



APPLICATIONS UNDER EXAMINATION

LENTIL

LENTIL
(Lens culinaris)

Proposed denomination: 'CDC Imerald'
Application number: 19-9924
Application date: 2019/05/31
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Breeder: Albert Vandenberg, University of Saskatchewan, Saskatoon, Saskatchewan

Variety used for comparison: 'CDC QG-3'

Summary: *The seed weight of 'CDC Imerald' is greater than that of 'CDC QG-3'.*

Description:

COTYLEDON: green

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

STEM: no anthocyanin colouration

LEAF: elliptic

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

POD: mainly two ovules, yellow at maturity, truncate shaped apex

DRY SEED: medium width, elliptic in longitudinal cross-section, green with no pattern on testa, dull brown hilum

USE: human consumption

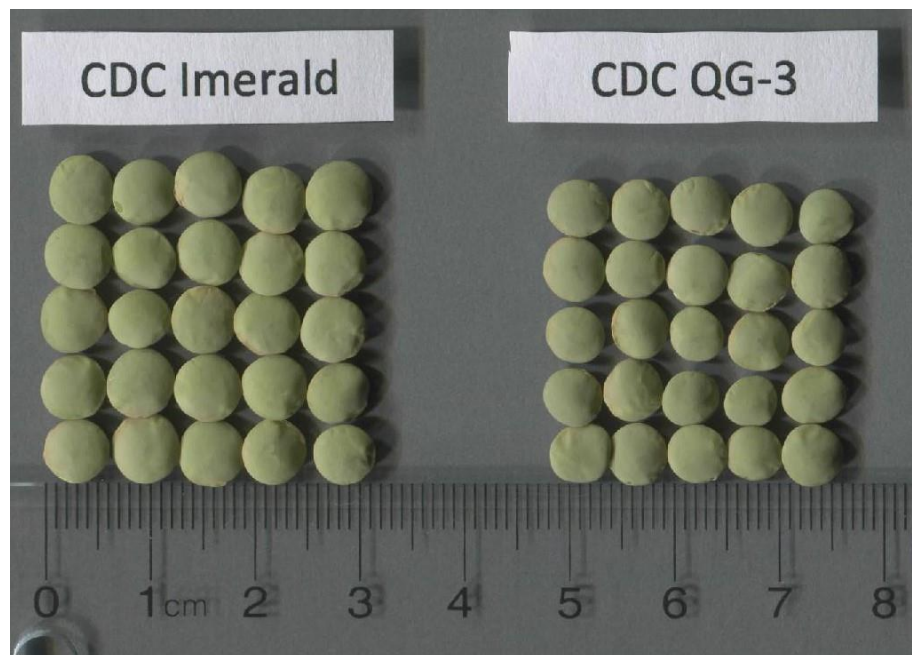
Origin and Breeding: 'CDC Imerald' (experimental designation IBC1267) originated from the cross between 6542 and 'CDC QG-4' with 3 subsequent backcrosses to 6542. Crosses were conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan from 2013 to 2014. During the F1 to F4 generations, selections were made based on yield, seed weight, seed size, seed coat colour, cotyledon colour, days to flower, days to maturity, lodging resistance, plant height and disease resistance. Seed from four F4 sub-lines was bulked to establish breeder seed in 2019.

Tests and Trials: The comparative trials for 'CDC Imerald' were conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan in 2019 and 2021. 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 Imerald'

	'CDC Imerald'	'CDC QG-3'*
<i>Seed weight (grams per 100 seeds)</i>		
mean 2019 (LSD=0.5)	6.01	5.02
std. deviation 2019	0.1	0.1
mean 2021 (LSD=0.5)	6.18	4.86
std. deviation 2021	0.2	0.1

*reference variety



Lentil: 'CDC Imerald' (left) with reference variety 'CDC QG-3' (right)

Proposed denomination: 'CDC Simmie'
Application number: 19-9922
Application date: 2019/05/31
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Breeder: Albert Vandenberg, University of Saskatchewan, Saskatoon, Saskatchewan

Variety used for comparison: 'CDC Maxim'

Summary: *At flowering, anthocyanin colouration is present on the peduncle of 'CDC Simmie' whereas the peduncle of 'CDC Maxim' has no anthocyanin colouration. The seed of 'CDC Simmie' is elliptic in longitudinal cross-section whereas it is broad elliptic for 'CDC Maxim'. The seed weight of 'CDC Simmie' is less than that of 'CDC Maxim'.*

Description:

COTYLEDON: orange

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

STEM: medium intensity of anthocyanin colouration

LEAF: elliptic

PEDUNCLE: anthocyanin colouration present

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

POD: mainly two ovules, yellow at maturity, truncate shaped apex

DRY SEED: narrow, elliptic in longitudinal cross-section, grey with no pattern on testa, dull brown hilum

USE: human consumption

Origin and Breeding: 'CDC Simmie' (experimental designation IBC1235) originated from the cross between 'CDC Coral' and 'CDC Maxim' with 3 subsequent backcrosses to 'CDC Coral'. Crosses were conducted at the Crop Development Centre,

University of Saskatchewan, Saskatoon, Saskatchewan from 2012 to 2013. During the F1 to F4 generations, selections were made based on yield, seed weight, seed size, seed coat colour, cotyledon colour, days to flower, days to maturity, lodging resistance, plant height and disease resistance. Seed from eight F4 sub-lines was bulked to establish breeder seed in 2017.

Tests and Trials: The comparative trials for ‘CDC Simmie’ were conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan in 2019 and 2021. 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 Simmie’

	‘CDC Simmie’	‘CDC Maxim’*
<i>Seed weight (grams per 100 seeds)</i>		
mean 2019 (LSD=0.06)	3.86	4.29
std. deviation 2019	0.1	0.1
mean 2021 (LSD=0.38)	4.17	4.55
std. deviation 2021	0.1	0.03

*reference variety



Lentil: ‘CDC Simmie’ (left) with reference variety ‘CDC Maxim’ (right)

Proposed denomination: ‘CDC Sublime’
Application number: 19-9923
Application date: 2019/05/31
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Breeder: Albert Vandenberg, University of Saskatchewan, Saskatoon, Saskatchewan

Variety used for comparison: ‘CDC KR-2’

Summary: *The seed testa of ‘CDC Sublime’ is yellowish green whereas the seed testa of ‘CDC KR-2’ is grey.*

Description:

COTYLEDON: orange

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

STEM: medium intensity of anthocyanin colouration

LEAF: elliptic

FLOWER: medium size, standard is white with very weak to weak intensity violet stripes, violet stripes absent on wings

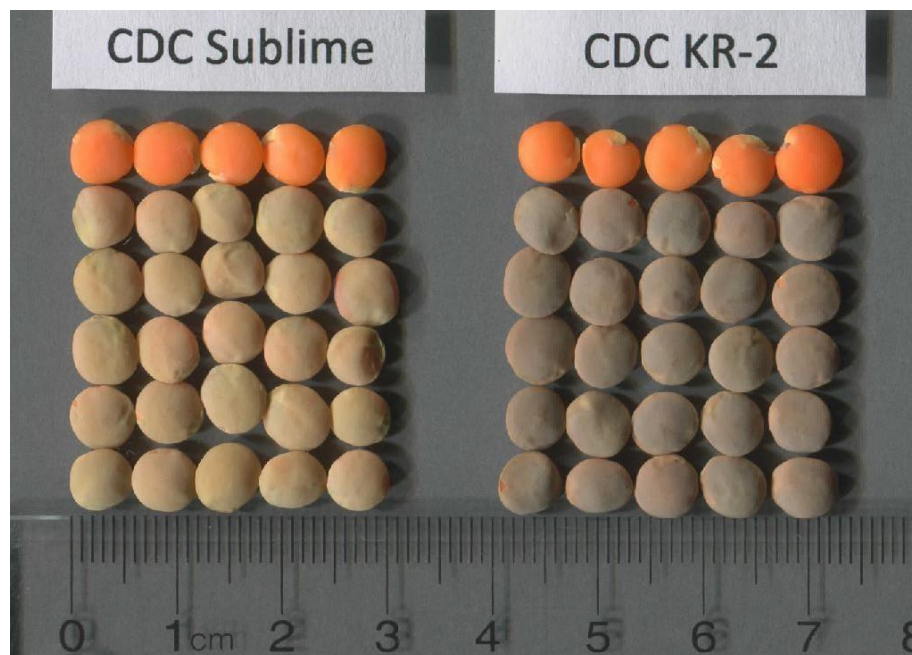
POD: one to two ovules, yellow at maturity, truncate shaped apex

DRY SEED: medium width, broad elliptic in longitudinal cross-section, yellowish green with no pattern on testa, dull brown hilum

USE: human consumption

Origin and Breeding: ‘CDC Sublime’ (experimental designation IBC1264-1) originated from the cross between 6538 and ‘CDC KR-2’ with 3 subsequent backcrosses to 6538. Crosses were conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan from 2013 to 2014. During the F1 to F4 generations, selections were made based on yield, seed weight, seed size, seed coat colour, cotyledon colour, days to flower, days to maturity, lodging resistance, plant height and disease resistance. Seed from nine F4 sub-lines was bulked to establish breeder seed in 2019.

Tests and Trials: The comparative trials for ‘CDC Sublime’ were conducted at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan in 2019 and 2021. 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.



Lentil: ‘CDC Sublime’ (left) with reference variety ‘CDC KR-2’ (right)