



3. Which crop will you be using for the trial?  Wheat - CWRS  Wheat - Other  Barley - Feed  Barley - Malt  Other

4. Variety(s) being used for the trial:

5. Alberta Grains has pre-designed trials that can be implemented or slightly altered. If you wish to implement a custom trial design not listed below, select "OTHER"

- Fungicide application (compares different fungicide timings of application to untreated check)
- Nitrogen rates (compares increasing nitrogen rates)
- Nitrogen source (compares different nitrogen sources)
- Plant growth regulator (compares application of PGR to untreated check)
- Variety comparison (compares different varieties of the same crop type)
- Nitrogen timing (compares applications of nitrogen at different timings)
- Row spacing (compares different row spacing Note: this trial requires specific equipment)
- "OTHER" - Custom trial design

6. If implementing or custom trial or making alterations to a pre-designed trial listed above, please indicate the treatments below as such: Treatment 1,2,3,4 etc:

7. Do you have a grain cart with scales, a weigh wagon, or a scale within close proximity to the trial?  YES  NO  MAYBE

8. Any additional comments you would like to mention regarding the trial design?

9. GPS coordinates OR LLD of the field intended to be used for the study as well as any other details about field borders:

## AGRONOMICS OF TRIAL FIELD

Please fill out basic information regarding the field that is intended to be used for the trial. This section should not include information about the treatments related to the trial. Only provide information about what would be normally done in this field.

10. Is there soil test results available for this field?  YES  NO  Field will be sampled and analyzed prior to spring seeding

QUESTION					
PREVIOUS CROP	WHEAT	BARLEY	CANOLA	PULSE	OTHER
-1 YEAR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-2 YEAR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-3 YEAR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Did this field suffer recent crop loss, hail, or significant environmental conditions that impacted yield or yield variability?  
 YES  NO If Yes, please provide details:

12. Target seeding date (approximate for planning purposes - MONTH DAY):

13. Will there be irrigation on this trial?  YES  NO

14. How do you apply fertilizer?  Single rate across field  Variable rate across field  OTHER:  
 Please provide any additional details:

## EQUIPMENT Please provide details on your farm equipment to assist with trial planning and design

15. Seeder type (Hoe, disk, etc):	15. Seeder width (ft):
16. What opener type do you use on your seeder? Please include width of opener and shoot design:	
17. What is the row spacing of your seeder (in)?	

18. How do you typically place your fertilizer? (eg: MAP with seed and Urea in side band):

19. What is the width of your sprayer (ft)?

20. How many sections does your sprayer have?

21. Is there a chance a swather will be used to assist with harvest?  YES  NO  MAYBE

22. Please provide any other equipment, logistics, field, or agronomic considerations that may impact how the trial is implemented:



## Wheat trials

Title	Objective
Spring wheat variety comparison	Compare the yield and quality of different spring wheat varieties or classes.
Chlormequat chloride (Manipulator) application on spring wheat	Compare the standability, yield and quality of the plant growth regulator (PGR) chlormequat chloride (Manipulator) on spring wheat.
Spring wheat in-crop nitrogen application	Compare the effects of in-crop nitrogen on spring wheat yield and quality.
Enhanced efficiency fertilizer use in spring wheat	Compare the yield, protein and quality of utilizing enhanced efficiency fertilizers (EEFs) at seeding on spring wheat.
Spring wheat seeding rate comparisons	Compare the yield and quality of spring wheat seeded at different seeding rates based on Thousand Kernel Weight (TKW).
Spring wheat row spacing comparison	Compare effects of row spacing on the yield and quality of spring wheat.
Spring wheat fungicide timing	Compare the yield and quality impacts of different fungicide application timings on spring wheat.
Increasing nitrogen rates in spring wheat	Compare the yield and quality impacts of increasing nitrogen fertilizer rates on spring wheat.

## Barley trials:

Title	Objective
Increasing nitrogen rates (malt or feed)	Compare the yield and quality of barley seeded at different seeding rates based on Thousand Kernel Weight (TKW) (malt or feed)
Trinexapac-ethyl (Moddus) plant growth regulator on barley (malt or feed)	Compare the standability, yield and quality of the Plant Growth Regulator (PGR) trinexapac-ethyl (Moddus) application on barley compared to an untreated check (malt or feed).
Increasing nitrogen rates in barley (malt or feed)	Compare the yield and quality impacts of increasing nitrogen fertilizer rates on barley (malt or feed).
Barley variety comparison (malt or feed)	Compare the yield and quality of different barley varieties (malt or feed).
Barley fungicide timing (malt or feed)	Compare the yield and quality impacts of different fungicide application timings on barley (malt or feed).
Enhanced efficiency fertilizer use in barley	Compare the yield, protein and quality of utilizing enhanced efficiency fertilizers (EEFs) at seeding on barley.

## Custom Trial

Each year, a small number of spaces are left open in the Plot2Farm program to implement custom trials. These spaces are intended for applicants who want to test a management practice outside of the trial options listed above. Careful consideration needs to be taken when developing a trial such as logistics, timing, costs, equipment capacity, field size, and much more. It is highly recommended that the applicant develops trial treatments with an experienced agronomist. Details of the trial can be noted in 'trial information' portion of the application form. Applications for custom trials will be reviewed by the Commissions' agronomy team and selected based on agronomic and logistical viability. When developing a custom trial please consider:

1. No more than 3 treatments - Simplicity increases chances of success
2. Equipment capacity
3. Availability of products required to implement custom trial
4. Time required to execute treatments, collect data, and harvest the trial
5. Trials must contain at least 4 replications

If applying for a custom trial, provide as much additional detail in the additional information portion of the 'trial information' portion of the application. If the application requires more space to detail the trial, please feel free to provide additional information in supplemental documents (such as Microsoft Word).

## Additional steps for a successful trial

Below is a list of steps that are necessary for implementing and completing an accurate on-farm trial.

- ❑ The applicant has read the Research Guide document.
- ❑ The applicant has attended the pre-season webinar hosted by Alberta Wheat and Alberta Barley Commissions.
- ❑ The applicant has a weigh wagon or grain cart with scales for weighing yield. Alternatively, the applicant can source a weigh wagon or cart with scales from a third party.
- ❑ The applicant has GPS technology on seeder, sprayer, swather, and combine.
- ❑ The applicant has a field large enough to implement multiple replications of multiple treatments.
  - > Example of a seeding-based trial: if you have a 50ft seeder and want to test 3 seeding rate treatments:
    - The trial would require 3 treatments x 4 replications = 12 plots
    - A plot can be 1, 2, 3 or more seeder passes
    - The applicant will need a field that can comfortably accommodate at least 12 side-by-side seeder passes (50' x 12 passes = 600 ft) plus at least 2 seeder passes (on each side) between the trial plots and field borders /tree lines etc. (600 ft + 200 feet = 800 feet total)
- ❑ > Example of a sprayer-based trial: If you have a 120-foot sprayer and want to test 3 treatments:
  - 3 treatments x 4 replications = 12 plots
  - A plot can be 0.5, 1, 2 or more sprayer passes depending on your sprayer width (i.e. 100 ft) and combine header size (i.e. 30 ft)
  - The applicant will need a field that can comfortably accommodate at least 600 feet (0.5 x 100 ft = 50 ft/plot x 12 plots = 600 feet) plus at least 2 seeder passes (on each side) between the trial plots and field borders/ treelines etc. (600 ft + 200 ft = 800 ft)
- ❑ The applicant must ensure their drill has the capacity required for the trial. For example, if a particular trial involves testing urea nitrogen (N) fertilizer rates of 75 and 150 lbs of actual N, the seed drill must have the ability to apply 326 lbs of actual N/acre as urea. If the drill can only apply 300 lbs urea/acre, this trial is not possible.
- ❑ The applicant must be willing to do seed and fertilizer calibrations for each treatment before seeding each treatment. For an experiment with 4 treatments, this means 4 calibrations must be done in the field on the day of seeding the trial.
- ❑ The applicant must have the capability to load different fertilizer treatments if multiple tote bags are involved.
- ❑ The applicant must have well maintained equipment including seeder, sprayer, combine, headers, and grain carts.
- ❑ The applicant must have sufficient quantities (plus at least 15% extra) of quality seed for the trial.
- ❑ If the applicant uses variable rate, they must be willing to shut off the variable rate in the area that the trial will be conducted.
- ❑ Applicant must apply basic agronomics such as seeding rates and fertilizer rates that are based on government or extension recommendations:
  - > Targeting low plant stands and unbalanced, limited fertility can hide treatment differences making the trial meaningless.

