

Overview of ECPGR initiative: European Evaluation Network (EVA)

Lorenzo Maggioni
ECPGR Secretariat

First Meeting of the Berries Working Group
14-15 January 2020, Dresden, Germany

Content

- The German-funded project on Private Public Partnerships
- European Evaluation Network
 - Scope and goal
 - Objectives
 - Expected benefits
 - Principles
- Opportunities for Berries WG

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 (June 2017)

- 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

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 in 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 *ex 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





Memorandum of Understanding for an enhanced cooperation between

ECPGR,

the European Cooperative Programme for Plant Genetic Resources which is a collaborative programme among most European countries aimed at ensuring the long-term conservation and facilitating the increased utilization of plant genetic resources in Europe;

and

ESA,

the European Seed Association which is a non-profit International Association, registered according to Belgian law; representing the interests of the European seed industry and in particular those active in research, breeding, production and marketing of seeds of agricultural, horticultural and ornamental plant species.

WHEREAS ECPGR and ESA wish to collaborate more closely and to find more ways to make mutually beneficial use of their networks, thereby supporting the objectives and the work of the European Evaluation Network (EVA) established by the ECPGR Steering Committee; whereas the overall aim of collaboration is to facilitate further evaluation projects of PGR through synergies and harmonized approaches at the European level;

ECPGR and ESA, hereinafter referred to as "the Parties" agree as follows:

- Enhanced Cooperation**

The Parties hereby decide to strengthen their working relations and to collaborate in the future in a more enhanced manner, in particular, within the framework of the EVA.

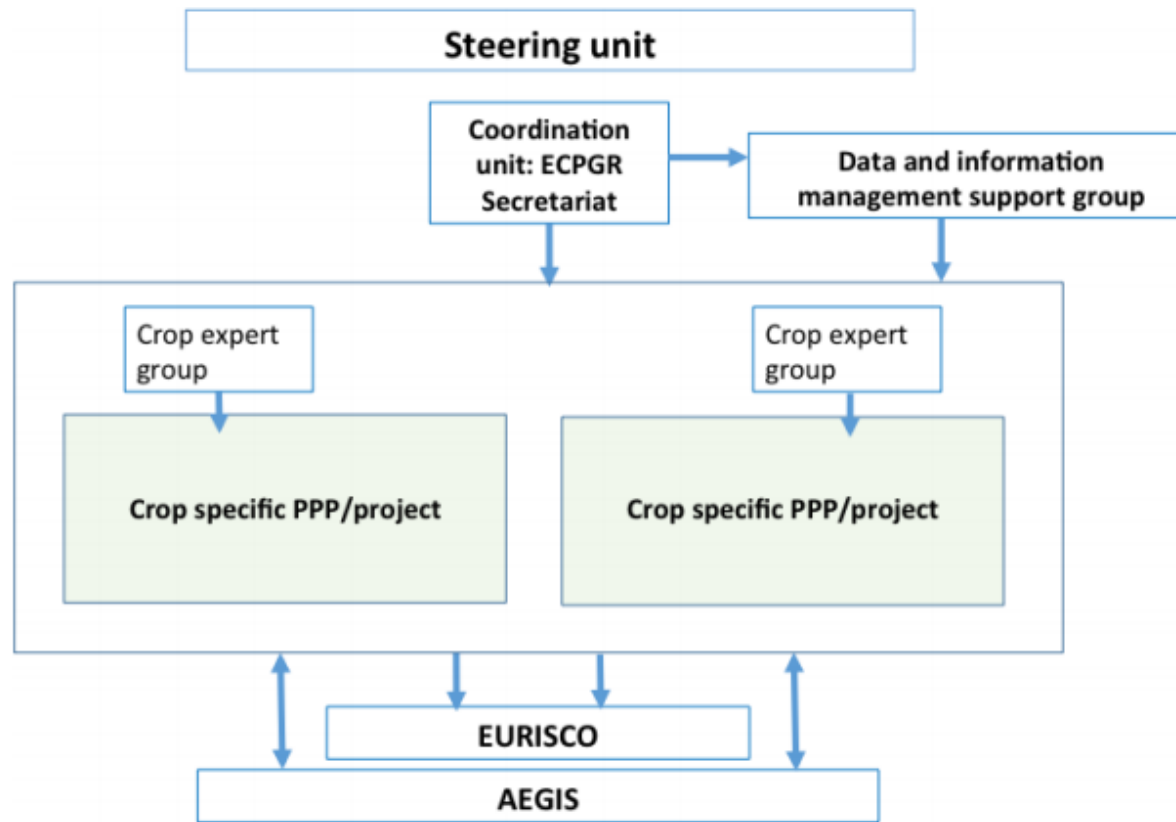
All members of ECPGR and ESA should be given the possibility to engage in any activities carried out within the framework of the present enhanced cooperation.

Page 1 of 3

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



Letter of Commitment

ANNEX A

EVA – Letter of Commitment

_____, being a person or entity committed to active involvement in the evaluation of plant genetic resources in the European region, wishes to become a member of the European PGRFA Evaluation Network (EVA), and undertakes to adhere to the Principles set out in Point 04 of the Proposal for the Establishment of the European PGRFA Evaluation Network and to abide by the following commitments:

- Membership of EVA is free of charge: Participation in specific projects may have financial implications, which shall be set out in the applicable cooperation agreement.

Generators of data

- Full data on evaluations undertaken through any EVA crop-specific PPP project should be made available to other members of the EVA crop-specific PPP project. This could be through EURISCO directly or through links provided by EURISCO. The full data should be made available within such period as may be specified in the applicable crop-specific PPP project Cooperation Agreement;
- To abide by all restrictions on the release of evaluation data produced in the context of the crop-specific PPP in which they are involved in accordance with the rules adopted by the corresponding crop-specific PPP project Cooperation Agreement;
- To actively participate in the work of any crop-specific PPP activity charged with setting standards for the crop(s) covered by the crop-specific PPP in which they are involved and to abide by applicable agreed standards;

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

EVA Network

- Wheat and Barley
- Vegetables (carrot, lettuce, pepper)
- Maize

German support

European Private Public Partnerships to carry out targeted evaluation of genebank accessions

Multiplication of material

Multi-environment evaluation of same accessions across Europe (disease resistance)

Use harmonized methods and standard protocols

Genotyping of all accessions

Provide evaluation data to EURISCO (embargo)

Breeding companies evaluate at their cost

Use of SMTA

From the EVA framework to EVA implementation

Wheat /Barley

14 countries

17 Breeding companies

10 genebanks/research
centres

Vegetables (carrot,
lettuce and pepper)

12 countries

14 Breeding companies

12 genebanks/research
centres

Opportunities for Berries WG

Assumptions

- Interest of the WG (genebanks, breeders)
- Suitability of proposed EVA framework (or adaptations required)

Elements for consideration (EU proposal – Grant scheme – other sources)

- Biological material (taxa, clones)
- Scope (field testing in multiple environments - traits)
- Activities to be funded (multiplication / genotyping / documentation / travel)
- Potential partners (breeding companies / genebanks/ research institutes)
- Costs (budget)

Thank you for your attention!

