LENTIL
(Lens culinaris)

Proposed denomination: **'CDC 6956'**
Application number: 21-10603
Application date: 2021/06/28
Applicant: Saskatchewan Pulse Growers, Saskatoon, Saskatchewan
Breeder: Albert Vandenberg, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'CDC Maxim' and 'CDC Simmie'

Summary: *The anthocyanin colouration on the stem of 'CDC 6956' ranges between a weak to medium and medium intensity while the anthocyanin colouration on the stem of 'CDC Maxim' is of a strong intensity and that of 'CDC Simmie' ranges between a medium to strong and strong intensity. The plants of 'CDC 6956' flower later than those of 'CDC Maxim'. At flowering, the plants of 'CDC 6956' are taller than those of the reference varieties. The plants of 'CDC 6956' mature later than those of 'CDC Simmie'. The dry seed weight of 'CDC 6956' is greater than those of the reference varieties. The seed of 'CDC 6956' has a broad elliptical profile in longitudinal cross section while the seed of 'CDC Simmie' has an elliptical profile in longitudinal cross section.*

Description:
COTYLEDON: orange

PLANT: flowers mid-season, matures mid-season

STEM: anthocyanin colouration ranging between weak to medium and medium intensity

LEAF: elliptic, medium length and width, medium number of pairs of leaflets

FLOWER: medium size, white standard with weak violet stripes, violet stripes absent on wings

POD: mainly two ovules, yellow at maturity, medium length, truncate shaped apex
DRY SEED: narrow, broad elliptic profile in longitudinal cross section, grey testa with no patterning, dull brown hilum

USE: human consumption

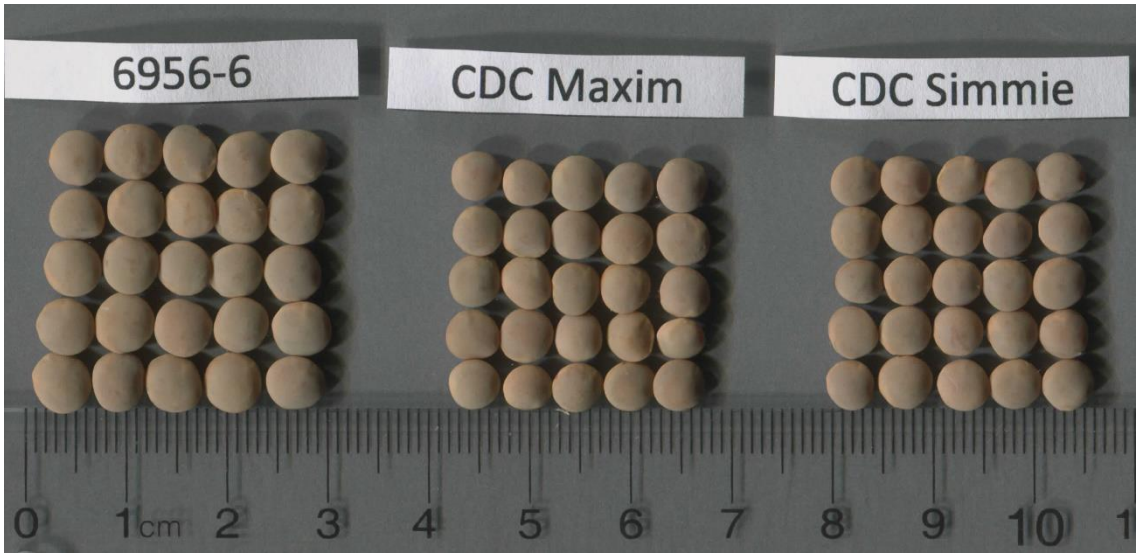
Origin and Breeding: 'CDC 6956' (experimental designation 6956-6) originated from the cross between 5319-1 and IBC1122-1 conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan in 2014. A single plant selection was made from the F2 generation with further selections made at the F3 generation based on yield, seed weight, seed size which includes diameter and plumpness, seed coat colour, cotyledon colour, days to flower, days to maturity, lodging resistance, plant height and disease resistance. Seed from fifty F9 sub-lines was bulked to establish breeder seed in 2021.

Tests and Trials: The comparative trials for 'CDC 6956' were conducted at the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan in 2021 and 2022. The trials were conducted using 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 94 seeds per square metre. Measured characteristics were based on 20 measurements per variety per year except for seed weight which was based on a minimum of 8 measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Comparison table for 'CDC 6956'

	'CDC 6956'	'CDC Maxim'*	'CDC Simmie'*
Days to flower (from planting to when 50% of the plants have one open flower)			
mean (2021)	62	60	60.5
mean (2022)	59	57	56
Plant height (from ground to tip of extended foliage) (cm)			
mean (2021) (LSD=1.2)	33.0	30.1	28.9
std. deviation (2021)	2.8	2.8	2.4
mean (2022) (LSD=1.8)	38.7	33.9	34.3
std. deviation (2022)	2.7	3.1	1.9
Days to maturity (from planting to when 90% of the pods are golden brown)			
mean (2021)	88.5	86.5	84
mean (2022)	98	97.5	96
Seed weight (grams per 100 seeds) (g)			
mean (2021) (LSD=0.14)	5.38	4.55	4.17
std. deviation (2021)	0.1	0.03	0.1
mean (2022) (LSD=0.08)	4.97	3.98	3.95
std. deviation (2022)	0.2	0.2	0.1

*reference varieties



Lentil: 'CDC 6956' (left) with reference varieties 'CDC Maxim' (centre) and 'CDC Simmie' (right)

Proposed denomination: **'CDC 6964'**
Application number: 21-10604
Application date: 2021/06/28
Applicant: Saskatchewan Pulse Growers, Saskatoon, Saskatchewan
Breeder: Albert Vandenberg, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'CDC Imvincible' and 'CDC Jimini'

Summary: *The plants of 'CDC 6964' mature later than those of the reference varieties. The dry seed weight of 'CDC 6964' is greater than the dry seed weight of 'CDC Imvincible' and less than that of 'CDC Jimini'. The seed of 'CDC 6964' has an elliptical profile in longitudinal cross section while the seed of 'CDC Jimini' has a broad elliptical profile in longitudinal cross section. The seed of 'CDC 6964' has no patterning of the testa while 20% of the seed of 'CDC Imvincible' and 13% of the seed of 'CDC Jimini' has a spotted grey pattern on the testa.*

Description:
COTYLEDON: yellow

PLANT: flowers mid-season, matures mid-season

STEM: anthocyanin colouration ranging between medium to strong and strong intensity

LEAF: elliptic, medium length and width, medium number of pairs of leaflets

FLOWER: ranging between small to medium and medium sized, white standard with weak violet stripes, violet stripes absent on wings

POD: mainly two ovules, yellow at maturity, medium length, truncate shaped apex
DRY SEED: narrow, elliptic profile in longitudinal cross section, yellowish green testa with no patterning, dull brown hilum

USE: human consumption

Origin and Breeding: 'CDC 6964' (experimental designation 6964-6) originated from the cross between 5372-43 and IBC1126-2 conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan in 2014. A single plant selection was made from the F2 generation with further selections made at the F3 generation based on yield, seed weight, seed size which includes diameter and plumpness, seed coat colour, cotyledon colour, days to flower, days to maturity, lodging resistance, plant height and disease resistance. Seed from fifty F9 sub-lines was bulked to establish breeder seed in 2021.

Tests and Trials: The comparative trials for 'CDC 6964' were conducted at the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan in 2021 and 2022. The trials were conducted using 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 94 seeds per square metre. Measured characteristics were based on 20 measurements per variety per year except for seed weight which was based on a minimum of 8 measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Comparison table for 'CDC 6964'

	'CDC 6964'	**'CDC Imvincible'***	**'CDC Jimini'***
Days to maturity (from planting to when 90% of the pods are golden brown)			
mean (2021)	90	88	87.5
mean (2022)	97.5	94.5	93.5
Seed weight (grams per 100 seeds) (g)			
mean (2021) (LSD=0.15)	3.96	3.60	4.18
std. deviation (2021)	0.1	0.1	0.1
mean (2022) (LSD=0.12)	3.54	3.39	4.01
std. deviation (2022)	0.1	0.04	0.04

*reference varieties

Lentil: 'CDC 6964' (left) with reference varieties 'CDC Imvincible' (centre) and 'CDC Jimini' (right)

Proposed denomination: **'CDC 7026'**
Application number: 21-10607
Application date: 2021/06/28
Applicant: Saskatchewan Pulse Growers, Saskatoon, Saskatchewan
Breeder: Albert Vandenberg, University of Saskatchewan, Saskatoon, Saskatchewan

Variety used for comparison: 'CDC SB-4'

Summary: *The plants of 'CDC 7026' mature earlier than those of 'CDC SB-4'. The dry seed weight of 'CDC 7026' is less than the dry seed weight of 'CDC SB-4'.*

Description:
COTYLEDON: yellow

PLANT: flowers mid-season, matures early to early mid-season

STEM: anthocyanin colouration ranging between medium to strong and strong intensity

LEAF: elliptic, medium to long, medium width, medium number of pairs of leaflets

FLOWER: ranging between small to medium and medium sized, purple standard with weak violet stripes, violet stripes absent on wings

POD: mainly two ovules, yellow at maturity, medium length, truncate shaped apex
DRY SEED: narrow, broad elliptic profile in longitudinal cross section, grey testa with spotted grey patterning, dull brown hilum

USE: human consumption

Origin and Breeding: 'CDC 7026' (experimental designation 7026-13Y) originated from the cross between 5030-6 and IBC1226-2 conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan in 2014. A single plant selection was made from the F2 generation with further selections made at the F3 generation based on yield, seed weight, seed size which includes diameter and plumpness, seed coat colour, cotyledon colour, days to flower, days to maturity, lodging resistance, plant height and disease resistance. Seed from 50 F9 sub-lines was bulked to establish breeder seed in 2021.

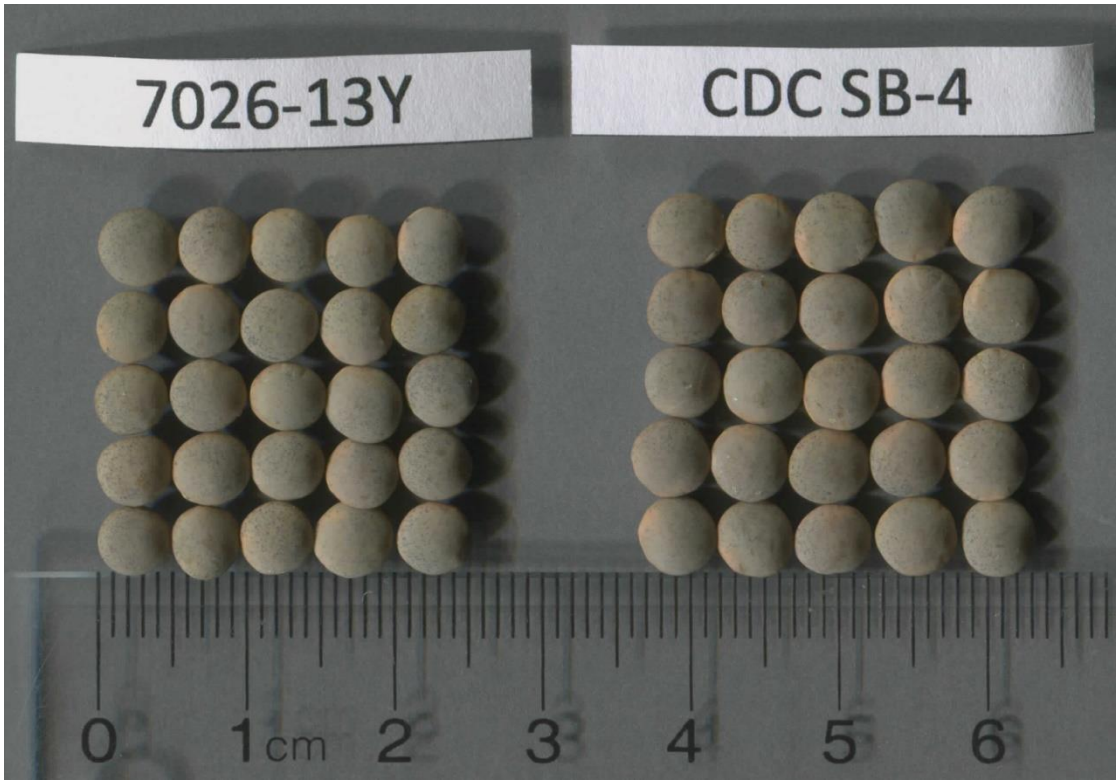
Tests and Trials: The comparative trials for 'CDC 7026' were conducted at the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan in 2021 and 2022. The trials were conducted using a RCB design consisting of 2

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 94 seeds per square metre. Measured characteristics were based on 20 measurements per variety per year except for seed weight which was based on a minimum of 8 measurements per variety per year. Mean differences were significant at the 5% probability level based on LSD values.

Comparison table for 'CDC 7026'

	'CDC 7026'	'CDC SB-4'*
Days to maturity (from planting to when 90% of the pods are golden brown)		
mean (2021)	87	91.5
mean (2022)	94	97
Seed weight (grams per 100 seeds) (g)		
mean (2021) (LSD=0.19)	4.60	4.80
std. deviation (2021)	0.1	0.1
mean (2022) (LSD=0.1)	3.94	4.25
std. deviation (2022)	0.3	0.1

*reference variety



Lentil: 'CDC 7026' (left) with reference variety 'CDC SB-4' (right)