On-Farm Experimentation Community Info No. 4

Jan 5, 2021

On-Farm Experimentation Community (OFE-C) of the International Society of Precision Agriculture (ISPA)

A Reflexion on a New OFE-Based Agronomy

Accurate interpretation is the key to getting value from OFEs—good interpretation helps farmers learn more from each OFE, and manage with greater certainty as a result. Sadras and co-authors [Making Science More Effective for Agriculture: Advances in Agronomy, 163:153—77] call for an expanded role for agronomic logic to solve global crop production challenges. Yet many OFEs generate insights of complex and variable crop behaviour that call for stronger engagement of agronomy with these farmer-driven operations. In fact, some data scientists believe analysis can proceed without theory—an approach Taguchi adopted for dealing with complex systems. As we suggested in the early days of OFE [(Cook, Adams, and Corner 1999)], this seems a pragmatic but inefficient alternative to understanding what is driving variation. Surely we can do better. Can we combine the power of data sciences with agronomy to drive advances in both? How can we frame these insights more effectively using decision sciences? **We are looking to form a group of scientists interested in OFE to develop thinking in this area**. If you are interested please send a message to the OFE-C leadership.

The OFE-C seeks On-Farm Research Guides

The OFE-C is collecting and centralizing on-farm research guides in a repository. **Do you have any to suggest?** Please send the document or its path in an email. You will find a few examples of what we are looking for in the following articles.

Designing Your Own OFE - Bramley

Have a look at this classic 2006 guide (Designing Your Own OFE - Bramley) for farmers and their advisers on precision agriculture-based field experiments - their design, and the important issues to be considered in analysing the results. The guide was published by the Grains Research & Development Corporation (GRDC) of the Australian Government.

Guides from the Ecological Farmers Association of Ontario

The EFAO is a research program led by farmers which combine their curiosity with scientific rigour to answer challenging on-farm questions. Their website features an open access source to EFAO research protocols, reports and publications. Their research library lists a few on-farm research guides, two of them to be found below:

On-Farm Research Guide from the Organic Farming Research Foundation

This guide from the Organic Farming Research Foundation (OFRF) is available to farmers for planning, carrying out, and analyzing experiments.

A Practical Guide to On-Farm Pasture Research

A guide in 6 steps: 1) define the study question; 2) choose treatments; 3) how and where to conduct the study; 4) choose variables to measure; 5) conduct the experiment and analyze the results; 6) share your results.

Handbook on Systems Research for Agriculture

Farmers today face a complicated set of expectations while trying to make a living. These challenges are complex, yet most agricultural research has approached them from a reductionist standpoint. The handbook delivers guidance on how to form effective interdisciplinary and multi-stakeholder teams and how to plan, implement and analyze system experiments. The Sustainable Agriculture Research and Education (SARE) program is a decentralized competitive grants and education program.

Should you have something to share with the Community or the Community leaders, let us know here.