Researchers showcase their integrated and flexible smart irrigation system

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Credit: AI-generated image (disclaimer)

The EU FIGARO project has now completed the development of a precision agriculture Decision Support System, allowing growers to benefit from innovative developments in irrigation technology.

The system aims to substantially improve irrigation management for

high water-consuming crops, including potatoes, citrus fruit and maize. It achieves this by increasing water productivity and optimising the use of irrigation water and energy consumption. The new FIGARO platform was formally unveiled at a project partners' meeting that will take place in Kavalla, Greece, from 1 to 2 June 2016.

The platform collects climate, soil and crop data captured by soil water sensors, satellite data, and meteorological stations which is then fed into weather forecasting, and hydraulic and crop models, using real-time and forecasted data. This then allows for accurate recommendations on how much and when farmers should irrigate individual fields, with most data input being automatic, minimising the time that farmers have to spend on setting up the system. In contrast, many existing decision support systems currently on the market require farmers to input large amounts of data, which is both time consuming and technically demanding.

Once a farmer has set-up the system, the platform sends them a customised seven-day scheduling plan for irrigation and fertigation (the process of applying fertilisers through the irrigation system). This is updated daily, and to increase accuracy, farmers are able to add commercial wireless sensors to their fields to include soil and plant data in the system's overall calculations.

Additionally, to encourage and persuade farmers to use the FIGARO platform, the system has also been designed to be both modular and flexible, so that new technologies and agronomic models can be easily integrated, and growers are able to customise the system to meet their own individual needs. From a practical viewpoint, the system is easily accessible through a computer or tablet, and the project partners are even considering the development of a iPhone and/or Android application that could allow the system to be accessed on a mobile phone.

As well as providing a cost-effective and accurate system to farmers to support their irrigation efforts (with the project partners estimating that the system can save 20-60 % of users' irrigation water for the same yield of crop, with a starting investment of EUR 5-20 per hectare), the FIGARO platform could also help farmers contribute to the EU's broader policy ambitions, such as its ambitious water productivity targets.

'After more than three years of hard work, the FIGARO platform is finally applicable for growers in everyday practice,' commented project coordinator Lior Doron. 'By using FIGARO, farmers and the wider community can now benefit from cutting-edge developments in irrigation technology, optimise the use of irrigation water and energy consumption, and increase water productivity.'

Following the introduction of the FIGARO platform, the project partners intend to begin a series of live demonstrations of the benefits and capabilities of the system, conducting field days at six FIGARO sites, which include Denmark, Greece, Israel, Italy, Portugal and Spain.

More information: For more information, see www.figaro-irrigation.net/

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