



# Canola Nitrogen Rate Trial

**Trial ID:** CNR\_03 – Altamont, MB [RM of LORNE]

**Objective:** To identify optimal nitrogen fertilizer rates based on return on investment and nitrogen use efficiency.

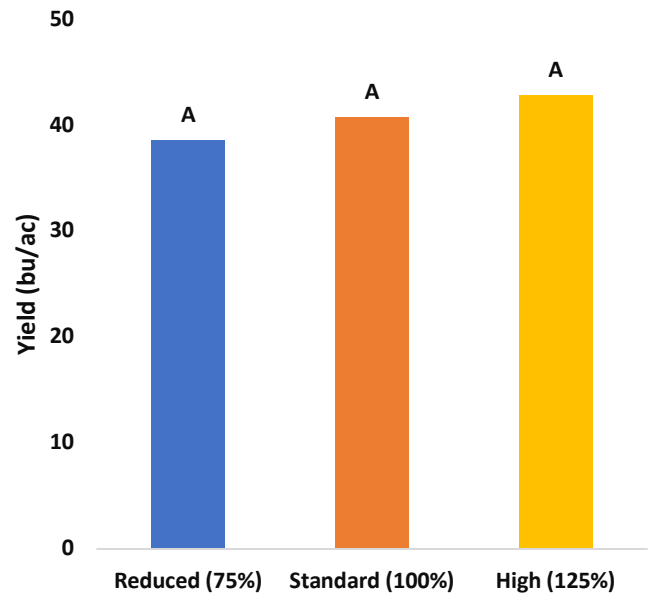
**Summary:** There was no significant yield difference between applied nitrogen fertilizer rates of 75%, 100%, or 125% relative to normal application.

## Trial Information

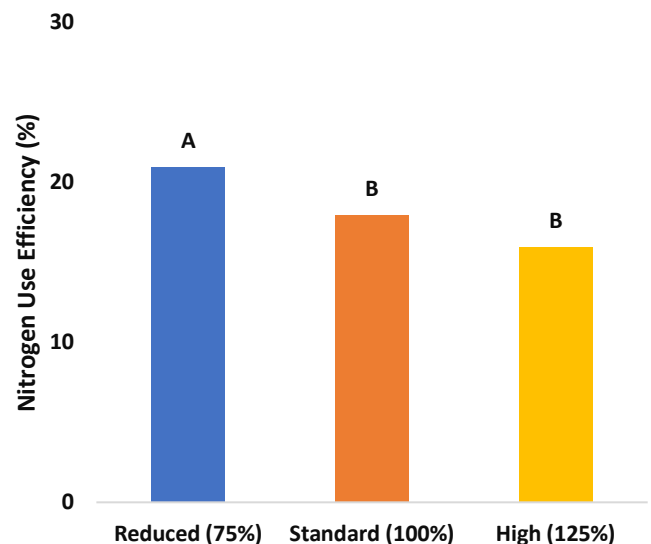
- Treatment**
- **Reduced N rate (75%): 109 lbs N/ac**
  - **Standard N rate (100%): 138 lbs N/ac**
  - **High N rate (125%): 167 lbs N/ac**

|  |                               |
|--|-------------------------------|
| <b>Soil Texture</b>                    | Fine-textured                 |
| <b>Previous Crop</b>                   | Wheat                         |
| <b>Seeding Date</b>                    | June 5, 2022                  |
| <b>Seeding</b>                         | Air drill                     |
| <b>Equipment</b>                       |                               |
| <b>Residual N (0-2 ft)</b>             | 60 lbs/ac                     |
| <b>N Application Method and Timing</b> | Banded and applied at seeding |
| <b>Variety</b>                         | L82SC                         |
| <b>Seed Treatment</b>                  | BUTEO Start 480 FS            |
| <b>Seeding Rate</b>                    | 4.7 lbs/ac                    |
| <b>Row Spacing</b>                     | 10 inches                     |
| <b>Harvest Date</b>                    | October 4, 2022               |

## Yield by Treatment



## Nitrogen Use Efficiency by Treatment



## Growing Season Conditions

|              | Rainfall (mm) (% of average) | Average Daily Temp. (C°) |
|--------------|------------------------------|--------------------------|
| <b>April</b> | 2 (7%)                       | -1                       |
| <b>May</b>   | 93 (135%)                    | 11                       |
| <b>June</b>  | 30 (33%)                     | 17                       |
| <b>July</b>  | 91 (126%)                    | 20                       |
| <b>Aug</b>   | 31 (42%)                     | 20                       |
| <b>Sept</b>  | 9 (20%)                      | 14                       |
| <b>Total</b> | 256                          |                          |



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## Overall Yield & Results

|                        | <b>N Rate<br/>(Lbs N/ac)</b> | <b>Plant Count<br/>4-leaf</b> | <b>Tissue N<br/>Bolting (%)</b> | <b>Yield (bu/ac)</b> |
|------------------------|------------------------------|-------------------------------|---------------------------------|----------------------|
| <b>Reduced (75%)</b>   | 109                          | 8.3                           | 6.3                             | 38.6                 |
| <b>Standard (100%)</b> | 138                          | 7.7                           | 6.6                             | 40.8                 |
| <b>High (125%)</b>     | 167                          | 7.4                           | 6.6                             | 42.9                 |
| <b>P-Value</b>         |                              | 0.3                           | 0.2                             | 0.5                  |
| <b>CV</b>              |                              | 12                            | 4                               | 6                    |
| <b>Significance</b>    |                              | <b>No</b>                     | <b>No</b>                       | <b>No</b>            |

## Location of Trial



MCGA would like to thank Tone Ag Consulting Ltd. for their research support for this trial.