

Workshop

The role of Thematic Networks in EU Agricultural Innovation

Friday 9 March 2018

1 Organising Network:

FERTINNOWA

FERTINNOWA is the thematic network focussing on Transfer of INNOvative techniques for sustainable Water use in FERTigated crops. To achieve this, FERTINNOWA will collect, exchange, showcase and transfer innovative water and nutrient management solutions and best practices that improve both water and nutrient use efficiency and reduce the environmental impact of fertigated horticulture production systems.

2 FERTINNOWA's partners:

FERTINNOWA is an EU partnership of 23 organisations representing all actors in the chain for implementation of irrigation and fertilisation technologies (research centres, universities, advisors, SME, technology supplier) in 9 member States and South Africa. Remaining actors like growers, grower organisations, irrigator communities, policymakers, NGO, environmental organisations, consumer organisations, and so forth are closely involved during the projects activities. Representatives of each actors group are gathered in the external Advisory Board that is consulted frequently to discuss the projects evolution and outcomes.



3 Period:

1 January 2016 – 31 December 2018



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 689687

4 Facilitated by:

Els Berckmoes, Proefstation voor de Groenteteelt/Research Station for Vegetable production.

5 Projects website

www.FERTINNOWA.com

6 Background information:

To better understand what keeps growers from implementing technologies, FERTINNOWA surveyed 371 growers scattered throughout 9 European Member States and South Africa. This survey showed that growers from different European regions or different crops experience similar problems related to water and fertiliser use at their farms. For example, algae blooming is one of the most common problems related to water storage. This is not so surprising as algae bloom itself is not restricted to a region or crop. What is remarkable is the diversity of measures taken or technologies applied by the growers to overcome the problem. Despite the wide range of available technologies, only a few growers were satisfied with the achieved results. Furthermore, growers were aware of only some alternative technologies. The survey led to the identification of a significant number of bottlenecks and problems. All of them were listed and categorised.

In a second phase, the FERTINNOWA consortium listed and evaluated the available technologies to solve the problems identified during the growers' survey. All technologies were evaluated from a technical, socioeconomic, legal but also practical point of view. To complete this evaluation, FERTINNOWA set up a platform to take advantage of the expertise of the broad group of the involved stakeholders including growers, researchers, advisors, policymakers, suppliers, and so forth. As a result, 134 technology review documents (TRDs) were produced. Starting from the TRDs, concise technology sheets were extracted, the so-called practice abstracts (PAs). Both the TRDs and PAs were made available to the broader public on the FERTINNOWA technology database (www.FERTINNOWA.com). Visitors who consult the database can rate the technologies and post comments based on their own experience with the technology. In addition, the technology database allows getting in contact with the responsible authors, which helps to lower the barriers towards implementation.

At the end of the second phase, it became apparent that there are still some technological bottlenecks that could not be solved with the currently available technologies. For example, the (lack of) selectivity of water treatment technologies often results in low efficient and expensive methods. For example, there is a need for technologies to selectively remove sodium from nutrient water. Additionally, there are some socioeconomic problems, like the lack of knowledge about the solutions that could be implemented and the distrust towards innovative technologies, leading to slow implementation of solutions. Finally, the legislation can be a barrier and create uncertainties. It is not always clear what is allowed regarding the use of technologies and water discharge and how this framework will evolve in the coming years. As an example regulation regarding the discharge of brine of reverse osmosis installations differs strongly between



different European Member States. Moreover, there is a high need for more uniformity in legislation.

During the second reporting period, FERTINNOWA's activities will focus on exchange, showcase, and dissemination of a selection of the listed technologies and knowledge.

The aim of FERTINNOWA is to exchange technologies between the different regions, crops and growing systems in order to fulfil technology gaps as identified by the growers' survey. However, more technologies with lower innovative level will be showcased as they may have a serious impact based on results from the growers' survey. These exchanges will focus on techniques i) for the preparation of irrigation water, ii) for the improvement of water and nutrient use efficiency in soil grown and soilless crops and iii) to reduce emissions. The selection of the exchanges was based on both the outcomes of the benchmark survey and the evaluation of the available technologies. Each exchange aims to overcome a technological problem related to fertigation that was experienced by the local growers. For example, CICYTEX is located in Extremadura (Spain), where there are large farms with high soil heterogeneity. CICYTEX will showcase different technologies to measure or visualise the spatial heterogeneity of the soils. In addition, different strategies will be compared to the fertigation of an olive crop. For this showcase different technology suppliers and IFAPA, also a member of FERTINNOWA consortium, will combine their efforts. Showcase events will be organised to present the outcomes to the wider public. From summer 2017 on, field visits will be organised to visit the demonstration sites.

In addition, the project outcomes will be disseminated through different pathways including the digital newsletter FERTINNOWAnews, scientific papers, press releases and articles, Tweets, post on the FERTINNOWA website etc.

By characterising the state of the art, gathering and sharing knowledge about best technologies and practices, identifying room for innovation, with a continuous involvement of growers and stakeholders, it is expected that, in the short term, the gap between knowledge and growers of fertigated crops will be substantially more closed.

