

Project C:



Manitoba Crop Alliance MALT BARLEY NITROGEN RATE Replicated Strip Trial Protocol



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OBJECTIVE:

The purpose of this project is to quantify the agronomic and economic impacts of increasing Nitrogen rates from the producer's normal nitrogen rate in the latest Malt Barley varieties – 3 sites.

BRIEF SUMMARY:

- The grower will use their normal Nitrogen rate in 4 strips, alternating with 4 strips
- each of two higher nitrogen rates.
- An example is shown on the right using the normal nitrogen rate, then 10% higher Nitrogen, and finally 20% higher Nitrogen rate.
- The width of a strip must be at least as wide as a complete combine pass, preferably wider. The harvested length should not be less than 1,000 feet.
- The alternating strips of the nitrogen rates can be planted by using GPS to plant every other strip with one nitrogen rate and then filling in the skipped passes with the other nitrogen rate.
- Take a seed sample from the seeder (about ½ an ice cream bucket).
- Harvesting must ensure at least one “pure” combine pass from each treatment (no mixing of yields from two different treatments).

Normal Nitrogen
+10% Nitrogen
+20% Nitrogen
+10% Nitrogen
Normal Nitrogen
+20% Nitrogen
Normal Nitrogen
+10% Nitrogen
+20% Nitrogen
+20% Nitrogen
Normal Nitrogen
+10 Nitrogen

GROWER REQUIREMENTS:

- Supply information (if unknown before planting) on location, seeding dates, variety, and treatments etc. by June 30.
- Area containing waterways and headlands should be avoided. All other factors in the trial must be managed the same (planting date, variety, etc.).
- If possible, accurately record where all the treatments were applied using GPS mapping equipment.
- All strips must be harvested on the same day.
- Allow the Manitoba Crop Alliance to use the collected data for research, education, and informative purposes.
- ***Must be a member in good standing with MCA.***

MCA AND PARTNERS AGREE TO:

- Attempt to collect aerial images from each field and provide them to the grower at no cost.
- Set up the trial with the grower in the field. Soil sample and weigh individual harvested strips with a weigh wagon. Do plant counts both at seedling establishment and just prior to harvest.
- Provide a report analyzing the statistical and economical treatment differences.
- Keep data in a confidential manner that cannot be linked back to the individual grower by other parties.
- Make this minimum work for grower.

BENEFITS TO THE GROWER:

- Access to the latest research which can be adapted to their farm.
- Creating a crop production database for your local area.
- Higher quality of data – multiple evaluations across numerous farms under different soil types, cropping history and management styles.

If you are interested in participating in a trial or have questions, please contact:

Jordan Karpinchick, CCA
Research on the Farm Trial Coordinator
Email: jordankarpinchick@toneag.com
Cell: 204-433-7189

Daryl Rex
Research Trial Specialist
Email: daryl@mbcropalliance.ca
Phone: 204-745-6661



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“The optimum agronomic input package has yet to be established for new malting barley varieties, with some indications that varieties are not being fertilized to their potential. Can yields be increased without increasing the seed protein percentage or affecting malting characteristics?”

Examples of New Malt Barley Varieties:

- ✓ **AAC Connect**
- ✓ **CDC Fraser**
- ✓ **CDC Churchill**
- ✓ **AAC Synergy**

Data to be Collected by Contractor or MCA (2024 Trials):

- ✓ Plant Stand – plants/ft² – after emergence but prior to harvesting
- ✓ Lodging – 1=no lodging; 5=flat – just prior to harvest or before swathing
- ✓ Harvest Sample – 1 composite sample/seeding rate for quality analysis. Retain a large enough of a harvest sample for conducting Malt Barley quality analysis (contact CMBTC)
- ✓ Yield – bushels/acre – adjusted to 14.5% seed moisture
- ✓ Seed Moisture - % taken at time of harvest
- ✓ Bushel Weight – lb/bu – taken at time of harvest
- ✓ General Observations – e.g., Differences in height, lodging, maturity