

## Project D:



# Manitoba Crop Alliance CORN – REDUCED NITROGEN RATE Replicated Strip Trial Protocol



MANITOBA  
CROP  
ALLIANCE

### Objective:

The purpose of this project is to quantify the agronomic impacts of a reduced Nitrogen rate on grain corn for yield and grain quality - 4 sites.

### Brief Summary:

- All the fertilizer treatments will be applied at the time of planting as in the example to the right.
- The reduced rate of Nitrogen will be about 80% of the full rate (a minimum reduction of at least 30 lbs N is recommended).
- Plant the same grain corn hybrid throughout the entire trial. Use the same planting rate for all treatments.
- Flag where each treatment starts and stops. If available, use GPS as well.
- Envita will be foliar applied at the 2-4 leaf stage (V2-V8). Follow labelled instructions and rates.
- The width of a strip must be at least as wide as a full combine header, preferably wider to ensure at least one “pure” combine pass per each treatment. The minimum harvested length should be 300 meters.
- All treatments should be harvested on the same day with each treatment being weighed off using a calibrated weigh wagon.

### Grower Requirements:

- Supply information (if unknown prior to planting) on location, planting date, hybrid, fertility, cropping history, etc. by June 30.
- Areas containing waterways and headlands should be avoided. All other factors in the trial area must be managed the same (planting date, hybrid, fertility, etc.).
- If possible, accurately record where all the treatments were applied using GPS mapping equipment.
- Allow Manitoba Crop Alliance to use the collected data for research, educational and informational purposes.
- ***The Grower Must be a member in good standing with the 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 trial with growers in field, soil sample, do plant counts after planting but before harvest, weigh individual strips with weigh wagon, take a harvest sample.
- Provide a report analyzing the statistical and economical treatment differences.
- Keep data in a confidential manner that cannot be linked back to the individual producer by other parties.

### Benefits to Grower:

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

Rep 1	80% N + Envita
	80% Nitrogen
	100% Nitrogen
Rep 2	100% Nitrogen
	80% N + Envita
	80% Nitrogen
Rep 3	100% Nitrogen
	80% N + Envita
	80% Nitrogen
Rep 4	80% Nitrogen
	80% N + Envita
	100% Nitrogen



**Manitoba Crop Alliance**  
**WHEAT – NITROGEN FIXING**  
**BIOLOGICAL PRODUCTS (ENVITA)**  
**Replicated Strip Trial Protocol**



**MANITOBA  
CROP  
ALLIANCE**

**Objective:**

The purpose of this project is to quantify the agronomic impacts of a biological fixing Nitrogen product (Envita) on spring wheat for yield and grain quality - 4 sites.

**Brief Summary:**

- All the fertilizer treatments will be applied at the time of planting as in the example to the right.
- The reduced rate of Nitrogen will be about 75% of the full rate.
- Plant the same spring wheat variety throughout the entire trial. Use the same planting rate for all treatments.
- Flag where each treatment starts and stops. If available, use GPS as well.
- Envita will be foliar applied at the 3-6 leaf stage. Follow labelled instructions and rates.
- The width of a strip must be at least as wide as a full combine header, preferably wider to ensure at least one “pure” combine pass per each treatment. The minimum harvested length should be 300 meters or 1000 feet.
- All treatments should be harvested in the same day with each treatment being weighed off using a calibrated weigh wagon.

**Grower Requirements:**

- Supply information (if unknown prior to planting) on location, planting date, variety, fertility, cropping history, etc. by June 30.
- Areas containing waterways and headlands should be avoided. All other factors in the trial area must be managed the same (planting date, variety, fertility, etc.).
- If possible, accurately record where all the treatments were applied using GPS mapping equipment.
- Allow Manitoba Crop Alliance to use the collected data for research, educational and informational purposes.
- ***The Grower Must be a member in good standing with the 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 trial with growers in field, soil sample, do plant counts after planting but before harvest, weigh individual strips with weigh wagon, take a harvest sample.
- Provide a report analyzing the statistical and economical treatment differences.
- Keep data in a confidential manner that cannot be linked back to the individual producer by other parties.

**Benefits to Growers:**

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

**Important Notes:**

- ✓ A biofertility product (Envita) can be used to fulfill the mid to late season nitrogen fertility gap in a variety of crop types by nitrogen fixation. Envita claims an average increase in corn yields when applied in conjunction of a grower's 100% nitrogen fertility rate, or the reduction of a grower's nitrogen fertility rate of up to 27% while maintaining average corn yields. These results occurred

73-80% of the time.