SMALL RED LENTIL: CDC Coral

Breeder: Dr. Albert Vandenberg Crop Development Centre University of Saskatchewan Saskatoon, SK.	**Year released to Select Seed Growers:** 2016 **Sub-licensed outside of SK**: SeCan **International Distribution Rights:** FP Genetics	**Plant Breeders Rights**: Applied

CDC Coral was tested for two years in the Lentil Registration Recommendation Trial "A" in 2012-2013. In these trials, CDC Coral yielded 110% of CDC Maxim (Table 1). In five years of testing in the co-op and regional trials in Saskatchewan (Table 4), CDC Coral yielded 110% of CDC Maxim in the Brown and Dark Brown soil zones and 106% in the Black and Dark Gray soil zones. Seed coat colour and cotyledon colour of CDC Coral are similar to that of CDC Maxim. The disease resistance profile is similar to that of CDC Maxim. Lodging scores for CDC Coral are improved compared to CDC Maxim (Table 2), and flowering is delayed by two days compared to CDC Maxim. Seed diametre and seed thickness were slightly less than that of CDC Maxim, but still acceptable for the small red lentil market class (Table 3). Application for PBR'91 protection for CDC Coral has been submitted.

Strengths:

- High yield compared CDC Maxim
- Improved lodging score compared to CDC Maxim

Neutral:

- Similar maturity and disease resistance characteristics compared to CDC Maxim
- Later flowering than CDC Maxim
- Seed appearance similar to CDC Maxim
- Seed diameter and thickness slightly less than CDC Maxim

Weaknesses:

- Not tolerant to imidazolinone herbicides.

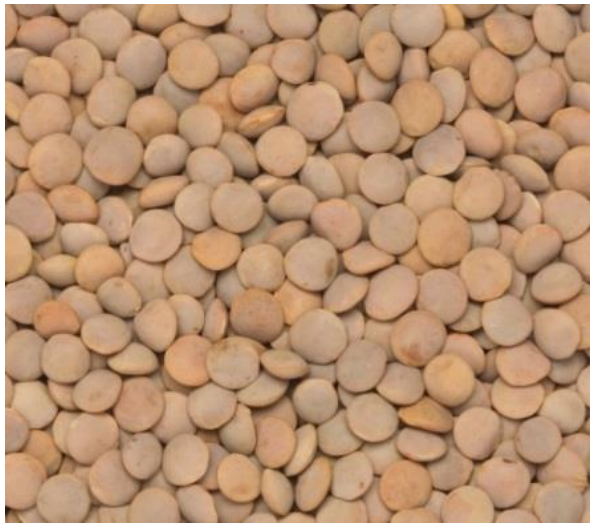

Table 1: Two Year Summary of Agronomic Performance for CDC Coral in the 2012-2013 Lentil Registration Recommendation Trial "A" in Western Canada

Variety	Yield		Days to Flower	Days to Mature	Lodging (1-5)	Plant Height (cm)	Seed Weight g/1000
	kg/ha	% of Maxim					
CDC Maxim	2291	100	58	95	2.6	46	41
CDC Coral	2520	110	62	95	2.3	45	38
Number of sites:	19		11	7	4	9	12

Source: *CDC Pulse breeding group, U of S*

Table 2: Two Year Seed Size Summary for CDC Coral in the 2012-2013 Lentil Registration Recommendation Trial "A" in Western Canada (4 sites)

Market Class	Variety	% Seed Over: Round hole screen						% Seed Over: Slotted screen					
		5.6 mm **>14/64**	5.2 mm **>13/64**	4.8 mm **>12/64**	4.4 mm **>11/64**	4.0 mm **>10/64**	3.6 mm **>9/64**	3.0 mm **>7.5/64**	2.8 mm **>7.0/64**	2.6 mm **>6.5/64**	2.4 mm **>6.0/64**	2.2 mm **>5.5/65**	2.0 mm **>5.0/64**
SR	CDC Maxim	1	22	52	21	3	0	1	5	25	49	18	2
ESR	CDC Rosetown	0	0	10	54	30	5	0	0	1	18	60	21
SR	CDC Coral	0	6	38	42	13	2	0	3	19	50	26	2

Source: *CDC Pulse breeding group, U of S*

Market Class*: SR - small red; ESR – extra small red*

Table 3: Two Year Disease Summary for CDC Coral vs. CDC Maxim and CDC Rosetown

Variety	Ascochyta Blight (%)			Anthracnose Race 1*			
	2012	2013 Indoor Testing		2012 (0 – 10)	2013 Indoor Testing (0 – 10)		2013 Field (0 – 5)
	Indoor Test	Test 1	Test 2	Field Test	Test 1	Test 2	
CDC Maxim	40.0	27.5	33.8	3.0	4.1	3.0	2.3
CDC Rosetown	42.5	36.9	38.8	2.5	0.5	0.7	1.5
CDC Coral	**37.5**	**24.4**	**36.9**	**2.3**	**3.6**	**3.0**	**2.3**

Source: *CDC Pulse breeding group, U of S*

** Anthracnose rating: where 0 = no disease*

Table 4: Agronomic Performance for Small Red Lentils from Coop 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

** Coop and Regional trials in Saskatchewan* ***Source****: Varieties of Grain Crops 2019*

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

Figure 1. Direct comparison of seeds of CDC Maxim and CDC Coral