

## 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 Small Green Lentil Line CDC23.08**

Lentil line CDC23.08 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. CDC23.08 is tolerant to imidazolinone herbicide. Table 1 (8 site years) indicates the yield of CDC23.08 was 124% of the small green market class check CDC Invincible. Cotyledon colour, flowering time, maturity, plant height are similar to CDC Invincible. The seed coat of CDC23.08 is green, similar to CDC Invincible. Seed thickness is greater than that of CDC Invincible, providing efficiencies in de-hulling and reducing mechanical damage during handling.

**Strengths:** High yield compared to CDC Invincible.  
Thicker seed compared to CDC Invincible making CDC23.08 more efficient in the dehulling process.  
Tolerant to imidazolinone herbicide.

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

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

**Figure 1.** Visual comparison of CDC23.08, small green check CDC Invincible



**Table 1. Two year summary of agronomic performance for entries in the 2023-2024 Lentil RRT in western Canada**

Market class	Line	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							
		kg/ha	% of MC-C							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
SR	CDC Nimble	1652	100	36	52	84	1.4	40		0	1	9	33	35	17	5	22
SG	CDC Invincible	1434	100	30	53	83	2.1	37	3.1	0	0	5	27	37	24	7	4
SG	CDC23.08	1780	124	108	55	85	2.0	39	2.9	0	1	8	38	37	13	3	24
Mean		1622	108	98	53	84	1.8	38	3.0								

[ ] indicates number of sites  
 Market Classes: SR-small red; SG-small 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 2023-2024 Lentil RRT in western Canada**

Market Class	Line	2023 LCYT		2024 LCYT	
		Mean (%)	Signif*	Mean (%)	Signif*
SG	CDC Invincible	55.0	AB	26.3	BCDEFG
SG	CDC23.08	41.9	BCD	13.0	GHI
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			38.9	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 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*		
SG	CDC Invincible		45.0	E		94.4	A	60.6	GHI
SG	CDC23.08		86.9	ABCD		78.1	CDE	93.8	AB
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