



# Subgroup on Innovation for agricultural productivity and sustainability 5<sup>th</sup> Meeting

*2 June 2016*

**#RNSubInnovation - @EIPAGRI\_SP**

# Subgroup on Innovation for agricultural productivity and sustainability

## 5<sup>th</sup> Meeting – 2 June 2016



### Morning sessions

#### 08:00 - 09:00 Registration & welcome coffee

09:00 - 09:10 Welcome & introduction – *Rob Peters, Head of Unit AGRI H.5*

09:10 - 09:30 Session I “EIP-AGRI Focus Groups

*Presentations by EIP-AGRI Service Point and DG AGRI:*

- Information on the state of play of FGs 6-20
- Launch of calls for experts for FGs 21-23

09:30 – 10:30 Session II “Operational Groups: first experiences”

*Introduction by Anikó Serégely, DG AGRI*

*Feedback from workshop “Operational Groups: first experiences” (April 2016):*

- *Jean-Marc Gautier, OG “Robustagno” (France)*
- *Herbert Mock, OG “Organic dock control” (Austria)*

10:30 – 10:45 Session III ‘Networking for innovation’

*Introduction by Sirpa Karjalainen, DG AGRI*

#### 10:45 – 11:15 Coffee break

11:15 – 13:00 Session III “Networking for innovation” (continued)

*Discussion in groups: how to support the NRNs’ role in fostering innovation & how to shape the NRN workshop planned in October 2016*

#### 13:00 – 13:45 Lunch break



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### Afternoon sessions

**13:00 – 13:45 Lunch break**

**13:45 – 15:10 Session IV “EIP-AGRI and Horizon 2020”**

Introduction by *Inge Van Oost, DG AGRI*

Presentation project “*Fertinnowa*” by *Els Berckmoes, Research Centre for Vegetable Production (Belgium)*

*Discussion in groups:* how to promote synergies between EIP-AGRI activities & Horizon 2020

**15:10 – 15:30 Coffee break**

**15:30 – 16:30 Session V “Priorities for 2017”**

introduction by *Antonella Zona, DG AGRI*

*Discussion in groups:* broad priorities for EPI-AGRI network activities in 2017

**16:30 – 17:00 Wrap up / next steps**

Exchange of views on upcoming events

**17:00 Closing**





FERTINNOWA

# FERTINNOWA and practice abstracts

Els Berckmoes,  
PSKW, Belgium



**Horizon 2020**

# Background

2012-2013: Benchmark study on behalf of the Flemish Land Agency revealed that:

- Growers all over Europe struggle to
  - achieve sufficient and qualitative irrigation water
  - use irrigation water in an efficient way
  - avoid leaching of nutrient waste water.
- Knowledge & innovative technologies are available but are not implemented by the growers.

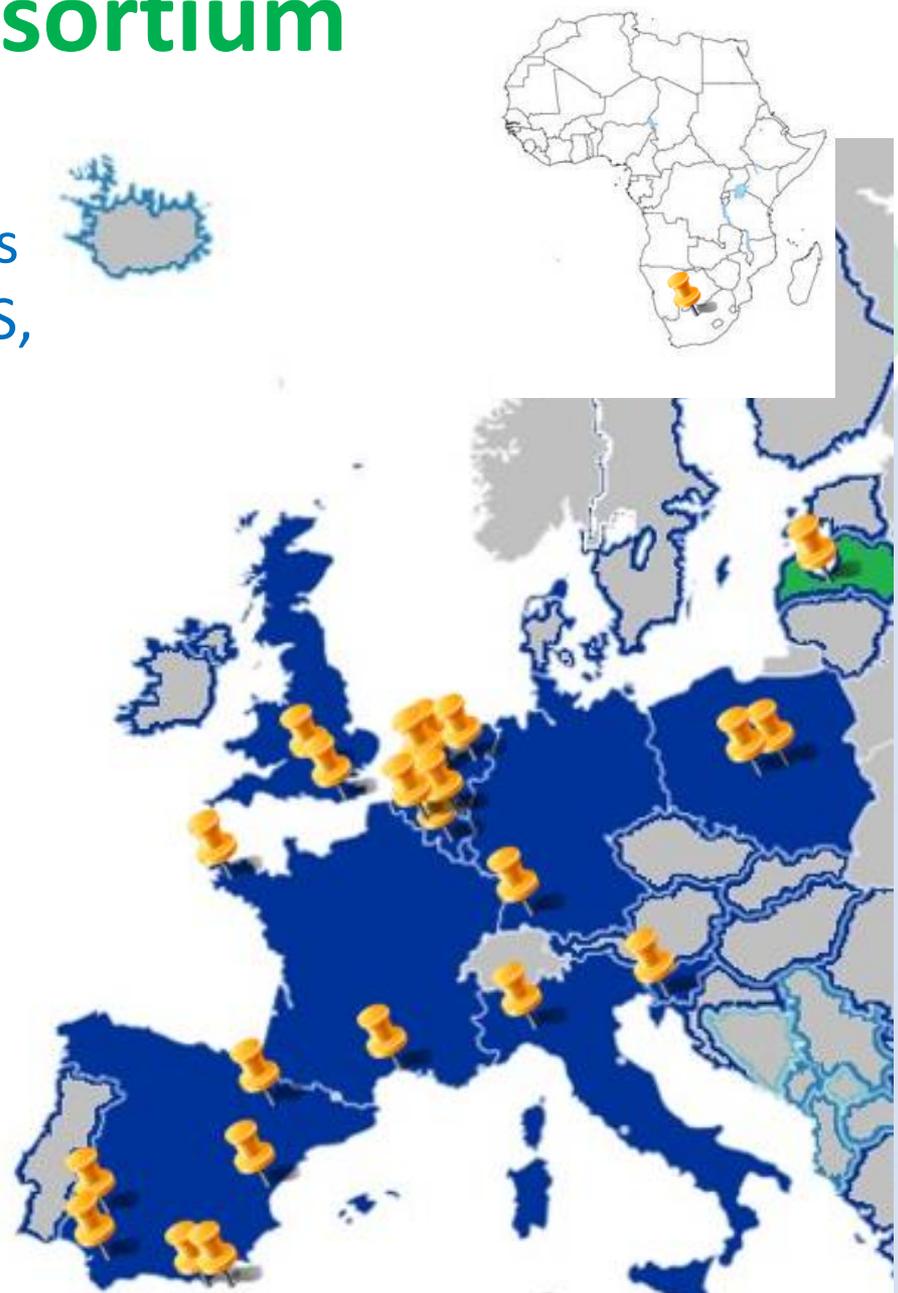


# Objectives

- To point out and solve existing bottlenecks experienced by growers
- To collect, exchange, showcase and transfer innovative water management solutions and best practices for fertigated crops in order to:
  - Improve input water quality
  - Improve water use efficiency
  - Reduce environmental impact

# FERTINNOWA's Consortium

- 23 partners
  - 9 European Member States (BE, NL, DE, PL, SI, FR, IT, ES, UK) and South-Africa
  - Research stations
  - Advisors
  - University
  - SME
  - Industry
- 1 linked third party (EUFRAS)



# FERTINNOWA's actions and EIP-AGRI

In FERTINNOWA “Practice abstracts” are an essential tool to collect, evaluate and disseminate information on technologies and best practices.

# Steps 1 : Listing bottlenecks

- Collective and individual consultations:
- Bottom-up approach
  - starting at the grower's level:
    - 500 individual consultations of growers
    - Distributed over various EU Member States, crops and farming conditions
    - Many collective consultations
  - Involving industry, policy makers, advisors, ngo's

# Bottlenecks of Slovene apple and pear orchard

**Regulatory bottleneck:** long procedure to get building permission water storage (frost protection and fertigation)

**Regulatory bottleneck:** procedure of 4 years to get permission for irrigation system

**Technological bottleneck:** frost damage sprinklers

**Technological bottleneck:** algae in water storage

**Technological bottleneck:** clogging of drippers when fertigation is applied

**REMARK!!** Impact climate change: in the past need for irrigation 2 to 3 times per year, now periods when you have to irrigate every 2 days

prečkanje ceste - podvrtanje

prečkanje železniške proge - v cesti pod podvozom

ČRPALIŠČE BLANCA

prečkanje struge potoka Čanje

prečkanje regionalne ceste - podvrtanje

prečkanje potoka Blansčica, pritrditev na mostno konstr.

prečkanje reke Save, podvrtanje

OTOK

**Socio-economic bottleneck:** farmers not convinced of benefit of irrigation/fertigation system so farmers are retaining

## Step 2 : Listing technologies and knowledge

- Collective and individual consultations:
- Meta-knowledge database
  - Input data individual and collective consultations
  - Input consortium members
  - Input stakeholders:
    - Industry, advisors, ....

**Important source for practice abstracts!**

# Technologies and experiences of Slovene apple and pear orchard

**Technology:** recent fertigation system containing AMIAD filters (i.e. self cleaning filters, need minimal amount of rinsing water)

**Technology:** DSS for irrigation and fertigation: online monitoring system of tensiometers (3-levels). When threshold values are reached, irrigation is triggered.

**Experiences:** placement of drippers

**Experiences:** importance of water source and quality fertilisers to prevent clogging of drippers

**Experiences:** frost protection of drippers

**Technology:** use of AMIAD-filters (self-cleaning filters)

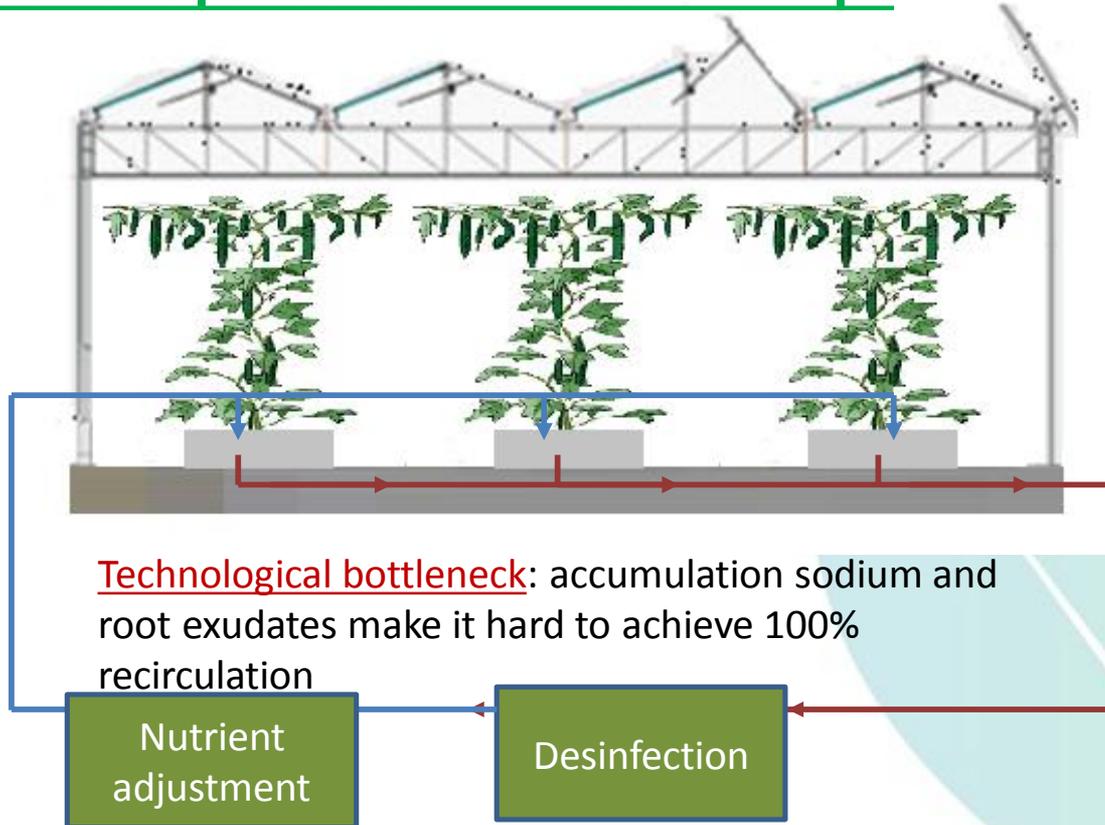
**Technology:** use of fertigation in orchards

prečkanje potoka Blansčica, pritrditev na mostno konstr.

Possible practice abstracts

# Step 3: Listing and evaluating solutions

## Example: Soilless protected cucumber crops



Technological bottleneck: high sodium content of irrigation water (Spain, The Netherlands)

Technological bottleneck: accumulation sodium and root exudates make it hard to achieve 100% recirculation

Nutrient adjustment

Desinfection

Socio-economic bottleneck: continuous monitoring composition nutrient solution is much to expensive

# Step 3 : Listing & evaluating solutions

Bottlenecks

Root exudates

Possible technologies

Activated charcoal  
(MGS lettuce,  
worldwide)

UV disinfection  
(research  
Wageningen rose)

Others??

Evaluation

Cost

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-

Effectiveness

+

?

Lifetime

12 months

X times 1000 h

Needs

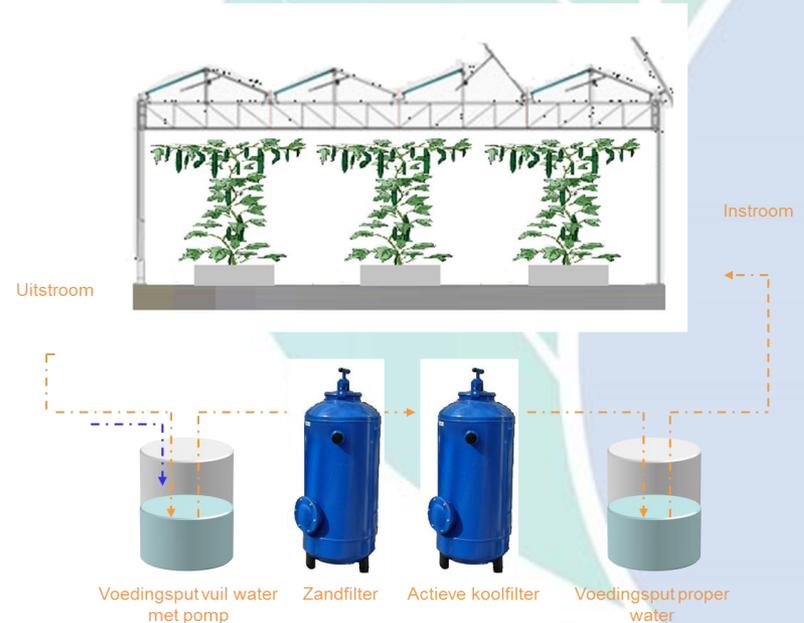
Filtration step

Filtration step

Important source for practice abstracts

# Step 4 : Exchange of technology

- Implementation of activated charcoal in soilless cucumber crop
  - Small adaptations needed:
    - Regulate flowrate corresponding to concentration of root exudates
    - Lifetime activated charcoal
    - Adaptation dosage Fe-chelates??



Important source for practice abstracts

# Step 5 : Dissemination & link EIP-AGRI

- FERTINNOWA only will have been successful when growers know where to look for technologies and if they are capable to evaluate the potential of technologies for their farm
- We need a easy-to-use/read database
- Database that is maintained after FERTINNOWA has ended
  - Practice abstracts
  - EIP-Agri database
  - Database on websites of all consortium members (+link to EIP-AGRI)

# To conclude:

- knowledge and technologies are available
- technologies can be applied in numerous crops
- interaction between crops, regions, growing systems is essential to solve the existing bottlenecks
- FERTINNOWA will go for it by using practice abstracts !!



# Upcoming events

- Workshop on the current used technologies and their distribution through Europe:
  - 12-13 October 2016
  - Saint-Pol-De-Léon, Brittany , France
  - Day 1: finding the answers:
    - Which technologies are growers using to improve water quality and to improve water use efficiency? Why are growers using these technologies? Why not using newer or other technologies?
    - What legislative and socio-economic problems are growers facing?
  - Day 2: a view on Brittany's horticulture (field trips)
  - Who can join? All FERTINNOWA stakeholders



# Interested to become stakeholder?

Register on FERTINNOWA's website

[www.FERTINNOWA.com](http://www.FERTINNOWA.com)



FERTINNOWA



Horizon 2020