

SMALL RED LENTIL: CDC Carmine

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Year released to Select Seed Growers: 2016
Sub-licensed outside of SK: SeCan
International Distribution Rights: FP Genetics

Plant Breeders Rights: Applied

In two years of testing in the Lentil Registration Recommendation Trials in 2011–2012, CDC Carmine yielded 106% of CDC Maxim (Table 1). In the 2013–2015 Lentil Regional Variety Trials, yield was 113% of CDC Maxim (Table 2). In eight years of testing in the co-op and regional trials in Saskatchewan, CDC Carmine yielded 111% of CDC Maxim in the Brown and Dark Brown soil zones, and 106% in the Black and Dark Gray soil zones (Table 5). Seed coat colour, cotyledon colour, flowering time, maturity, plant height, and seed weight are similar to CDC Maxim. Seed diameter is slightly less than that of CDC Maxim but seed thickness is higher, making CDC Carmine more suitable for lentil dehulling. Application for PBR'91 protection for CDC Carmine has been submitted.

Strengths:

- Seed thickness is greater than CDC Maxim
- Consistent high yield compared to CDC Maxim

Neutral:

- Similar agronomic, maturity, and disease resistance characteristics compared to CDC Maxim

Weaknesses:

- Not tolerant to imidazolinone herbicides

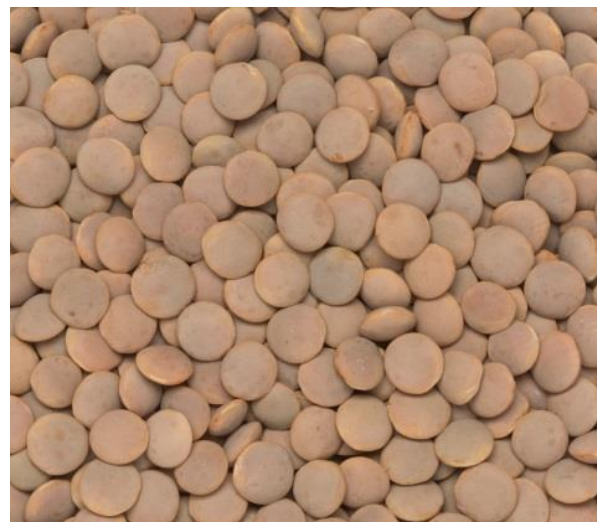


Table 1: Two Year Summary of Agronomic Performance for CDC Carmine vs. CDC Maxim in the 2011-2012 Lentil Registration Recommendation Trial "A" in Western Canada

Variety	Yield		Days to Flower	Days to Mature	Lodging (1-5)	Plant Height (cm)	Seed Weight g/1000
	kg/ha	% of Maxim					
CDC Maxim	2107	100	53	97	2.3	46	39
CDC Carmine	2229	106	56	97	2.0	46	39

Number of sites: 19 11 12 5 10 13

Source: CDC Pulse breeding group, U of S

Table 2: Three Year Summary of Agronomic Performance of CDC Carmine vs. CDC Maxim in the 2013-15 Lentil Regional Variety Trials in Western Canada

Variety	Yield		Days to Flower	Days to Mature	Lodging (1-5)	Plant Height (cm)	Seed Weight g/1000
	kg/ha	% of Maxim					
CDC Maxim	2527	100	55	95	1.6	39	40
CDC Carmine	2847	113	57	98	1.3	41	40

Number of sites: 34 12 11 9 11 12

Source: CDC Pulse breeding group, U of S

Table 3: Two Year Disease Summary for CDC Carmine vs. CDC Maxim

Variety	Ascochyta Blight (%)		Anthracnose Race 1*			
	2011 Indoor Test	2012 Indoor Test	2011 (0 – 5) Indoor Test	2012 Indoor Testing (0 – 10)		2012 Field (0 – 5)
				Test 1	Test 2	
CDC Maxim	6.4	40.0	4.7	3.9	4.1	3.0
CDC Carmine	9.5	30.0	4.3	3.6	4.1	2.8

Source: CDC Pulse breeding group, U of S

* Anthracnose rating: where 0 = no disease

Table 4: Agronomic Performance for CDC Carmine from Co-op and Regional Trials in Saskatchewan – Adapted from Varieties of Grain Crops 2019

Variety	Herbicide Tolerance	Year of Release	Years Tested	Yield % of CDC Maxim		Disease Resistance		Days to Flower	Height (cm)	Maturity rating	Seed Weight (g/1000)
				Area 1-2*	Area 3-4*	Ascochyta	Anthracnose (race 1)				
CDC Maxim	CL	2007	12	100	100	G	G	51	34	Early-mid	40
CDC Impulse	CL	2014	9	108	95	G	G	52	37	Early-mid	44
CDC Proclaim	CL	2014	8	105	102	G	G	51	34	Early-mid	40
CDC Nimble	CL	2019	5	108	108	G	G	52	35	Early-mid	38
CDC Redmoon	No	2015	8	114	106	G	G	52	33	Early-mid	41
CDC Coral	No	2016	5	110	106	G	G	55	33	Early-mid	37
CDC Carmine	No	2016	8	111	106	G	G	54	34	Early-mid	40

Source: Varieties of Grain Crops 2019 (2019 SaskSeed Guide)

*Area 1: Brown soil zone; Area 2: Dark Brown; Area 3: Black; Area 4: Dark Gray

Figure 1. Direct comparison of CDC Carmine and CDC Maxim

