

## MEMORANDUM

**TO:** *Prairie Recommending Committee for Pulse and Special Crops*  
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**DATE:** February 05, 2025

**SUBJECT: Request for Support for Registration of Large Green Lentil Line CDC23.05**

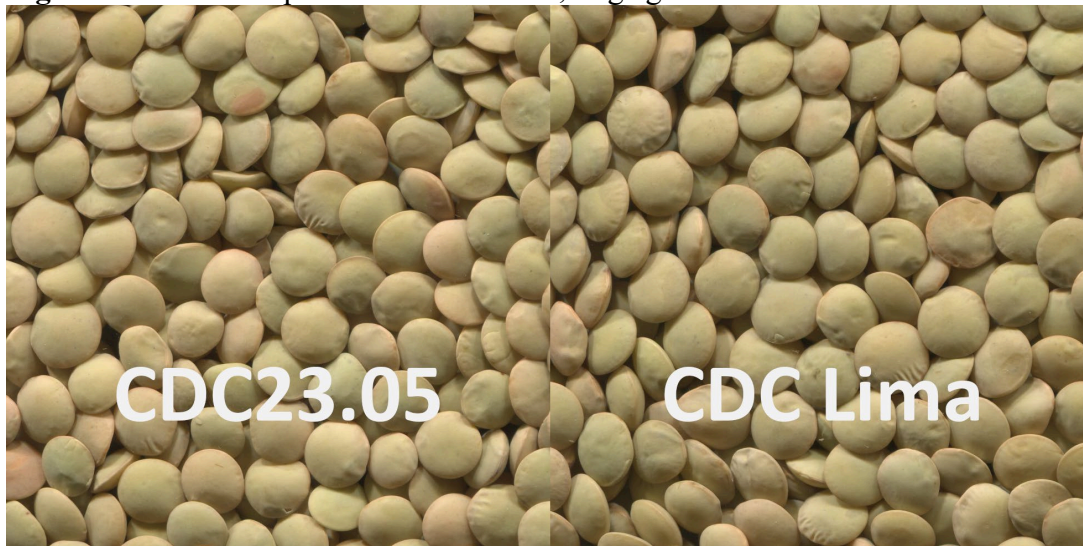
Lentil line CDC23.05 was tested for two years in the Lentil Registration Recommendation Trial (LRRT) in 2023-24. Two year agronomic and disease performance data summaries in those trials are included in the accompanying Tables 1, 2 and 3. CDC23.05 is tolerant to imidazolinone herbicide. Table 1 (8 site years) indicates the yield of CDC23.05 was 109% of the large green market class check CDC Lima. Cotyledon colour, flowering time, maturity, plant height are similar to CDC Lima. The seed coat of CDC23.05 is green, and has a slightly more intense green color making it more visually appealing than CDC Lima does.

**Strengths:** High yield compared to CDC Lima.  
Better Seed Coat colour score than CDC Lima making it more visually appealing when marketing.  
Tolerant to imidazolinone herbicide.

**Neutral:** Similar agronomic and maturity characteristics compared to CDC Lima.

**Weakness:** No noticeable improvement in disease resistance.

**Figure 1.** Visual comparison of CDC23.05, large green check CDC Lima



**Table 1. Two year summary of agronomic performance data for large green lentil CDC23.05 in the 2023-2024 Lentil RRT in western Canada**

Market class	Line	Yield kg/ha	Yield		Seed weight (g/1000)	Days to flower	Days to mature	Lodging* (1-5)	Plant height (cm)	Seed coat colour score (1-5)	% Seed over							
			% of MC-C	% of Nimble							Round Hole (64th inch)							slotted
			6.0mm >15/64	5.6mm >14/64							5.2mm >13/64	4.8mm >12/64	4.4mm >11/64	4.0mm >10/64	3.6mm >9/64	2.6mm >6.5/64		
SR	CDC Nimble	1652	100	100	36	52	84	1.4	40		0	1	9	33	35	17	5	22
LG	CDC Lima	1574	100	95	67	53	86	2.5	38	3.0	29	22	7	3	1	1	1	74
LG	CDC23.05	1711	109	104	59	55	87	2.7	41	3.4	29	26	10	4	2	1	1	49
Mean		1646	103	100	54	53	86	2.2	40	3.2								

[ ] indicates number of sites  
 Market Classes: SR-small red; LG - large green  
 Seed Coat Colour Score: CDC Lima = 3, 1 = more green than CDC Lima and 5 = less green than CDC Lima  
 \*Lodging: no lodging notes taken in 2023 data shown from 2024 season only

**Table 2. Ascochyta blight disease data for large green lentil CDC23.05 in the 2023-2024 Lentil RRT in western Canada**

Market Class	Line	2023 LCYT		2024 LCYT	
		Mean (%)	Signif*	Mean (%)	Signif*
LG	CDC Lima	46.3	BCD	17.5	CDEFGHIJKLMN
LG	CDC23.05	53.1	AB	31.3	BCDE
SG	Eston	63.8	A	53.8	A
SG	CDC Viceroy	53.1	AB	16.9	DEFG
LG	CDC Greenstar	38.8	BCD	9.4	HIJKLM
ESR	CDC Robin	29.4	DE	12.9	FGHIJKL
FG	CDC Marble			38.8	B
SB	CDC SB-2			21.7	CDEFG
Mean		29.2		60.0	

Significance (Signif\*) Entries with a letter in common are not significantly different from each other.

Ascochyta blight disease testing carried out indoors

Market Classes: SG-small green; LG-large green; ESR-extra small red; FG-french green; SB-spanish brown

Disease checks are shaded ascochyta susceptible check-Eston; resistant checks-Redberry, Greenstar, Robin, Viceroy; moderate resistant checks Marble and SB-2

**Table 3. Small Green(SG) Anthracnose disease data for large green lentil CDC23.05 in the 2023 - 2024 Lentil RRT in western Canada**

Market Class	Line	Anthracnose (%)					
		2023 (SG,LG)				2024 (SG,LG)	
		Race 1		Race 0		Race 1	
		Mean (%)	Signif*	Mean (%)	Signif*	Mean (%)	Signif*
LG	CDC Lima	94.4	A	92.5	A	93.8	AB
LG	CDC23.05	89.4	ABC	91.9	AB	95.0	A
SG	Eston	95.0	A	95.0	A	95.0	A
ESR	CDC Robin	25.0	G	93.8	A	40.6	JK
LG	CDC Greenstar	86.9	ABCD	92.5	A	95.0	A
SG	CDC Viceroy	34.4	F	68.1	E	49.4	IJK
	LR-59-81			47.5	F		

Significance (Signif\*) Entries with a letter in common are not significantly different from each other.  
 Anthracnose disease testing carried out indoors  
 Market Classes: SG-small green; LG-large green; ESR-extra small red  
 Disease checks are shaded: Eston-susceptible to Anthracnose Robin, LR-59-81 and Viceroy resistant to Anthracnose  
 Greenstar moderately susceptible to Anthracnose