

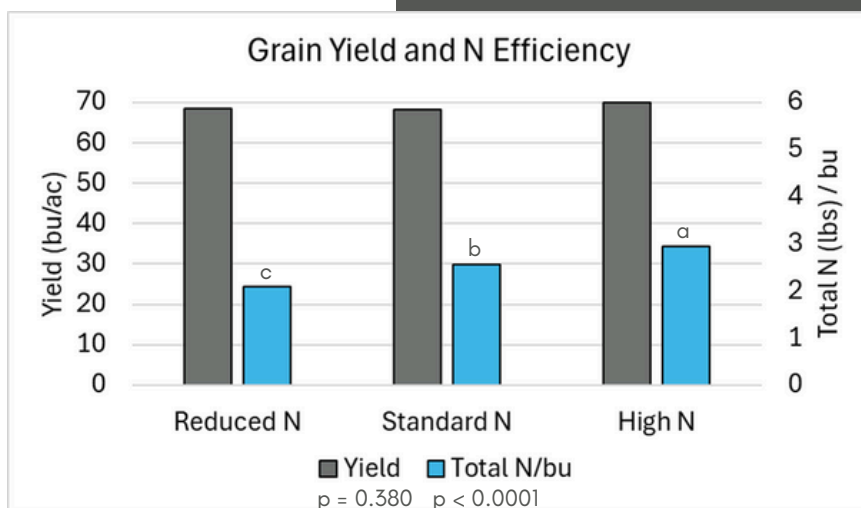
Nitrogen Rate Trial NR_19

Site Info

Trial ID: NR_19
Rural Municipality: Dufferin
Residual N (0-24''): 49 lbs./ac
Seeding Date: May 4, 2025
Seeding Equipment: Disc Drill
Variety: Invigor L340PC
Harvest Date: September 7, 2025

Nitrogen Application

Source: 28-0-0
Placement: Mid-Row Band
Timing: Seeding



Within each data type, treatments with different lowercase letters are significantly different at 95% confidence level ($p < 0.05$). Data types with no lowercase letters listed indicate an insignificant treatment effect.

Results Summary

Plant Establishment: N Rate had no effect on plant establishment in this trial

Tissue N: N Rate had no effect on N Tissue content at bolting in this trial

Grain Yield: Yield was not significantly influenced by N rate treatments in this trial. However, the reduced N rate improved N use efficiency, utilizing 2.10 lbs N to produce one bushel of grain yield compared to 2.55 lbs N/bu and 2.93 lbs N/bu utilized by standard and high rates, respectively.

Profitability: The reduced N rate treatment lowered costs while maintaining a similar yield to the farm standard N rate, returning \$20/ac more profit than the standard. The high N rate treatment did not significantly increase yield, cutting profit by \$22/ac compared to the standard.

Treatment	Fertilizer N Applied	Total N (Soil + Fert)	Plant Counts at 4-leaf	Tissue N at Bolting	Grain Moisture
	<i>Lbs. N/ac</i>	<i>Lbs. N/ac</i>	<i>plants/ft²</i>	<i>%</i>	<i>%</i>
Reduced N	94	143	7.27	6.18	9.35
Standard N	125	174	7.41	6.20	9.40
High N	156	205	7.39	6.42	9.18
	<i>p-value</i>		<i>0.910</i>	<i>0.110</i>	<i>0.820</i>

Nitrogen Rate Trial NR_19 Continued



NR_19 Weather

	Apr	May	June	July	Aug	Sept	Total
Rainfall (mm)	23.8	36.4	33.7	39	46.1	70.3	249.3
Avg Daily Temp (°C)	4.89	14.18	17.54	18.99	18.85	15.71	

NR_19 Economic Analysis

N Rate	Mean yield (bu/ac)	N Fert Cost ¹	Change in Profit from Farm Standard ²
94 lb/ac	68.34	\$64/ac	\$20/ac
124 lb/ac	68.27	\$84/ac	-
156 lb/ac	69.97	\$106/ac	-\$22/ac
P-value	0.380		
CV	3.75		

¹ Based on 2025 MB Cost of Production: estimated cost of urea ~ \$690/mt N, \$0.68/lb N

² Change in profit is calculated as the difference in grain sales income (based on estimated canola sale price of \$13.25/bu) and treatment costs, relative to the standard farm practice. Yields were not significantly different in this trial, therefore there are no differences in grain sales income.



Agronomic Support for this Trial
Provided by: