DEMETER: the solution that puts digital means at the service of farmers

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by Gráinne Dilleen, Communication and Dissemination coordinator for the DEMETER project

The challenges posed by COVID-19 for the agricultural sector are well documented. Among others, the lack of availability of seasonal workers, market uncertainty, fluctuating consumer demand and the potential disruption of the supply chain for fertilizers and animal feed have been highlighted. However, this crisis has also demonstrated how the use of smart technologies can help the farmer's recovery while improving sustainability.

DEMETER is a Horizon 2020 project focused on leading the digital transformation of Europe's agri-food sector through the rapid adoption of advanced IoT technologies, data science and smart farming. DEMETER adopts a multi-actor approach across the value chain (demand and supply), with 25 deployment sites, 6,000 farmers and over 38,000 devices and sensors being deployed. The project is delivered through twenty pilot projects across arable crops, fruit production and livestock. **These pilots are all farmer-focused with the aim of empowering farmers by driving productivity, providing data for better decision-making and ensuring the efficient usage of inputs**.

For example, one of the pilot projects aims to promote technology, methods and IoT solutions to optimise precision farming practices of Mediterranean woody crops (apple, olive and grape), considering the small farmers' economic constraints. The pilot will result in more efficient usage of inputs such as water, energy, macro-nutrients, and pesticides, increasing the profits of small farmers and decreasing their environmental impact.

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She is also a PhD researcher at TSSG/ Waterford Institute of Technology, Ireland. Her current research is focused on understanding the farmer's decision-making process in adopting smart farming technologies.

> **"Although the COVID-19 crisis is a considerable threat to agriculture, it has shown farmers' willingness to embrace technology."**

INNOVATIVE IDEAS

It is expected to reduce the spraying losses by more than 20%, the irrigation water consumption by approximately 10%, and the NPK overdosage by 15%. Similarly, part of another pilot project focuses on improving milk quality in dairies as well as animals' well-being and health. This is done by ensuring the optimal feeding of cows by managing animal wellness and measuring crops and soil properties and integrating new technologies into daily operations. This will deliver production costs optimisation, better product quality, improved animal welfare and better farm work organisation.

Although the COVID-19 crisis is a considerable threat to agriculture, it has shown farmers' willingness to embrace technology to sell produce, perform on-farm tasks and digitally connect with advisers. **DEMETER can help by putting further digital means at the service of farmers and empower them as prosumers, to gain control in the data-food-chain.**

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