

**Manitoba Crop Alliance**  
**Sunflower Plant Population Study - Confection**  
**Replicated Strip Trial Protocol**



**MANITOBA  
CROP  
ALLIANCE**

**Objective:**

The purpose of this project is to quantify the agronomic and economical impacts of plant population in Confection sunflowers.

**Brief Summary:**

- The grower will Seed their normal seeding rate in 4 strips, alternating with 4 strips each of a lower and higher seeding rate.
- An example is shown on the right using a target confection sunflower seeding rate of 18,000 seeds/acre, a lower and higher seeding rate of 15,000 and 21,000 seeds/ac.
- The width of a strip must be at least as wide as a complete combine pass, preferably wider. The length should not be less than 1,000 feet.
- The alternating strips of sunflower populations can be planted by using GPS to plant every other strip with one population and then filling in the skipped passes with the second population seeding rate.
- Take a seed sample from the planter (about ½ an ice cream bucket).
- Harvesting must ensure at least one “pure” combine pass from each treatment (no mixing yields from two different treatments).

15,000 seeds/acre
21,000 seeds/acre
18,000 seeds/acre
21,000 seeds/acre
15,000 seeds/acre
18,000 seeds/acre
15,000 seeds/acre
21,000 seeds/acre
18,000 seeds/acre
18,000 seeds/acre
15,000 seeds/acre
21,000 seeds/acre

**Grower Requirements:**

- Supply information (if unknown at planting) on locations, seeding dates, variety, treatments, etc. by June 30.
- Areas 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.

**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 taking plant counts both at seedling establishment and just prior to harvest.
- Measure the head sizes at harvest and note any diseases present.
- Provide a report containing statistical analysis 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 the grower.

**Benefits to the Grower:**

- Access to the latest research which can be adapter 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:**

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