



APPLICATIONS UNDER EXAMINATION

CANOLA

CANOLA (*Brassica napus*)

Proposed denomination: 'PPS07-162 A-line'
Application number: 08-6404
Application date: 2008/07/14
Applicant: Bayer CropScience Inc., Saskatoon, Saskatchewan
Breeder: Hieronim Polewicz, Bayer CropScience Inc., Saskatoon, Saskatchewan

Note: The applicant has requested an exemption from compulsory licensing to allow time to multiply and distribute propagating material of the variety. If the exemption is granted, it may be allowed for two years from the date rights are granted for the variety.

Varieties used for comparison: 'PPS02-144 A-line', 'PPS01-140 A-line' and '5020'

Summary: 'PPS07-162 A-line' has a longer leaf than '5020'. The leaf margin of 'PPS07-162 A-line' has a lower density of dentations than 'PPS02-144 A-line' and '5020'. 'PPS07-162 A-line' has shallower leaf margin dentations than 'PPS02-144 A-line'. The petiole of 'PPS07-162 A-line' is shorter than in '5020'. 'PPS07-162 A-line' flowers later than 'PPS02-144 A-line' and 'PPS01-140 A-line'. The silique of 'PPS07-162 A-line' is shorter than in 'PPS02-144 A-line' and '5020'. 'PPS07-162 A-line' has a longer beak than 'PPS01-140 A-line' but shorter than 'PPS02-144 A-line' and '5020'. The pedicel of 'PPS07-162 A-line' is shorter than in '5020'. 'PPS07-162 A-line' matures later than the reference varieties.

Description:

PLANT: male sterile inbred line, spring seasonal type, short height at maturity

COTYLEDON: medium width and length

LEAF: medium green, medium number of lobes, rounded margin, low to medium density of shallow to moderately deep dentations, short, narrow, short to medium length petiole

FLOWER PETALS: yellow, short, narrow to medium width

SILIQUE: semi-erect to horizontal attitude, short, medium width, short to medium length beak, short pedicel

SEED: black

AGRONOMIC CHARACTERISTICS: fair to good resistance to lodging

QUALITY CHARACTERISTICS: erucic acid is 0.2% of total fatty acids, oil content is 46.8% of whole dried seed, protein is 27.1% of dried oil free meal, medium glucosinolates (17.6 umol/gm)

DISEASE RESISTANCE: moderately resistant to Blackleg (*Leptosphaeria maculans* asexual stage: *Phoma lingam*) and resistant to White Rust (*Albugo candida*, races 7a & 2v)

Origin and Breeding: 'PPS07-162 A-line' is a male sterile inbred line used in F1 hybrid production, that contains the Ms8 gene construct in heterozygous state. It was selected in 2005 and 2006 on the basis of male sterility stability, expression of tolerance to glufosinate ammonium herbicide and good combining ability. Other selection criteria included height, vigour, maturity, blackleg resistance, oil content, fatty acid profile and glucosinolate content.

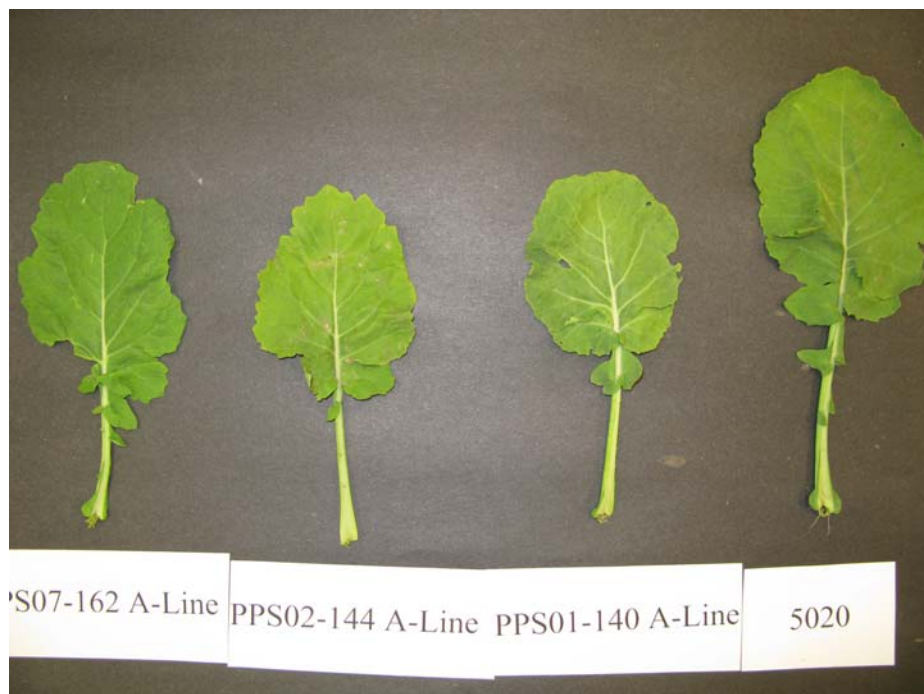
Tests and Trials: Tests and trials were conducted during the summers of 2007 and 2008 in Saskatoon, Saskatchewan. Plots consisted of 3 rows, with a row length of 6 metres and a row spacing of 40 cm. There were 2 replicates arranged in a RCB design.

Comparison table for 'PPS07-162 A-line'

	'PPS07-162 A-line'	'PPS02-144 A-line**	'PPS01-140 A-line**	'5020**
<i>Leaf length (mm)</i>				
mean (LSD=41)	175	180	174	259
std. deviation	22	22	21	27
<i>Petiole length (mm)</i>				
mean (LSD=23)	94	85	94	130
std. deviation	16	16	17	18
<i>Days to flowering</i>				
mean	47.5	43.5	47.0	41.5
<i>Silique length (mm)</i>				
mean (LSD=6.4)	45.0	58.9	50.5	63.4
std. deviation	4.5	7.0	4.9	5.7
<i>Beak length (mm)</i>				
mean (LSD=1.8)	10.2	12.6	6.9	12.8
std. deviation	1.3	1.6	1.4	1.6
<i>Pediceal length (mm)</i>				
mean (LSD=3.5)	14.0	15.9	12.3	18.9
std. deviation	2.1	2.2	1.8	2.1
<i>Days to maturity</i>				
mean	103	95	95	89

Means are based on a two year average of 60 plant parts for leaf, petiole, silique, beak and pedicel characteristics. Differences are significant at the 2% probability level based on LSD values.

*reference varieties



Canola: 'PPS07-162 A-Line' (left) with reference varieties 'PPS02-144 A-Line' (centre left), 'PPS01-140 A-Line' (centre right) and '5020' (right)

Proposed denomination: 'PPS07-162 B-line'
Application number: 08-6405
Application date: 2008/07/14
Applicant: Bayer CropScience Inc., Saskatoon, Saskatchewan
Breeder: Hieronim Polewicz, Bayer CropScience Inc., Saskatoon, Saskatchewan

Note: The applicant has requested an exemption from compulsory licensing to allow time to multiply and distribute propagating material of the variety. If the exemption is granted, it may be allowed for two years from the date rights are granted for the variety.

Varieties used for comparison: 'PPS02-144 B-line', 'PPS01-140 B-line' and '5020'

Summary: 'PPS07-162 B-line' has a smaller cotyledon than 'PPS02-144 B-line'. The leaf of 'PPS07-162 B-line' is smaller than in '5020'. 'PPS07-162 B-line' flowers later than 'PPS02-144 B-line' and '5020'. The silique of 'PPS07-162 B-line' is shorter than the reference varieties. 'PPS07-162 B-line' has a longer beak than 'PPS01-140 B-line' but shorter than 'PPS02-144 B-line' and '5020'. The maturity of 'PPS07-162 B-line' is later than the reference varieties.

Description:

PLANT: open pollinated, spring seasonal type, short height at maturity

COTYLEDON: medium width, medium to long length

LEAF: medium green, medium number of lobes, rounded margin, low density of shallow dentations, short, narrow to medium width, short to medium length petiole

FLOWER PETALS: yellow, medium length, wide

SILIQUE: semi-erect attitude, short, medium width, medium length beak and pedicel

SEED: black

AGRONOMIC CHARACTERISTICS: fair to good resistance to lodging

QUALITY CHARACTERISTICS: erucic acid is 0.03% of total fatty acids, oil content is 47.2% of whole dried seed, protein is 26.2% of dried oil free meal, low glucosinolates (14.5 umol/gm)

HERBICIDE RESISTANCE: susceptible to glufosinate ammonium herbicides

DISEASE RESISTANCE: moderately resistant to Blackleg (*Leptosphaeria maculans* asexual stage: *Phoma lingam*) and resistant to White Rust (*Albugo candida*, races 7a & 2v)

Origin and Breeding: 'PPS07-162 B-line' is a male fertile maintainer line of 'PPS07-162 A-line'. 'PPS07-162 B-line' is a doubled haploid line that was produced in Canada in 2003. 'PPS07-162 B-line' was selected in 2004 and 2005 on the basis of height, vigour, maturity, blackleg resistance, oil content, fatty acid profile and glucosinolate content.

Tests and Trials: Tests and trials were conducted during the summers of 2007 and 2008 in Saskatoon, Saskatchewan. Plots consisted of 3 rows, with a row length of 6 metres and a row spacing of 40 cm. There were 2 replicates arranged in a RCB design.

Comparison table for 'PPS07-162 B-line'

	'PPS07-162 B-line'	'PPS02-144 B line**'	'PPS01-140 B-line**'	'5020'*'
Cotyledon width (mm)				
mean (LSD=4.7)	27.1	32.1	26.3	27.6
std. deviation	2.0	3.0	1.7	3.1

Cotyledon length (mm)

mean (LSD=3.2)	14.8	18.7	14.1	15.9
std. deviation	1.5	1.8	1.0	1.5

Leaf length (mm)

mean (LSD=41)	191	186	195	259
std. deviation	27	25	25	27

Leaf width (mm)

mean (LSD=26)	87	96	88	117
std. deviation	18	13	12	20

Days to flowering

mean	46.0	42.0	44.0	41.5
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Silique length (mm)

mean (LSD=6.4)	45.0	58.9	52.2	63.4
std. deviation	3.3	5.5	4.8	5.7

Beak length (mm)

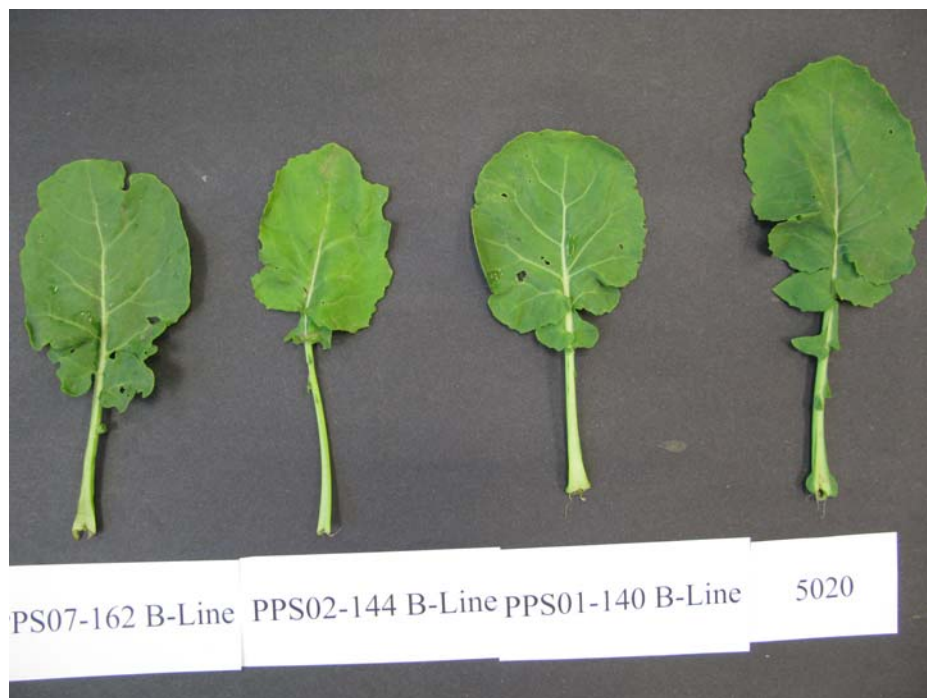
mean (LSD=1.8)	10.7	13.3	7.7	12.8
std. deviation	1.5	1.4	1.2	1.6

Days to maturity

mean	98.0	89.0	89.0	89.0
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Means are based on a two year average of 20 plant parts for cotyledon characteristics, 60 leaf, plant parts for silique, beak and pedicel characteristics. Differences are significant at the 2% probability level based on LSD values.

*reference varieties



Canola: 'PPS07-162 B-Line' (left) with reference varieties 'PPS02-144 B-Line' (centre left), 'PPS01-140 B-Line' (centre right) and '5020' (right)

Proposed denomination: 'PPS07-287'
Application number: 08-6406
Application date: 2008/07/14
Applicant: Bayer CropScience Inc., Saskatoon, Saskatchewan
Breeder: Hieronim Polewicz, Bayer CropScience Inc., Saskatoon, Saskatchewan

Note: The applicant has requested an exemption from compulsory licensing to allow time to multiply and distribute propagating material of the variety. If the exemption is granted, it may be allowed for two years from the date rights are granted for the variety.

Varieties used for comparison: 'PPS98-274', 'PPS02-364' and '5030'

Summary: 'PPS07-287' has a different leaf colour than 'PPS98-274'. The leaf margin dentations of 'PPS07-287' are not as dense and are shallower than in 'PPS98-274'. 'PPS07-287' has a shorter petiole than '5030'. 'PPS07-287' flowers later than 'PPS02-364' and '5030'. The pedicel of 'PPS07-287' is longer than in 'PPS02-364'.

Description:

PLANT: male fertile restorer line, spring seasonal type, medium to tall height at maturity

COTYLEDON: medium width, medium to long length

LEAF: dark green, medium to many lobes, rounded margin, medium density of shallow to medium depth dentations, short to medium length, medium width, short to medium length petiole

FLOWER PETALS: yellow, medium length and width

SILIQUE: erect to semi-erect attitude, medium to long length, narrow to medium width, medium to long beak, long to very long pedicel

SEED: black

AGRONOMIC CHARACTERISTICS: good resistance to lodging

QUALITY CHARACTERISTICS: erucic acid is 0.015% of total fatty acids, oil content is 49.1% of whole dried seed, protein is 25.7% of dried oil free meal, low glucosinolates (13.87 $\mu\text{mol/gm}$)

HERBICIDE RESISTANCE: tolerant to glufosinate ammonium herbicides

DISEASE RESISTANCE: resistant to Blackleg (*Leptosphaeria maculans* asexual stage: *Phoma lingam*) and resistant to White Rust (*Albugo candida*, races 7a & 2v)

Origin and Breeding: 'PPS07-287' is a restorer line in the process of F1 hybrid production. It was derived as a doubled haploid containing the Rf3 gene in homozygous state. The initial cross occurred in 1996 in Canada with the double haploid extraction occurring in 1996/1997. 'PPS07-287' was selected in 2005 and 2006 on the basis of fertility restoration and expression of tolerance to glufosinate ammonium herbicides. Other selection criteria included height, vigour, maturity, blackleg resistance, oil content, fatty acid profile, glucosinolate content and combining ability.

Tests and Trials: Tests and trials were conducted during the summers of 2007 and 2008 in Saskatoon, Saskatchewan. Plots consisted of 3 rows, with a row length of 6 metres and a row spacing of 40 cm. There were 2 replicates arranged in a RCB design.

Comparison table for 'PPS07-287'

	'PPS07-287'	'PPS98-274'*	'PPS02-364'*	'5030'*
Days to flowering mean	47.5	46.7	42.0	44.8

Petiole length (mm)

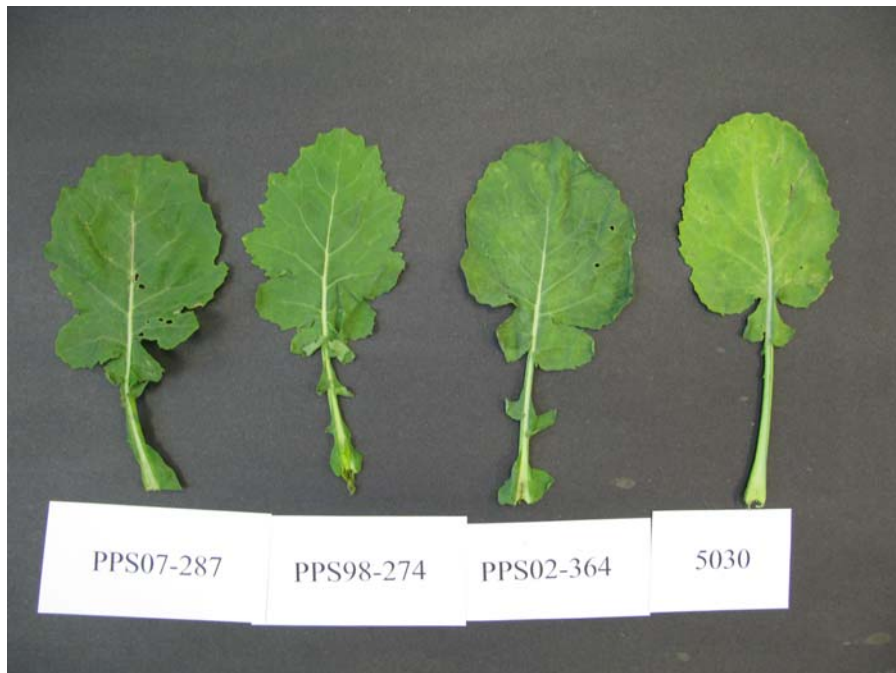
mean (LSD=23)	107	115	103	136
std. deviation	22	21	20	19

Pedicle length (mm)

mean (LSD=3.5)	23.6	21.9	17.5	20.5
std. deviation	2.7	2.4	2.0	1.8

Means are based on a two year average of 60 plant parts for petiole and pedicle characteristics. Differences are significant at the 2% probability level based on LSD values.

*reference varieties



Canola: 'PPS07-287' (left) with reference varieties 'PPS98-274' (centre left), 'PPS02-364' (centre right) and '5030' (right)

Proposed denomination: 'PPS07-288'
Application number: 08-6407
Application date: 2008/07/14
Applicant: Bayer CropScience Inc., Saskatoon, Saskatchewan
Breeder: Hieronim Polewicz, Bayer CropScience Inc., Saskatoon, Saskatchewan

Note: The applicant has requested an exemption from compulsory licensing to allow time to multiply and distribute propagating material of the variety. If the exemption is granted, it may be allowed for two years from the date rights are granted for the variety.

Varieties used for comparison: 'PPS98-274', 'PPS02-364' and '5030'

Summary: *The petiole of 'PPS07-288' is shorter than in '5030'. 'PPS07-288' flowers later than 'PPS02-364'. The flower petal of 'PPS07-288' is shorter than in 'PPS98-274'. 'PPS07-288' has a shorter plant height at maturity than 'PPS98-274' and '5030'. The silique of 'PPS07-288' is longer than in 'PPS02-364' and '5030'. 'PPS07-288' has a shorter beak than 'PPS02-364'.*

Description:

PLANT: low linolenic male fertile restorer line, spring seasonal type, short to medium height at maturity

COTYLEDON: medium width and length

LEAF: medium green, medium number of lobes, sharp margin, medium to dense density of medium depth dentations, short to medium length, medium to wide width, short petiole

FLOWER PETALS: yellow, short to medium length, narrow

SILIQUE: horizontal attitude, long to very long, narrow to medium width, medium length beak, medium to long pedicel

SEED: black

AGRONOMIC CHARACTERISTICS: fair to good resistance to lodging

QUALITY CHARACTERISTICS: erucic acid is 0.005% of total fatty acids, oil content is 47.6% of whole dried seed, protein is 24.6% of dried oil free meal, low glucosinolates (11.39 $\mu\text{mol/gm}$)

HERBICIDE RESISTANCE: tolerant to glufosinate ammonium herbicides

DISEASE RESISTANCE: resistant to Blackleg (*Leptosphaeria maculans* asexual stage: *Phoma lingam*) and resistant to White Rust (*Albugo candida*, races 7a & 2v)

Origin and Breeding: 'PPS07-288' is a low linolenic restorer line in the process of F1 hybrid production. It was derived as a doubled haploid containing the Rf3 gene in homozygous state. The initial cross occurred in 2004 in Canada with the double haploid extraction occurring in 2004/2005. 'PPS07-288' was selected in 2006 and 2007 on the basis of fertility restoration and expression of tolerance to glufosinate ammonium herbicides. Other selection criteria included linolenic acid content, height, vigour, maturity, blackleg resistance, oil content, fatty acid profile, glucosinolate content and combining ability.

Tests and Trials: Tests and trials were conducted during the summers of 2007 and 2008 in Saskatoon, Saskatchewan. Plots consisted of 3 rows, with a row length of 6 metres and a row spacing of 40 cm. There were 2 replicates arranged in a RCB design.

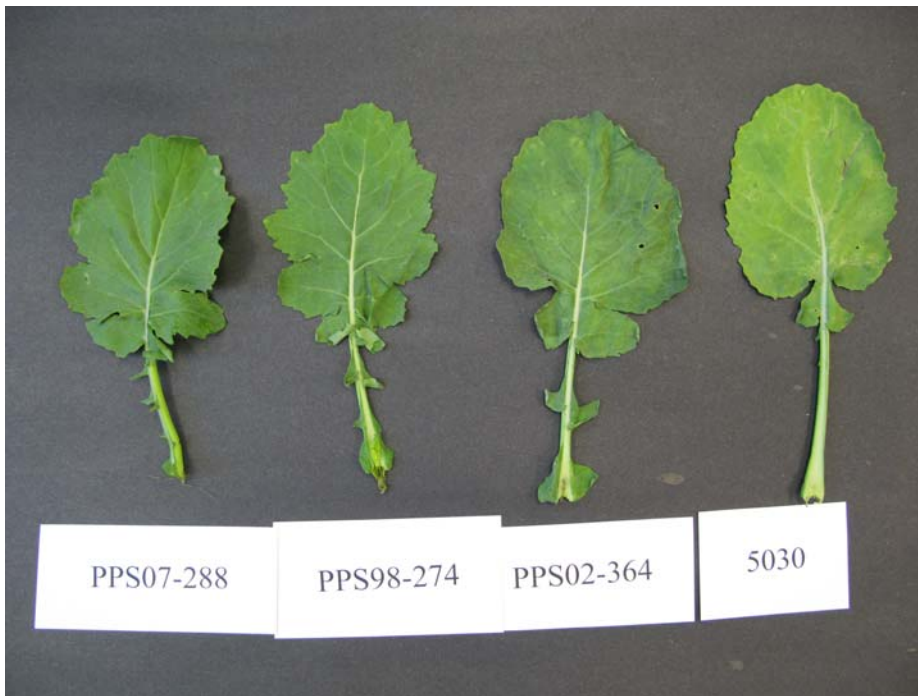
Comparison table for 'PPS07-288'

	'PPS07-288'	'PPS98-274'*	'PPS02-364'*	'5030'*
<i>Days to flowering</i>				
mean	44.8	46.7	42.0	44.8
<i>Flower petal length (mm)</i>				
mean (LSD=1.3)	13.4	14.8	14.2	14.6
std. deviation	1.0	0.9	0.9	0.8
<i>Petiole length (mm)</i>				
mean (LSD=23)	101	115	103	136
std. deviation	16	21	20	19
<i>Silique length (mm)</i>				
mean (LSD=6.4)	67.1	62.6	58.7	60.5
std. deviation	5.9	4.2	5.2	5.2
<i>Beak length (mm)</i>				
mean (LSD=1.8)	10.2	11.8	12.0	10.7
std. deviation	1.7	1.3	1.4	1.0
<i>Plant height at maturity (cm)</i>				
mean (LSD=15)	117.5	132.0	112.5	138
std. deviation	6.3	7.4	5.3	8.9

Means are based on a two year average of 60 plant parts for flower, petiole, silique, and beak characteristics. Differences are

significant at the 2% probability level based on LSD values.

*reference varieties



Canola: 'PPS07-288' (left) with reference varieties 'PPS98-274' (centre left), 'PPS02-364' (centre right) and '5030' (right)

Proposed denomination: 'PPS07-289'
Application number: 08-6408
Application date: 2008/07/14
Applicant: Bayer CropScience Inc., Saskatoon, Saskatchewan
Breeder: Hieronim Polewicz, Bayer CropScience Inc., Saskatoon, Saskatchewan

Note: The applicant has requested an exemption from compulsory licensing to allow time to multiply and distribute propagating material of the variety. If the exemption is granted, it may be allowed for two years from the date rights are granted for the variety.

Varieties used for comparison: 'PPS98-274', 'PPS02-364' and '5030'

Summary: 'PPS07-289' flowers later than 'PPS98-274', 'PPS02-364' and '5030'. The plant height at maturity of 'PPS07-289' is shorter than in 'PPS98-274' and '5030'. 'PPS07-289' has a shorter leaf than 'PPS98-274' and shorter and narrower leaf than '5030'. The petiole of 'PPS07-289' is shorter than the reference varieties. 'PPS07-289' has a shorter silique than the reference varieties. The beak of 'PPS07-289' is shorter than in 'PPS98-274', 'PPS02-364' and '5030'. 'PPS07-289' has a shorter pedicel than 'PPS98-274' and '5030'. 'PPS07-289' matures later than the reference varieties.

Description:

PLANT: low linolenic male fertile restorer line, spring seasonal type, short height at maturity

COTYLEDON: narrow to medium width and length

LEAF: medium green, few lobes, rounded margin, low to medium density of shallow dentations, short, narrow, very short to short petiole

FLOWER PETALS: yellow, short to medium length, medium width

SILIQUE: semi-erect attitude, short, medium width, short to medium length beak, short pedicel

SEED: black

AGRONOMIC CHARACTERISTICS: good resistance to lodging

QUALITY CHARACTERISTICS: erucic acid is 0.005% of total fatty acids, oil content is 46.4% of whole dried seed, protein is 26.1% of dried oil free meal, medium glucosinolates (16.46 $\mu\text{mol/gm}$)

HERBICIDE RESISTANCE: tolerant to glufosinate ammonium herbicides

DISEASE RESISTANCE: resistant to Blackleg (*Leptosphaeria maculans* asexual stage: *Phoma lingam*) and resistant to White Rust (*Albugo candida*, races 7a & 2v)

Origin and Breeding: 'PPS07-289' is a low linolenic restorer line in the process of F1 hybrid production. It was derived as a doubled haploid containing the Rf3 gene in homozygous state. The initial cross occurred in 2004 in Canada with the double haploid extraction occurring in 2004/2005. 'PPS07-289' was selected in 2006 and 2007 on the basis of fertility restoration and expression of tolerance to glufosinate ammonium herbicides. Other selection criteria included linolenic acid content, height, vigour, maturity, blackleg resistance, oil content, fatty acid profile, glucosinolate content and combining ability.

Tests and Trials: Tests and trials were conducted during the summers of 2007 and 2008 in Saskatoon, Saskatchewan. Plots consisted of 3 rows, with a row length of 6 metres and a row spacing of 40 cm. There were 2 replicates arranged in a RCB design.

Comparison table for 'PPS07-289'

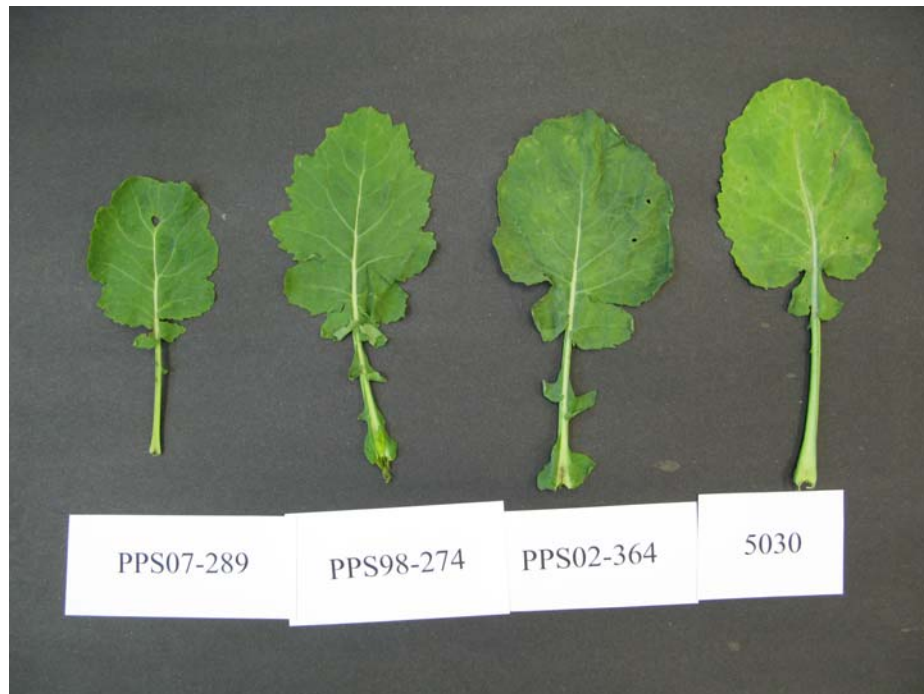
	'PPS07-289'	'PPS98-274'*	'PPS02-364'*	'5030'*
<i>Days to flowering</i>				
mean	50.5	46.7	42.0	44.8
<i>Leaf length (mm)</i>				
mean (LSD=41)	160.5	218.5	201.0	238.5
std. deviation	22	31	20	26
<i>Leaf width (mm)</i>				
mean (LSD=26)	81.0	105.0	102.5	109.0
std. deviation	11	14	13	14
<i>Petiole length (mm)</i>				
mean (LSD=23)	74.0	115.0	103.0	136.0
std. deviation	16	21	20	19
<i>Silique length (mm)</i>				
mean (LSD=6.4)	43.8	62.6	58.7	60.5
std. deviation	3.3	4.2	5.2	5.2
<i>Beak length (mm)</i>				
mean (LSD=1.8)	9.0	11.8	12.0	10.7
std. deviation	0.9	1.3	1.4	1.0
<i>Pedicel length (mm)</i>				
mean (LSD=3.5)	15.4	21.9	17.5	20.5
std. deviation	2.3	2.4	2.0	1.8
<i>Plant height at maturity (cm)</i>				
mean (LSD=15)	108.0	132.0	113.0	138.0
std. deviation	7.2	7.4	5.3	8.9

Days to maturity

mean	99.0	92.0	89.0	91.0
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Means are based on a two year average of 60 plant parts for leaf, petiole, silique, beak and pedicel characteristics. Differences are significant at the 2% probability level based on LSD values.

*reference varieties



Canola: 'PPS07-289' (left) with reference varieties 'PPS98-274' (centre left), 'PPS02-364' (centre right) and '5030' (right)
