# Canola Nitrogen Rate – NR_10

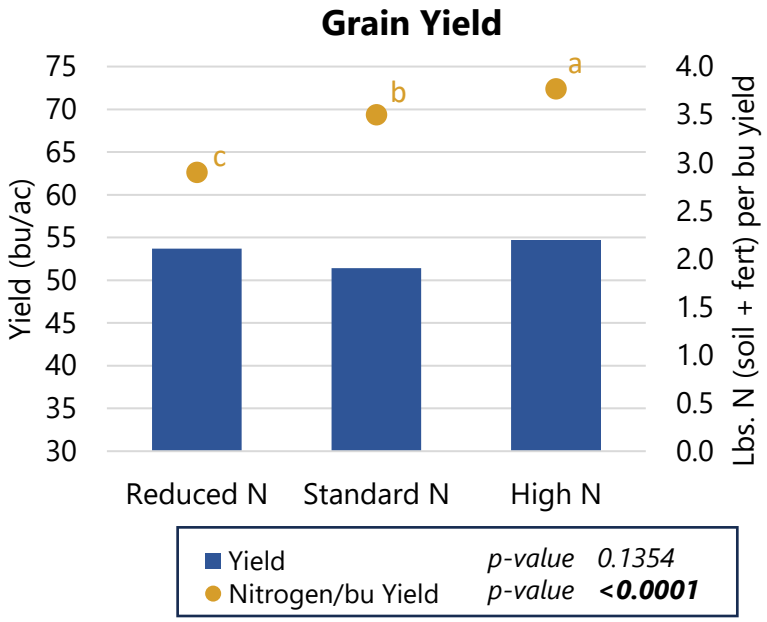
**Research Question:** Are N rates being used on canola across Manitoba sufficient for optimizing yield and nitrogen efficiency?

| Site Information | |
|---|---|
| R.M. | Two Borders |
| Residual N (0-24') | 50 lbs. N/ac |
| Seeding Date: | May 23, 2023 |
| Seeding Equipment: | Vaderstad-Seed Hawk Hoe Drill |
| Variety: | L340 |
| Harvest Date: | Sept 16, 2023 |
| **Nitrogen Application** | |
| Source: | 46-0-0 |
| Placement: | Broadcast |
| Timing: | Spring Pre-Seed |

## 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: Nitrogen rate had no influence on grain moisture in this trial.
- Grain Yield: There wasno significant differences in grain yield between the three N rate treatments tested in this trial
- Nitrogen Efficiency: The reduced N treatment was most efficient with N supply, using 2.9 lbs. N per bushel of grain yield produced.
- The high N treatment produced the same yield as the farm standard N practice but reduced N efficiency from 3.5 to 3.8 lbs. N per bushel of grain yield produced.


| Treatment | | Fertilizer N | Total N (Soil + Fert) |
|---|---|---|---|
| | | *lbs. N / ac* | |
| 1 | Reduced N Rate | 80 | 130 |
| 2 | Standard N Rate | 106 | 156 |
| 3 | High N Rate | 133 | 183 |




| | Plant Counts at 4 Leaf ($ft^2$) | N Tissue at Bolting (%) | Harvest Grain Moisture (%) |
|---|---|---|---|
| 1. Reduced N | 8.1 | 6.8 | 8.5 |
| 2. Standard N | 7.7 | 7.1 | 8.7 |
| 3. High N | 8.6 | 7.0 | 8.5 |
| p-value | *0.994* | *0.3586* | *0.7742* |

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

| | Apr | May | June | July | Aug | **Total** |
|---|---|---|---|---|---|---|
| Rainfall (mm) | 28 | 64 | 114 | 20 | 23 | **249** |
| % of Normal Rainfall | 73 | 120 | 140 | 42 | 58 | |
| Avg Daily Temp (C) | 0.7 | 15 | 20 | 08 | 16 | |


*Agronomic support for this trial provided by:*

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