European Commission

#InvestEUresearch

Horizon 2020 Work Programme for Research & Innovation 2018-2020

Infoday, 14 November 2017

SFS call

This presentation does not engage the Commission, please refer to the official documents.

Research and Innovation

Overview SFS Call

Functional ecosystems
to healthy food

Environment and climate-smart
food production and consumption

Building capacities

International Cooperation

European
Commission

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Horizon 2020 Work Programme for Research & Innovation 2018-2020

Infoday, 14 November 2017

The multi-actor approach

Inge VAN OOST- UNIT B.2
European Commission - DG AGRI

Research and Innovation

Multi-actor approach in WP 2018 - 2020

- **Clear list of requirements, forming fully part of the topic** through the sentence "*Proposals should fall under the concept of the 'multi-actor approach' + ref to definition of the 'multi-actor approach' in the introduction of this Work Programme part* **page 8-9.** **=>** Not a "cross-cutting issue" (as RRI, SSH, gender);

- **Demonstrate** (linked to Excellence= Clarity and pertinence of the objectives & soundness of the concept!):

  - how the project proposal's objectives and planning are **targeting needs/problems and opportunities of end-users;**
  - how it **complements existing research and best practices**: building blocks for innovation are expected to come from science as well as from practice and intermediaries.

Multi-actor approach in WP 2018 - 2020

- **End-users (OF THE PROJECT RESULTS)** and practitioners are **to be involved**, not as a study-object, but in view of using their entrepreneurial skills and tacit knowledge for developing solutions and creating "co-ownership" of results,

- which speeds up the acceptance and dissemination of new ideas. (=> **forming part of the consortium**: "…*composition of the consortium and the description of the project concept should reflect*…")

- The project should result in practical knowledge made easily understandable and accessible, which **feeds into the existing dissemination channels most consulted by end-users in countries**;

- For **EU wide** communication, this knowledge should also be assembled into a **substantial number of 'practice abstracts' in the common EIP format.**

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How to build a successful Horizon 2020 multi-actor project? (1/4)

Target **real-life needs, problems or opportunities**

Choose consortium partners with **complementary types of knowledge and skills** (for "cross-fertilisation")

including **farmers, foresters or other end-users** to benefit from their entrepreneurial skills

European Commission

How to build a successful Horizon 2020 multi-actor project? (2/4)

Involve "multipliers" - people who can bring in practical knowledge and help disseminate the results in the long term

Set up a plan with a **clear role for each of the different partners**

Organise **knowledge exchange activities** between the partners

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How to build a successful Horizon 2020 multi-actor project? (3/4)

Bridge the gap between research and practice **by facilitating discussions**

Involve interactive innovation groups such as **EIP-AGRI Operational Groups**

All partners must **co-create and co-decide throughout the project**

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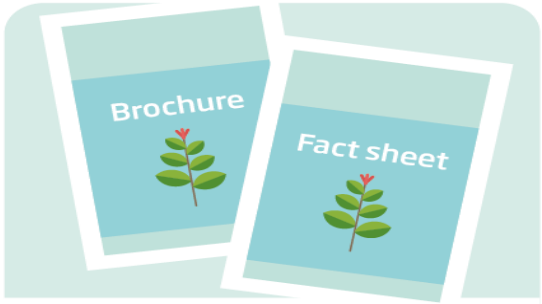
How to build a successful Horizon 2020 multi-actor project? (4/4)

Illustrate how the project **complements existing research and best practices**



Produce practical information which feeds into the most common **existing dissemination channels** ...

... and write easily understandable **practice abstracts in the common EIP format**

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From functional ecosystems to healthy food

Research and Innovation

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SFS call

From functional ecosystems to healthy food

Eleonora Patrizia GANCI- UNIT B.2
European Commission - DG AGRI

Research and Innovation

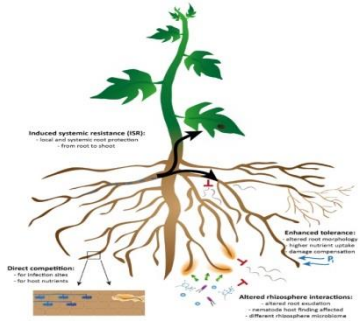
SFS-01-2018-19-20 Biodiversity in action: across farmland and the value chain

Scope A (RIA) 2018: Small organisms, big effects for plants

Background

- **Focus of scope A:** Belowground biodiversity interaction with plants
- Agronomic practices have an immediate effect on soil biodiversity; intensive farming associated with decreasing levels of (soil) biodiversity;
- **Need to better understand** processes, interactions and dynamics between plants and soil micro and macro biota
- **Test benefits** of effective plant-soil interactions e.g. for nutrient cycling processes, plant defence mechanisms, plant development and growth
- **Develop and promote** biodiversity focused soil management in agriculture

SFS-01-2018-19-20 _ Scope A. 2018



Requirements to keep in mind

- Work shall address **different production systems**
- Deliver examples of good practices for both **conventional and organic farming**
- Multi-actor approach to bring together expertise from various sectors **including farming**

European Commission

SFS-01-2018-19-20 _ Scope A. 2018

Useful resources

- **EU Biodiversity Strategy**

http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm

- **EU Soil thematic strategy**

http://ec.europa.eu/environment/soil/three_en.htm

- **Conclusion of High-Level Conference on Soil for Sustainable Food Production and Ecosystem Services and Tallinn**

https://www.eu2017.ee/sites/default/files/2017-10/Conference%20conclusions%20101017_final_0.pdf

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SFS-05-2018 New and emerging risks to plant health

Background

- Introduction, spread and establishment of pest and diseases facilitated by
  - Trade and movement of goods and people facilitate
  - Climatic variations and changes in agricultural/forest management practices
- At the same time moves to increased reliance on plant protection products
- Comprehensive knowledge on pest and disease management is needed for their control and management

SFS-05-2018
Requirements to keep in mind

- Topic to tackle new/emerging plant pest(s)/disease(s) relevant to EU agriculture/forestry
- Proposals to tackle **one or more** plant pest(s) and/or disease(s)

(regulated or non-regulated, introduced or native)

- Pests include weeds
- Proposals generate knowledge on biology, development and spread of pest(s)/disease(s)
- Improve methods and strategies for early detection, prevention, control
- Develop tools for integrated and sustainable pest/disease management

SFS-05-2018

Cross-cutting issues

- Multi-actor approach
- International cooperation encouraged with countries affected/threatened by the same pest(s)/disease(s)

Useful resources

- Activities will contribute to relevant EU plant health policies

https://ec.europa.eu/food/plant/plant_health_biosecurity/legislation_en

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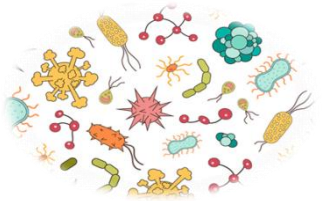
From functional ecosystems to healthy food

Marios MARKAKIS - UNIT F.3
European Commission - DG RTD

Research and Innovation

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



- **WHY?** There is need for constant improvement of our Food Systems.
- Microbiomes are known to regulate the **productivity and health** of major food sources, they also play a major role in food and feed processing, ultimately influencing human health.
- **Policy/EU initiatives :** SDGs, Food2030, EU Bioeconomy Strategy
- **Goals:** Develop **innovative solutions** for sustainable food systems. Raise **awareness** of the potential behind microbiomes. Develop new **market opportunities** for novel products, **methods and technologies** to improve overall sustainability of food system.

European Commission

LC-SFS-03-2018

Requirements to keep in mind

- **Innovation Actions:** 42 M€ with activities such as prototyping, testing, demonstrating, pilot & large-scaling with limited research activities;
- Support **food system approach** to research & innovation;
- **Inter-disciplinary** approach;
- **Consumer** engagement and acceptance;
- Existing **initiatives, knowledge** and relevant **research** infrastruture.

Links:

- http://cordis.europa.eu/article/id/400693-innovation-and-exploration-through-cutting-edge-microbiome-research_en.html

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Research and Innovation

SFS-6-2018 - Stepping up integrated pest management

- There are **many DSS and models** developed by **national/regional projects** (knowledge of pest populations per crop, various climate monitoring systems, etc) => give broader access to **existing IPM knowledge;**
- **Sharing IPM decision** supporting tools at EU level therefore has great potential for synergies and further development;
- IPM is part of **EU legislation** on sustainable use of plant protection products (SUD);
- Make these existing individual IPM models and DSS available for a wider range of geographic conditions through an **open source platform**, based on epidemiological parameters.

SFS-6-2018

- Integrate the **local agro-meteorological networks** across the EU, and make available for all DSS/models to access the weather data via the platform;
- **Focus** on those pests and diseases where IPM solutions are most urgently needed;
- Covering various **bio-geographical areas** of the EU;
- Cost-effective and **ready for practice**;
- **Multi-actor approach**: user-friendly and easy accessible for farmers and advisors.

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From functional ecosystems to healthy food

Jean-Charles CAVITTE, UNIT B2
European Commission – DG AGRI

Research and Innovation

SFS-07-2018: Making European beekeeping healthy and sustainable

Background (1)

- **Apiculture** provides private and public goods and services.
- **Uncertainty** on the combined effect of different stressors on bee health, especially colony losses.

➢ The European Food Safety Authority (EFSA) is developing an integrated risk assessment through the Multiple Stressors in Bees (MUST-B) project.

  - **a toolbox** to assess honey bee colony health in a holistic way (EFSA Journal2016; 14(10):4578, 241 pp.doi:10.2903/j.efsa.2016.4578). This conceptual framework, the Health Status Index, needs further work to become operational.

- EFSA organised a **scientific symposium** 'Collecting and sharing data on bee health: towards a European Bee Partnership'. See EFSA event report (supporting publication 2017:EN-1299. 34 pp.).
- *There was general agreement on the **overall benefits of data sharing**, recognizing the various challenges associated with data access and collection.*

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SFS-07-2018

Background (2)

A number of recent/on-going projects/initiatives on bee related issues, notably health/pollination, e.g.:

Bee Health Workbench (DG CNECT, http://bees-dashboard.azurewebsites.net/BeesHome.html)

IoBee - Beehive health IoT application to fight Honey Bee Colony Mortality http://cordis.europa.eu/project/rcn/210011_en.html

SPACERADARPOLLINATOR - Space use by bees– radar tracking of spatial movement patterns of key pollinators http://cordis.europa.eu/project/rcn/185402_en.html

ERA-NET SUSAN: Bpractices - New indicators and on-farm practices to improve honeybee health in the Aethina Tumida ERA in Europe

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SFS-07-2018

Background (3)

Existing networks e.g. **COLOSS, SUPER-B**

COLOSS
honey bee research association

New project selected under SFS-16-2017: 'Bee health and sustainable pollination', and possibly under SFS-28-2017: 'Functional biodiversity – productivity gains through functional biodiversity: effective interplay of crop pollinators and pest predators'

Evaluation of the EU's apiculture measures (http://ec.europa.eu/agriculture/evaluation/market-and-income-reports/apiculture-2013_en)

EU initiatives (EPILOBEE http://ec.europa.eu/food/animals/live_animals/bees/study_on_mortality/index_en.htm); EURL, JRC

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SFS-07-2018

Requirements to keep in mind

- Develop **ready-to-use tools** to operationalise the 'Health Status Index' developed by EFSA (including: select the most promising and relevant indicators; validate technologies for monitoring colonies and indicators in an automated or semiautomated way);
- Create an **EU platform** to collect and share knowledge of science and practice related to honeybees, their environment and agricultural and beekeeping practices, in order to develop and implement an action plan for a coordinated and harmonised approach;
- **Pilot study** in different representative European countries to test, standardise and validate methods
- Give appropriate **feedback to beekeepers** both through dissemination and training;
- Perform **statistical analyses** of the relative importance of relevant biological, chemical and environmental stressors affecting bee health and their pollination services.

SFS-07-2018

Cross-cutting issues

- **Multi-actor approach** bringing together beekeepers, bee inspectors, other stakeholders (e.g. plant growers) and scientists (including social scientists) is required31. multi-actor approach

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From functional ecosystems to healthy food

Louis MAHY, UNIT B2

European Commission – DG AGRI

Research and Innovation

SFS-08-2018 Improving animal welfare

Scope A. Organic and low-input farming

❖ Background

Animal welfare legislation

http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:189:0001:0023:EN:PDF

http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:250:0001:0084:en:PDF

EGTOP

https://ec.europa.eu/agriculture/organic/sites/orgfarming/files/docs/body/final_report_egtop_on_poultry_en.pdf

Previous projects

WELFARE INDICATORS - http://cordis.europa.eu/project/rcn/99394_en.html

WELFARE QUALITY - http://cordis.europa.eu/project/rcn/74914_en.html

ECONWELFARE - http://cordis.europa.eu/project/rcn/87806_en.html

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SFS-08-2018 _ Scope A

❖ Scope

- Organic & low-input (SFS-46-2017 – confined intensive / welfare vs health)
- Livestock – ***notably*** poultry (Aquatic: DT-BGT-04-2018)
- Production standards + ethical and positive welfare approaches
- Management (technical & business models)

❖ Multi actor

- Consumer, farmer & regulator
  ("Everyone is responsible" – EU welfare strategy)

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Jean-Charles CAVITTE, UNIT B2
European Commission – DG AGRI

Research and Innovation

SFS-11-2018-2019: Anti-microbials and animal production

Scope: A. [2018] Rethinking management of health of farmed animals

Background

With the **widespread use of anti-microbials** for human and animal health in recent decades, the world is increasingly confronted with the emergence and spread of microbes that resist anti-microbial treatment.

Antimicrobial resistance (AMR) is responsible for an estimated 25 000 deaths yearly and over EUR 1.5 billion of healthcare costs and productivity losses in the EU alone.

The **European One Health Action Pl**an against AMR (https://ec.europa.eu/health/amr/sites/amr/files/amr_action_plan_2017_en.pdf) focussing on three pillars:

- making the **EU** a best practice region;
- **boosting** research, development and innovation;
- shaping the global **agenda**.

European Commission

SFS-11-2018-2019 Scope: A.

Background

Related projects:

EFFORT (FP7) 'Ecology from Farm to Fork Of microbial drug Resistance and Transmission'

EFFORT AGAINST ANTIMICROBIAL RESISTANCE

http://www.effort-against-amr.eu

SFS-46-2017: 'Alternative production system to address anti-microbial drug usage, animal welfare and the impact on health'

European Commission

SFS-11-2018-2019 Scope: A.

Requirements to keep in mind

- **Socio-economic and behavioural science**;
- **Identify:**
  - **the reasons** why farmers accept or reject health management recommendations;
  - **levers/incentives** for adherence to prudent use principles by veterinarians and farmers;
- **Create:**
  - a basis for **predicting the behaviour** of stakeholders involved in health management to estimate the effectiveness of intervention measures;
  - create a basis for assessing resource allocation for health management
- **Develop** and if possible validate - **integrative strategies** for animal health, to foster minimal use of antimicrobials.

European Commission

SFS-11-2018-2019 Scope: A.

Cross-cutting issues

- Topic applies to both terrestrial and aquatic animals
- Address both **conventional and organic** farming.
- **Multi-actor approach**, involving representatives of farmers, extension services, veterinarians and other professionals as well other animal production stakeholders (e.g. feeding, breeding, pharmaceutical industries), and should involve training activities.

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From functional ecosystems to healthy food

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European Commission – DG RTD

Research and Innovation

DT-SFS-14-2018: Personalised Nutrition

- **WHY?** Unhealthy and unsustainable diets and eating behaviours have a negative effect on health, the environment and the economy => Prioritize **prevention** vs treatment ;
- **Policy/EU initiatives** : SDGs, Scaling Up Nutrition, Food2030, White Paper, WHO, Quo vadis, JPI HDHL, Platforms, EU Bioeconomy Strategy;
- **Goal:** Develop personalised/innovative **solutions** to help consumers to achieve their optimal health & well-being and to adopt long-term healthy and sustainable diets;
- **Develop new** market opportunities for novel products, tools, methods, technologies, concept to support personalised advices and dietary assessment.

European Commission

DT-SFS-14-2018

Requirements to keep in mind

- **Innovation Actions:** 28 M€ (4 X 7) with activities such as prototyping, testing, demonstrating, pilot & large-scaling with limited research activities;
- More **social sciences**: better understanding behaviour, motivation, decision making;
- **Inter-disciplinary** approach;
- **Consumer** engagement and acceptance;
- Gender differences in patterns of nutrition and ethical issues, particularly on the use of personal data;
- Existing **initiatives, knowledge** and relevant **research** infrastruture ;

Links:

http://www.food4me.org/news/207-white-paper

https://ec.europa.eu/research/bioeconomy/pdf/spn_quo_vadis_final.pdf#view=fit&pagemode=none

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From functional ecosystems to healthy food

Marios MARKAKIS - UNIT F.3
European Commission – DG RTD

Research and Innovation

LC-SFS-15-2018:
Future proofing our plants

- **WHY?** Food production systems strongly rely on plant resources for food or feed but also often depend on **chemical inputs** that could have negative impacts on the environment;
- A plausible way to tackle the challenges is **future proofing** those plants' qualities that could serve as a path to increased nutrition security and sustainable food systems;
- **Policy/EU initiatives :** SDGs, Food2030, EU Bioeconomy Strategy;
- **Goal:** Assess and prioritise the technologies and methodologies for plant (both terrestrial and aquatic) improvement.

European Commission

LC-SFS-15-2018

Requirements to keep in mind

- **Coordination and support action:** 3M€ with activities leading to better equipped research toolboxes providing prerequisites for future plant research in Europe;
- **Mapping, assessment and prioritisation** of technologies and methodologies for plant improvement in terms of efficiency and quality (terrestrial and aquatic);
- **Holistic approach** to exploit the potential of plant research
- **Inter-disciplinary** approach;
- Existing **initiatives, knowledge** and relevant **research** results.

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From functional ecosystems to healthy food

Miroslav BOZIC, UNIT B2
European Commission – DG AGRI

Research and Innovation

SFS-16-2018: Towards healthier and sustainable food

Background

- Food production/processing ensuring better preservation of the **raw material** and **natural food properties**

- Increasing consumers interest in:
  - 'Healthy' food attributes (e.g. freshness, 'naturalness', nutritional value)
  - Sustainability of food production/processing

- Farmers engaging in food processing (on-farm or shared processing facilities)

SFS-16-2018

Requirements to keep in mind

- Focus on food processing methods (preserving naturally occuring nutritional, structural and functional food properties) **tailored to the needs of the SMEs**;
- Towards more integrated approach (beyond food processing methods)
  - Ensuring links between food processing and raw material production;
  - Consumer perspective (behaviour, acceptance/engagement);
  - Organisation;
  - Distribution;
- Providing **benefits** for conventional and organic sectors.

SFS-16-2018

Cross-cutting issues

- Multi-actor approach allowing for adequate invovlment of food SMEs, farmers and consumers
- SSH relevant topic

Topic Budget:

- EUR 14 mio (recommended grant size EUR 7 mio) = potentially 2 grants to be funded

Proposal submission deadline: 13 February 2018

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Environment and climate smart food production and consumption

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SFS call

Environment and climate smart food production and consumption

Gaetan DUBOIS, UNIT B2
European Commission – DG AGRI

Research and Innovation

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

A. Microclimate management: from field to landscape

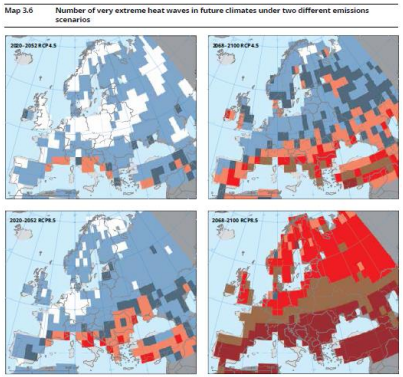
Background (models and facts)

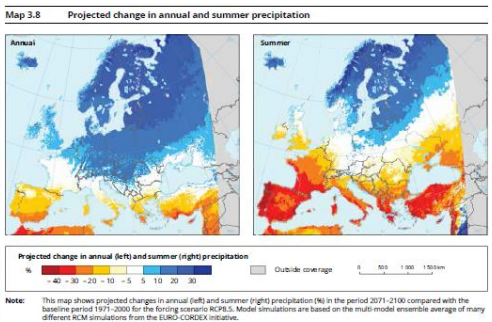
Climate change and occurrence of extreme events: heatwaves, droughts, storms, floods, frost…

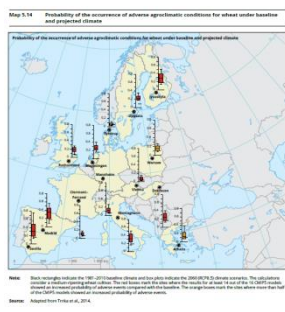
Agriculture and farmers in front line

Adaptation to climate change and extreme events;

Resilience to fluctuating environmental and socio-economic conditions.

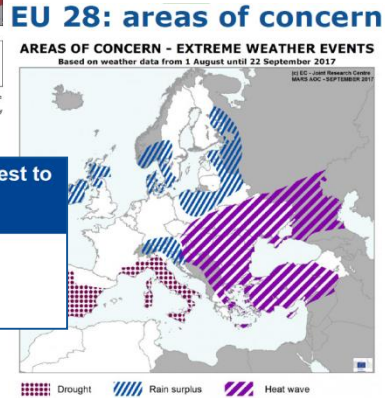


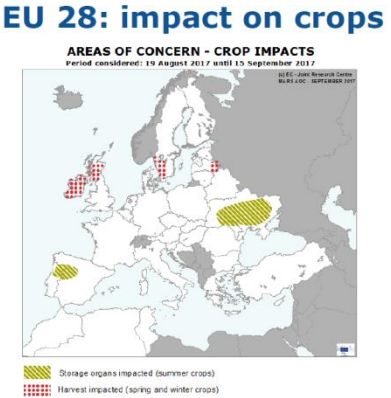




Extreme weather pushes EU wine harvest to historical low in 2017

Adverse climatic conditions in 2017, including heavy hailstorms and hard frosts in the spring as well as drought in the summer, caused considerable damage to vineyards all over Europe. As a result, most of the wine-growing regions in Europe are expecting a very low harvest for 2017.

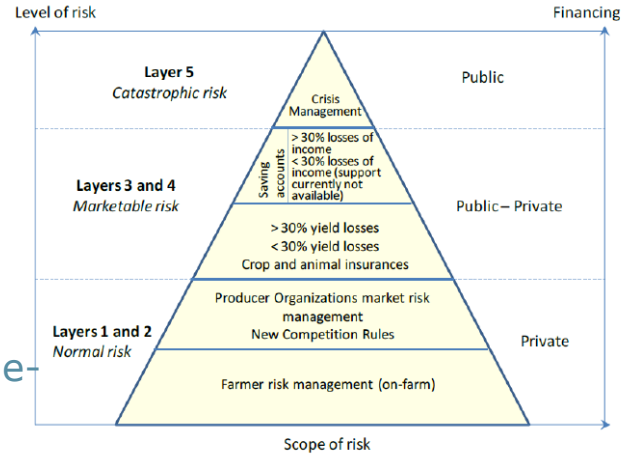




LC-SFS-19-2018_A

Requirements to keep in mind

- **Risk management** strategies and innovations;
- **Resilience** of farming systems, including livestock sector;
- **Time and space** resolution of DSS;
- **Wider impacts** – trade-offs and synergies;
- **Farm and landscape-level** observatory and knowledge-exchange networks;
- Links with the **EIP-Agri**.



Source: Bardaji, I., Garrido, A., et al., 2016. State of play of risk management tools implemented by members states during the period 2014-2020: national and European frameworks. European Parliament Study IP/B/AGRI/IC/2015-75.

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LC-SFS-19-2018_A

Cross-cutting issues

- **Multi-**actor approach;
- **Trans**disciplinarity;
- **Clustering** with other projects;
- **Conceptual framework** on resilience and mitigation at different levels

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LC-SFS-19-2018_A

Useful resources

- Research for Agri-Committee – State of play of risk management tools implemented by MS during the period 2014-2020: national and European frameworks –study
  http://www.europarl.europa.eu/RegData/etudes/STUD/2016/573415/IPOL_STU(2016)573415_EN.pdf
- WS: "Risk management in EU agriculture"
  https://ec.europa.eu/agriculture/sites/agriculture/files/events/2017/cap-have-your-say/170704-juvancic.pdf
- EIP-AGRI Focus Group on landscape features
  https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/eip-agri_fg_ecological-focus-areas_final-report_en.pdf
- EEA report: Climate change, impacts and vulnerability in Europe 2016
  https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016
- …

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From functional ecosystems to healthy food

Garbiñe GUIU-ETXEBERIA, DG RTD F2
Doru-Leonard IRIMIE, DG RTD F3
European Commission

Research and Innovation

CE-SFS-25-2018: Integrated system innovation in valorising urban biowaste

WHY? Bridging the innovation gap for exploiting the full economic potential of biowaste

Cities are generating high concentration of biowaste that today is only poorly valorised (converted into compost, biogas, energy recovery… and landfilling!)

Global/European policies: SDGs, Energy Union, EU Urban Agenda, Circular Economy, Covenant of Mayors for Climate and Energy, FOOD 2030

Objectives:

- Emerging technologies for recycling urban biowaste and wastewater sludge into high-value biobased products (e.g. chemicals, plastics, nutrients, food and feed, proteins etc.) within new or existing waste management and valorisation schemes
- New business models
- Active participation and improved perception of citizens and local stakeholders
- Improved consumer acceptance

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CE-SFS-25-2018

Requirements to keep in mind

- **Innovation Actions:** 20 M€ (2 X 10) with activities focussing on new business and organisational models based on an integrated system approach (incl. LCA), TRL 7
- **Technological and social innovation initiatives** for increasing consumer awareness and acceptance
- **Active participation of citizens, local communities, regional authorities and industry**
- **Definitions:** Biobased products: biobased chemicals, plastics, nutrients, food and feed, proteins etc.

Links:

http://ec.europa.eu/environment/sustainable-development/SDGs/implementation/index_en.htm

http://ec.europa.eu/research/bioeconomy/index.cfm?pg=policy&lib=food2030

https://ec.europa.eu/futurium/en/urban-agenda

http://ec.europa.eu/environment/circular-economy/index_en.htm

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Infoday, 14 November 2017

SFS call

Building capacities

European Commission

Research and Innovation

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Infoday, 14 November 2017

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Research and Innovation

SFS-27-2018 Monitoring food R&I investments and impacts

Background

- Agricultural **price hikes** of 2007/2008, **long-term projections** of agricultural production and **concerns over sustainability** have brought agricultural research at the center of attention of policy makers in the last decade;
- Yet, the landscape of **EU R&I is complex** and data on investments are not always available;
- **Measuring the impact** of research is also a complex task which require a variety of approaches.

SFS-27-2018

Requirements to keep in mind

- Scope covers **agriculture, food and fisheries / aquaculture**;
- Scope covers both **public and private** investments;
- Monitoring goes beyond just investment figures: **research and innovation policies** are also to be looked at. The project should provide a forum for policy discussions and debates with the aim of improving research and innovation policies;
- It is expected that proposals will take into account **other initiatives related** to research and innovation monitoring, for instance work done by the OECD on monitoring of innovation in food and agriculture

SFS-27-2018

Useful information includes

- Several projects have worked recently on the monitoring of agricultural research and measuring its impact, for instance: FP 7 impresa project (http://www.impresa-project.eu/home.html), INRA Asirpa study (https://www6.inra.fr/asirpa); CIRAD Impress project (https://impress-impact-recherche.cirad.fr/);
- OECD work on R&I in agriculture: http://www.oecd.org/tad/agricultural-policies/monitoring-and-evaluation.htm
- IFPRI ASTI: https://www.ifpri.org/program/agricultural-science-and-technology-indicators-asti
- Work by **Phil Pardey** / **Julian Alston** in the USA
- Etc.

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SFS-28-2018-2019-2020: Genetic Resources and pre-breeding communities

Scope A[2018]: Joining forces for GenRes and biodiversity management

Background

- **Genetic Resources** crucial for agriculture, forestry and food security
- Efforts needed to halt **genetic erosion** and overall **decrease of diversity** in agro- and forest ecosystems
- Need to improve **conservation**, **access and use of GenRes** (EU global commitments in this area)
- European wide strategies and coordination required bringing together **national/regional structures** for GenRes and biodiversity management

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SFS-28-2018 - *Scope A [2018]:* Joining forces for GenRes and biodiversity management

Requirements to keep in mind

- Coordination and Support Action.
- Bring together **existing European** and **national/regional structures** working on plant crops, forest and animal GenRes.
- **Advance European wide strategies** and (information) tools for European GenRes management.
- Work on both: **Individual roadmaps**, strategies for crop, animal and forest GenRes AND **joint approaches** to promote (agro) biodiversity strategies;

European Commission

SFS-28-2018 - *Scope A [2018]:* Joining forces for GenRes and biodiversity management

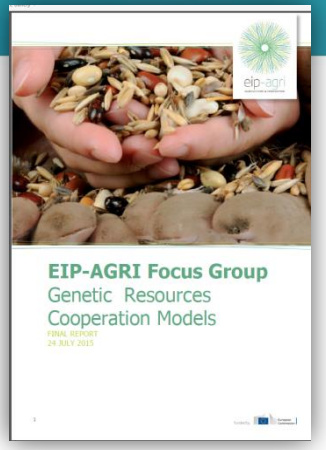
Cross-cutting issues

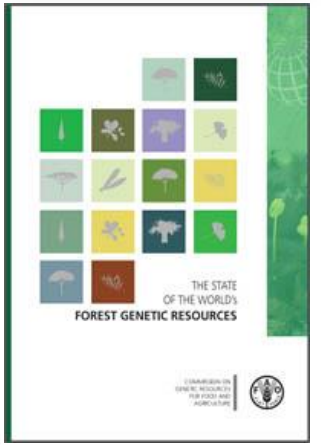
- Focus of activities on Europe **but** international resources and activities to be taken into account
- Widening component: Build and widen capacities across Europe and neighbouring countries (including Mediterranean)

SFS-28-2018 - *Scope A [2018]*

Useful resources

- **Report of Focus Group on GenRes:** https://ec.europa.eu/eip/agriculture/en/focus-groups/genetic-resources-cooperation-models
- **European biodiversity strategy:** http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm
- **International Treaty on Plant Genetic Resources for Food and Agriculture:** http://www.fao.org/plant-treaty/en/
- **Forest Genetic Resources**: http://www.fao.org/forestry/fgr/64582/en/





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SFS-29-2018: Innovations in plant variety testing

Background

- Agricultural production is increasingly taking place under varying environmental conditions, increased biotic and abiotic stress and lower use of external inputs;
- Speed up development of new varieties which, adapted to changing demands
- New varieties to take into account characteristics and **"sustainability criteria":** traits which confer resilience to plants with regard to more challenging and variable conditions (e.g. biotic stress tolerance, nutrient and water use efficiency)
- **Variety testing methods** need to evolve accordingly to:

  1. better integrate sustainability criteria into official testing for **Value for Cultivation and Use (VCU);**

  2.enhance precision and speed of **DUS testing** (Durability, Uniformity, Stability) of new varieties for marketing authorisation, in particular through the use of molecular tools.

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SFS-29-2018

Requirements to keep in mind

- No specification of crops in text: **open to all species** BUT in relation to impact: work may be more relevant for species for which VCU and/or DUS testing is required
- Note: Under this topic the testing of performance/value of cultivation is not limited to "important agricultural species"!
- Work to advance both: VCU and DUS testing in a "balanced way"
- Exploit **synergies between work on VCU and DUS te**sting, e.g. on phenotyping methods, molecular tools,)
- Molecular tools developed potentially to serve other uses such as detection of new breeding methods

SFS-29-2018

Useful resources

- https://ec.europa.eu/food/plant/plant_property_rights/legislation_en
- https://ec.europa.eu/food/plant/plant_propagation_material/legislation_en
- http://www.upov.int/resource/en/dus_guidance.html
- http://cpvo.europa.eu/en

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SFS-30-2018-2019-2020: Agri-Aqua Labs

A. [2018]: Understanding the genome of farmed animals, its expression and translation into traits

Background

Our understanding of the biological mechanisms underpinning traits remains limited. A major goal of biological research is to use genome information to predict complex outcomes.

FAANG initiative: A coordinated international action to accelerate genome to phenome (http://www.faang.org/index)

Related projects:

FAANG-Europe (COST action; http://faang-europe.org/)

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SFS-30-2018-2019-2020. Scope A

Requirements to keep in mind

- **Map out** what part of farmed animal genomes are active and under which circumstances, **characterise** the resulting phenotypes and **assess** how phenotypes are affected by genetic and epigenetic changes. **Bioinformatic analyses**. Help to develop or extend terminologies (ontologies) to describe, represent and standardize annotation;
- **Develop** (test) tools to measure related phenotypes, including intermediate phenotypes;
- **Target** one or more farmed animal species with high-quality genome assemblies (in particular cows, chicken, pigs, sheep, salmon and other relevant species), focussing on specific tissue panels, and address correlations between normal and abnormal situations;
- **Use FAANG** standards/core assays and coordinate with other projects to minimise overlaps;
- The data should be submitted to relevant **European biological data archives** in accordance with these standards to ensure they are available to the whole community (EMBL-EBI)

SFS-30-2018-2019-2020. Scope A

Cross-cutting issues

- Topic applies to **both terrestrial and aquatic** animals
- **Multi-actor approach**, involving representatives of farmers, extension services, veterinarians and other professionals as well other animal production stakeholders (e.g. feeding, breeding, pharmaceutical industries), and should involve training activities.
- Proposals should include a task to **cluster with other projects** financed under this topic.

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Targeted international cooperation

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Targeted international cooperation

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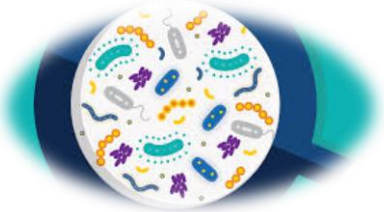
SFS-32-2018: Supporting Microbiome Coordination and IBF



WHY? An international cooperation framework for bioeconomy R&I

A platform for collaboration and coordination across various microbiome-related R&I programmes and initiatives in EU food systems and worldwide.

Policy/EU initiatives: Food 2030, JPIs, PPPs, ESFRI, Bioeconomy Strategy, SDGs.

Goals:

- Joint bioeconomy related international research programmes and an alignment of international research agendas;
- Improved coherence and reduced overlap;
- Reinforced collaboration and knowledge exchange with international networks;
- Establish microbiome definition, best practices and standards, consistent protocols and pipelines.

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SFS-32-2018

Requirements to keep in mind

- **Innovation Actions:** 3 M€ CSA
- **Platform to share ideas and experiences** on **bioeconomy** policies, strategies and joint actions at international level
- **Microbiome related research** throughout the food system and beyond, including terrestrial and aquatic environment
- **Inter-disciplinary** approach
- **Existing initiatives**, **knowledge** and relevant **research** infrastructure

Links:

http://cordis.europa.eu/article/id/400693-innovation-and-exploration-through-cutting-edge-microbiome-research_en.html

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Targeted international cooperation

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International cooperation

Africa

- SFS-33-2018:
- Support to the implementation of the EU-Africa Research and Innovation Partnership on Food and Nutrition Security & Sustainable Agriculture (FNSSA)

China

- FAB; SFS-38-2018:
- Highly efficient management of soil quality and land resources

Africa Picture: *Karen Vankampenhout*

European Commission

EU-Africa R&I Partnership on food and nutrition security and sustainable agriculture

Sustainable intensification	Agriculture and food systems for nutrition	Expansion and improvement of agricultural markets and trade
Cross cutting issues		

European Commission

SFS-33-2018

Expected Impacts:

In the short to medium term the work will result in:

- the creation of a true **cluster of projects** in support of a coherent implementation of the EU-Africa R&I Partnership to optimise research and innovation programmes relevant to FNSSA;
- support to **EU-Africa HLPD Bureau** as a part of the implementation of the R&I Partnership on FNSSA.

In the long term activities will strengthen **networking and collaboration** and provide the basis for turning the EU-Africa R&I Partnership on FNSSA into a long-term platform for collaboration.

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SFS-33-2018

Requirements to keep in mind

- Proposals shall include at least **eight participants** from Africa;
- In order to achieve the objectives of the call topic, the project should have a minimum duration of **four years**;
- Budget 5 million, deadline **13 February 2018.**

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FAB: SFS-38-2018

- **Production, protection and remediation**
  are the three major components for securing global food supply on limited land resources for the growing global population;
- As competition between urban, industrial/transportation and agricultural land uses increases, **food production** needs to be maintained on decreasing land areas;
- Land suitability-based management with **prioritisation of targets** (outputs) has to be in place and **life cycle assessment** of nutrient flows need to be included.

FAB: SFS-38-2018

Requirements to keep in mind

- **Contributions for Chinese participants**
  will come in addition and will be made available by China.

Thank you!

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www.ec.europa.eu/research/bioeconomy
www.ec.europa.eu/agriculture/research-innovation_en
Participant Portal http://ec.europa.eu/research/participants/portal/desktop/en/home.html

European Commission