

# GenResBridge

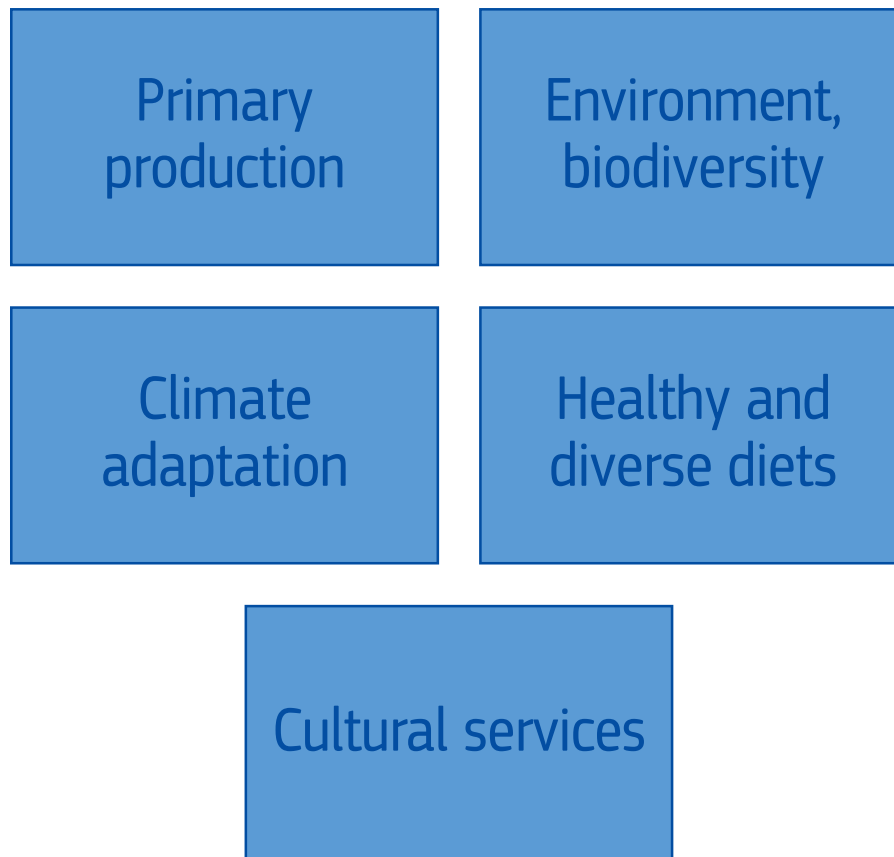
Discussions on EU activities to  
support genetic resources and  
agrobiodiversity

18 October 2019

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## Genetic resources: serving manifold needs





## **Genetic resources: cutting across several policies and competences at EU level**

- Convention on Biological Diversity, Nagoya and other biodiversity policies/activities: DG Environment
- TPGRFA and seed legislation: DG SANTE
- Patents (incl. in breeding): DG GROW (SANTE)
- Promotion and use of GenRes in agriculture (and forestry): DG AGRI
- Research and innovation for GenRes in agriculture and forestry: DG AGRI (DG RTD)

# Examples of EU policies and strategies supporting GenRes

## (1) Common Agricultural Policy:

- Agri-environment schemes under Rural Development to support biodiversity and genetic resources;
- Measures are programmed individually at regional level.
- To continue under proposed new CAP
- (Agri-environment-climate schemes)

### Objectives of Common Agricultural Policy





# Examples of EU policies and strategies supporting GenRes

## (2) Biodiversity Strategy to 2020 (2011)

Action 9: Better target **Rural Development to biodiversity conservation**

Action 10: The Commission and Member States will encourage the uptake of agri-environmental measures to **support genetic diversity in agriculture and explore the scope for developing a strategy for the conservation of genetic diversity.**

Actions 11 and 12: ...protect and enhance **forest biodiversity**.... inter alia through use of rural development measures and the LIFE+ programme. Integrate **biodiversity measures in forest management plans**

- Mid-term review (Council and Parliament conclusions/resolution) in 2015/2016  
“...make better use of existing CAP and cohesion policy instruments to assist farmers and forestry operators in achieving biodiversity targets;

“need to **promote the sustainable use of plant genetic resources and traditional agricultural varieties**, together with sustainable solutions for agriculture and forestry”

### (3) New Commission priorities

- ✓ A European Green Deal

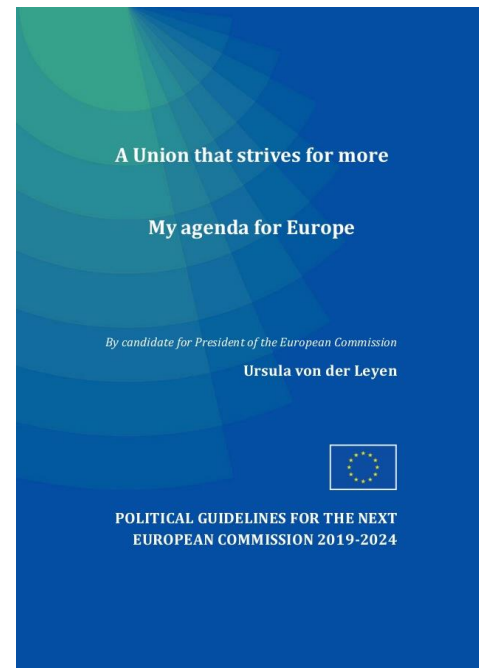
#### *A Biodiversity Strategy for 2030*

“to lead the world at the 2020 Conference of the Parties to the Convention on Biological Diversity”)

#### *“Farm to Fork Strategy” on sustainable food*

- ✓ An economy that works for people
- ✓ A Europe fit for the digital age
- ✓ Protecting our European way of life
- ✓ A stronger Europe in the world
- ✓ A new push for European democracy

And: Recent policy discussions in Council calling for a “coordinated” forestry strategy; Commissioner Phil Hogan supporting a **new EU Forest Strategy** to maximize the **contribution of forests to the delivery of all the services** they can provide.

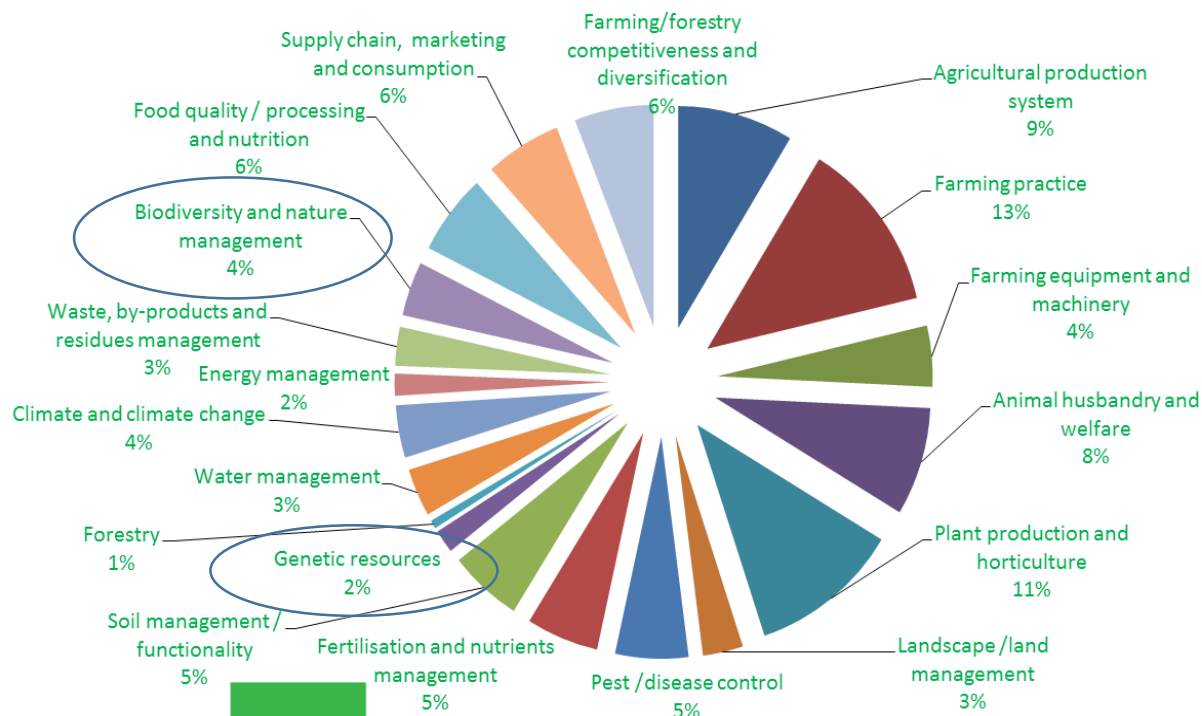




#### (4) Seed marketing legislation and organic regulation

#### (5) Research and Innovation

- Promotion and use of GenRes in agriculture (and forestry) through GenRes programme and preparatory actions
- European Innovation Partnership EIP AGRI through operational groups and Focus Groups
- Horizon Europe



# Record of AGRI funding for GenRes under SC2 H2020

2014	<ul style="list-style-type: none"> <li>Traditional resources for agricultural diversity and the food chain</li> <li>Projects: DIVERSIFOOD; TRADITOM; TREASURE</li> </ul>	(10m€)
2015	<ul style="list-style-type: none"> <li>Management and use of genetic resources (focus on ex-situ)</li> <li>Projects: G2P-SOL; GenTree; IMAGE</li> </ul>	(20m€)
2016	<ul style="list-style-type: none"> <li>Several topics to increase interspecific species diversity</li> <li>Projects: ReMIX; DIVERsify; Diverfarming; DiverIMPACTS</li> <li>EU-China cooperation: EUCLEG</li> </ul>	(30m€) (5m€)
2017	<ul style="list-style-type: none"> <li>Networking and improving capacities for in-situ conservation</li> <li>Projects: FARMERS' PRIDE; DYNAVERSITY</li> </ul>	(4m€)
2018-20	<ul style="list-style-type: none"> <li>Joining forces for GenRes and biodiversity management (CSA, 2018)</li> <li>Project: GENRES BRIDGE</li> <li>Adding value to plant GenRes (RIA, 2019)</li> <li>Capitalising on native biodiversity in farmland landscape (RIA, 2019)</li> <li>The GenRes-user interface and pre-breeding activities (IA, 2020)</li> <li>From agrobiodiversity to dynamic value chains (2020)</li> </ul>	(3m€) (14m€) (8m€) (14m€) (6m€)



# Agricultural research under Horizon 2020 supporting GenRes



## Why do research and innovation on plant and animal genetic resources and breeding matter?

Genetic Resources play a crucial role in agricultural and forest-based activities. They hold the key to diverse and healthy diets and to the adaptation of plants and animals to a changing and more variable climate. This potential is not sufficiently used and current farming modes increasingly rely on a limited number of plant and animal species. Three major crops (rice, wheat and maize) provide more than 50% of the world's plant-derived calories. Reversing this trend and increasing the resilience of farming and forestry is critical and of global

concern, in particular in the current context of accelerated climate change and an ever increasing population. R&I activities aim at halting the further loss of genetic diversity by tapping into the vast gene pool of plant and animals and making it available for breeders, farmers and ultimately consumers. Furthermore, particular breeding efforts are undertaken to broaden the genetic base of cultivated crops and create varieties that meet the manifold demands in relation to quality, resilience and sustainability.

## Genetic resources and breeding under Horizon 2020 societal challenge 2

  
**33**  
Projects or expected grants

  
**189 M€**  
EU contribution 2014-2020

  
**490**  
Participations in selected projects

### Key themes

Landraces and local products & value chains – Genebank management – Coordination and development of biodiversity strategies – Diversifying agriculture and forestry – Plant and animal breeding

Agriculture and Rural Development



## Why do research and innovation support ecological approaches and organic farming?

Agriculture and forestry have to meet the changing needs of society not only in terms of consumption, but also to address the environmental issues relating to primary production (e.g. biodiversity, habitats, water quality and quantity, climate change, air quality). A deeper understanding of ecological principles is changing the perceptions on the functioning of primary production systems and will make it possible to use ecosystem services to benefit sustainable and resilient land use systems without jeopardising profitability. Integrated ecological approaches are a promising area of research and innovation; this includes the interactions between plants and/or animals and other organisms as well as the interactions within the soil with ecosystem services such as pollination, biological pest control, maintenance of soil structure and fertility, nutrient cycling and hydrological services; not all of which are well known.

Specific types of farming systems that implement ecological approaches have developed in Europe and across the world, and they have their own research and innovation needs. These include the organic sector, which is the largest such farming system with a dedicated regulatory framework and dynamic market growth. Collaboration with other parts of the food and non-food supply chain is necessary to develop effective, new creative solutions and business models especially for radical eco-innovations. Ecological approaches are knowledge-intensive and depend on combining formal and practical knowledge with modern technologies and practices. Knowledge relating to agro-ecosystems is site-specific and evolving. Innovations are expected to capitalise on local conditions and provide place and tailor-made solutions. Long-term experiments and an appropriate research infrastructure need to be developed to meet the specific needs of ecological approaches in relation to a particular landscape level and its evolution over a longer period of time.

## Ecological approaches under Horizon 2020 Societal Challenge 2

  
**36**  
Projects or expected grants

  
**213 M€**  
EU contribution 2014-2020

  
**617**  
Participations in selected projects

### Key themes

Agroecology – Organic Farming – Biodiversity – Ecosystem Services – Landscape – Agriculture – Agroforestry – pollination – biocontrol – diversification – mixed farming – permanent grassland

Agriculture and Rural Development



## Reflections - questions

GenRes Bridge to progress in development of

- individual roadmaps for management and use of crop, forest and animal GenRes
- cooperation and synergies between the various networks
- a wider (agro)biodiversity strategy

How to best

- Balance needs for in-situ, ex-situ conservation?
- Use the various levels and tools for action: local/regional/Member States/EU level?
- bridge the divide between the protection of natural and managed biodiversity?
- use new political priorities to promote GenRes (Green Deal, Forest Strategy)?

# Thank you!

#FutureofCAP

[https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/future-cap\\_en](https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/future-cap_en)

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