

EU agricultural research and innovation From Horizon 2020 to FP9



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A supportive context for EU R&I in agriculture

- Horizon 2020: Funding for agricultural research under Societal Challenge 2 (SC2)
- Co-management of SC2 by Commission's DG AGRI:
 - enhancing the science –policy and science-practice interface (CAP-EIP AGRI-Horizon 2020)
 - bringing together various mechanisms to support agricultural innovation
 - a strategic approach to agricultural R&I through participatory process and long-term priorities
- European Innovation Partnership **EIP AGRI** setting the main agricultural innovation framework: Promotes interactive innovation and AKIS
- EIP AGRI implemented through
 - **Horizon 2020:** Funding for multi-actor projects and thematic networks
 - **Common Agricultural Policy:** Funding for Operational Groups under Rural Development Programmes
 - **EIP AGRI Focus Groups** and networking activities: Building base of "applicable knowledge"

A supportive context for EU R&I in agriculture

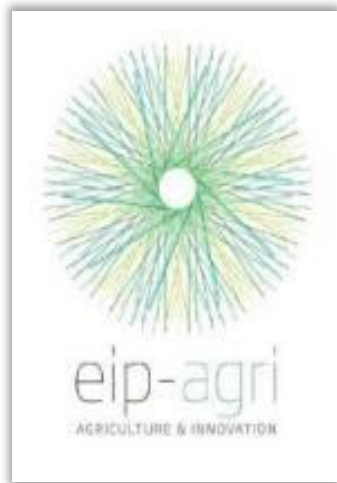


- *Research projects*
- *Multi-actor projects, thematic networks*

Input

**CAP / Rural
Development
Programmes**

- *Operational groups*



- *EIP AGRI
Network(s)*
- *Focus
Groups*

**Unique EU knowledge repository
of contacts and practice abstracts**



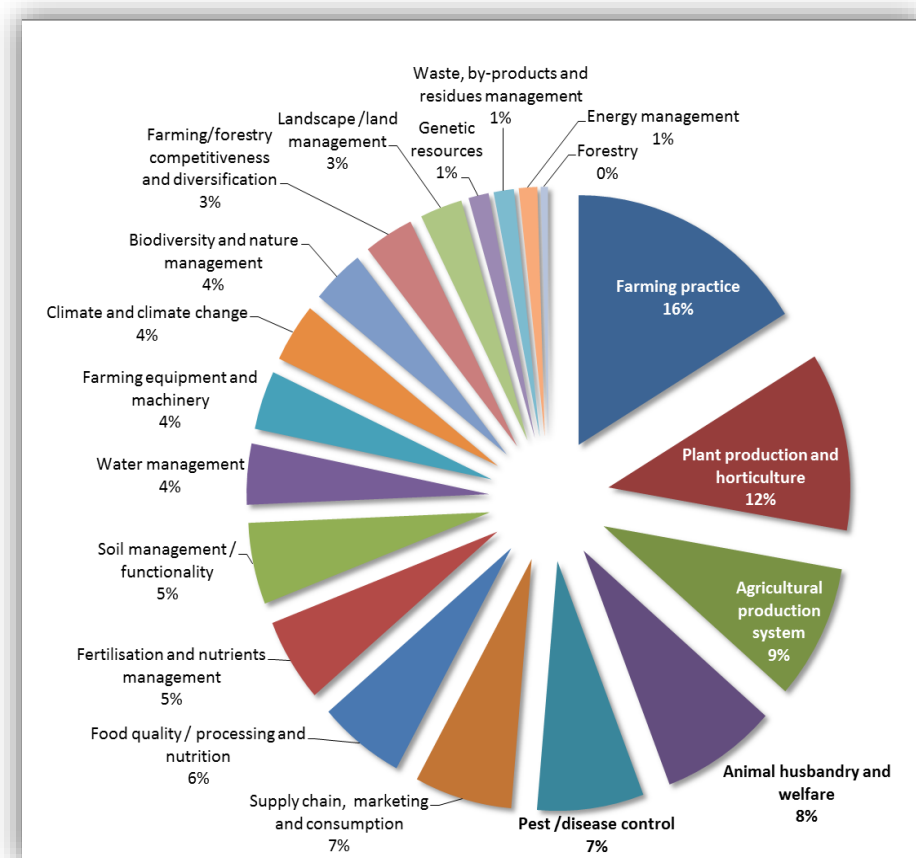
EIP AGRI: Bringing knowledge closer to practice in areas related to fruit and vegetables

Operational Groups (OGs) under RDPs (programmed by Member States)

- Partnerships between farming, advise, research and other sectors to solve specific, practical questions.
- So far, more than 400 OG projects running (out of planned 3,200)

Focus Groups

Experts from different backgrounds (practice, science) pool existing knowledge and make it easy accessible (main report + mini-papers on applicable solutions)



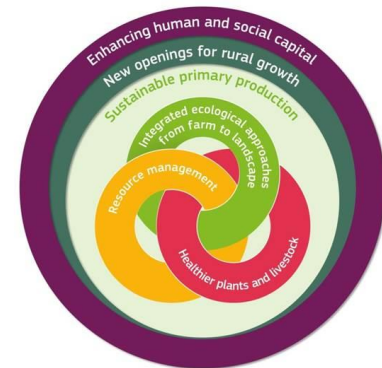
A strategic approach to agricultural research

Why?

- Main **input to research programming** under Horizon 2020 and beyond
- A long-term strategy will improve consistency, efficiency and **impact of research funding**
- Challenges are long-term and require **strategic research investment**
- **Better articulation of EU research** with other EU policies and Member States funding

What?

- **Five priority areas**
 - Resource management
 - Healthier plants and animals
 - Integrated ecological approaches from farm to landscape
 - New openings for rural growth
 - Enhancing the human and social capital
- **Five cross-cutting issues**
 - Systems approach, inter/transdisciplinarity
 - Societal engagement
 - Information and communication technologies
 - Enabling sciences and infrastructures
 - Socioeconomic research and infrastructures



Encouraging efficient resource management



Resource
management

Safeguard long-term productivity and reduce impact on ecosystems

Climate change: support strategies for adaptation and resilience

Optimise resource flows, use of residues and by-products in a circular economy

Improve soil fertility and functions

Reduce water consumption and pollution

Preserve and make better use of genetic resources



Making animals and plants healthier



Healthier plants and
livestock

Systems-based
approach

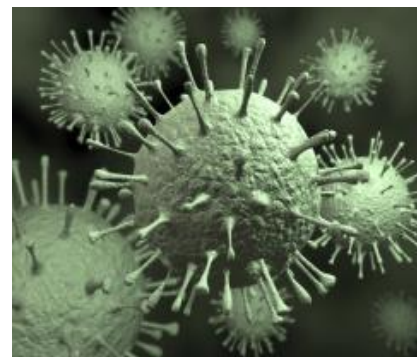
Operationalise One-
Health approaches

Disease prevention

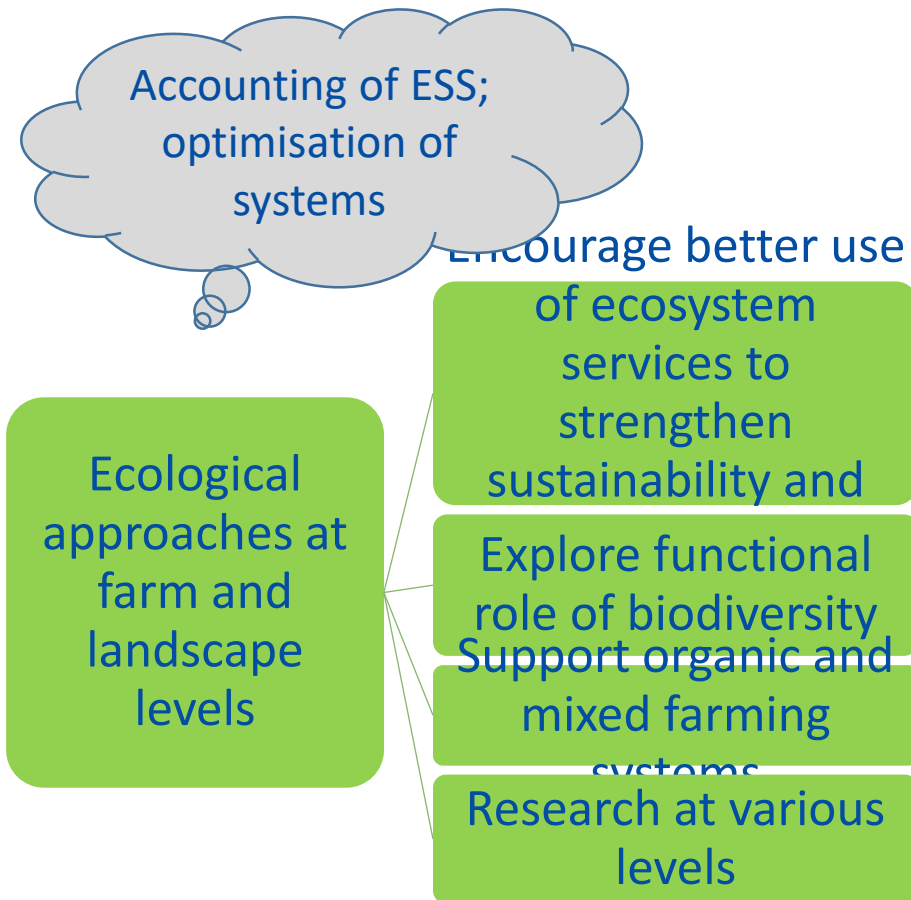
Tools to control pests
and diseases

Alternative approaches
to pesticides /
antimicrobials

Emerging risks



Adopting integrated ecological approaches



Fostering rural growth

Territorial and
value chain
approaches

New openings for
rural growth

Understand territorial dynamics
and modernise policies

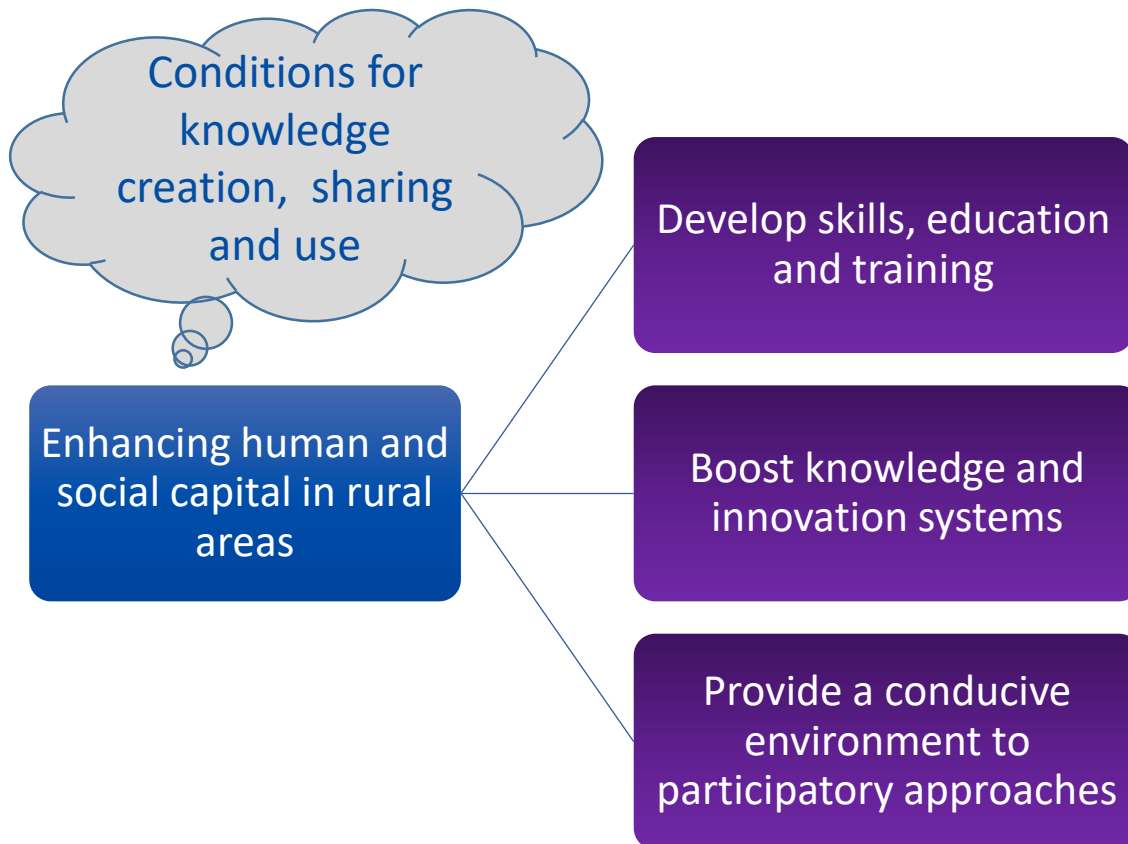
Organise sustainable food and
non-food value chains

Better reward the provision of
public goods

Take advantage of the digital
revolution



Boosting skills and innovation systems



A strategic approach to agricultural research

Long-term programming has already resulted in the development of a comprehensive portfolio and critical mass of activities

Example: Diversification

Biological basis of benefits of species mixtures

Functional biodiversity

Breeding and agronomy for diversity in farming

Farm organisation and value chains to diversify farming activities and income

Example: Genetic Resources (GenRes)

Use of landraces to develop regional products and value chains

Ex-situ management and conservation of GenRes

Strategies and capacities for in-situ and ex-situ conservation

Pre-breeding activities



Crop diversity projects joining forces

DiverIMPACTS, Diverfarming, DIVERSify, ReMIX, TRUE, LEG-VALUE, IWM PRAISE started in 2017 and are forming a cluster to deliver

- Crop diversification solutions, e.g. new varieties, crop protection, machinery
- Network of field experiments across biogeographical regions to demonstrate benefits of crop diversification (e.g. productivity, ecosystem services)
- Economic and organisational schemes and incentives to promote new business models along value chains
- Development of new products or products with enhanced value for the food/feed or industrial sectors (e.g. hemp for isolation, pulses for food sector)
- Knowledge-intensive services to farmers and learning-for-innovation platform to help manage and monitor their transition to more diversified cropping systems.
- Multi-criteria assessment tools to capture/monitor performance of diversified cropping systems at the rotation, farm, value chain, and territory levels
- Europe Policy recommendations for crop diversification



Research on "Organic" under SC2

- No specific "heading" on organic food and farming research
- Research on organic agriculture addressed in (few) specific topics
- Research topics for the organic sector arise from a) needs following new organic regulation or b) ETP Organics research agenda
- General approach to request research which addresses both conventional and organic farming ("mainstreaming" of needs of the organic sector)
- Organic research also benefiting from major support to research on agro-ecological approaches and crop diversification in SC2 Work Programmes



Research specific to organic sector in SC2 Work Programmes 2014-17

- **SFS-07-2016/2017: Organic breeding** – Increasing the competitiveness of the organic breeding and farming sectors

- Focus in 2016: Increasing availability of organic seeds

Project LIVESEED: <http://www.liveseed.eu/>



- Focus in 2017: Organic breeding; breeding for organic varieties
2 projects expected to be funded



- **SFS-08-2017: Organic inputs** – contentious inputs in organic farming
2 projects expected to be funded

- Topics on agro- and functional biodiversity, legumes and grassland also relevant; several topics requesting to work on both conventional AND organic

Research for the organic sector in SC2 Work Programme 2018-20

- **SFS-08-2018/2019: Improving animal welfare**

Scope A - 2018: Organic and low-input farming (IA)

Minimum: To work on a) alternatives to mutilations and Killing of male day-old chicks and b) supply of robust, slow- growing poultry breeds for outdoor rearing



Other relevant topics for organic farming in 2018-2020 WP

SFS-01-2018-2019-2020: Biodiversity in action

- *Scope A (2018): Below-ground biodiversity interaction with plants*
- *Scope C (2020): From agrobiodiversity to dynamic value chains*

LC-SFS-03-2018: Microbiome applications for sustainable food systems

SFS-05-2018-2019-2020: New and emerging risks to plant health

SFS-16-2018: Towards healthier and sustainable food (minimal processing)

LC-SFS-17-2019: Alternative proteins for food and feed

LC-SFS-19-2018-2019: Climate-smart and resilient farming

- *Scope B (2019): Mixed farming and agroforestry systems*

Other relevant topics for organic farming in 2018-2020 WP

CE-SFS-24-2019: Innovative and citizen-driven **food system approaches in cities**

SFS-35-2019-2020: Sustainable intensification in Africa

- *Scope A (2019): African Farming Systems, **sustainable intensification***

CE-RUR-08-2018-2019-2020: Closing nutrient cycles

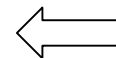
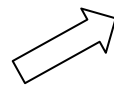
- *Scope B (2019): Bio-based fertilisers from animal manure*
- *Scope C (2020): Bio-based fertilisers from other by-products of the agro-food, fisheries, aquaculture or forestry sectors*

RUR-15-2018-2019-2020: **Thematic networks** compiling knowledge ready for practice



Summary, conclusions

- Horizon 2020 **Societal Challenge 2** together with **EIP AGRI Operational Groups** (under the CAP) and **Focus Groups** create a comprehensive "**Research and Innovation ecosystem**" (possibility to scale up and mirror in Member States?).
- Strategy and wealth of on-going activities provide a **unique starting point for building a solid knowledge base** and for promoting **innovations in agriculture** (incl. organic sector).
- H2020 and EIP AGRI provide relevant **openings for the organic sector**
- Need to build on **achievements of joint EIP AGRI and Horizon 2020 implementation** in discussions of next round of EU policies



From Horizon 2020 to FP 9

- FP9 expected to
 - present an **ambitious, mission oriented approach** to research
 - continue having a **strong global challenges pillar** (with probably reduced number of challenges)
 - strengthening innovation through dedicated **European Innovation Council** activities
- Commission's **legislative proposal** to be presented before summer 2018
- Proposal to be negotiated throughout 2018/2019 with EU Council and Parliament

Relevant 2018 events for agricultural and food R&I

- **AGRI-Research conference**

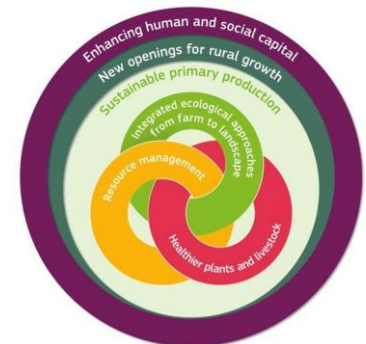
Present implementation of strategy, Horizon 2020 achievements in agricultural and rural research and: move towards FP9

Brussels, 2-3 May

- **FOOD 2030**

Bulgarian Presidency event to promote food systems approaches

Plovdiv, 14-15 June



More information

<https://ec.europa.eu/eip/agriculture/>

<https://ec.europa.eu/programmes/horizon2020/en/news/final-paper-strategic-approach-eu-agricultural-research-and-innovation>

<https://ec.europa.eu/programmes/horizon2020/>

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

