On-Farm Experimentation Community Info No. 3

Dec 29, 2020

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

Big Data Promises and Obstacles

A virtual Workshop on Big Data Promises and Obstacles: Agricultural Data Ownership and Privacy was hosted by the Digital Agriculture "UASPSE" (Unmanned Aircraft Systems, Plant Sciences and Education) project, the University of Minnesota College of Food, Agricultural and Natural Resources Sciences and PepsiCo.

Recordings of the presentations:

- Cultivating Trust in Technology-Mediated Sustainable Agricultural Research
- The Law and Economics of Agricultural Data Privacy
- FAIR to FAIRS: Data Security by Design for the Global Burden of Animal Diseases
- Big Data, Data Privacy, and Plant and Animal Diseases Research
- Unmanned Aircraft Systems in Agriculture: Data Issues of Privacy, Ownership, and Sharing
- Operationalizing Data Privacy and Security in Global Agricultural Research for Development
- Agriculture Data Management and Ownership in Native American Communities
- Agricultural Data Ownership, Privacy/Confidentiality — A Librarian's Perspective
- Ag Data Sharing: Conceptual Tools in the Technical Toolbox and Implementation in the Open Ag Data Alliance Framework
- Digital Agriculture Platforms: Spurring Public-Private Collaboration and Data-Driven Innovation

The Research Data Alliance and Agriculture

With over 10,000 members from 145 countries, the Research Data Alliance (RDA) provides a neutral space to develop and adopt infrastructure that promotes data-sharing and data-driven research to enable the open sharing and re-use of data. RDA has a grass roots, inclusive approach covering all data lifecycle stages, engaging data producers, users and stewards, addressing data exchange, processing, and storage. Generic topics of its interest are social hurdles on data sharing, education and training challenges, data management plans and certification of data repositories, disciplinary and interdisciplinary interoperability, as well as technological aspects.

The RDA is constituted of different elements, including Working Groups (WG) and Interest Groups (IG), some of which of particular interest in agriculture:

- Agrisemantics WG
- Agricultural Data IG
- Capacity Development for Agriculture Data WG
- Geospatial IG
- Engaging Researchers with Data IG
- Data Type Registries WG
- FAIR Data Maturity Model WG
- Metadata Standards Catalog WG
- Rice Data Interoperability WG
- Research Data Repository Interoperability WG
- Wheat Data Interoperability WG

Establishing the Precision and Robustness of Farmers' Crop Experiments

Precision farming experiments are generally incompatible with conventional statistical methods and alternative models of response variables (e.g. yield) must be estimated if the effect of the management decision is to be distinguished from other sources of variation. The model-based statistical analyses of these experiments require assumptions regarding the variation of the response variable. When these assumptions are inappropriate (e.g. if the correlation between response variable measurements is poorly modelled) then the inferences from the experiments can be unreliable.
Marchant, B. et al. Establishing the precision and robustness of farmers' crop experiments. Field Crops Res. 230, 31-45, doi:10.1016/j.fcr.2018.10.006 (2019).

Recording of the Workshop on Agricultural Data Codes of Conduct

The Global Open Data for Agriculture and Nutrition (GODAN) conducted a virtual Workshop on December 11, 2020, to offer an opportunity to find out more about the Agricultural Data Codes of Conduct Toolkit and GODAN's work on Data Ethics. The toolkit provides a guide to data management best practice for any individuals or organizations (farmers, agri-businesses, associations, regional or national governments…) who collect, manage or share agricultural data. The recording of the 90-minute workshop which gathered about 300 participants can be found here.

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