

Canola Nitrogen Rate – NR_09

Research Question: Are N rates being used on canola across Manitoba sufficient for optimizing yield and nitrogen efficiency?

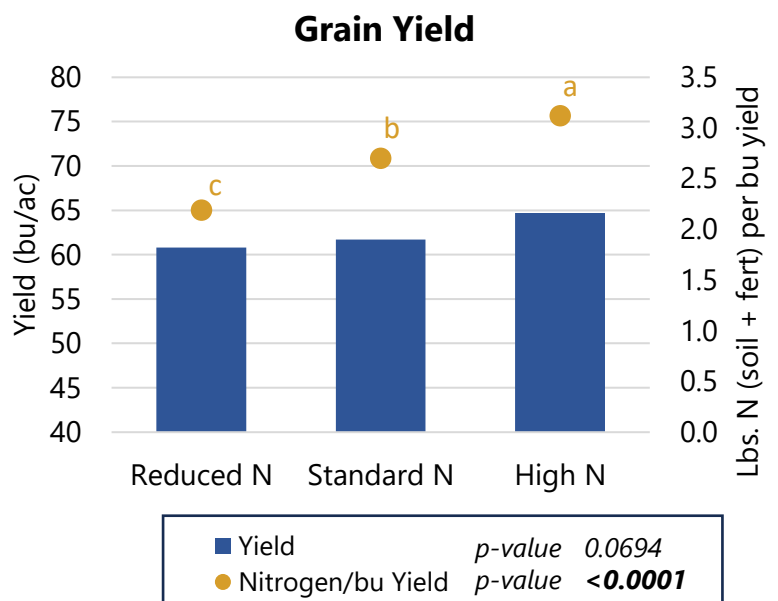
Site Information	
R.M.	Brokenhead
Residual N (0-24')	30 lbs. N/ac
Seeding Date:	May 20, 2023
Seeding Equipment:	Air Planter
Variety:	L356PC
Harvest Date:	Sept 26, 2023

Nitrogen Application	
Source:	46-0-0
Placement:	Midrow Banded
Timing:	Planting

Summary

- **Plant Establishment:** N rate had no influence on plant counts in this trial.
- **Tissue N:** N rate had no significant influence on N tissue content at bolting in this trial.
- **Grain Moisture:** The reduced N rate significantly reduced grain moisture at harvest compared to the standard and high N rates.
- **Grain Yield:** N rate treatments did not significantly influence grain yield in this trial at the 95% confidence level, however at 90% confidence the high N rate did yield more than standard and reduced rate treatments.
- **Nitrogen Efficiency:** The reduced N treatment was most efficient with N supply, using 2.2 lbs. N per bushel of grain yield produced.
- The high N treatment statistically produced the same yield as the farm standard N practice but reduced N efficiency from 2.7 to 3.1 lbs. N per bushel of grain yield produced.

Treatment	Fertilizer N	Total N (Soil + Fert)
<i>lbs. N / ac</i>		
1 Reduced N Rate	103	133
2 Standard N Rate	137	167
3 High N Rate	172	202



	Plant Counts at 4 Leaf (ft ²)	N Tissue at Bolting (%)	Harvest Grain Moisture (%)
1. Reduced N	4.7	5.8	9.6c
2. Standard N	4.8	5.6	10a
3. High N	4.4	6.0	9.8b
p-value	0.0501	0.6415	0.0017

The absence of lowercase letters for any data type indicates no significant differences between treatments.

	Apr	May	June	July	Aug	Total
Rainfall (mm)	17	10	51	74	73	225
Avg Daily Temp (C)	0.9	16	20	17	18	

