Pulse Replicated On-Farm Independent Trials

Pulse Fungicide Trial

Disease in pulses is a serious concern and can have dramatic yield implications if not monitored and appropriate control measures are not implemented when the risk is high. Fungicide decision support checklists can help determine whether applications are warranted by rating crop canopy, leaf wetness, crop humidity, weather forecasts, and the presence of disease symptoms. In Saskatchewan, the most common disease on peas is Ascochyta pinodes (sexual stage: Mycosphaerella pinodes), also known as mycosphaerella blight. Losses attributed to this disease have been reported to be as high as 80%. Although measures can be taken to estimate the risk of disease, the use of check strips is still an excellent way of determining if the applications were economically beneficial to the farm's net income. Check strips can be easily incorporated on the farm and can help producers in their future fungicide decision-support checklists when they have statistically significant, replicated trial results from their own farm to reference.

Objective

To evaluate fungicide performance and farm economics on pulses from a fungicide application vs. untreated check strips.

Treatments

1.	Untreated Check
2.	Single Fungicide Application
3.	Dual Fungicide Application (optional)

Trials were set up as randomized strip trials, with a minimum of three replicates per treatment and a preferred four. Untreated check plots were still driven through with the sprayer, with the booms turned off to ensure equal crop trampling in treated and untreated plots. All plots were managed the same agronomically, aside from treatments.

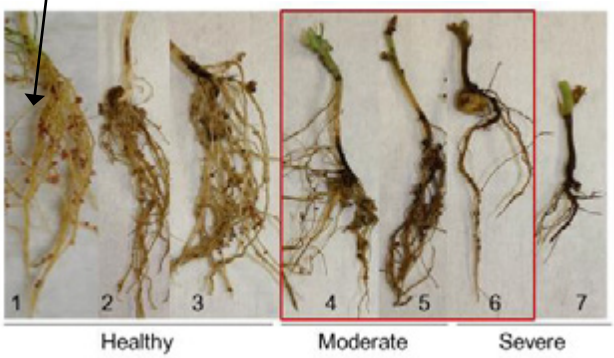
Data Collection

- Soil test
- In-season disease assessments at R2–R3 stage (beginning bloom-flat pod)
  - Assessment scales included below
- Seeding information (depth, opener type, fertilizer/inoculant placement, speed, etc.)
- Plant density, vigour (plant height) per plot
- Field history and management practices (e.g., fertility, pesticides, etc.)
- Yield by plot
- Harvest subsample per plot for grain analysis
- Economics
- General in-season observations such as weed competition, disease susceptibility, standability, days to flower, and maturity
- •Weather data (in-field or nearby weather station)

Disease Assessment Scales

ROOT ROT RATING SCALE

Rating	Lesions	% affected	Pruning
1	None	0	0
2	Small (<1 cm) lesion near the seed attachment	0	0
3	Small coalescing lesions approximately 180° around the stem	10–20%	0
4	Lesions extending and completely encircling the stem	20–95%	5–20%
5	Increasingly discoloured and extended epicotyl lesions	100%	20–50%
6	Epicotyl lesions encircling the stem, extending up to 2 cm	100%	50–80%
7	Tap root (including epicotyl) is completely lesioned	Dead	Dead



MYCOSPHAERELLA/ASCOCHYTA BLIGHT COMPLEX RATING GUIDE

Rating	Description
1	No disease
2	Mild to moderate disease on less than 5% of plant
3	Moderate to severe disease on 5–20% of plant
4	Moderate to severe disease symptoms on 20–50% of plant
5	Moderate to severe disease symptoms 50–80% of plant
6	Disease on all or most of the plant, plant stunted but alive
7	Plant stunted/dying

Bacterial Blight, White Mold and Downy Mildew

1 = Yes symptoms

0 = No symptoms

The following footnotes will be referred to for the combined and individual site reports for this protocol:

[1]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.

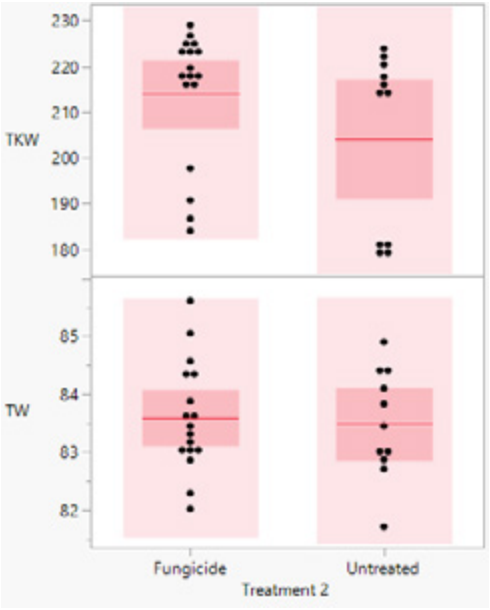
[2]A linear regression was used to assess the effects of fungicide on the response variables. The data were also analyzed using the Mixed Model procedure in JMP, with replicate considered a random effect and fungicide a fixed effect. Treatment means were separated using Tukey's test (2024) and the LSD test (2025). 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.

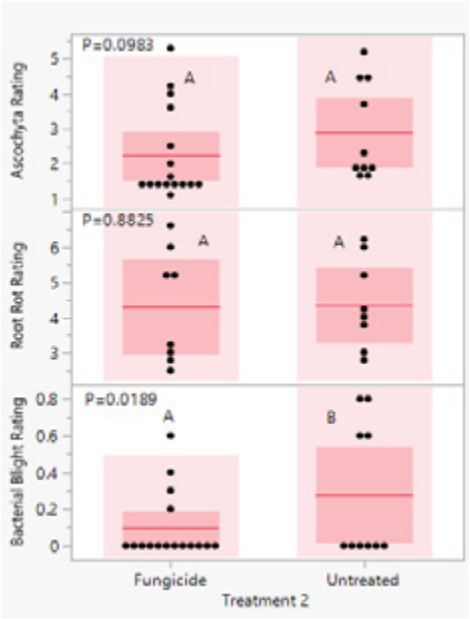
$P < 0.05$: There is a 95% probability (19 out of 20 times) that the observed difference is due to the treatment rather than random variation.
$P < 0.1$: There is a 90% probability (9 out of 10 times) that the difference is due to the treatment effect.
$P > 0.1$: There is a higher likelihood that the observed difference is due to random variability rather than the treatment.

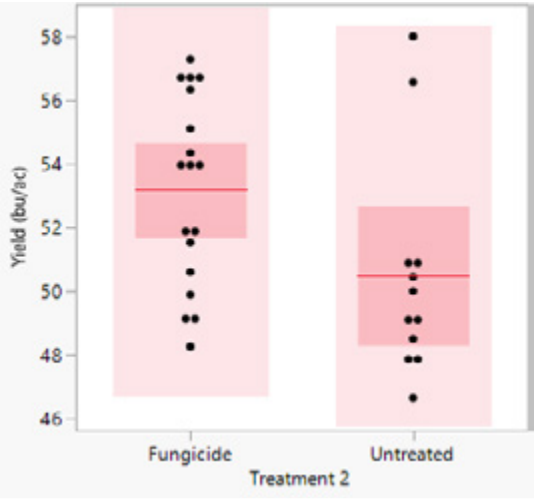
2024 Results

The results below are from three sites across Saskatchewan. No significant effects on yield were observed, with only a 1.2 bu/ac difference. Given the cost of fungicides, not applying them in these circumstances would be more economical. However, thousand kernel weights and test weights did increase with fungicide application. Bacterial blight was significantly reduced with fungicide use (p=0.0189). Overall, these results may be attributed to the high temperatures and low precipitation experienced at these locations in July and August.

Treatment	Plant Density (plants/ft^2)	Heights (cm)	Disease Rating			Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)
			Root Rot (1-7)	Mycos/ Ascochyta (1-7)	Bact. Blight (Y=1, N=0)				
Untreated	8 a	82.3 a	4.4	2.7	0.2	51.3	205.8	83.1	24.6
Fungicide	8 b	84.5 a	4.3	2.4	0.1	52.5	210.5	83.5	24.8
SED[1]	0.088	2.96	1.24	0.9	0.05	0.66	1.75	0.23	0.11
p-value[2]	0.005	0.478	0.883	0.098	0.019	0.095	0.012	0.047	0.27







2025 Results

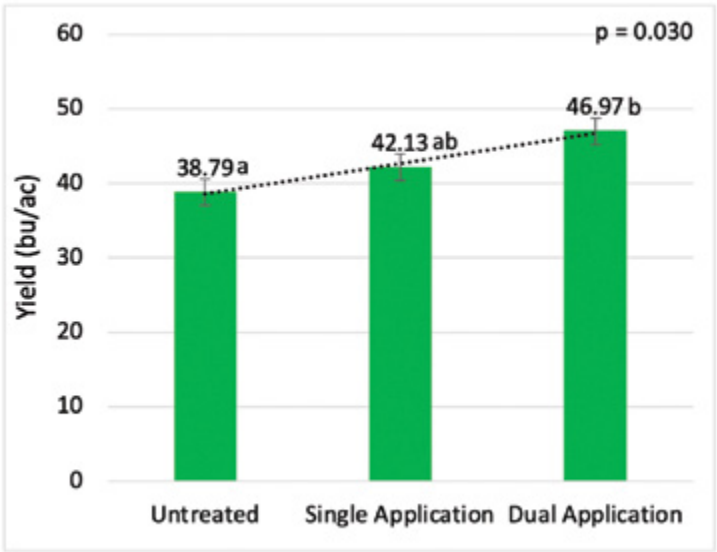
In 2025, six trial sites were established across Saskatchewan—four with lentils and two with peas. Of the lentil sites, two evaluated untreated, single, and dual fungicide applications, while the other two compared only untreated and single applications. The pea trials included one site with maple peas that tested untreated, single, and dual applications, and another site with yellow peas that compared untreated and single applications. Because location had a significant influence on results, the two pea sites could not be combined, as doing so would inaccurately represent the dual treatment. For analysis, all lentil sites were combined.

2025 Lentil All Combined

Treatment	Heights (cm)	Disease Rating				
		Root Rot (1-7)	Anthracnose (1–7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	39.38 a	1.05 a	1.12 a	0.00 a	0.00 a	0.00 a
Single Application	38.78 a	1.07 a	1.03 a	0.00 a	0.00 a	0.00 a
Dual Application	39.55 a	0.84 b	1.06 a	0.00 a	0.00 a	0.00 a
SED[1]	0.248	0.023	0.035	0.0	0.0	0.0
p-value[2]	0.225	0.016	0.202	1.0	1.0	1.0

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	38.8 b	40.27 a	81.19 a	14.59 a	10.71 a
Single Application	42.13 ab	40.54 a	81.13 a	14.60 a	10.97 a
Dual Application	47.0 a	41.67 a	81.35 a	14.84 a	11.28 a
SED[1]	1.780	1.408	0.243	0.098	0.253
p-value[2]	0.030	0.682	0.740	0.149	0.218

There were no significant differences in plant height or most disease ratings among treatments. However, the dual application significantly reduced Mycosphaerella/Ascochyta disease severity compared to the untreated check and single application. All other diseases showed no presence, with consistently high p-values indicating no treatment effect. The dual application significantly increased yield compared to the untreated check, while the single application showed an intermediate response. TKW, TW, protein, and moisture did not differ significantly among treatments. The low p-value for yield indicates a clear benefit from the dual application.

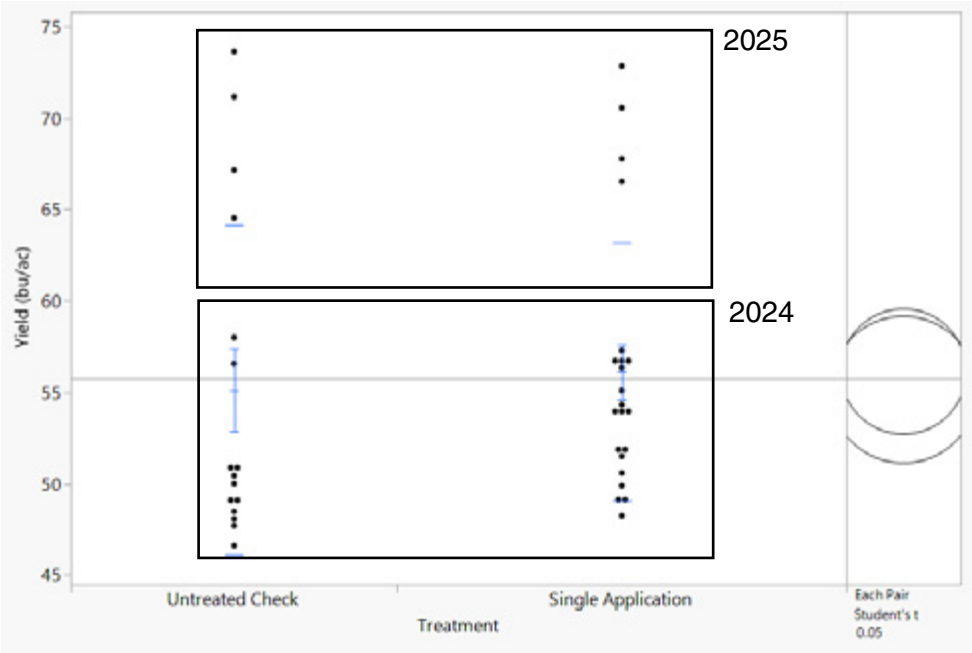


2024 + 2025 Results

In 2024, there were three sites, and in 2025, 1 site conducted an untreated versus single-fungicide application trial.

Treatment	Heights (cm)	Disease Rating				
		Root Rot (1-7)	Mycos/ Ascochyta (1-7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	83.24 a	3.53 a	2.41 a	0.00 a	0.00 a	0.20 a
Single Application	84.51 a	3.80 a	2.18 a	0.00 a	0.01 a	0.12 b
SED[1]	2.58	0.156	0.151	0.0	0.012	0.035
p-value[2]	0.632	0.122	0.154	1.0	0.315	0.028

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	55.92 a	217.23 a	82.92 a	24.29 a	15.53 a
Single Application	56.80 a	220.47 a	83.30 a	24.43 a	15.50 a
SED[1]	0.473	2.27	0.165	0.075	0.189
p-value[2]	0.080	0.165	0.038	0.076	0.858



There were no significant differences between treatments for plant height or most disease ratings. However, bacterial blight incidence was slightly lower in the single-application treatment, resulting in a substantial difference. All other diseases remained minimal across treatments. Kernel weight, protein, and moisture content also showed no significant differences, though TW was slightly higher in the single application, indicating a modest improvement in grain quality. While yield was not significantly different, it was higher with the fungicide application compared to the untreated check, suggesting a potential positive trend. Overall, the single application showed limited benefits, and year-to-year environmental variation appeared to be the primary factor influencing differences in the data.

Pulse Replicated On-Farm Independent Trials

Pulse Fungicide

(Handel)

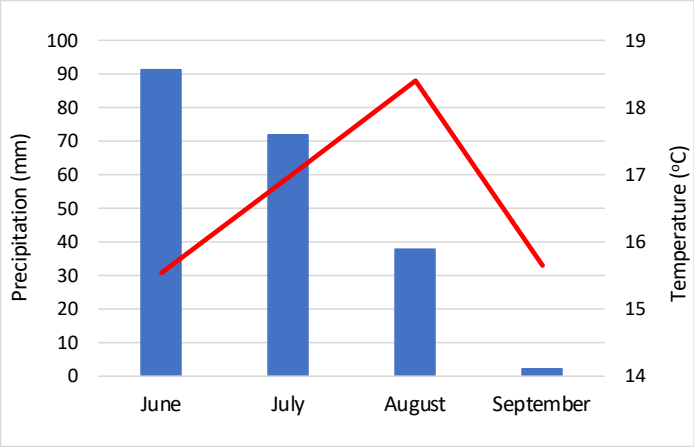
Trt #	Description
1	Untreated Check
2	Single Application

Objective: To evaluate fungicide performance and farm economics on pulses from a fungicide application vs. untreated check strips.

General Trial Information

Variety	CDC Maxim (small red lentil)
Thousand Kernel Weight	36.38 g
Germination	96%
Seed Treatment	N/A
Inoculant	TagTeam®
Previous Crop	Canola
Seeding Date	May 6, 2025
Seeding Equipment	SeedMaster 7012
Seeding Rate	91.25 lb/ac
Seeding Depth	1.5”
Seeding Speed	6 km/hr
Row Spacing	12”
Total Applied Fertilizer (lb/ac N-P-K-S)	4 – 21 – 0 – 0
Crop Protection	May 5: Goldwing® (pyraflufen-ethyl + MCPA ester) + Storm® (glyphosate) June 4: Solo® Ultra [Solo® ADV (imazamox) + Poast® Ultra (sethoxydim)] August 13: Glyphosate + Heat® (saflufenacil)

Precipitation and Temperature from local weather station (June 12 – September 30)



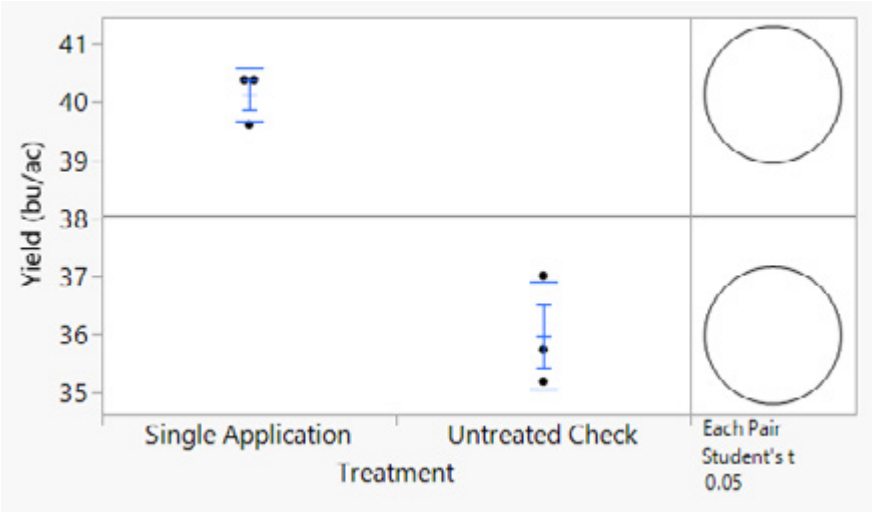
Fungicide Application

Product	Revy® Pro (mefentrifluconazole + prothioconazole)
Rate	0.405 L/ac
Date	July 2, 2025
Crop Stage	10 node/early flower
Tank Mix	N/A
Water Volume	10 gal/ac
Speed	12-13.5 mph
Sprayer	Versatile SX275
Nozzles	TeeJet® Twin

Results

Treatment	Heights (cm)	Disease Rating				
		Root Rot (1-7)	Anthracnose (1-7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	46.37 a	1.0 a	1.1 a	0.0 a	0.0 a	0.0 a
Single Application	46.03 a	1.0 a	1.0 a	0.0 a	0.0 a	0.0 a
SED[1]	3.36	0.0	0.10	0.0	0.0	0.0
p-value[2]	0.930	0.10	0.423	0.10	0.10	0.10

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	35.97 b	31.11 a	82.40 a	11.27 a	12.47 a
Single Application	40.13 a	32.78 a	81.82 a	11.15 a	12.95 a
SED[1]	0.568	0.839	0.473	0.033	0.483
p-value[2]	0.018	0.185	0.345	0.073	0.213



Economics

Treatment	Fungicide ($/ac)[y]	Yield (bu/ac)	Target Price ($/bu)[z]	Gross Revenue ($/ac)	Net Revenue ($/ac)	Profit/Loss ($/ac)
Untreated Check	0.00	35.97	18.00	647.48	647.48	0.00
Single Application	22.41	40.13	18.00	722.29	699.88	52.40

[y]2025 Red Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (fungicide cost $22.41/ac)
[z]2025 Red Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (target price $18/bu)

Summary

Fungicide application had no significant impact on plant height or disease levels, as all treatments showed minimal disease pressure. However, a single fungicide application significantly increased yield compared to the untreated check, while other grain quality traits remained largely unchanged. Overall, the treatment improved yield without affecting plant health or seed quality characteristics.

To review footnote references please refer to overall trial summary on page 183.

This trial was conducted with the agronomic support of

MNP AgINTELLECT

Pulse Replicated On-Farm Independent Trials

Pulse Fungicide

(Harris)

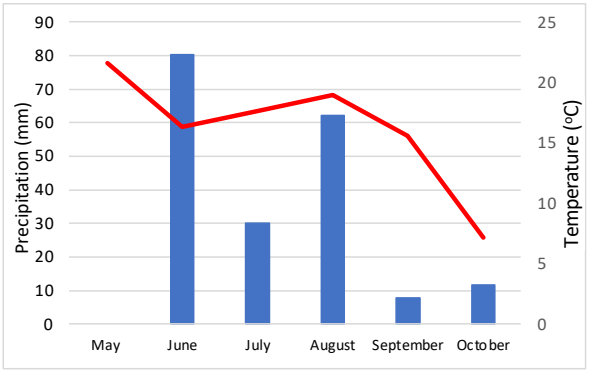
Trt #	Description
1	Untreated
2	Single Application
3	Dual Application

Objective: To evaluate fungicide performance and farm economics on pulses from a fungicide application vs. untreated check strips.

General Trial Information

Variety	CDC Greenstar (large green lentil)
Thousand Kernel Weight	65.42 g
Germination	95%
Seed Treatment	Trilex® EverGol (penflufen + trifloxystrobin + metalaxyl) + Intego® Solo (ethaboxam)
Inoculant	N-Charge®
Previous Crop	Barley
Seeding Date	May 14, 2025
Seeding Equipment	Bourgault 3320
Seeding Rate	100 lb/ac (VR Average)
Seeding Depth	1”
Seeding Speed	5 mph
Row Spacing	12”
Total Applied Fertilizer (lb/ac N-P-K-S)	3 – 12 – 15 – 0
Crop Protection	Fall ’24: Fierce® (flumioxazin + pyroxasulfone) June 18: Centurion® (clethodim) July 3: Lambada® (lambda-cyhalothrin)

Precipitation and temperature from local weather station (May 29 – October 21)



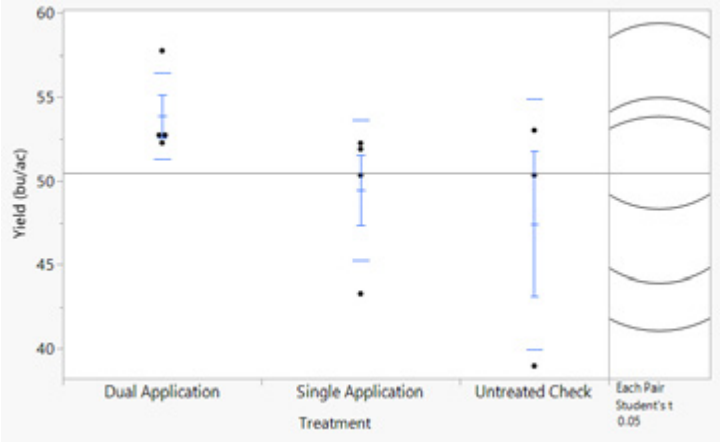
Fungicide Application

	Single Application	Dual Application
Product	Delaro® Complete (prothioconazole + fluopyram + trifloxystrobin)	Cotegra® (boscalid + prothioconazole)
Rate	356 ml/ac	240 ml/ac
Date	July 3	July 24
Crop Stage		
Tank Mix	N/A	N/A
Water Volume	10 gal/ac	14 gal/ac
Speed	15 mph	13.5 mph
Sprayer	John Deere 4038R	John Deere 4038R

Results

Treatment	Disease Rating				
	Root Rot (1-7)	Anthracnose (1-7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	1.2 a	1.0 a	0.0 a	0.0 a	0.0 a
Single Application	1.3 a	1.0 a	0.0 a	0.0 a	0.0 a
Dual Application	1.0 a	1.0 a	0.0 a	0.0 a	0.0 a
SED[1]	0.282	0.10	0.0	0.0	0.0
p-value[2]	0.663	1.0	1.0	1.0	1.0

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	48.80 a	61.94 a	79.68 a	17.86 a	8.19 a
Single Application	49.44 a	58.92 a	79.41 a	17.84 a	8.34 a
Dual Application	53.86 a	60.00 a	79.68 a	17.93 a	8.23 a
SED[1]	4.36	1.95	0.133	0.107	0.073
p-value[2]	0.477	0.369	0.309	0.704	0.182



Economics

Treatment	Fungicide ($/ac)[y]	Total Cost ($/ac)	Yield (bu/ac)	Target Price ($/bu)[z]	Gross Revenue ($/ac)	Net Revenue ($/ac)	Profit/Loss ($/ac)
Untreated Check	0.00	0.00	48.80	28.20	1376.05	1376.05	0.00
Single Application	22.41	22.41	49.44	28.20	1394.31	1371.90	-4.15
Dual Application	44.82	44.82	53.86	28.20	1518.80	1473.98	97.92

[y]2025 Large Green Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (fungicide cost $22.41/ac)
[z]2025 Large Green Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (target price $0.47/lb)

Summary

Fungicide applications had no significant impact on disease levels or yield parameters. All treatments showed minimal disease presence, with identical scores for most pathogens, indicating low disease pressure. Although the dual application had a slightly higher yield, the differences among treatments were not statistically significant. Overall, fungicide use provided no clear benefit under the trial conditions.

To review footnote references please refer to overall trial summary on page 183.

This trial was conducted with the agronomic support of

CrOptimize AG

Pulse Replicated On-Farm Independent Trials

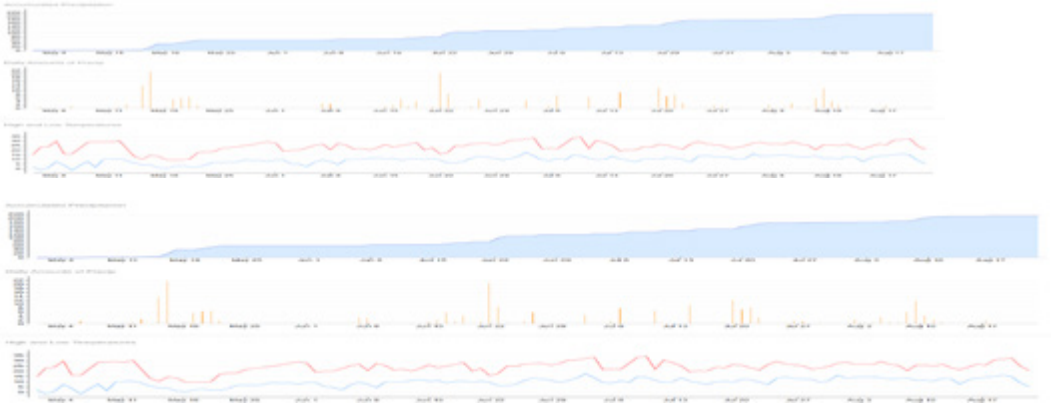
Pulse Fungicide
(Wilcox)

Objective: To evaluate fungicide performance and farm economics on pulses from a fungicide application vs. untreated check strips.

Trt #	Description
1	Untreated
2	Single Application
3	Dual Application

General Trial Information

Variety	CDC Imvincible Clearfield CL® (small green lentil)	**Seeding Rate**	65 lb/ac
Seed Treatment	Trilex® (trifloxystrobin, metalaxyl + penflufen)	**Seeding Depth**	1 ¼”
Inoculant	Nodulator® Duo	**Seeding Speed**	4.5 mph
Previous Crop	Durum	**Row Spacing**	12”
Seeding Date	May 11, 2025	**Total Applied Fertilizer (lb/ac N-P-K-S)**	5 – 25 – 0 – 0
Seeding Equipment	Bourgault 3320	**Crop Protection**	May 2: Glyphosate June 5: Sencor® (metribuzin) June 15: Solo® (imazamox) + Clethodim® July 17: Coragen® (chlorantraniliprole) July 26: Silencer® (lambdacyhalothrin) August 20: Reglone® (diquat)



Fungicide Application

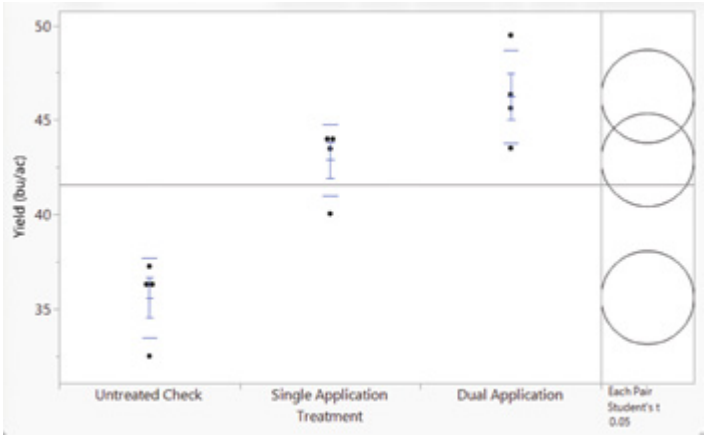
	Single Application	Dual Application
Product	Delaro® Complete (prothioconazole + trifloxystrobin + fluopyram)	Prothio® (generic variety) (prothioconazole)
Rate	356 ml/ac	240 ml/ac
Date	July 5, 2025	July 17, 2025
Crop Stage	Flowering	Early Podding
Tank Mix	N/A	N/A
Water Volume	10 gal/ac	15 gal/ac
Speed	15 mph	15 mph
Sprayer	Case 4430	Case 4430
Nozzles	T-Jet Flat Fan	T-Jet Flat Fan

Results

Treatment	Heights (cm)	Disease Rating				
		Root Rot (1-7)	Anthracnose (1-7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	32.13 a	1.0 a	1.25 a	0.0 a	0.0 a	0.0 a
Single Application	31.31 a	1.0 a	1.13 a	0.0 a	0.0 a	0.0 a
Dual Application	32.19 a	ND	ND	ND	ND	ND
SED[1]	0.973	0.0	0.193	0.0	0.0	0.0
p-value[2]	0.619	1.0	0.564	1.0	1.0	1.0

ND = no data

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	35.59 c	30.33 c	80.71 a	17.76 b	8.94 a
Single Application	42.88 b	32.25 b	80.70 a	17.91 b	9.25 a
Dual Application	46.25 a	34.08 a	80.95 a	18.24 a	10.01 a
SED[1]	1.10	0.403	0.248	0.081	0.357
p-value[2]	0.0002	0.0003	0.537	0.003	0.057



Economics

Treatment	Fungicide ($/ac)[y]	Total Cost ($/ac)	Yield (bu/ac)	Target Price ($/bu)[z]	Gross Revenue ($/ac)	Net Revenue ($/ac)	Profit/Loss ($/ac)
Untreated Check	0.00	0.00	35.6	28.20	1003.92	1003.92	0.00
Single Application	22.41	22.41	42.9	28.20	1209.78	1187.37	183.45
Dual Application	44.82	44.82	46.3	28.20	1305.66	1260.84	256.92

[y]2025 Large Green Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (fungicide cost $22.41/ac)
[z]2025 Large Green Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (target price $0.47/lb)

Summary

Yield and TKW increased significantly with both single and dual applications compared to the untreated check, with the dual application producing the highest values. There were no significant differences among the untreated check, single-application, or dual-application treatments in plant height or any disease ratings. Overall, all treatments showed very low disease levels, indicating minimal disease pressure and no measurable treatment effect. TW and moisture were unaffected, while protein content was slightly higher in the treated plots, particularly with the dual application.

To review footnote references please refer to overall trial summary on page 183.

This trial was conducted with the agronomic support of

MNP AgINTELLECT

Pulse Replicated On-Farm Independent Trials

Pulse Fungicide

(Wilkie 1)

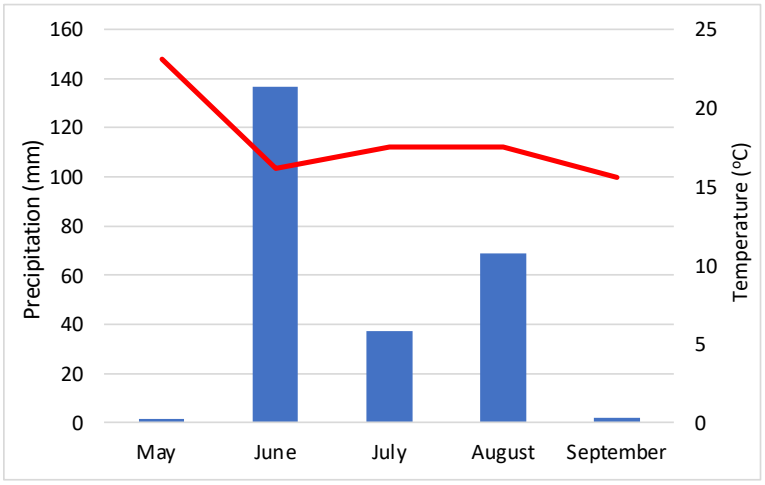
Objective: To evaluate fungicide performance and farm economics on pulses from a fungicide application vs. untreated check strips.

Trt #	Description
1	Untreated Check
2	Single Application

General Trial Information

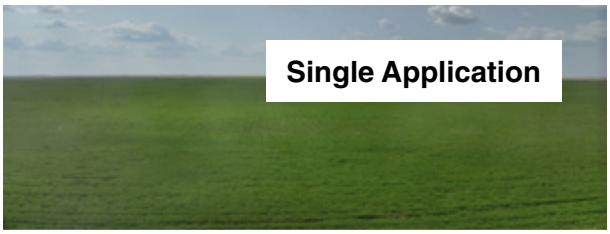
Variety	CDC Maxim CL® (small red lentil)
Thousand Kernel Weight	44.3 g
Germination	99%
Seed Treatment	Vibrance® Pro (sedaxane)
Inoculant	Primo GX2
Previous Crop	Wheat
Seeding Date	May 5, 2025
Seeding Equipment	SeedMaster 6012
Seeding Rate	52 lb/ac
Seeding Depth	2”
Seeding Speed	4.5 mph
Row Spacing	12”
Total Applied Fertilizer (lb/ac N-P-K-S)	0 – 0 – 0 – 0
Crop Protection	May 3: Glyphosate + Voraxor® (trifludimoxazin + saflufenacil) June 5: Solo® Ultra [Solo® ADV (imazamox) + Poast® Ultra (sethoxydim)] August 24: Reglone® (diquat)

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



Fungicide Application

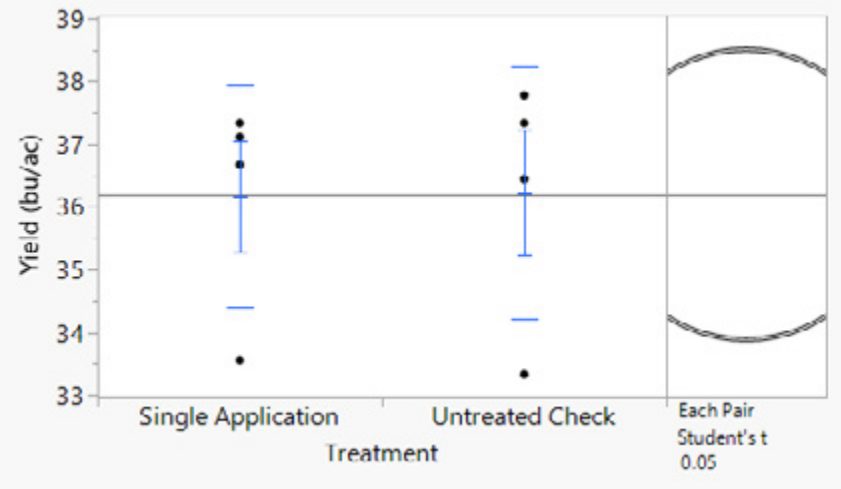
Product	Revy® Pro (mefentrifluconazole + prothioconazole)
Date	July 3, 2025
Crop Stage	10 node/early flower
Tank Mix	Assure® II (quizalofop-p-ethyl)
Water Volume	10 gal/ac
Speed	15 mph
Sprayer	Rogator 1100B
Nozzles	TeeJet® Air Induction 11005



Results

Treatment	Heights (cm)	Disease Rating				
		Root Rot (1-7)	Anthracnose (1-7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	39.76 a	1.0 a	1.13 a	0.0 a	1.0 a	1.0 a
Single Application	38.91 a	1.0 a	1.0 a	0.0 a	1.0 a	1.0 a
SED[1]	1.17	0.0	0.0	0.0	0.0	0.0
p-value[2]	0.519	1.0	0.080	1.0	1.0	1.0

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	36.22 a	37.58 b	82.06 a	11.54 a	13.33 a
Single Application	36.17 a	38.50 a	82.59 a	11.45 a	13.31 a
SED[1]	0.210	0.210	0.232	0.083	0.123
p-value[2]	0.809	0.022	0.104	0.367	0.926



Economics

Treatment	Fungicide ($/ac)[y]	Yield (bu/ac)	Target Price ($/bu)[z]	Gross Revenue ($/ac)	Net Revenue ($/ac)	Profit/Loss ($/ac)
Untreated Check	0.00	36.2	18.00	651.60	651.60	0.00
Single Application	22.41	36.17	18.00	651.60	629.19	-22.41

[y]2025 Red Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (fungicide cost $22.41/ac)
[z]2025 Red Lentils, 2025 Crop Planning Guide, Government of Saskatchewan (target price $18/bu)

Summary

Fungicide had no significant effect on plant height or disease ratings. Yield, TW, protein, and moisture were also unaffected by the treatment. However, TKW was significantly higher with the single fungicide application, suggesting improved seed size. Overall, the fungicide treatment provided a modest benefit to kernel weight but did not influence other growth or quality parameters.

To review footnote references please refer to overall trial summary on page 183.

This trial was conducted with the agronomic support of

MNP AgINTELLECT

Pulse Replicated On-Farm Independent Trials

Pulse Fungicide

(Cut Knife)

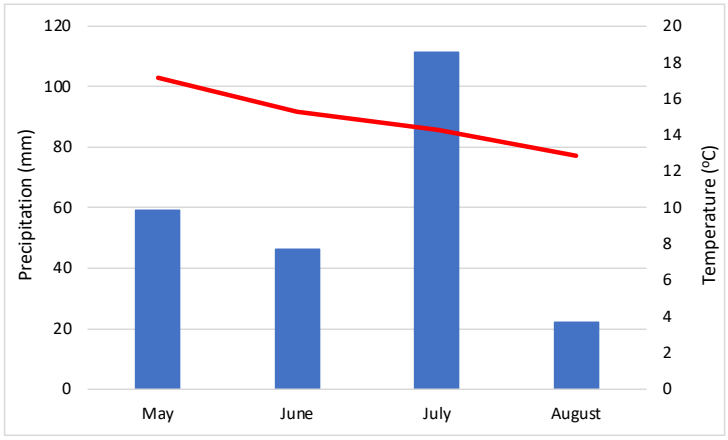
Objective: To evaluate fungicide performance and farm economics on pulses from a fungicide application vs. untreated check strips.

Trt #	Description
1	Untreated
2	Single Application

General Trial Information

Variety	CDC Spectrum (yellow pea)
Thousand Kernel Weight	225.8 g
Seed Treatment	Insure® Pulse (pyraclostrobin, fluxapyroxad + metalaxyl)
Inoculant	Primo GX2
Previous Crop	Canola
Seeding Date	May 4, 2025
Seeding Equipment	Bourgault 3320
Seeding Rate	180 lb/ac
Seeding Depth	2”
Seeding Speed	5 mph
Row Spacing	12”
Total Applied Fertilizer (lb/ac N-P-K-S)	2 – 10 – 0 – 0
Crop Protection	May 6: Roundup® (glyphosate) + Heat® (saflufenacil) May 29: Viper® (imazamox + bentazon) August 16: Roundup® (glyphosate) + Heat® (saflufenacil)

Precipitation and temperature from local weather station



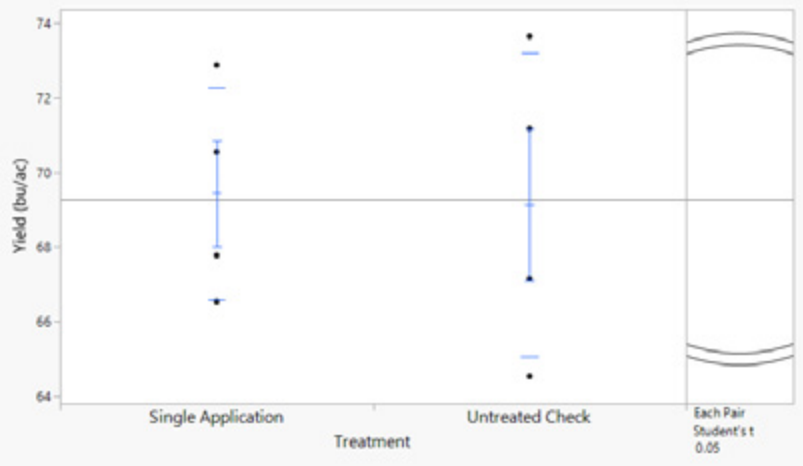
Fungicide Application

Product	Cotegra® (boscalid + prothioconazole)
Date	June 30, 2025
Crop Stage	Early-mid flowering
Tank Mix	N/A
Water Volume	10 gal/ac
Speed	17 mph
Sprayer	Case 4450
Nozzles	08

Results

Treatment	Heights (cm)	Disease Rating				
		Root Rot (1-7)	Mycos/ Ascochyta (1-7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	87.50 a	1.88 b	1.40 a	0.0 a	0.0 a	0.10 a
Single Application	84.33 a	2.78 a	1.48 a	0.0 a	0.0 a	0.10 a
SED[1]	2.83	0.227	0.111	0.00	0.0	0.091
p-value[2]	0.343	0.029	0.547	1.0	1.0	1.0

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	69.13 a	249.58 a	82.36 a	23.50 a	13.19 a
Single Application	69.43 a	249.50 a	82.37 a	23.53 a	13.20 a
SED[1]	1.51	3.64	0.222	0.142	0.123
p-value[2]	0.851	0.983	0.972	0.872	0.926



Economics

Treatment	Fungicide ($/ac)[y]	Yield (bu/ac)	Target Price ($/bu)[z]	Gross Revenue ($/ac)	Net Revenue ($/ac)	Profit/Loss ($/ac)
Untreated Check	0.00	69.1	10.00	691.00	691.00	0.00
Single Application	23.65	69.4	10.00	694.00	670.35	-20.65

[y]2025 Edible Yellow Peas, 2025 Crop Planning Guide, Government of Saskatchewan (fungicide cost $23.65/ac)
[z]2025 Edible Yellow Peas, 2025 Crop Planning Guide, Government of Saskatchewan (target price $10/bu)

Summary

The fungicide application did not significantly affect plant height, yield, or grain quality parameters. While most disease ratings were similar between treatments, the fungicide application showed a slightly higher root rot rating (p = 0.0288), indicating increased disease incidence. Overall, the treatment provided no measurable agronomic benefit.

To review footnote references please refer to overall trial summary on page 183.

This trial was conducted with the agronomic support of

Western Applied Research Corporation WARC Research from our farm to yours

Pulse Replicated On-Farm Independent Trials

Pulse Fungicide
(Wilkie 2)

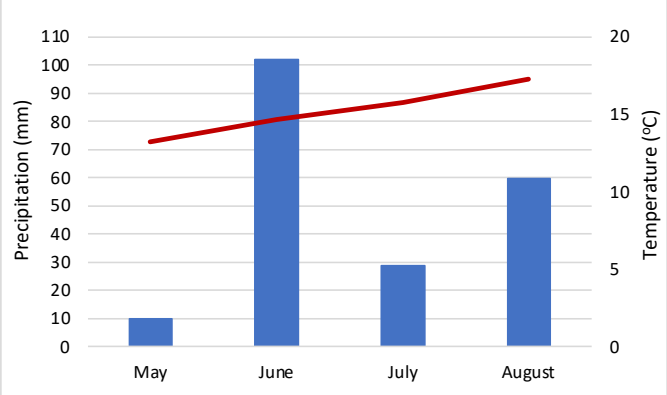
Objective: To evaluate fungicide performance and farm economics on pulses from a fungicide application vs. untreated check strips.

Trt #	Description
1	Untreated
2	Single Application
3	Dual Application

General Trial Information

Variety	CDC Mosaic (maple pea)
Germination	90%
Seed Treatment	Insure® Pulse (metalaxyl, fluxapyroxad + pyraclostrobin)
Inoculant	Nodulator® Duo
Previous Crop	Canola
Seeding Date	May 5, 2025
Seeding Equipment	SeedHawk 60-12-660
Seeding Rate	190 lb/ac
Seeding Depth	1.5”
Seeding Speed	5 mph
Row Spacing	12”
Total Applied Fertilizer (lb/ac N-P-K-S)	7 – 13 – 6 – 5
Crop Protection	October 2024: Fierce® EZ (flumioxazin + pyroxasulfone) + glyphosate June 10: Viper® (imazamox + bentazon) August 18: Diquat®

Precipitation and temperature from local weather station



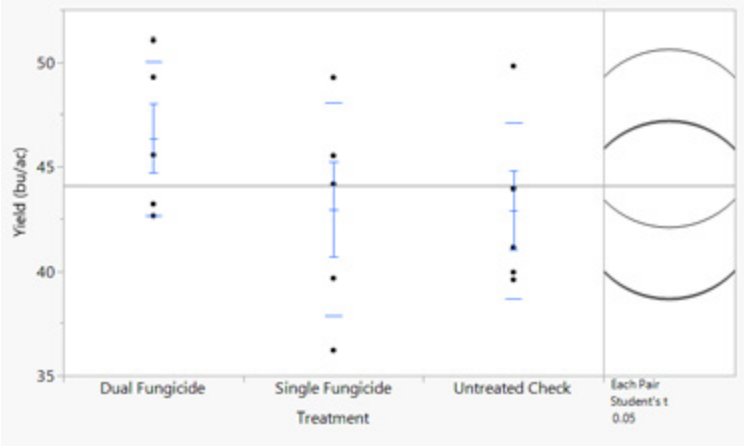
Fungicide Application

	Single Application	Dual Application
Product	Maxentis® (azoxystrobin + prothioconazole)	Delaro® (prothioconazole + trifloxystrobin)
Date	July 9, 2025	July 23, 2025
Crop Stage	Early flowering	Early-mid flowering
Tank Mix	N/A	N/A
Water Volume	15.6 gal/ac	17 gal/ac
Speed	12 mph	10 mph
Sprayer	Case 4440	Case 4440

Results

Treatment	Heights (cm)	Disease Rating				
		Root Rot (1-7)	Mycos/ Ascochyta (1-7)	White Mold	Downy Mildew	Bacteria Blight
Untreated Check	56.52 a	5.36 b	2.44 a	0.0 a	0.0 a	0.0 a
Single Application	69.66 a	6.16 a	2.66 a	0.0 a	0.0 a	0.0 a
Dual Application	69.70 a	5.24 b	2.20 a	0.0 a	0.0 a	0.0 a
SED[1]	5.50	0.312	0.408	0.0	0.0	0.0
p-value[2]	0.068	0.037	0.554	1.0	1.0	1.0

Treatment	Yield (bu/ac)	Thousand Kernel Weights (TKW) (g/1000)	Test Weight (TW) (kg/hL)	Protein (%)	Moisture (%)
Untreated Check	42.89 a	191.93 a	83.64 a	22.06 a	14.70 a
Single Application	42.97 a	193.27 a	83.68 a	21.87 a	14.52 a
Dual Application	46.35 a	198.53 a	83.86 a	21.74 a	14.42 a
SED[1]	2.40	3.23	0.361	0.233	0.312
p-value[2]	0.310	0.160	0.814	0.426	0.675



Economics

Treatment	Fungicide ($/ac)[y]	Yield (bu/ac)	Target Price ($/bu)[z]	Gross Revenue ($/ac)	Net Revenue ($/ac)	Profit/Loss ($/ac)
Untreated Check	0.00	42.9	10.00	429.00	429.00	0.00
Single Application	23.65	43.0	10.00	430.00	406.35	-22.65
Dual Application	47.30	46.4	10.00	464.00	416.70	-12.30

[y]2025 Edible Yellow Peas, 2025 Crop Planning Guide, Government of Saskatchewan (fungicide cost $23.65/ac)
[z]Maple Peas, Rayglen Commodities Inc.(target price $10/bu) (https://www.rayglen.com/rayglen-market-comments-october-15-2025/)

Summary

Plant height tended to be greater with single and dual applications, but the differences were not statistically significant. The single application showed a significantly higher root rot rating (P = 0.0369), indicating increased disease severity compared to the untreated check. Yield and grain quality parameters, including thousand kernel weight, test weight, protein, and moisture, did not differ significantly among treatments. Overall, the fungicides provided no clear agronomic or yield advantage and may have slightly increased root rot incidence.

To review footnote references please refer to overall trial summary on page 183.

This trial was conducted with the agronomic support of

Western Applied Research Corporation WARC Research from our farm to yours