

Station 1: Project Overview

2020 MSSS Drop-in Tour — 4R Canola N Management

Title: Optimal Source, Placement and Application Timing of Nitrogen for Yield and Reduction of Greenhouse Gas Footprint for Canola Production on Light Texture Soils on the Canadian Prairies

Funding Program

Canola Agronomic Research Program (CARP) of the [Canola Council of Canada](#)

Principal Investigator and Collaborators

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- ✿ Dr. Xiaopeng Gao (4R Management Strategies Research Associate, University of Manitoba)

Synopsis

Through field trials in Southern Manitoba, this project will build upon previous work using 4R Nutrient Management to optimize the rate, source, placement and timing of fertilizer N addition to canola for improved profitability and reduced greenhouse gas emissions on light texture soil, which are most prone to NH₃ emissions.

Specific Objectives

The project started with fall application in October 2018 and continues to April 2022. This is our second field season. This project aims to answer seven questions:

- ✿ **Placement** – How does surface application of double inhibitor granular urea (SuperU) compare to shallow banding of granular urea and the recommended placement of deep banding of urea?
- ✿ **N Source for Shallow Banding** – Is there an advantage in using SuperU or controlled release granular urea (ESN blend) compared to granular urea when shallow banding?
- ✿ **Nitrification Inhibition for Deep Banding** – Is there an advantage to inhibiting nitrification (eNtrench and DMP5A) when deep banding granular urea?
- ✿ **Fall & Spring Application** – Can enhanced efficiency granular urea products and band placement of fall applied N match the benefit of spring application of N?
- ✿ **Split Application** – Is there an advantage to adding N at planting and in-season compared to just at planting?
- ✿ **Placement of In-Season N** – Does it matter if in-season N dressing of UAN is top-dressed by surface streaming or side-dressed by injection?
- ✿ **Inhibiting Ammonia Loss with Top-dressing** – Is there a benefit to using the urease/nitrification inhibitors to top-dress UAN?

For more information - [CLICK HERE](#).

