Recruiting Producers for On-Farm Precision Experimentation 2026: Alberta & Saskatchewan

Background Information & Process for Producers

BACKGROUND

Is your fertilizer plan the most profitable for your field? The only way to know is to test it – on your land, with your conditions. This project puts that power directly in producers' hands, bringing a proven on-farm research method to Alberta and Saskatchewan farms. The two-year research project is using On-Farm Precision Experimentation (OFPE) – a methodology defined by Data-Intensive Farm Management (DIFM) – to test wheat seed, barley seed and nitrogen rates.

Using the DIFM free platform (difm.farm), precision agriculture equipment apply and record whole-field trial data, and artificial intelligence is used for data analysis. This data-driven approach enhances the efficiency of agronomic inputs and enables regional data aggregation to benefit the agriculture sector.

PROJECT OBJECTIVE

Empower Canadian prairie farmers and agronomists with data-driven insights from OFPE. This research initiative specifically focuses on optimal seeding rates for wheat and barley, and nitrogen fertilizer rates.

Types of trials conducted as a part of this project include:

1. Seeding-rate-only trial of any barley or wheat variety.
2. Nitrogen-rate-only trial using urea, UAN or anhydrous ammonia (with a wheat or barley crop).
3. Seed-AND-nitrogen rate trial of any barley or wheat variety PLUS nitrogen (urea, UAN, anhydrous ammonia).

VALUE TO PARTICIPATING PRODUCERS

- You will receive a trial report generated by the DIFM platform outlining the optimal seed rate and/or nitrogen rate for your field under your conditions and management practices for that growing season.
- Each completed trial will receive an honorarium for participation.

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PROCESS FOR PARTICIPANTS

1. Determine if you are a good fit for this project:
   - ☐ I have experience conducting variable rate applications with my seeder.
   - ☐ I have combines equipped with yield monitors that I know how to calibrate.
2. Identify a wheat or barley field you would like to conduct the trial on:
   - ☐ 100+ acres in size.
   - ☐ Has some natural variability (soil types, topography).
   - ☐ Is representative of your operation.
3. Let the research team know you're interested in participating, by emailing **ofpe@oldscollege.ca.**
4. Fill out an online form to provide information on your field, farm equipment, seed/fertility rates.
5. Review and sign an agreement. You own your data and can participate anonymously.
6. Work with the research team to confirm your final trial design.
7. Upload the trial prescription to your seeder.
8. Seed with the trial prescription and follow a preset guidance line.
9. Send the research team your as-applied seeding files.
10. The research team will confirm seeding correctness and send your harvest guidance line.
11. Harvest the field using the provided guidance line with your calibrated yield monitors.
12. Send the yield files to the research team.
13. The research team will process the data and provide you with the DIFM-generated report.

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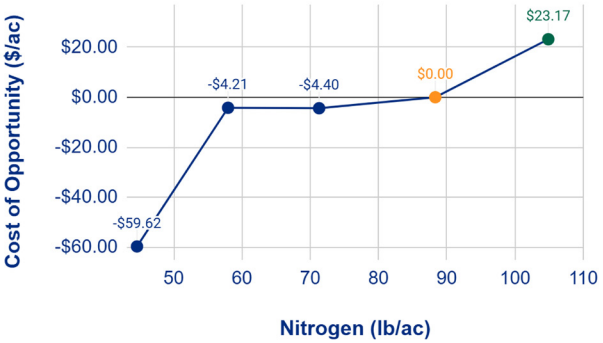
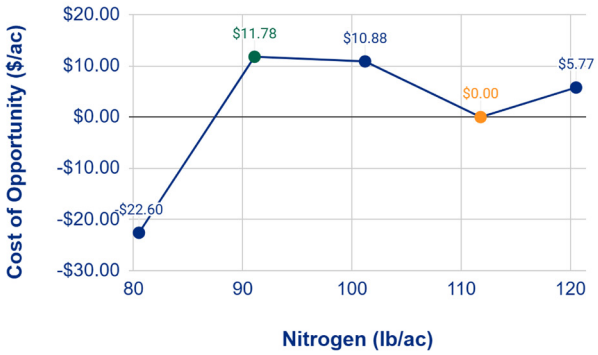
Cost of opportunity analysis indicated that higher nitrogen rates yielded greater profit for Field 1 in 2024.

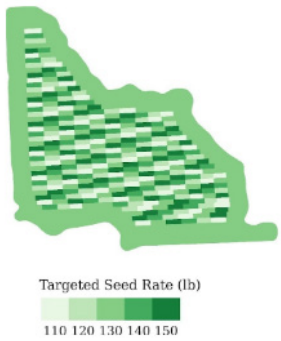


Cost of opportunity analysis indicated that lower nitrogen rates yielded greater profit for Field 2 in 2024.

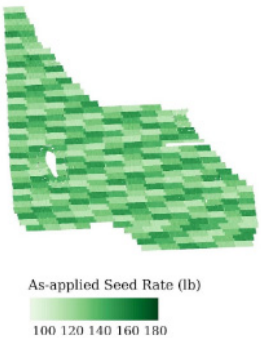


● Most Profitable
● Farmer's Practice

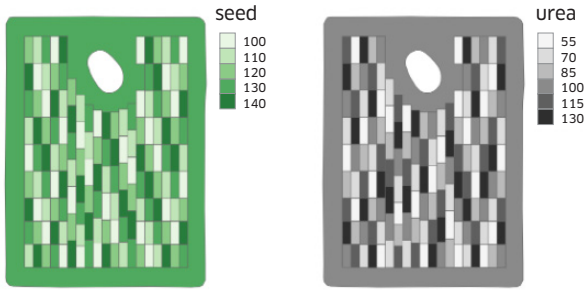
Left: Seeding rate trial prescription.



Right: As-applied map of the seeding prescription.



An example set of prescriptions for a dual trial of seeding rates and nitrogen rates to be conducted in the same field in the same season.



If you are interested in participating in this project, please contact the OFPE Research Team at Olds College to get involved:
ofpe@oldscollege.ca

Western Applied Research Corporation WARC Research from our farm to yours
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SaskWheat Development Commission
SaskBarley Development Commission
RDAR Results Driven Agriculture Research