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Advances and adoption of precision farming

Precision farming (PF) is a farming management concept aiming at doing the right thing at the right time and place in the right amount, contributing to achieving global sustainability challenges, in short 'Producing more with less and better'. PF is based on observing, measuring and responding to inter- and intra-field variability in crops. It requires implementation of different technologies on farms. Computers enabled use of Farm Management Information Systems (FMIS) and farm and field specific Decision Support Systems (DSS) since mid-1980s. GIS and GNSS allow since ca. 2000 geo-referencing of data and controlled traffic farming. Several types of soil and plant sensors provide site specific data on spatial variation in soils and crops. And a wide range of cloud based data storage, data use platforms and apps for soil and crop monitoring and site-specific crop management are important tools for PF. However, adoption of PF is still small and less than expected. Reasons for this are that PF is complex to apply, the business case for farmers is unclear and probably asymmetric, models for smart use of data in farming are lacking, and poor standardization and cooperation. To make PF successful, we have to tackle these issues. In a presentation at Capigi, progress in PF R&D and adoption in The Netherlands are presented and discussed.

Bio

Dr Corné Kempenaar has a R&D carrier in arable farming for over 25 years. He worked most of his time at Wageningen University & Research on R&D topics in crop protection, weed control and precision farming. Currently he coordinates two Public Private R&D projects on smart farming (www.wur.nl/precisielandbouw). He is also professor Precision farming at University of Applied Science in Dronten (impulse lector). He was member of EIP-focus group Mainstreaming precision farming. Since 2018, he is project leader of the Dutch National Testbed for Precision Farming (www.proeftuinprecisielandbouw.nl).