



# Pulse Replicated On-Farm Independent Trials

## Pulse Variety Trial

*Pulse producers and consumers expect high yields and strong agronomic performance, including standability, disease resistance, and consistent seed quality. Evaluating both new and established pulse varieties is essential to provide reliable agronomic information that helps producers select the most suitable options for their operations. When choosing a variety, producers must consider several key factors, including market demand, days to maturity, disease resistance, seed size and uniformity, yield potential, and overall quality.*

### Objective

To evaluate the agronomic performance and adaptability of selected pulse crop varieties under local on-farm conditions, with a focus on yield potential, disease resistance, maturity period, and overall suitability for regional production systems.

### Treatments

Producers will choose two to three pea or lentil varieties, including established and emerging varieties. The treatments will compare three varieties:

1) Variety 1
2) Variety 2
3) Variety 3 (Optional)

Treatments were replicated four times, yielding eight plots. Apart from varieties, all plots were managed the same way agronomically, including seeding date, seeding depth, fertility, and pesticide application. Treatments were randomly arranged within blocks in the field.

## Data Collection

- Fall or spring soil test
- Seed tests for each variety from an accredited seed lab in Saskatchewan
- Field history and management practices
- Plant density, heights and lodging assessments
- General in-season observations
- Weather data
- Weighed yield and harvest sample
- Grain quality analysis of harvested sample

The following footnotes will be referred to in the individual site report for this protocol:

<sup>1</sup>SED is a measure of how much variability (same units as mean) you would expect in the difference between sample means if you repeated the experiment several times. The LSD is approximately two times the SED.

<sup>2</sup>A linear regression was used to assess the effects of varieties on the response variables. The data was also analyzed using the Mixed Model procedure in JMP, with replicate considered random and variety considered a fixed effect. Treatment means were separated using an LSD test. All treatment effects and differences between means were considered significant at  $p \leq 0.05$ . However, p-values of 0.05–0.1 may also be acknowledged.

$P < 0.05$ : There is a 95% probability (19 out of 20 times) that the observed difference is due to the treatment rather than random variation.

$P < 0.1$ : There is a 90% probability (9 out of 10 times) that the difference is due to the treatment effect.

$P > 0.1$ : There is a higher likelihood that the observed difference is due to random variability rather than the treatment.





# Lentil Variety Trial (Wilkie)

Trt #	Description
1	CDC Maxim (CL <sup>®</sup> )
2	CDC Nimble (CL <sup>®</sup> )
3	CDC Impulse (CL <sup>®</sup> )

**Objective:** To evaluate the agronomic performance and adaptability of selected pulse crop varieties under local on-farm conditions, with a focus on yield potential, disease resistance, maturity period, and overall suitability for regional production systems.

## Seed Information

Variety 1: CDC Maxim Clearfield (CL <sup>®</sup> ) Grower Standard/Check		Variety 2: CDC Nimble (CL <sup>®</sup> )	
Thousand Kernel Weight	44.3 g	Thousand Kernel Weight	33.3 g
Germination	99%	Germination	99%
Seeding Rate	52 lb/ac	Seeding Rate	52 lb/ac
Seed Treatment	Vibrance <sup>®</sup> Pro (sedaxane)	Seed Treatment	Vibrance <sup>®</sup> Pro (sedaxane)
Inoculant	Primo GX2	Inoculant	Primo GX2
Seeding Density	12.1 plants/ac	Seeding Density	16.1 plants/ac

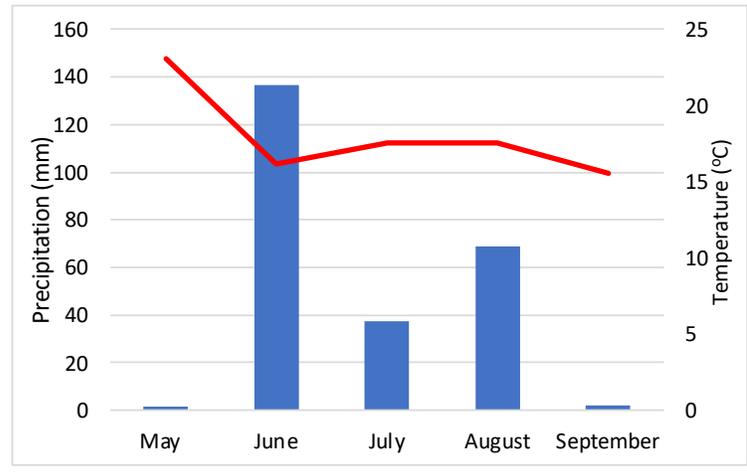
  

Variety 3: CDC Impulse (CL <sup>®</sup> )	
Thousand Kernel Weight	50.6 g
Germination	99%
Seeding Rate	52 lb/ac
Seed Treatment	Vibrance <sup>®</sup> Pro (sedaxane)
Inoculant	Primo GX2
Seeding Density	10.6 plants/ac

## General Trial Information

<b>Previous Crop</b>	Spring Wheat
<b>Soil Organic Matter</b>	3.9%
<b>Residual Nitrate-N (0-6")</b>	
- 0-6"	25 lb/ac
- 6-24"	48 lb/ac
<b>Seeding Date</b>	May 5, 2025
<b>Seeding Equipment</b>	SeedMaster 6012
<b>Seeding Depth</b>	2"
<b>Seeding Speed</b>	4.5 mph
<b>Row Spacing</b>	12"
<b>Total Applied Fertilizer (lb/ac N-P-K-S)</b>	0 - 0 - 0 - 0
<b>Crop Protection</b>	May 3: Roundup <sup>®</sup> (glyphosate) + Voraxor <sup>®</sup> (trifludimoxazin + saflufenacil) June 5: Solo <sup>®</sup> Ultra [Solo <sup>®</sup> ADV (imazamox) + Poast <sup>®</sup> Ultra (sethoxydim)] August 24: Reglone <sup>®</sup> (diquat)

**Precipitation and Temperature from local weather station  
(May 29 – September 18)**



## Results

	Seeding Density (seeds/ft <sup>2</sup> )	Plant Density (plants/ft <sup>2</sup> )	Seedlings Survival (%)	Height (cm)	Lodging (1-9 Scale; 1 = erect, 9 = flat)
CDC Maxim (CL <sup>®</sup> )	12	12 a	97 a	37.37 a	1.0 a
CDC Nimble (CL <sup>®</sup> )	16	14 a	88 a	36.70 a	1.0 a
CDC Impulse (CL <sup>®</sup> )	11	11 a	102 a	44.05 a	1.0 a
SED <sup>1</sup>		0.969	7.89	2.34	0.0
p-value <sup>2</sup>		0.055	0.314	0.062	1.0

	Yield (bu/ac)	Thousand Kernel Weight (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
CDC Maxim (CL <sup>®</sup> )	36.74 b	37.00 b	81.30 b	11.52 a	14.28 a
CDC Nimble (CL <sup>®</sup> )	35.70 c	38.67 b	83.97 a	12.22 a	11.95 b
CDC Impulse (CL <sup>®</sup> )	38.52 a	46.22 a	80.59 b	10.25 b	15.20 a
SED <sup>1</sup>	0.160	0.726	0.447	0.296	0.697
p-value <sup>2</sup>	0.0002	0.0005	0.0035	0.0065	0.0218

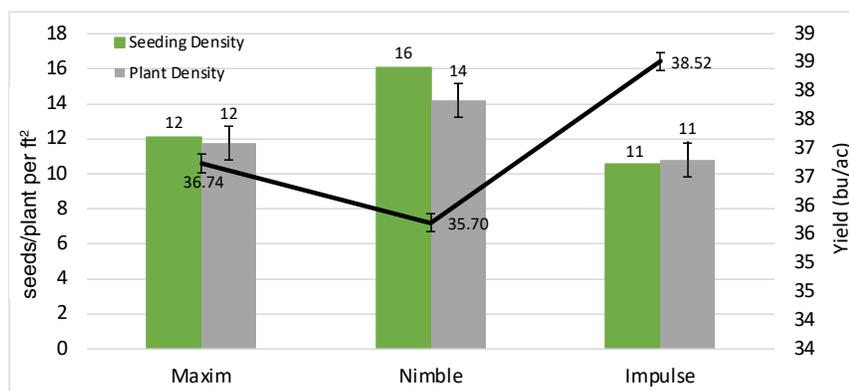
## Economics

Treatment Description	Variety Cost (\$/ac) <sup>x</sup>	Seed Treatment & Inoculant (\$/ac) <sup>y</sup>	Total Cost (\$/ac)	Yield (bu/ac)	Target Price (\$/bu) <sup>z</sup>	Revenue (\$/ac)	Net (\$/ac)	Profit/Loss (\$/ac)
CDC Maxim (CL <sup>®</sup> )	22.36	3.09	25.45	36.7	18.00	661.32	635.87	0.00
CDC Nimble (CL <sup>®</sup> )	22.36	3.09	25.45	35.7	18.00	642.60	617.15	-18.72
CDC Impulse (CL <sup>®</sup> )	22.36	3.09	25.45	38.5	18.00	693.36	667.91	32.04

<sup>x</sup>2025 Red Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (seed rate 60lb/ac; seed \$25.80/ac)

<sup>y</sup>2025 Red Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (seed rate 60lb/ac; seed treatment/inoculants \$3.57/ac)

<sup>z</sup>2025 Red Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (target price \$0.30/lb)



## Summary

Three CL<sup>®</sup> lentil varieties—CDC Maxim, CDC Impulse, and CDC Nimble—showed distinct strengths. CDC Impulse produced the highest yield (38.52 bu/ac) and tallest plants (44.05 cm), with the largest seeds (46.22 g/1,000 seeds) but lower protein (10.25%). CDC Nimble had the highest protein (12.22%) and test weight (83.97 kg/hL), while CDC Maxim performed moderately across traits. Lastly, it is important to use TKW to calculate desired plant population to achieve highest possible yields.

✳ To review footnote references please refer to overall trial summary on page 201.



This trial was conducted with  
the agronomic support of

