On-Farm Experimentation Community Info No. 10

Mar 4, 2021

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

On-Farm Experimentation Webinars: Mark your calendar

We are putting together the #OFE2021, the First Conference on Farmer-Centric On-Farm Experimentation—Digital Tools for a Scalable Transformative Pathway. The conference will be preceded by four preparatory webinars:

- Value creation: Monday, May 10, 2021
- People and processes: Wednesday, May 12, 2021
- Data and analytics: Monday, May 17, 2021
- Policy linkages: Wednesday, May 19, 2021

The times will correspond to 8 to 10 a.m. in Chicago (Central Daylight Time), 3 to 5 p.m. in Paris and 6:30 to 8:30 p.m. in India. Check the calendar on the ISPA home page for updates.

The Analysis of Agricultural Experiments: A brief History

From Fisher in 1926 to nowadays much needs to change in the analysis of agricultural experimentations. Charles (2021) guest editorial in The Journal of Agricultural Science focuses on the 20th century. Even before the digital age, experiments intended to resolve difference questions were replaced by experiments designed to answer questions about the magnitude of differences and responses to treatments. The review raises a question: namely is it time to revisit Bayesian statistics on the grounds that visionaries and innovators are prone to subjectivity? [Charles D. (2020). Guest Editorial: The analysis of agricultural experiments: a brief history of the techniques of the 20th century. The Journal of Agricultural Science 158, 447–449. https://doi.org/10.1017/S0021859620000908]

How do Research Protocols Need to be Adapted to Farmers Priorities?

Do farmers and researchers have the same criteria for gauging the success of an experimental trial in commercial conditions? Having the priorities of the farmers in mind, how should the researchers adapt their experimental approaches and analytics? White peg research or else? We are starting a structured thinking process on this question in order to frame the debate and develop consensual guidelines. Should you have elements to provide or want to be involved, drop us a line here.

LTAR Network Data Management Portal

The long-term agroecosystem research (LTAR) network consists of eighteen sites located across the US and are situated within USDA Agricultural Research Service (ARS) units, universities, and non-profit conservation organizations. Research approaches include long-term monitoring efforts, common experiments, and modeling conditions.Sites are able to produce data and metadata in specified formats from local data management systems to share across the network via information technology (IT). Their data management portal provides guidance for LTAR data managers and researchers for managing data and information generated from LTAR science endeavors. These are some of the tools available:

- Cataloging published data
- Documenting, integrating and sharing data
- Data associated with an established research domain
- Data that need a place for sharing
- Achieving consistent attribution for researchers
- Cleaning data

Crowdsourcing Uses and Opportunities in Agriculture

Crowdsourcing, understood as outsourcing tasks or data collection by a large group of non-professionals, is increasingly used in scientific research and operational applications. Close connections with the farming sector, including extension services and farm advisory companies, could leverage the potential of crowdsourcing for both agricultural research and farming applications. [Julien Minet, Yannick Curnel, Anne Gobin, Jean-Pierre Goffart, François Mélard, Bernard Tychon, Joost Wellens, Pierre Defourny. Crowdsourcing for agricultural applications: A review of uses and opportunities for a farmsourcing approach. Computers and Electronics in Agriculture 142, Part A (2017): 126-138.]

Harmonization of Heterogeneous Spatial Data

Heterogeneous spatial datasets are those for which the observations of different datasets cannot be directly compared because they have not been collected under the same set of acquisition conditions, with consistent sensors or under similar management practices, among others. This paper details and compares four automated methodologies that could be used to harmonize heterogeneous spatial agricultural datasets so that the data can be analyzed and mapped conjointly. [Leroux, C., Jones, H., Pichon, L. et al. Automatic harmonization of heterogeneous agronomic and environmental spatial data. Precision Agric 20, 1211–1230 (2019). https://doi.org/10.1007/s11119-019-09650-0]

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