On-Farm Experimentation Community Info No. 18

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

SharedIt link for Nature Food paper: OFE to Transform Global Agriculture

Our apologies for not having offered the opportunity to consult the full Nature Food paper in our last communication. The publisher does not allow open access for that kind of paper but it does provide an alternative in the form of this SharedIt link.

On-Farm Experimentation Community (OFE-C) co-leads, Simon Cook and Nicolas Tremblay are among the authors of a newly released and highly collaborative Nature Food paper on OFE. This timely work acknowledges and celebrates the diversity of approaches and views on farmer-centric OFE internationally. As the visionary Professor Simon Cook put it, “OFE is the result of accumulated changes across several domains that individually may not be spectacular, but collectively realize a change substantial enough to acknowledge and start articulating.” OFE indeed occurs at the intersection of discussions in agricultural sciences that are necessary to move forward, from best research practices that are inclusive and responsible, to digital technologies that renew spatial analysis and the production of local insights. The paper thesis is that OFE can contribute in a very concrete and pragmatic manner to reshaping relationships between all producers of knowledge — (re) building bridges between researchers, farmers, and other stakeholders of food systems. In many instances change will require proactive support and commitment from institutions. Lacoste, M., Cook, S., McNee, M. et al. On-Farm Experimentation to transform global agriculture. Nat Food (2021). https://doi.org/10.1038/s43016-021-00424-4

Post-doc Opportunity in OFE at Cornell University

Digital technologies offer a possibility for farmers to accelerate their progress towards sustainable production systems. The mission of the Transdisciplinary Innovation Lab on Digital Agronomy at Cornell is to co-create solutions with farmers and their advisors that will enable a better collection, organization, curation, and usage of data on the farm. The position holder will conduct research to improve data usage for decision-making in field crops production. This involves using remote sensing, organizing, and curating databases, deploying soil and crop sensors, and programming in R or Python to collect, organize, curate, and use farm data for better decision-making in terms of profitability and environmental stewardship.

Efficient Water Management for Smallholders in Africa

Developed by the Virtual Irrigation Academy, piloted water front detectors (WFD) are a simple soil moisture tool that informs farmers when to irrigate and when to stop applying water to their fields. Now, freely available satellite data, covering a wide geographical area with repeated measurements over time, offers an alternative way to monitor and assess intervention impacts in fragmented smallholder landscapes. A wide range of freely available satellite data sources exist, capturing the Earth’s surface in various levels of detail. Landsat 8 satellite data provided the best available resolution for the period during which on-farm water management interventions took place.

On-farm Research on Canola from Brandon, Manitoba

Two papers on canola featuring on-farm research:

- Khakbazan, M., Moulin, A. & Huang, J. Economic evaluation of variable rate nitrogen management of canola for zones based on historical yield maps and soil test recommendations. Sci Rep 11, 4439 (2021). https://doi.org/10.1038/s41598-021-83917-3
- Aaron J. Glenn, Alan P. Moulin, Amal K. Roy, Henry F. Wilson. Soil nitrous oxide emissions from no-till canola production under variable rate nitrogen fertilizer management. Geoderma 385, 114857 (2021) https://doi.org/10.1016/j.geoderma.2020.114857

Bridges for Open Sharing and Re-use of Data

A final report on Research Data Alliance (RDA) 18th Virtual Plenary Meeting is now available, capturing various takeaways from the November feeding. All videos from Virtual Plenary 18 are now available on YouTube. The videos are all now available for the public to listen to at their convenience. Have a special look at the "BO2 - IG Agricultural Data IGAD: Interest Group on Agricultural Data: A roadmap for our CoP" broadcast.

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