Research needs from practice Report

5 MAY 2018

Why collect research needs from practice?

Many research results are translated into practical applications very slowly, or not at all. On the other hand, professionals such as farmers and foresters may have the impression that research does not meet their needs. Defining "research needs from practice" can help solve this, by facilitating dialogue between researchers and those that can use research results in practice.

This report defines "research needs from practice" as problems which professionals from the farming and forestry sectors come across in their daily work, and for which research may provide solutions. These may include:

- New ways of working, which have been tested in practice and would benefit from further research.
- Inventions or innovative solutions discovered by farmers or foresters, which could be improved or adapted with further research.

The EIP-AGRI Service Point collects research needs from practice during workshops, seminars, Focus Group meetings and other networking activities, through activity reports of agricultural or forestry organisations and also via a dedicated **online form** on the EIP-AGRI website.

By making these research needs visible via the EIP-AGRI website, others with an interest in the same issue can review them and provide an answer to the problem. They can also decide to take up the question and try to solve it, for instance by setting up an innovative project with other partners.
These research needs will also become visible for national and regional policy makers and authorities, who may decide to take up specific topics in their calls for innovative projects. Of course this information is also feeding into the programming of European Research and Innovation activities.

Scope of this summary report

For this report, the final reports from EIP-AGRI Focus Groups, workshops and seminars were taken into account. These were supplemented by information that came in via the EIP-AGRI online form. This report takes into account the information that was available on 14 November 2017. It covers the period between 15 November 2016 – 14 November 2017 and comprises the following agricultural topics:

- Integrated pest management (IPM) – Focus on *Brassica* species (**factsheet**)
- Nutrient recycling (**final report**) (**factsheet**)
- Reducing emissions from cattle farming / livestock emissions (**final report**) (**factsheet**)
- Benefits of landscape features for arable crop production / ecological focus areas (**factsheet**)
- Mixed farming systems (**final report**) (**factsheet**)

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Analysis of common themes

This report shows the **diversity of needs** for research from practice, but it also shows **similarities and connections** between the different agricultural sectors. Several issues appear to be important for different sectors and have been discussed in different Focus Groups:

RECURRING THEMES AND NEEDS	DISCUSSED BY
Precision farming: Development and implementation of decision support tools, remote sensing tools, optic sensing, real-time analysis, easy-to-use and affordable tools which can be applied at the farm, sensors, test decision tools and precision livestock farming technologies and emission sensors under practical farm conditions, precision farming, development of web-based tools, real-time measurement	• Focus Group on integrated pest management (IPM) – Focus on *Brassica* species • Focus Group on nutrient recycling • Focus Group on reducing emissions from cattle farming / livestock emissions • Focus Group on mixed farming systems • Submission via online form
Participatory approaches: Implementation of on-farm demonstration trials, demonstration projects, knowledge exchange through participatory approaches and case studies	• Focus Group on integrated pest management (IPM) – Focus on *Brassica* species • Focus Group on reducing emissions from cattle farming / livestock emissions • Focus Group on mixed farming systems
Standardisation (which helps to compare practices and to share data and information that everyone can understand): Need for standardisation to compare best practices from different neighbouring countries, inventory of existing successful mixed farming systems (MFS) in Europe, mapping different MFS models across the EU	• Focus Group on integrated pest management (IPM) – Focus on *Brassica* species • Focus Group on nutrient recycling • Focus Group on mixed farming systems
Risk management: Application of risk assessment methodologies, risks for the environment, risks associated with recycled products, quantification of risks	• Focus Group on nutrient recycling • Focus Group on mixed farming systems
Data management: Meta-analysis of existing data, collect existing data from different sources (member states, industries, research), use of dedicated data and modelling methodologies, fill data gaps, integrate existing measured data	• Focus Group on nutrient recycling • Focus Group on reducing emissions from cattle farming / livestock emissions
Use of indicators: Implementation of indicators, implementation of proxy parameters, indicators to evaluate economic and environmental benefits	• Focus Group on reducing emissions from cattle farming / livestock emissions • Focus Group on mixed farming systems
Exchange of successful practices: Combining different measures, identify successful combinations of practices locally adapted to different areas, successful combinations of agronomic practices, innovative and traditional combinations of practices	• Focus Group on reducing emissions from cattle farming / livestock emissions • Focus Group on mixed farming systems
Breeding: Need for further research on genomic breeding, improve local sheep breeds	• Focus Group on reducing emissions from cattle farming / livestock emissions • Submission via online form
Economic performance of farms and trade-offs: Cost-benefit analysis, monetary and non-monetary benefits, indicators to evaluate economic and environmental benefits, trade-offs between profitability and long-term economic viability and environmental benefits	• Focus Group on benefits of landscape features for arable crop production / ecological focus areas • Focus Group on mixed farming systems

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Monitoring: Perform ecological or social long-term monitorings, exploration of long-term effects	• Focus Group on benefits of landscape features for arable crop production / ecological focus areas • Focus Group on mixed farming systems
Sustainable management of resources: Recycling of nutrients, resource management	• Focus Group on nutrient recycling • Submission via online form
Manure management: Nutrients and organic carbon content in manure, manure processing, composition of manure, manure management technologies	• Focus Group on nutrient recycling • Focus Group on mixed farming systems • Submission via online form
Soil management: Impacts of organic contaminants on soil ecology, soil quality, use cover crops or dual-purpose crops to limit soil erosion	• Focus Group on nutrient recycling • Focus Group on mixed farming systems

The following overview clusters the identified research needs according to the priorities and cross-cutting issues that have been identified by the EC **strategy for agricultural research and innovation**.

Priorities and cross-cutting issues	Research needs identified
Resource management	nutrients as source; nutrient use efficiency; risks associated with recycled products; soil as a resource; resource management on farms ([1])
Healthier plants and animals	decision support tools (to control pests); factors supporting effective pest control; homeopathic methods; improvement of breeds by enrichment of genepools ([2])
Integrated ecological approaches from farm to landscape levels	economic and environmental benefits of adopting mixed farming systems (MFS) as compared to specialised systems; factors supporting effective pest control and pollination, for different landscapes and crops ([3])
New openings for rural growth	marketing and labelling strategies for MFS products aimed at raising consumers' and farmers' awareness on the benefits of MFS ([4])
Enhancing the human and social capital in rural areas	on-farm demonstration trials; farmer networks to compare best practices; management strategies to foster cooperation between farmers ([5])
Information and Communication Technologies (ICT) as an enabler	precision feeding and housing or precision feeding and breeding; decision tools and precision livestock farming technologies; real-time analysis; web-based tools; digital platforms ([6])
Socio-economic research	monetary and non-monetary benefits; ecological or social long-term monitoring; indicators to evaluate economic and environmental benefits; long-term effects; labour requirements and management complexity; marketing and labelling strategies aimed at raising consumers' and farmers' awareness ([7])

Browse the research needs online:
https://ec.europa.eu/eip/agriculture/en/find-connect/needs-for-research

[1] Focus Group on nutrient recycling, Submission via online form, Focus Group on reducing emissions from cattle farming / livestock emissions, Focus Group on mixed farming systems
[2] Focus Group on integrated pest management (IPM) – Focus on *Brassica* species, Focus Group on benefits of landscape features for arable crop production / ecological focus areas, Submission via online form
[3] Focus Group on benefits of landscape features for arable crop production / ecological focus areas, Focus Group on mixed farming systems
[4] Focus Group on mixed farming systems
[5] Focus Group on integrated pest management (IPM) – Focus on *Brassica* species, Focus Group on reducing emissions from cattle farming / livestock emissions, Focus Group on mixed farming systems
[6] Focus Group on nutrient recycling, Focus Group on reducing emissions from cattle farming / livestock emissions, Focus Group on mixed farming systems
[7] Focus Group on benefits of landscape features for arable crop production / ecological focus areas, Focus Group on mixed farming systems

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Finding solutions for research needs from practice

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AGRICULTURE & INNOVATION

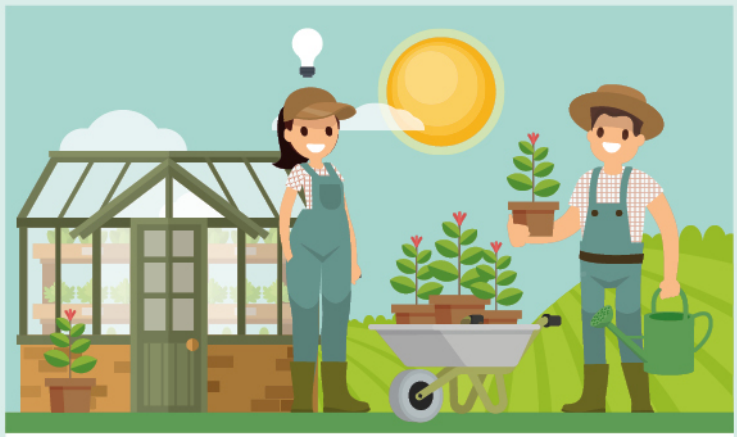
Identify your research need from practice

Register to the EIP-AGRI homepage and fill in the form

Discuss your research needs from practice during EIP-AGRI seminars or workshops ...

... or with other experts in an EIP-AGRI Focus Group

Perhaps somebody else has already found a solution?



Perhaps a researcher will take it up?

SOLUTION FOUND

Join the EIP-AGRI Network at www.eip-agri.eu

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