC Lacombe' have very many nodes per stem. The stipule for 'AAC Asher' is longer than that of 'AAC Lacombe'. The plants of 'AAC Asher' flower earlier than those of 'AAC Lacombe'. The peduncle of 'AAC Asher' is shorter than the peduncle of 'Agassiz'. The pod of 'AAC Asher' has less ovules than the pod of 'AAC Lacombe'. At maturity, the stem of 'AAC Asher' is shorter than that of 'AAC Lacombe'. The 100 seed weight is greater for 'AAC Asher' than for 'Agassiz'.*

Description:

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

STEM: no anthocyanin colouration of axil, no fasciation, many nodes (up to and including first fertile node)

LEAFLETS: absent

STIPULE: absent or very sparse density of flecking

FLOWER: maximum of two per node

STANDARD: white, level to moderately arched base

POD: entire parchment, blunt distal part, absent or very weak to weak curvature, green

IMMATURE SEED: medium green

SEED: matures mid to late in season, simple starch grains, yellow cotyledons

HILUM: same colour as testa

DISEASE REACTION: resistant to powdery mildew (*Erysiphe pisi* Syd.)

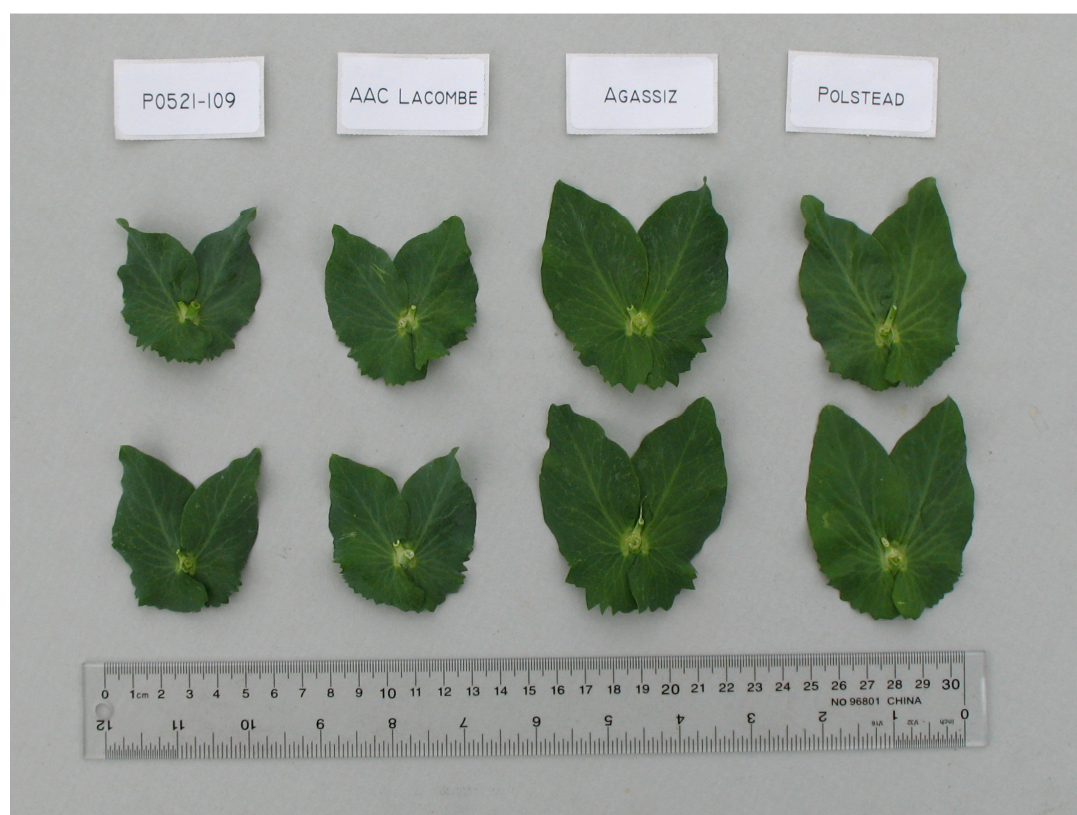
Origin and Breeding: 'AAC Asher' (experimental designation P0521-109) originated from the cross DC715S-4 / P9904601 conducted in 2005 at the Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, Lacombe, Alberta. The breeding method was pedigree selection in combination with single seed descent. Major selection criteria was based on yield, maturity and resistance to lodging. Breeder seed for 'AAC Asher' was derived from a single F10 line. P0521-109 was further evaluated in the 2014 and 2015 Western Canada Field Pea Cooperative Registration Trials.

Tests and Trials: The comparative tests and trials for 'AAC Asher' were conducted at the Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, Lacombe, Alberta, during the 2017 and 2018 growing seasons. The trials were established using a complete randomized block design consisting of 4 replications per variety. 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 100 seed weight where 4 measurements were taken per variety per year. The mean differences were significant at the 5% confidence probability level based on a paired Student's t-test.

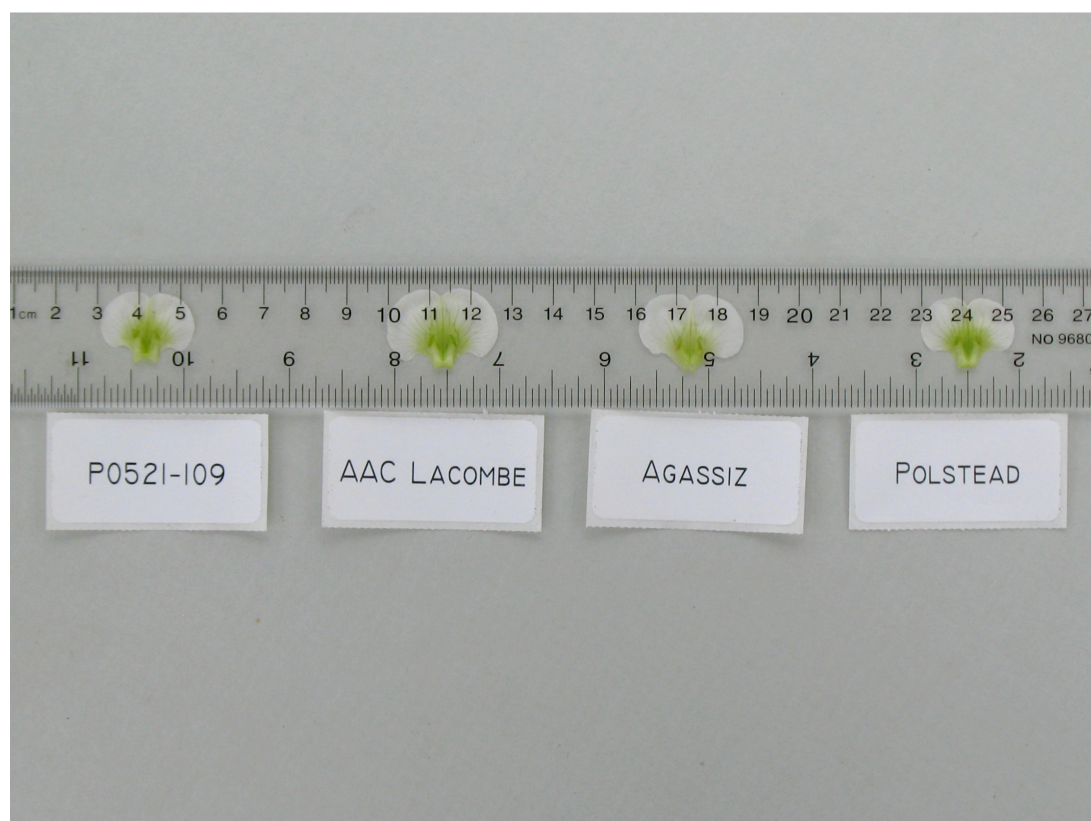
Comparison table for 'AAC Asher'

	'AAC Asher'	'AAC Lacombe'*	'Agassiz'*
<i>Number of nodes per stem (up to and including first fertile node)</i>			
mean 2017	15.2	19.1	15.7
std. deviation 2017	1.7	1.6	1.9
mean 2018	17.9	19.7	18.2
std. deviation 2018	1.3	2.3	1.9
<i>Stipule length (mm)</i>			
mean 2017	71.0	62.1	73.2
std. deviation 2017	7.8	9.3	8.2
mean 2018	68.0	63.4	71.6
std. deviation 2018	4.8	7.3	8.4
<i>Time of flowering (when 30% of plants have at least one flower open) (days from planting)</i>			
mean 2017	55.0	58.3	55.0
mean 2018	51.0	53.5	50.8
<i>Peduncle length (from stem to first pod) (cm)</i>			
mean 2017	7.3	6.5	8.7
std. deviation 2017	1.6	1.6	1.7
mean 2018	6.4	5.5	7.7
std. deviation 2018	1.8	1.3	2.0
<i>Number of ovules per pod (at 2nd fertile node, before seed development)</i>			
mean 2017	7.5	8.8	7.4
std. deviation 2017	0.7	0.5	0.7
mean 2018	7.7	8.4	7.4
std. deviation 2018	0.7	0.6	0.7
<i>Stem length (at maturity) (cm)</i>			
mean 2017	90.1	106.8	103.5
std. deviation 2017	9.9	8.7	6.6
mean 2018	87.8	99.5	90.4
std. deviation 2018	7.2	7.0	8.9
<i>Seed weight (grams per 100 seeds)</i>			
mean 2017	258	264	239
std. deviation 2017	3.2	5.2	5.0
mean 2018	284	290	242
std. deviation 2018	1.9	3.8	6.7

*reference varieties



Pea: 'AAC Asher' (left) with reference varieties 'AAC Lacombe' (centre left) and 'Agassiz' (centre right)



Pea: 'AAC Asher' (left) with reference varieties 'AAC Lacombe' (centre left) and 'Agassiz' (centre right)

Proposed denomination: 'AAC Delhi'
Application number: 17-9361
Application date: 2017/12/27
Applicant: Agriculture & Agri-Food Canada, Lacombe, Alberta
Agent in Canada: Agriculture & Agri-Food Canada, Lacombe, Alberta
Breeder: Deng-jin Bing, Agriculture & Agri-Food Canada, Lacombe, Alberta

Varieties used for comparison: 'AAC Lacombe' and 'Polstead'

Summary: *The fully mature plants of 'AAC Delhi' have many nodes per stem while the plants of 'AAC Lacombe' have very many nodes per stem. The stipule of 'AAC Delhi' is longer and wider than the stipule of 'AAC Lacombe'. The pod for 'AAC Delhi' is wider than that of both reference varieties. At maturity, the stem of 'AAC Delhi' is shorter than that of 'AAC Lacombe' and longer than the stem of 'Polstead'. The 100 seed weight is greater for 'AAC Delhi' than for 'Polstead'.*

Description:

PLANT: field type, semi-leafless, no anthocyanin colouration, green, flowers mid to late in season

STEM: no anthocyanin colouration of axil, no fasciation, many nodes (up to and including first fertile node)

LEAFLETS: absent

STIPULE: absent or very sparse to sparse density of flecking

FLOWER: maximum of two per node

STANDARD: white, level to moderately arched base

POD: entire parchment, blunt distal part, absent or very weak curvature, green

IMMATURE SEED: medium green

SEED: matures late in season, simple starch grains, yellow cotyledons

HILUM: same colour as testa

DISEASE REACTION: resistant to powdery mildew (*Erysiphe pisi* Syd.)

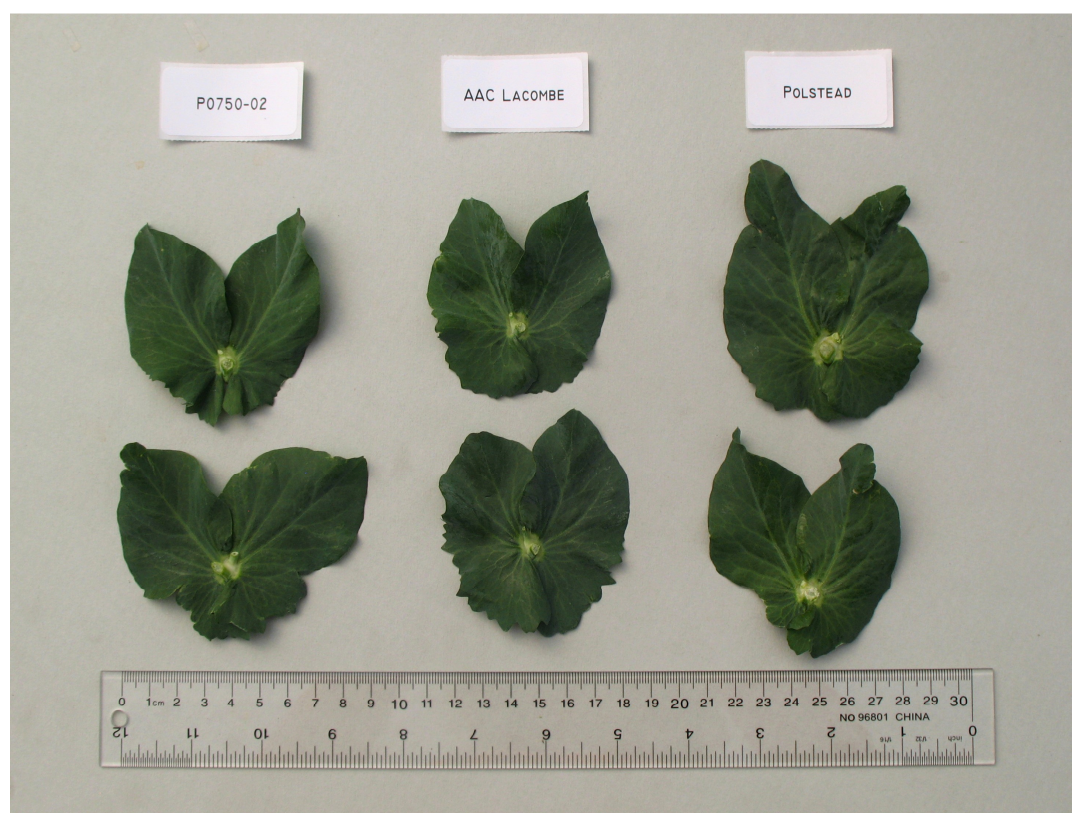
Origin and Breeding: 'AAC Delhi' (experimental designation P0750-02) originated from the cross 'Noble' // 'Polstead' / 'CDC715S' conducted in 2007 at the Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, Lacombe, Alberta. The breeding method was pedigree selection in combination with single seed descent. Major selection criteria was based on yield and resistance to lodging. Breeder seed for 'AAC Delhi' was derived from a single F10 line. P0750-02 was further evaluated in the 2015 and 2016 Western Canada Field Pea Cooperative Registration Trials.

Tests and Trials: The comparative tests and trials for 'AAC Asher' were conducted at the Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, Lacombe, Alberta, during the 2017 and 2018 growing seasons. The trials were established using a complete randomized block design consisting of 4 replications per variety. 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 100 seed weight where 4 measurements were taken 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 Delhi'

	'AAC Delhi'	'AAC Lacombe'*	'Polstead'*
<i>Number of nodes per stem (up to and including first fertile node)</i>			
mean 2017	15.5	19.1	13.1
std. deviation 2017	1.8	1.6	1.4
mean 2018	17.5	19.7	15.9
std. deviation 2018	1.1	2.3	1.4
<i>Stipule length (mm)</i>			
mean 2017	81.8	62.1	80.1
std. deviation 2017	8.3	9.3	10.0
mean 2018	82.1	63.4	80.1
std. deviation 2018	8.2	7.3	7.5
<i>Stipule width (mm)</i>			
mean 2017	40.9	31.2	38.2
std. deviation 2017	5.4	6.4	6.6
mean 2018	46.4	36.6	40.7
std. deviation 2018	5.7	5.4	4.0
<i>Pod width (mm)</i>			
mean 2017	14.5	12.9	12.3
std. deviation 2017	0.9	0.6	0.6
mean 2018	15.9	13.2	13.3
std. deviation 2018	1.0	1.1	0.8
<i>Stem length (at maturity) (cm)</i>			
mean 2017	90.0	106.8	74.6
std. deviation 2017	8.1	8.7	7.3
mean 2018	93.6	99.5	75.4
std. deviation 2018	4.4	7.0	4.8
<i>Seed weight (grams per 100 seeds)</i>			
mean 2017	286	264	263
std. deviation 2017	5.2	5.2	6.1
mean 2018	294.1	289.5	267.4
std. deviation 2018	2.6	3.8	1.8

*reference varieties



Pea: 'AAC Delhi' (left) with reference varieties 'AAC Lacombe' (centre) and 'Polstead' (right)



Pea: 'AAC Delhi' (left) with reference varieties 'AAC Lacombe' (centre) and 'Polstead' (right)

Proposed denomination: 'Blueman'
Application number: 18-9570
Application date: 2018/07/06
Applicant: Norddeutsche Pflanzenzücht, Holtsee, Germany
Agent in Canada: DL Seeds Inc., Morden, Manitoba
Breeder: Olaf Sass, Norddeutsche Pflanzenzücht, Holtsee, Germany

Variety used for comparison: 'CDC Limerick'

Summary: *The stipules of 'Blueman' are wider than those of 'CDC Limerick'. The pod for 'Blueman' is medium green with absent or very weak curvature whereas the pod of 'CDC Limerick' is light green with medium curvature. At maturity, the stems of 'Blueman' are longer than those of 'CDC Limerick'.*

Description:

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

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

LEAFLETS: medium green, medium number

STIPULE: medium sized, medium length from axil to tip, medium length lobe, flecking absent

FLOWER: maximum of three per node

STANDARD: white, moderately raised base

UPPER SEPAL: medium width, acute shape of apex

PEDUNCLE SPUR: medium length

POD: absent or partial parchment, no thickened wall, pointed distal part, absent or very weak curvature, medium green, suture strings present

IMMATURE SEED: medium green

SEED: ellipsoid, simple starch grains, yellow cotyledons

HILUM: same colour as testa

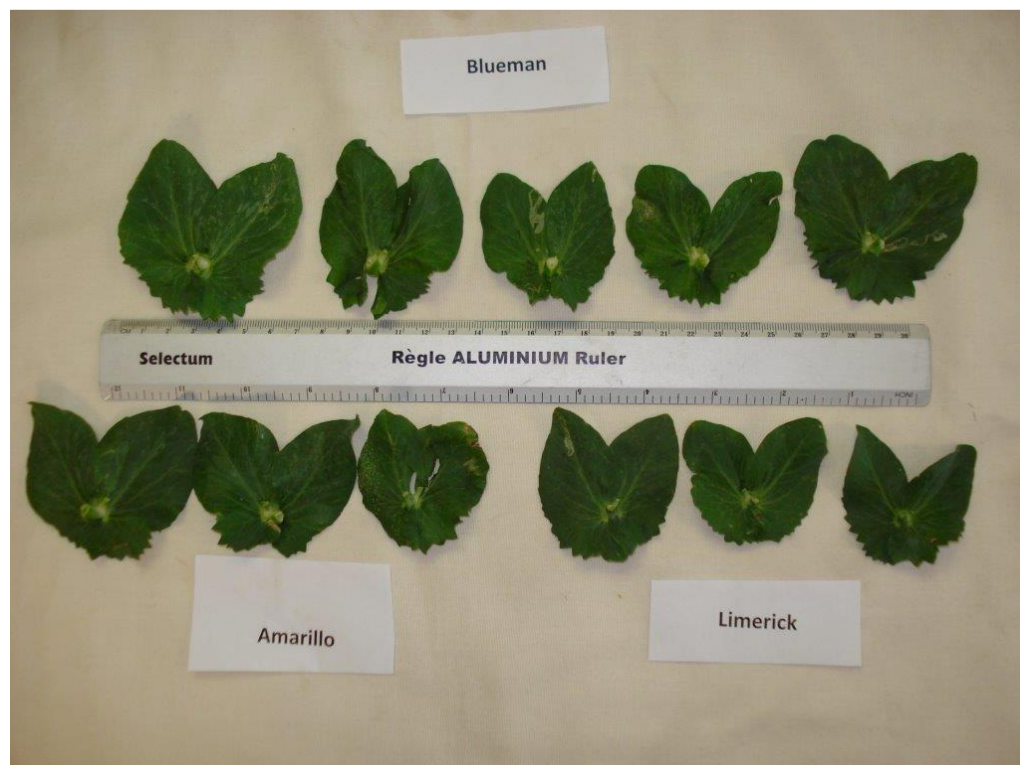
Origin and Breeding: 'Blueman' (experimental designation LRP 1424) originated from the cross Panache / Bluestar // 3005.10V conducted at a Norddeutsche Pflanzenzücht facility in France in 2007. One F9 line, trialed in Canada, was selected based on disease resistance and agronomic characteristics. LRP 1424 was further evaluated in the 2015 and 2016 Western Canada Field Pea Cooperative Registration Trials.

Tests and Trials: The comparative tests and trials for 'Blueman' were conducted at DL Seeds Inc. in Morden, Manitoba, during the 2017 and 2018 growing seasons. The trials were established using a complete randomized block design consisting of 3 replications per variety. Each replicate consisted of 6 rows spaced 26 cm apart, with a row length of 4 metres. The measured characteristics were based on 100 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 'Blueman'

	'Blueman'	'CDC Limerick'*
<i>Stipule width (mm)</i>		
mean 2017	24.1	21.9
std. deviation 2017	5.3	5.1
mean 2018	31.5	28.8
std. deviation 2018	4.8	5.4
<i>Stem length (at maturity) (cm)</i>		
mean 2017	87.8	75.1
std. deviation 2017	12.8	17.6
mean 2018	98.7	85.0
std. deviation 2018	9.9	11.1

*reference variety



Pea: 'Blueman' (top) with reference variety 'CDC Limerick' (bottom left)



Pea: 'Blueman' (top) with reference variety 'CDC Limerick' (bottom left)