

Overview of ECPGR initiative: European Evaluation Network (EVA)

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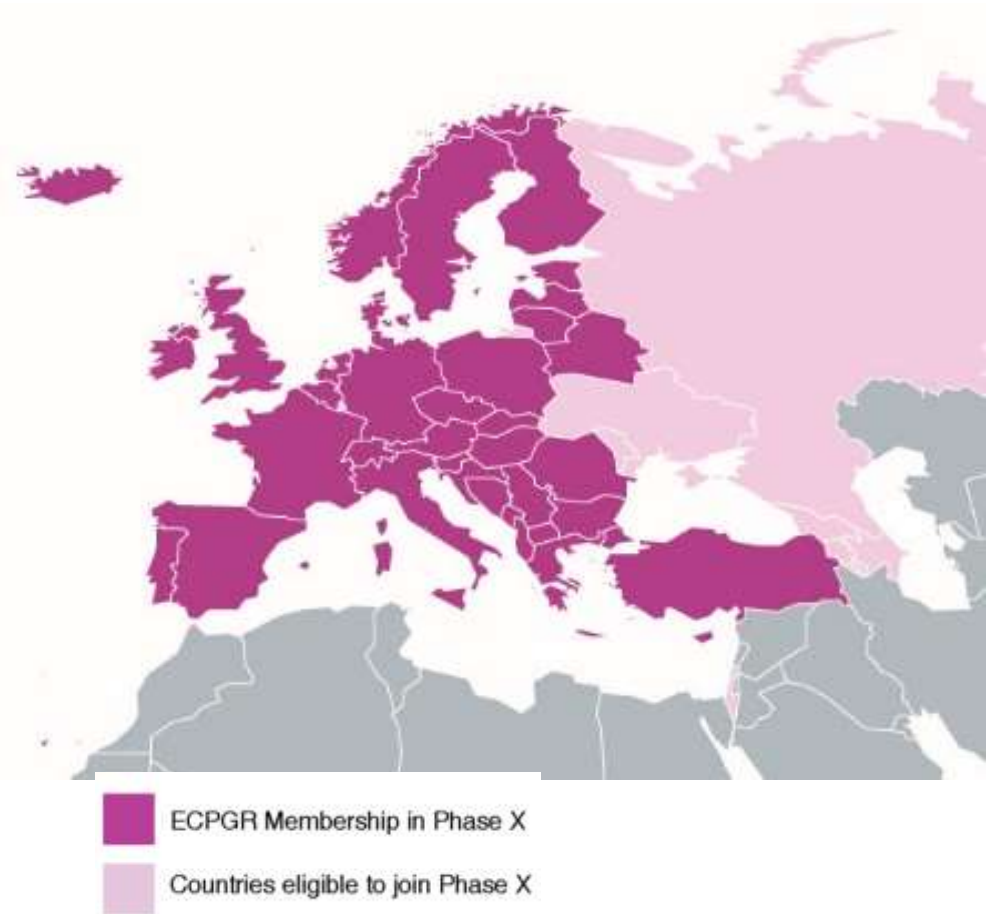
Workshop for the establishment of a European Evaluation Network (EVA) on wheat and barley
27-28 November 2018, Berlin, Germany

Content

- Short overview of ECPGR
- The German-funded project on Private Public Partnerships
- European Evaluation Network
 - Scope and goal
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What is ECPGR

ECPGR is
a collaborative
Programme among
most European
countries, aiming at
ensuring the
long-term conservation
and **facilitating the**
utilization of plant
genetic resources in
Europe



Structure for Phase X (2019-2023)



Objectives of ECPGR Phase X (2019–2023)

1. To efficiently conserve and provide access to unique germplasm in Europe through **AEGIS** and the **European Collection**
2. To provide passport and phenotypic information of actively conserved European PGRFA diversity *ex situ* and *in situ* through the **EURISCO** catalogue
3. To improve *in situ* conservation and use of **crop wild relatives**
4. To promote **on-farm** conservation and management of European PGRFA diversity
5. To promote **use** of PGRFA



ECPGR – examples of tools/achievements



**European Search
Catalogue for Plant
Genetic Resources**



*A European Genebank
Integrated System*



Implementing FAO International Treaty
on PGRFA

How to improve collaboration with users in public and private sectors

German-funded project (PPP) 2017-18

First Phase (Feb - Jul 2017)

- Establishment of PPP knowledge base (ECPGR website)
- Workshop in Bonn (June 2017) - 48 participants from 17 countries

Second Phase (Aug 2017 - May 2018)

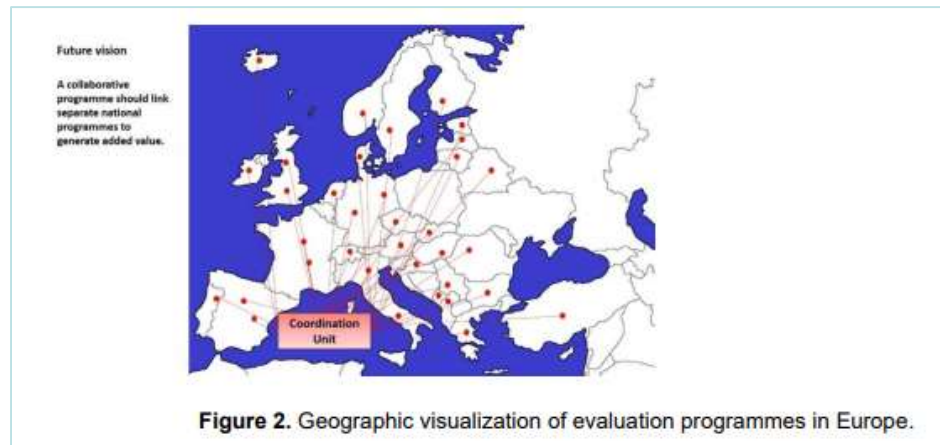
- Advisory Group + legal advisor
- Workshop I (Maccarese, October 2017)
- Workshop II (Maccarese, March 2018)

Considerations from Bonn workshop

- European PGRFA Evaluation Network of strategic importance for Europe: opportunity to position PGRFA at a more strategic level within Europe
- Critical role in facilitating adaptation of European agriculture to climate change
- Contribute towards achievement of related Sustainable Development Goals
- Important to increase use of genetic diversity in plant breeding and diversity of stakeholders in plant breeding using PGRFA

Goals of a European Evaluation Network

- Establishment of a Network for the evaluation of PGRFA
- Coordinated secondary evaluation for biotic and abiotic stresses with same methods and standards
- Improved inventories with solutions for integration of phenotyping or genotyping information
- Development of a dynamic information system for a coordinated data acquisition and assessment



(source of figure: Report of the PPP workshop, June 2017, Bonn)

PPP project Phase II

Advisory Committee to prepare framework for a European PGRFA Evaluation Network

1. European Seed Association
2. Bioversity International
3. FAO International Treaty
4. NordGen, Sweden
5. CGN, the Netherlands
6. University of Warwick, UK
7. Wallon Centre of Agronomic Research, Belgium
8. JKI, Germany
9. INRA, France
10. GFPI, Germany
11. Plantum, The Netherlands
12. BLE, Germany
13. Ministry of Agriculture, Denmark

Scope and goal of European Evaluation Network

Scope

The scope of the European PGRFA Evaluation Network regards the generation and linkage of phenotypic and genotypic data to develop genetic markers and information for the enhanced use of PGRFA in breeding (at pre-competitive level) and research.

Overall goal

To increase, facilitate and improve the use of genetic diversity present in PGRFA in Europe for crop improvement.

Objectives of the Evaluation Network

- Promote and support the establishment of crop- or crop group-specific European Private Public Partnerships and other collaborative projects to carry out targeted evaluation of PGRFA.
- Promote and improve the digitization, harmonization, availability and exchange of existing and newly generated evaluation data of PGRFA using to the extent possible the existing EURISCO infrastructure.
- Improve the evaluation of PGRFA through coordinated and collaborative efforts, using harmonized methods and standard protocols and the development of best practices, guidelines and tools.
- Promote cooperation with other relevant EU infrastructures and collaborations related to the scope of the network.

Expected benefits

- Increased access to well-evaluated genetic material and related information from all over Europe;
- Structured network allowing for the testing of PGRFA across a wide range of agro-environmental areas, using the same standards and methods, thus generating data that are scientifically more meaningful and useful for plant breeding;
- Centralization of data in a dynamic information system (EURISCO) providing privileged access (data embargo) for members;
- Further strengthening and use of a well-developed and coordinated infrastructure for long-term maintenance of relevant material (AEGIS);
- Mechanism for pooling resources for evaluation of PGRFA in order to better exploit the diversity of growing conditions across the region;
- Transfer of knowledge and ideas among genebanks, crop and breeding communities.

**Establishment of
the European PGRFA Evaluation Network
(EVA)**

WHEREAS the world is facing increasing challenges to food security through the loss of diversity and the underutilization of the diversity that exists;

WHEREAS the natural range of growing conditions in Europe calls for and permits more comprehensive evaluation of PGRFA across different environments;

WHEREAS it is of strategic importance for Europe to better utilize Plant Genetic Resources for Food and Agriculture to facilitate adaptation of European agriculture to climate change and to contribute towards the achievement of Sustainable Development Goals;

WHEREAS it is important not only to increase the use of genetic diversity in plant breeding, but also to increase the diversity of stakeholders in plant breeding, including private and public sectors, small and medium enterprises and participatory plant breeding actions;

WHEREAS there is an opportunity to build on existing networks for conservation and use of PGRFA and to develop a European PGRFA Evaluation Network which is open for participation by both private and public sectors as order to facilitate the exchange of data on evaluation in a standardized format;

Now therefore, the Steering Committee of the ECPGR hereby establishes the European PGRFA Evaluation Network in the form of Private/ Public Partnerships within the framework of the European Cooperative Programme for Plant Genetic Resources (ECPGR), in accordance with the following provisions.

01 Definitions

For the purposes of this Proposal -

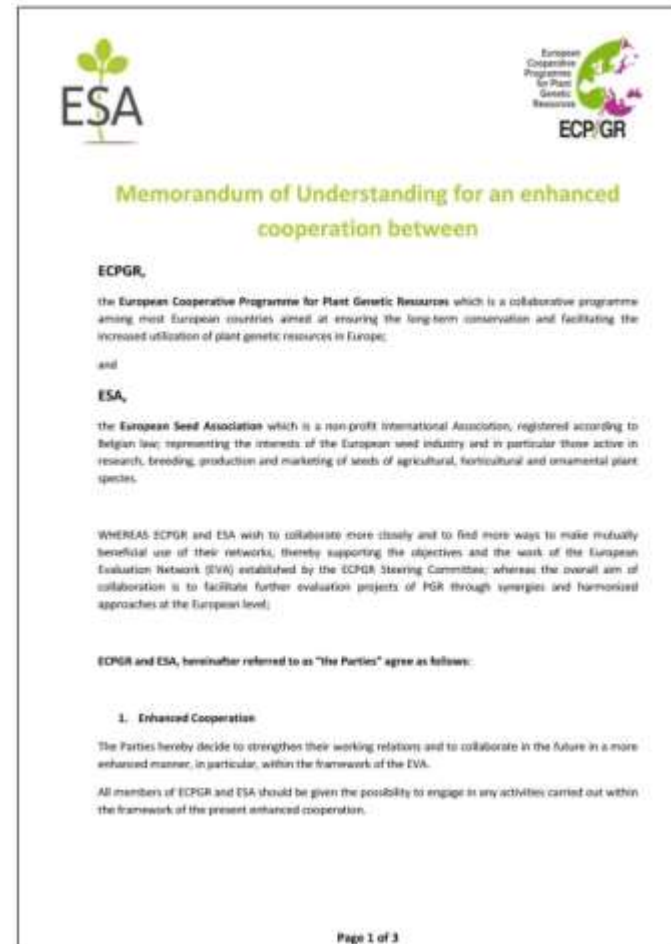
- i) "AEGIS" means the European Genebank Integrated System;¹
- ii) "ECPGR" means the European Cooperative Programme for Plant Genetic Resources;
- iii) "EURISCO" means the European Search Catalogue for Plant Genetic Resources;²

¹ AEGIS entered into force in 2009 within the framework of ECPGR in order to improve coordination with respect to the conservation of PGRFA in Europe and to facilitate the exchange of PGRFA and related information among the countries and genebanks of Europe, and is now functioning to conserve genetically unique and important accessions for Europe and to make them available for breeding and research.

² EURISCO is a European cooperative mechanism, which provides information on nearly 2 million accessions of crop plants and their wild relatives, preserved *in situ* by almost 400 institutes, based on a network of National Inventories of 43 member countries. EURISCO forms part of the Global Information System on Plant Genetic Resources for Food and Agriculture provided for under the International Treaty of Plant Genetic Resources for Food and Agriculture, and is now being extended to characterization and evaluation data.

EVA approved by the
ECPGR Steering
Committee in
Thessaloniki, May 2018

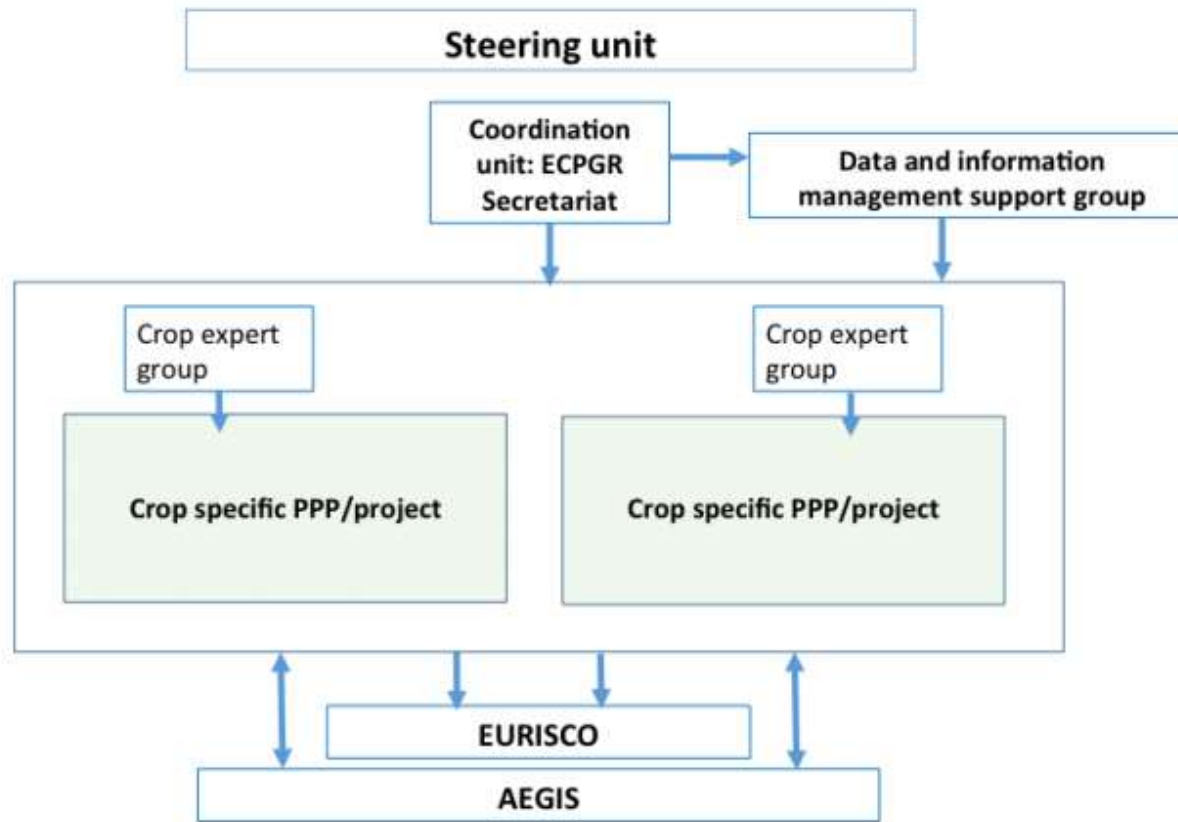
MoU between ESA and ECPGR, promoting collaborative efforts for the evaluation of PGRFA



Principles of EVA

- In accordance with the principles of the Treaty
- Use of SMTA for the transfer of PGRFA
- Maximum use of the European Collection (AEGIS)
- Maximum use of agreed standards for evaluation and production of data
- Maximum use of EURISCO
- Use of ECPGR supportive structure (Crop Working Groups)
- Agreed rules about release of evaluation data (to be agreed project-wise)
- In principle self-funded (but not necessarily so)

EVA structure



Model Cooperation Agreement defining:

- Partners
- Material to evaluate and traits
- Evaluation Protocols
- Definition of tasks and deadlines
- Embargo period before the data are made public outside the cooperation
- Adoption of SMTA for distribution of material

From the EVA framework to EVA implementation

Opportunity from German Ministry to organize two crop-specific workshops with volunteering communities:

- Barley and Wheat (Berlin, November 2018)
- Vegetables (to be confirmed, March 2019)

Expectations from this workshop

General discussion (first day)

- Information on related initiatives
- Verify interest of the participants (genebanks, breeders)
- Verify suitability of proposed EVA framework (or adaptations required)

More detailed discussion (second day)

- Material and traits
- Type of standards
- Conditions of operation (Embargo, SMTA, cooperation agreement, information system requirements, partners)
- Funding strategy



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Thank you for your attention!