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Session: Optimizing Farm-level use of Spatial Technologies

Paper / Presentation

Title: Proper Implementation of Precision Agricultural Technologies for Conducting Field-Scale Research

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Abstract:

Precision agricultural technologies have provided farmers, practitioners and researchers the ability to conduct on-farm or field scale research to refine farm management, improve long term crop production decisions, and implement site-specific management strategies. The limitations of these technologies must be understood by those using them to conduct field scale research to gain useful knowledge from such investigations. Therefore, this paper will address how several precision agriculture technologies can be successfully used to conduct research at a field scale level. Discussions will include yield monitors, variable-rate, auto-swath technologies, guidance systems and GPS/GNSS correction services along with proper setup of machinery equipped with these technologies. The importance of selection, calibration, maintenance, and management will be covered and how these can impact results and thereby decisions made from utilizing these technologies for research purposes. Users must understand the limitations of these technologies. Performance expectations that exceed systematic capabilities may produce research data that are dubious at best. Understanding the limitations of precision agriculture technologies will provide useful knowledge for proper setup and analyses of investigations.