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AGRICULTURE & INNOVATION

## Fertiliser efficiency - horticulture in open field

How to use innovative fertilisation and nutrient recycling to solve the conflict between the need for crop fertilisation and legislative requirements regarding water quality?

The EIP-AGRI Focus Group on Fertiliser efficiency - horticulture in open field brought together 20 experts to find answers to this question. The Focus Group's final report, published in July 2016, contains a set of innovative fertilisation approaches, ideas for Operational Groups, needs from practice, recommendations for farmers and advisers and links to documented best practices.

The experts collected and discussed many innovative techniques to reduce nutrient losses in soil-grown vegetable open field systems. They also looked at the implementation rate of these techniques in different European regions, discussed issues restricting implementation and made an analysis of the application of innovative techniques to optimise fertiliser use and nutrient recycling.

Several common issues that improve the adoption of innovative techniques were identified:

- ▶ the need for the integration of different techniques
- ▶ the need for detailed information on nutrient dynamics and water uptake
- ▶ user-friendliness of the innovative techniques

*"Fertiliser efficiency can be improved by collecting and sharing available data on nitrogen and phosphate uptake and on crop water requirements between regions, research groups and extension services. We need to support this and always keep user-friendliness in mind when developing innovative techniques."*

- Carolina Martínez Gaitán (Spain), expert from the EIP-AGRI Focus Group on Fertiliser efficiency -

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### Ideas for Operational Groups

- ▶ Making fertiliser advice more farmer friendly and sustainable
- ▶ Optimising the use of innovative organic sourced fertiliser
- ▶ Increasing nutrient efficiency with cover crops and optimal use of organic manure
- ▶ Developing decision support systems based on simulation models
- ▶ Developing advice based on a system approach, avoiding opposing information
- ▶ Improving knowledge exchange by including different experts

### Needs from practice

- ▶ Develop an international network that simplifies the introduction of innovative techniques which are already successfully integrated in other regions
- ▶ Develop a reference database that increases the development efficiency of innovative techniques
- ▶ Development of robust systems for measuring soil moisture
- ▶ Applications for smartphones

### More ideas for Operational Groups and practice needs available in the Focus Group report

#### Other recommendations

- ▶ Involve growers and advisers from the start in the development of a technique
- ▶ Develop innovative techniques using sound science, considering practical application issues and exploiting ideas from growers
- ▶ Follow the KISS (keep it short and simple) approach
- ▶ Organise feedback loops and continuous communication with growers and advisers after initial implementation of a newly developed technique
- ▶ Collect and share available data on nitrogen and phosphate uptake and on crop and water requirements between regions, research groups and extension services
- ▶ Construct integrated solutions (for instance using teams of advisers with different expertise) to assist in the implementation of a system approach
- ▶ Formulate clear messages in growers' language and explain the underlying principles of the innovative techniques to support their correct use

### More information on the EIP-AGRI website

[Focus Group webpage](#)

[Focus Group report](#)

[Mini-papers](#)

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