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On-Farm Trials

The concept behind on-farm trialing is not new to agriculture, but there are a few things to keep in mind when planning to conduct an onfarm trial this season. In this newsletter we are going to breakdown what an on-farm trial is, the goals and types of an on-farm trial and the considerations when conducting an on-farm trial.

What is an on-farm trial?

On-farm trialing uses different strips/sections in the same field allowing for a side-by-side comparison of two or more different practices/ products.

Types on on-farm trials?

There are many types of on-farm trials including:

- 1. Tillage
- 2. Herbicide, fungicide & seed treatment, biologicals Timing, Product, Application Method, etc.
- 3. Fertility
- 4. Hybrid and Variety trials
- 5. Equipment
- 6. Planting date
- 7. Population

What is the goal of an on-farm trial?

The goal of an on-farm trial is to evaluate production practices and products using your farming practices and growing conditions. On-farm trials assist in validating small-plot research findings. Evaluating new/different practices/products for your farm may results in reduced labour, increased profit margins and/or healthier soils, just to name a few of the benefits of on-farm trials.



Photo Credit: Brennan Fazakas, S AB CANTERRA SEEDS Territory Manager

Designing an on-farm trial

- **1. Determine your goal.** Ask yourself what you are trying to figure out.
- **2. Determine what you are going to compare to.** Comparing to what you've always done is a great place to start. This practice would be the control for your trial which is what you are testing against.
- **3. Determine how to randomize and replication.** This is done to account for field variability and build statistical significance. Replication is critical to understanding variability in the field and helps to reduce bias of product or treatment placement within a field. Three to four replications is a good goal for on-farm trials. Randomization may be difficult for on-farm trials, but it is something to consider if you have the capability to do so.
- **4. Think about where you are going to conduct the trial.** Field selection is going to be critical. Avoid selecting fields where variability is high. Choose a field that represents the majority of acres you farm so the results can be applied to other fields with an increased chance of success.

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Considerations for conducting the on-farm trial

- **1. Match equipment width.** Planters, harvest machinery and spray equipment widths all need to be considered depending on the trial type. For example, when conducting a hybrid trial there is an increased risk of mistakes or reduced efficiency during harvest if you plant 12 rows of each hybrid, but only have a 10 row header for the combine.
- 2. Use technology if you have the capacity to do so. There are many platforms available that can help you track field operations and trial performance. Using GPS to skip sections can help keep the trial organized with less hassle and increase efficiencies during the season.
- **3. Consider using border rows or check strips.** Border rows are helpful in foliar application trials. The border rows are not harvested for trial data. Check strips can be used to check for field variability and are extremely helpful when trials start to get large.
- **4. Don't forget to analyze the results.** Results usually come in the form of harvest data, but not always. As we all know, harvest can be an extremely busy and stressful time and on-farm trials don't always take priority at harvest time. But if time allows, try to get the data and then once harvest has wrapped up, take the time to analyze the results that you've worked for during the season. Results can also be collected using drones, imagery, soil samples and tissue tests to determine if the goal of your trial has been achieved.
- **5. Consider replicating the trial next season.** Environmental growing conditions never seem to be the same year to year. To increase confidence in your on-farm trial results, try replicating the same trial the next year in a field with similar conditions to evaluate differences in environmental conditions.



Photo Credit: Brennan Fazakas, S AB CANTERRA SEEDS Territory Manager

PRIDE Seeds collaborates with plot cooperators orchestrate farm trials across Western Canada. In these trials, we evaluate commercial and experimental hybrid performance, in addition to hybrid fit for various CHU zones and end use. Through years of on-farm trials, we have established a benchmark of plot data allowing for enhanced evaluations of hybrids. This allows us to provide tailored and proven recommendations for all areas of Western Canada.

On-farm trials can be a fun way to learn about new practices and products to increase your farms bottom line or make it more efficient. Sharing your experience with other producers or your retail partner can result in more on-farm trials going in next season on neighbouring farms and hopefully an answer to the original question.

Additional Reading

> Conducting On-Farm Trials - Iowa State University

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> How to do on-farm trials - Top Crop Manager



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