



## **European Cooperative Programme for Plant Genetic Resources (ECPGR)**

**Phase IX (2014–2018)**

**Annual Progress Report  
January-December 2016**

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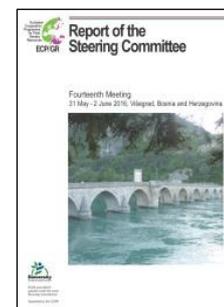
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## ECPGR IN 2016 – HIGHLIGHTS

### Fourteenth Meeting of the ECPGR Steering Committee

The [Fourteenth \(Mid-Term\) Meeting of the Steering Committee](#) took place in Višegrad, Bosnia and Herzegovina, from 31 May to 2 June 2016, hosted by the Ivo Andrić Institute and in collaboration with the University of Banjaluka.

Recommendations and decisions towards the implementation of AEGIS, the establishment of a permanent training activity for EURISCO National Focal Points and the importance to offer the ECPGR Concepts for *in situ* conservation of crop wild relatives and for on-farm conservation and management of PGRFA to the European Commission for consideration were among the recommendations for Phase IX. Better attention was also recommended to establish collaborations with breeders for evaluation activities. An ECPGR communication and public relation strategy should start to be developed. In preparation for Phase X (2019-2023), the SC agreed to revise the Objectives and the Mode of operation of ECPGR.



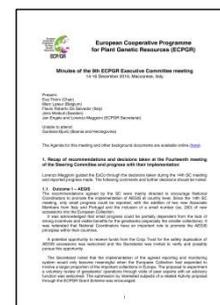
*(click on image to access the Report)*

### Eighth and ninth meetings of the Executive Committee

The [eighth meeting](#) of the ExCo took place before the 14th SC meeting, on 30 May 2016. The [ninth meeting](#) took place 14-16 December 2016 at Bioversity International.

Overall 12 proposals submitted under the Grant Scheme (budget allocation of € 223 750) were approved for funding. The launching in June 2017 of a Fifth Call for proposals was agreed.

Plans for the End-of-Phase SC meeting were started, with the definition of its approximate date (May 2018) and of the background documents to be prepared.



*(click on image to access the Minutes)*

### AEGIS – Crop-specific standards

The following Working Groups finalized their crop-specific standards in 2016: *Avena*, *Beta*, Leafy Vegetables, *Prunus*, Solanaceae and Wheat. The agreed standards are available from their respective WG's webpages and from AEGIS webpages (all together [here](#)).

## EURISCO

- [National Focal Points Training Workshop for Western Europe](#),  
12-14 October 2016, Angers, France  
This workshop, funded under the Second Call of the ECPGR Activity Grant Scheme, focussed on newly appointed National Focal Points (NFPs) and those who could bring characterization and evaluation (C&E) data in the proposed format for upload onto EURISCO. It brought together 13 participants.



- [First meeting of the EURISCO Advisory Committee](#)  
The meeting, held on 14 October 2016, back-to-back with the Training Workshop, discussed progress and future development of EURISCO (strategies concerning upload of phenotypic data, approach towards x-omic data, inclusion of *in situ* data and taxonomy issues).

*(click on image to access the Minutes)*



- Extension of EURISCO for characterization and evaluation (C&E) data**  
The new C&E data extension, publicly released in July 2016, provides different search possibilities (by genus, experiment, trait, and by the combination of species and trait, respectively). First sets of data from the Netherlands and from Latvia (total of 427 602 records) were made publicly available and can be searched. More data are under preparation.

## Concept for on-farm conservation and management of PGRFA diversity in Europe

According to the request from the ExCo, the Secretariat developed a new version of the “On-farm concept” based on the document submitted by the Task Force in October 2015. The new draft version required several iterations to gather comments and approval from the ExCo and then from the Steering Committee. By end December 2016, final comments were awaited. The *Concept* was eventually endorsed by the Steering Committee in January 2017.

## Activity Grant Scheme

### Four Calls in operation

The Third and Fourth Calls were launched in 2016 and overall twelve new proposals were approved this year, two of which started operating in the last quarter of the year. All eight Activities approved under the First Call and four out of six Activities approved under the Second Call were completed by the end of 2016.

Overall, twenty-six Activities have been mobilized by the Activity Grant Scheme so far during Phase IX.

## 1. ECPGR STRUCTURE AND MODE OF OPERATION IN PHASE IX

### 1.1. MEMBERSHIP AND CONTRIBUTIONS

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By the end of December 2016, 33 countries had signed the Letter of Agreement (LoA) for Phase IX membership. The list of member countries with respective dates of signature is available online ([Membership webpage](#)).

Contributions for 2016 were received from all signatory member countries with the exception of Azerbaijan and Spain.

With respect to the list of members foreseen for Phase IX, three countries had not yet signed the LoA, but had already sent their contributions for 2014-2016 (Belgium, Bosnia and Herzegovina and Macedonia FYR).

Two other countries had neither signed the LoA nor paid their contributions so far (Israel and Poland).

### 1.2. RENEWAL OF MEMBERSHIP IN ECPGR WORKING GROUPS

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#### Working Group members

National Coordinators provided updates and new nominations throughout the year. The [lists of WG members](#), including their respective categories of expertise, are available online and are constantly being updated.

#### Working Group Chairs

Two Chairs resigned during the year and were replaced as follows (status at end December 2016):

- **Cucurbits WG:** Maria Ercolano, Italy, replaced Maria José Diez, Spain.
- **Barley WG:** Jan Svensson, Sweden, replaced Ahmed Jahoor, Denmark.

The full list of [New Chairs for ECPGR Working Groups during Phase IX](#) is available online.

### 1.3. FOURTEENTH MEETING OF THE STEERING COMMITTEE

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The meeting took place in Višegrad, Bosnia and Herzegovina, from 31 May to 2 June 2016, hosted by the Ivo Andrić Institute and in collaboration with the University of Banjaluka.

The meeting was attended by representatives from 34 countries and by observers from the Nordic Genetic Resource Center (NordGen), the European Seed Association (ESA), the European Association for Research on Plant Breeding (EUCARPIA), the Directorate-General for Environment (DG-ENV) of the European Commission, the FAO International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the NGO Network for on-farm conservation and management.

Recommendations and decisions towards the implementation of AEGIS, the establishment of a permanent training activity for EURISCO National Focal Points and the importance to offer the ECPGR Concepts for *in situ* conservation of crop wild relatives in Europe and for on-farm conservation and management of PGRFA to the European Commission for consideration were among the recommendations for Phase IX. Better attention was also recommended to establish collaborations

with breeders for evaluation activities. Finally, an ECPGR communication and public relation strategy should start to be developed with messages targeting the general public, the scientific community and policy-makers.

All the Chairs of the Working Groups were reconfirmed in their role until the end of the Phase.

In preparation for Phase X (2019-2023), the SC agreed to revise the Objectives and the Mode of operation of ECPGR. In particular, two budget lines of similar amounts will be introduced, one exclusively dedicated to meetings, to enable WG members to establish collaborations for actions. Additional actions should be funded through the Grant Scheme, based on selection of proposals. In this case, the 75:25 ratio 'meetings' vs. 'other actions' will no longer apply.

ECPGR objectives for Phase X should enable WGs to undertake an ample range of activities, in particular expanded to engaging more with users, e.g. with pre-breeding activities, and to defining their respective roles within global crop conservation strategies. EURISCO training will continue with a dedicated budget. Documentation of crop wild relatives (CWRs) conserved in genetic reserves should be promoted in EURISCO via the definition of an agreed minimum data exchange format on the basis of existing *in situ* descriptor lists.

As a follow-up to the conclusion of the EU Preparatory Action, it was recommended that the ExCo/Secretariat send a letter to the European Commission and to the European Parliament, offering ECPGR elements such as AEGIS, EURISCO, the Secretariat and experts/Working Groups for implementing the EU Programme for PGRFA (see below, page 15).

Following the clear presentations given by the DG-ENV representative on the EU Regulation on the Nagoya Protocol and by the Secretary of the FAO ITPGRFA on the Multilateral System, the SC agreed to recommend to all ECPGR member countries, as appropriate and in line with national legislation, to use the SMTA for distribution of both Annex I and non-Annex I PGRFA accessions independently of whether material is conserved in *ex situ* collections or held *in situ*.

Continued hosting arrangements provided by Bioversity and IPK respectively for the Secretariat and EURISCO are foreseen to be reconfirmed during Phase X, pending agreements with the respective institutions.

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#### 1.4. ACTIVITIES OF THE EXECUTIVE COMMITTEE (EXCO)

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At the end of 2016, the ExCo was composed of Eva Thörn (Chair), Gordana Đjurić, Flavio Roberto De Salvador, Jens Weibull, Marc Lateur and Lorenzo Maggioni (*ex officio*).

Jens Weibull left the ExCo at the end of 2016 after having completed his term; Külli Annamaa was elected to replace him, starting January 2017.

The ExCo held two meetings in 2016:

- **Eighth meeting**, 30 May 2016, Višegrad, Bosnia and Herzegovina (preparatory to the Fourteenth SC meeting)
- **Ninth meeting**, 14-16 December 2016, Bioversity International, Maccaresse, Italy.

During 2016, the main activities of the ExCo were related to the following items:

- **Selection and appointment of Chairs of Barley and Cucurbits Working Groups**  
See above, 1.2, p. 3.
- **Evaluation, selection and awarding of proposals submitted under the ECPGR Grant Scheme**  
Proposals for the Third and Fourth Calls were selected and awarded (see details below, pp. 9-10). The Fifth Call for proposals was proposed to be launched in June 2017.

- **Preparation for Mid-Term SC meeting**  
Based on background progress documents prepared by the Secretariat, the ExCo prepared and presented at the Mid-term Steering Committee meeting an evaluation of the first part of Phase IX and recommended developments for Phase X.
- **Feedback and approval of the on-farm concept for endorsement by the SC**  
See below, 2.4, p. 14.
- **Appointment of EURISCO Advisory Committee**  
The final list of members was endorsed in March 2016, in agreement with the Steering Committee.
- **Participation of ExCo Chair in technical and public awareness meetings**
  - European Conference “A strategic approach to EU agricultural research and innovation, 27-28 January 2016, Brussels, Belgium
  - Implementation of the Global Plans of Action (FAO): which role for the EC? (Seventh workshop organized in the framework of the *Preparatory action on EU plant and animal genetic resources*), 21 April 2016, Bonn, Germany.
  - Final Conference of the Preparatory action on EU plant and animal genetic resources, 9 June 2016, Brussels, Belgium
  - EU Workshop on draft guidance document for plant breeding sector, 20 September 2016, Brussels, Belgium

## 2. ACTIVITIES CARRIED OUT IN 2016

### 2.1. ECPGR ACTIVITY GRANT SCHEME

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*Note: for all Activities, details on the implementation and reports can be found on the respective webpages.*

#### 2.1.1. First Call

Eight proposals had been approved by the ExCo in December 2014 (see [Outcomes of the First Call](#)). Five Activities were completed in 2015 (EURISCO Training 2015, Forages 2020, ECoHisPy, PRUNDOC and TRAIID). GeDiPa, HordEva and COCHEVA BRAS were expected to be completed in 2016.

**By the end of 2016**, all Activities were completed and a total of seven Activity reports finalized: the report of the EURISCO Training Workshop 2015 had been published in September 2015, and six reports were finalized in 2016 (one interim and five final, see details p. 17).

Activities carried out in 2016 are summarized below:

- **Collection, Characterization and Evaluation of wild and cultivated Brassicas (COCHEVA BRAS)**  
The *Brassica* collection characterized by the project showed the main differences between Portuguese and Italian accessions in terms of biomorphological, biochemical and genetic traits, and allowed identifying the Most Appropriate Accessions (MAAs) to be proposed for inclusion into AEGIS. A great variability was observed for biochemical compounds, both for the *B. oleracea* landraces and for the *Brassica* wild species (n=9) accessions evaluated. Several SNPs were

identified that will be useful to continue understanding the metabolic pathway for the glucosinolate biosynthesis.

- **Genetic diversity of *Patellifolia* species (GeDiPa)**

The genetic diversity of *Patellifolia* is been investigated to generate information required for the organization of a systematic genetic resources conservation action combining the best elements of the *ex situ* and *in situ* conservation concepts. To this end, the project team has sampled material on the Iberian Peninsula and on islands of the Macaronesian Archipelago. Microsatellite analysis of *P. patellaris* sampled on the Iberian Peninsula was finalized in late 2016 and submitted for publication in January 2017. The factorial analysis separated the material into two occurrences from Portugal, two occurrences sampled east of Gibraltar and six occurrences from the eastern Spanish coast. Preliminary factorial analysis of *Patellifolia* species from Macaronesia is very encouraging, as it splits the material into groups which can be explained by geographic or biological factors. As the laboratory work and statistical analysis is being financed on an input-in-kind basis by the GeDiPa partners, the thorough analysis of the whole set of microsatellite and cytological data did not progress as fast as was hoped, but the team is eager to finalize the study in 2017.

- **Identification and updating of C&E data in EBDB of AEGIS *Hordeum* (HordEva)**

As a result of the project, which was completed in January 2016, 806 barley accessions were included into AEGIS by Latvia (12), the Nordic Countries (536), Poland (150), Romania (65) and Slovakia (43). Additional 13 772 barley accessions have been recommended and their inclusion into AEGIS is expected by Bulgaria (113), Lithuania (36), France (570), Germany (12820) and Switzerland (773).

### 2.1.2. Second Call

In October 2015, the ExCo had selected for immediate funding three proposals, involving three WGs: Documentation and Information, *Vitis* and Wild Species Conservation in Genetic Reserves, and requested re-submission for three other proposals (from the Barley, Forages and *Prunus* WGs).

The revised proposals were all accepted and **by May 2016** a total of **six Activities** were funded by the Second Call (see Table below, and more details from the webpage [Outcomes of the Second Call](#)).

**Table 1.** Proposals approved under the Second Call by the ExCo (end May 2016)

Acronym	Title	Working Group(s)	Activity Coordinator	Budget Euro
<a href="#">EURISCO Training 2016</a>	EURISCO National Focal Points Regional Training workshop 2016	Documentation and Information	Stephan Weise	€11 550
<a href="#">InWiGrape</a>	Increasing the efficiency of conservation of wild grapevine genetic resources in Europe	<i>Vitis</i>	Goran Zdunic	€15 000
<a href="#">CWR Conservation Strategies</a>	Promoting implementation of national and regional crop wild relative (CWR) conservation strategies through sharing of knowledge and experience to create an integrated European strategy for CWR conservation	Wild species conservation in genetic reserves	Juozas Labokas	€15 000
<a href="#">EU.CHERRY</a>	Collaborative action for updating, documenting and communicating the cherry patrimonial richness in EU	<i>Prunus</i>	Marine Blouin-Delmas	€14 800

**Table 1 (cont.).** Proposals approved under the Second Call by the ExCo (end May 2016)

Acronym	Title	Working Group(s)	Activity Coordinator	Budget Euro
<a href="#">Barley C&amp;E Data</a>	Integration of barley characterization and evaluation into EURISCO, and development of specifications for a barley crop portal, with a focus to improve the AEGIS collection	Barley	Jan Svensson	€15 000
<a href="#">ForageDataAccess</a>	AEGIS progress and improved access to data on European Forage PGR	Forages	Anna Palmé	€15 000
<b>Total</b>				€86 350

By the end of 2016, two Activities were completed (EURISCO Training 2016 and CWR Conservation strategies); two were slightly extended to allow processing of results (InWiGrape and EU.CHERRY), and two were proceeding as per their original schedule (Barley C&E Data and ForageDataAccess).

Summaries of the implementation status at end 2016 are given below. More details on the implementation and reports can be found on the respective Activity webpages.

- **EURISCO National Focal Point regional training workshop 2016 ([EURISCO Training 2016](#))**

Working Group: Documentation and Information  
Duration: 0.5 month (workshop)

The workshop was organized in collaboration with the French National Institute for Agricultural Research (INRA) and took place 12–14 October 2016 in Angers, France. The workshop, focussing on participants from the Western European region, brought together 13 participants. Besides passport data upload, the participants were also trained in uploading C&E data, using their own data. In order to run the training, all necessary training materials as well as a test environment for a hands-on training were updated.

- **Promoting implementation of national and regional crop wild relative (CWR) conservation strategies through sharing of knowledge and experience to create an integrated European strategy for CWR conservation ([CWR Conservation Strategies](#))**

Working Group: Wild Species Conservation in Genetic Reserves  
Duration: 12 months (January-December 2016)

The core action of the Activity was the [Joint Nordic/ECPGR Workshop](#) titled “Plant genetic resources for food security and ecosystem services; planning and implementing national and regional conservation strategies”. The workshop was held 19–22 September 2016 in Vilnius, Lithuania, bringing together 46 participants.

The major objective of the joint workshop was to facilitate crop wild relative (CWR) conservation planning and development of CWR conservation strategies through elaboration of common approaches and views on most topical issues, such as:

- Policy context (Nagoya Protocol, EU Biodiversity Strategy)
- Basics in CWR conservation planning (prioritization of CWRs, climate change, standards for genetic reserve designation)
- National and regional CWR conservation strategies (role of protected areas, ECPGR Concept for *in situ* conservation of CWRs in Europe, European CWR strategy, common Nordic conservation action plan)

- Assessment of the current status of CWR conservation strategies based on Questionnaire data
- Problems and solutions in national conservation planning/strategies
- European governance structure for CWR conservation and use
- Linking CWR conservation to use
- Combining *ex situ* and *in situ* conservation
- Nomination of CWR populations for inclusion in the European network of CWR *in situ* conservation reserves.

- **Increasing the efficiency of conservation of wild grapevine genetic resources in Europe ([InWiGrape](#))**

Working Group: *Vitis*

Duration: 12 months (January-December 2016) – extended to March 2017

The project activities were completed at the end of 2016. In total 215 bibliographical references related to wild grapevine in Europe were collected, including unpublished articles or materials published in local journals. A distribution map of wild grapevine was generated on the basis of available GPS coordinates extracted from referred scientific publications. Bibliography and distribution map will be accessible from the online European *Vitis* Database and will be open for further updates. To facilitate identification of wild grape individuals *in situ*, 25 morphological descriptors and nine microsatellites were recommended. Guidelines were also outlined for *in situ* and *ex situ* conservation.

- **Collaborative action for updating, documenting and communicating the cherry patrimonial richness in EU ([EU.CHERRY](#))**

Working Group: *Prunus*

Duration: 12 months (March 2016-February 2017) – extended to end April 2017

The ten EU.CHERRY partners (Belgium, Bosnia and Herzegovina, Czech Republic, Estonia, France, Germany, Greece, Italy, Latvia and United Kingdom) joined forces with other eleven partners (Croatia, Hungary, Iran, Lithuania, Romania, Russian Federation, Slovakia, Sweden, Switzerland, Spain and Ukraine) of [COST Action FA1104 on “Sustainable production of high-quality cherries for the European market”](#). Altogether, leaf samples of 325 cherry accessions were provided by 20 countries to the East Malling Research lab (UK) for SSR analysis. The same accessions were also characterized with a minimum set of 16 common descriptors. SSR analysis, compilation of data and data upload to EURISCO and the European *Prunus* Database are expected to be completed in 2017.

- **Integration of barley characterization and evaluation into EURISCO, and development of specifications for a barley crop portal, with a focus to improve the AEGIS collection ([Barley C&E Data](#))**

Working Group: Barley

Duration: 15 months (September 2016-November 2017)

- **AEGIS progress and improved access to data on European Forage PGR ([ForageDataAccess](#))**

Working Group: Forages

Duration: 15 months (September 2016-November 2017)

Partners of [Barley C&E Data](#) and [ForageDataAccess](#) have been involved in the preparation of their Joint Workshop planned to be held 14-16 March 2017 in Malmö, Sweden.

### 2.1.3. Third Call

The Third Call was launched on 8 January 2016, with deadline 15 April 2016.

A total of eight proposals were received. The ExCo selected for funding seven proposals (see Table below, and more details from the webpage [Outcomes of the Third Call](#)).

**Table 2.** Proposals approved under the Third Call by the ExCo (end May 2016)

Acronym	Title	Working Group(s)	Activity Coordinator	Budget Euro
<a href="#">SMARTLEG</a>	Efficient management of resources for smart legumes utilization	Grain Legumes	Vladimir Meglic	€ 15000
<a href="#">CCLEAFY</a>	Consequences of climate change for conserving leafy vegetables CWRs in Europe	Leafy Vegetables	Rob van Treuren	€ 15000
<a href="#">MAP EUROCOLLECTION</a>	Promoting the implementation and the establishment of the European MAP Collection	Medicinal and Aromatic Plants	Ana Maria Barata	€ 15000
<a href="#">GrapeOnFarm</a>	On-farm inventory of minor grape varieties in the European <i>Vitis</i> Database	<i>Vitis</i>	Erika Maul	€ 15000
<a href="#">TRISECA</a>	Identification and updating data of eligible AEGIS accessions in both wheat and rye species	Wheat	François Balfourier	€ 14850
<a href="#">EURISCO Training 2017</a>	EURISCO National Focal Point regional training workshop 2017	Documentation and Information	Stephan Weise, EURISCO Coordinator	€ 14500
<a href="#">LINKAGES</a>	Assessing linkages between genebanks and direct users	On-farm Conservation and Management; Documentation and Information	Riccardo Bocci	€ 15000
<b>Total</b>				€104350

#### Status by the end of 2016

- **Consequences of climate change for conserving leafy vegetables CWRs in Europe ([CCLEAFY](#))**

Working Group: Leafy Vegetables

Duration: 10 months (September 2016-June 2017)

The first step, i.e. the definition of the species of the different gene pools for lettuce, chicory, spinach, artichoke, asparagus, rocket, rhubarb, garden cress, Good-King-Henry and corn salad was implemented.

The inventory of the crop wild relative species of the different gene pools of other leafy vegetables was underway.

- **Identification and updating data of eligible AEGIS accessions in both wheat and rye species ([TRISECA](#))**

Working Group: Wheat

Duration: 16 months (September 2016-December 2017)

The first step of the Activity (choice of candidate accessions to be included in the AEGIS collection) started in September 2016 and lists of accessions were being finalized. The next step will be to improve passport data, then characterization and evaluation (C&E) data during spring 2017, using field evaluation.

- **LINKAGES**

Working Group: On-farm Conservation and Management; Documentation and Information  
Duration: 18 months (January 2017-June 2018)

Preparations were made for the kick-off meeting to be held in January 2017.

- **MAPEUROCOLLECTION**

Working Group: Medicinal and Aromatic Plants  
Duration: 12 months (original dates postponed to April 2017-April 2018, to be confirmed)

The kick-off meeting was planned for April 2017 in Braga, Portugal.

- **EURISCO Training workshop**

Working Group: Documentation and Information  
Duration: 0.5 month (workshop)

The workshop will take place in September 2017 in Gatersleben, Germany.

- **SMARTLEG**

Working Group: Grain Legumes  
Duration: 12 months (January 2017-December 2017)  
(no activity in 2016)

- **GrapeOnFarm**

Working Group: *Vitis*  
Duration: 12 months (January 2017-December 2017)  
(no activity in 2016)

#### 2.1.4. Fourth Call

The Fourth Call was launched 13 September 2016, with deadline 30 November 2016. A total of eight proposals were submitted. The ExCo selected five proposals for immediate funding, while another proposal (from the *Beta* WG) needed to be revised and resubmitted (see Table below and more details from the webpage [Outcomes of the Fourth Call](#)).

**Table 3.** Proposals approved under the Fourth Call by the ExCo (December 2016)

Acronym	Title	Working Group(s)	Activity Coordinator	Budget in Euro
<a href="#">ECPGR Networking</a>	Networking among Working Groups for discussing and coordinating the implementation of ECPGR objectives	All Working Groups	Jelka Šuštar-Vozlič	€ 15 000
<a href="#">SafeAlliDiv</a>	Safeguarding of <i>Allium</i> crop diversity in Europe in changing climate conditions	<i>Allium</i> WG	Helena Stavěliková	€ 30 000

**Table 3 (cont.).** Proposals approved under the Fourth Call by the ExCo (December 2016)

Acronym	Title	Working Group(s)	Activity Coordinator	Budget in Euro
<a href="#">Pomefruit - C&amp;E</a>	Common ECPGR protocols and tools available for Characterization & Evaluation of <i>Malus/Pyrus</i> genetic resources	<i>Malus/Pyrus</i> WG	Marc Lateur	€ 30 000
<a href="#">CarrotDiverse</a>	Improving the characterization and conservation of umbellifer crop wild relatives in Europe	Umbellifer WG	Charlotte Allender	€ 29 400
<a href="#">GRIN-Global</a>	GRIN-Global Workshop 2017 for European Genebanks	Documentation and Information WG	Ludmila Papoušková	€ 15 000
<b>Total</b>				€ 119400

All Activities will start in 2017.

It is to be noted that apart from the GRIN-Global corresponding to a workshop, all other Activities will have a longer duration than in previous Calls: 15 months for the ECPGR Networking, and 24 months for CarrotDiverse, Pomefruit - C&E and SafeAlliDiv.

## 2.2. AEGIS

### 2.2.1. AEGIS membership

During 2016 no new country signed the AEGIS Memorandum of Understanding (MoU). The current 34 members are listed below. The number in brackets following the member country names indicates the respective number of Associate Member institutions. Two additional AEGIS Associate Membership Agreements were signed in 2016 (Council for Agricultural Research and Economics (CREA), Italy, and Instituto Nacional de Investigação Agrária e Veterinária, I.P. (INIAV, I.P.), Banco Português de Germoplasma Vegetal, Portugal), bringing the total number of Associate Members to 60:

Albania (2), Austria (2), Azerbaijan (2), Belarus (9), Belgium (1), Bosnia and Herzegovina (0), Bulgaria (1), Croatia (2), Cyprus (1), Czech Republic (8), Denmark (1), Estonia (2), Finland (1), Georgia (1), Germany (3), Hungary (1), Iceland (1), Ireland (0), Italy (1), Latvia (3), Lithuania (0), Montenegro (0), the Netherlands (2), Norway (1), Poland (1), Portugal (1), Romania (1), Slovakia (1), Slovenia (5), Sweden (1), Switzerland (1), Turkey (1), Ukraine (0) and the United Kingdom (3).

The membership status is kept updated online (see the respective webpages [AEGIS membership](#) and [Associate Member Institutions](#)).

### 2.2.2. Status of the European Collection

By end December 2016, a total of 28 901 accessions from 14 countries were included in the European Collection.

The European Collection has increased by 834 accessions from 5 new contributing countries.

The changes in the composition of the European Collection over 2016 are shown in Table 4 below.

**Table 4.** The European Collection: breakdown by contributing country (shaded, countries contributing for the first time to AEGIS in 2016)

Country	No. of accessions flagged as AEGIS	
	by end 2015	by end 2016
1. Albania	8	8
2. Bulgaria	261	261
3. Croatia	90	90
4. Czech Republic	1222	1222
5. Estonia	0	15
6. Germany	7904	7904
7. Latvia	0	21
8. The Netherlands	5853	5853
9. Nordic Countries	3708	3708
10. Poland	0	303
11. Romania	0	196
12. Slovakia	0	299
13. Switzerland	4838	4838
14. United Kingdom	4183	4183
<b>Total</b>	<b>28067</b>	<b>28901</b>

### 2.2.3. AQUAS (AEGIS Quality System)

- **Crop-specific standards**

The process dedicated to reaching Working Groups' agreement on *FAO Genebank Standards for PGRFA* and/or development of crop-specific standards, which had been started in 2014, continued in 2016, involving extensive interactions with the Chairs and WG members.

The following standards were finalized in 2016: *Avena*, *Beta*, Leafy Vegetables, *Prunus*, Solanaceae and Wheat.

Several other WGs are engaged in this process.

The agreed standards are available from their respective WG's webpages and from AEGIS webpages (all together [here](#)).

The finalized standards will be sent to the Steering Committee for endorsement.

- **Establishment of a monitoring and reporting plan**

The paper on *Record keeping, reporting and monitoring of the European Collection* was eventually endorsed by the SC on 15 January 2016. The final version is available online ([here](#)).

The Secretariat noted that the implementation of the agreed reporting and monitoring system would only become meaningful when the European Collection had expanded to involve a larger proportion of the important collections in Europe.

- **Genebank operational manuals**

Manuals from two Czech institutes (CRI and PRI) were finalized and published online in 2016.

## 2.3. EURISCO

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The Activity report for 2015 and the Workplan for 2016 were made available online on the EURISCO website (section Statistics and Documents, Plans/reports).

### 2.3.1. EURISCO coverage

In 2016, 24 productive updates of National Inventory datasets were performed, either completely or in parts. Within the last 12 months, the number of accessions increased by 5157, reaching a total of 1 842 538 accessions from 43 National Inventories and 378 individual holding institutions by 31 December 2016. These accessions represent 6233 unique genera and 41 653 species, respectively. Detailed information on the composition of EURISCO is available on the EURISCO website. Both data quality and update frequency are still issues, which need to be further improved.

### 2.3.2. EURISCO development

- **Extension of EURISCO for characterization and evaluation (C&E) data**

The prototype extension of the public EURISCO user interface for searching and filtering C&E data which had been developed in 2015 was tested extensively in 2016. Feedback was collected from selected experienced users and several extensions were implemented. High emphasis was put on performance tuning tasks. The new C&E data extension, publicly released in July 2016, provides different possibilities for searching C&E data. Searches can be started by genus, experiment, trait, and by the combination of species and trait, respectively. The generated reports are available for download.

First sets of data from the Netherlands and from Latvia (total of 427 602 records) were made publicly available and can be searched. More data are under preparation.

- **Extension of the upload mechanism for National Inventories**

In 2016, a new version of the web interface of the EURISCO intranet (extended for C&E data) was tested and made publicly available.

In addition, the AEGIS support was improved. Procedures for checking the AEGIS status in case of an accession removal were developed. These procedures will be embedded into the EURISCO intranet application in 2017.

The data quality/integrity checks, which are performed during data imports, were improved (to be continued in 2017). In addition, a prototypic PL/SQL package for checking taxonomic terms provided to EURISCO against GRIN taxonomy was implemented. In 2017, its functionality will be extended and embedded into the web interface.

- **Extension of functionality of the public EURISCO application**

The advanced search, which allows users to freely combine all available fields within a single search, was completely reworked; the user-friendliness was improved.

Export functionalities were also improved, allowing the creation of user-specific export sets on species level.

For more details, see the Activity report for 2016 on the EURISCO website.

### 2.3.3. EURISCO Training Workshops (Activities funded by the ECPGR Grant Scheme)

The second workshop ([EURISCO Training Workshop 2016 – EURISCO National Focal Points Training Workshop for Western Europe](#)), funded by the Second Call of the Grant Scheme took place 12-14 October 2016 in Angers, France (see above, 2.1.2, pp. 6-7). The presentations given during the workshop are available online ([here](#)). (The report of the workshop was finalized and published online in April 2017).

A third workshop was also selected for funding under the Third Call of the Grant Scheme and will be held in Germany in 2017.

#### 2.3.4. First meeting of the EURISCO Advisory Committee

The EURISCO Advisory Committee met on 14 October 2016 in Angers, France, back-to-back with the EURISCO Training Workshop 2016. The meeting discussed progress and future development of EURISCO. In particular, strategies concerning upload of phenotypic data, approach towards x-omic data, inclusion of *in situ* data and taxonomy issues were addressed. Minutes of the meeting are available online ([here](#)).

#### 2.3.5. Information on EURISCO at national and international meetings

- A **poster** on EURISCO was presented at the German Plant Breeding Conference, 8–10 March 2016, Bonn, Germany.
- A **presentation** on EURISCO and the European Information Infrastructure as a tool for the implementation of the ITPGRFA was co-authored with Lorenzo Maggioni, who delivered it at the First Meeting of the Scientific Advisory Committee on the Global Information System of Article 17 of the Treaty, 24-25 November 2016, Rome, Italy.
- A **presentation** on EURISCO was given at the TDWG (Biodiversity Information Standards) 2016 Annual Conference “Standards Supporting Innovation in Biodiversity Research and Conservation”, 5-9 December 2016, Santa Clara de San Carlos, Costa Rica.
- An **article** about EURISCO was accepted for the 2017 annual database issue of Nucleic Acids Research (DOI: [10.1093/nar/gkw755](https://doi.org/10.1093/nar/gkw755)), which was made publicly available (advance access) in August 2016. It will help increasing the awareness of EURISCO among a wider audience.

#### 2.3.6. EURISCO Newsletter

The bi-annual Newsletter was sent in August and December 2016, and is available online from the EURISCO website (section Statistics and Documents, EURISCO documents). This is considered very important for providing feedback to the EURISCO users.

#### 2.3.7. Participation in project proposals

The EURISCO coordination provided substantial legwork to the preparation of project proposals (Horizon2020 and others) aiming at acquiring additional funding for developing certain aspects of EURISCO. A Horizon2020 proposal, EUCLEG, with the participation of the EURISCO coordinator was recently approved. This project starting in 2017 will be coordinated by INRA, France. One of the tasks is to identify gaps in European alfalfa, red clover, pea, faba bean and soybean collections. Additional data (passport and phenotypic) will be provided to the respective NFPs in order to include them in EURISCO. Further proposals are still under development/evaluation.

## 2.4. CONCEPT FOR ON-FARM MANAGEMENT AND CONSERVATION

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According to the request from the ExCo, the Secretariat developed a new version of the “on-farm concept” based on the document submitted by the dedicated Task Force in October 2015. The new draft version (which was retitled *ECPGR Concept for on-farm conservation and management of plant genetic resources for food and agriculture*) required several iterations to gather comments and approval from the On-Farm Conservation and Management Working Group, the ExCo and eventually the Steering Committee. The *Concept* was eventually endorsed by the Steering Committee in January 2017.

### 3. LINKS WITH OTHER NETWORKS AND INITIATIVES

#### 3.1. EUROPEAN COMMISSION

- Following up from the preliminary conclusions and recommendations of the [Preparatory Action on EU plant and animal genetic resources](#)), a letter from the European genetic resources networks was sent to the European Commission.  
The Letter has been signed by the coordinators of the European networks, including crops (ECPGR), animals ([ERFP](#)), forest ([EUFORGEN](#)) and microorganisms ([MIRRI](#)), and was sent on 18 November 2016 to the attention of Mr Mihail Dumitru, Deputy Director-General, Directorate General for Agriculture and Rural Development.  
The letter encouraged the EC to capitalize on the expertise of the existing genetic resources networks and offered a close collaboration between the EC and the above-mentioned networks and their programmes for the development of a “EU Agrobiodiversity Strategy”.  
The letter is available online [here](#).  
A second letter, also jointly signed by the coordinators of the European networks, was sent on 31 December 2016 to the attention of DG-AGRI, Research and Innovation, suggesting research topics for the Work Programme 2018- 2020 of Horizon 2020.
- **Collaboration with COST Actions**
  - The ECPGR Secretariat had given external support to the **COST Action proposal *Eurasian Wild and Bred Grapevine Diversity: Facing Changing Climates and Markets (EUGRAPE)***. The proposal submitted in 2015 had not been accepted but the evaluators identified the link with the ECPGR *Vitis* WG as the main strength of the project. The proposal was resubmitted in April 2016, but was still not retained for funding.
  - The *Prunus* WG continued collaboration with the [COST Action FA1104 ‘Sustainable production of high-quality cherries for the European market’](#). The kick-off meeting of the EU.Cherry Activity was held jointly with the meeting of the COST Action FA1104 on 6 April 2016 in Naoussa, Greece (see above, p. 8).
- **Collaboration with ERA-CAPS project BEAN\_ADAPT “[Evolution in a changing environment: the genetic architecture of adaptation outside centers of domestication of \*Phaseolus vulgaris\* and \*P. coccineus\*](#)”** will continue in the framework of the Grain Legumes WG Activity “Efficient management of resources for smart legumes utilization (SMARTLEG)” funded by the ECPGR Grant Scheme (Third Call). Roberto Papa, BEAN\_ADAPT Project Leader, is a self-funded partner of SMARTLEG.

#### 3.2. FAO INTERNATIONAL TREATY

- On 6 December 2016 a Memorandum of Understanding (MoU) was signed between FAO, acting on behalf of the Secretariat of the International Treaty on PGRFA and Bioversity International, acting on behalf of the ECPGR Secretariat. Considering the commonality of intents between ECPGR and the Treaty, this MoU establishes a framework for cooperation on a range of activities related to access to and exchange of information and the sharing of expertise, by which the Treaty Secretariat and the ECPGR Secretariat will collaborate in areas of mutual interest, with the aim of

promoting synergy and the coherent implementation of Art. 5, 6, 16 and 17 and the objectives of the Treaty.

- The ECPGR Secretary attended the [Expert Meeting on the Toolbox for Sustainable Use of Plant Genetic Resources for Food and Agriculture](#) in Volterra, Italy, 18-21 July 2016. The “Toolbox” is supposed to be “one stop shop” from which users of PGRFA can draw resources tailored to provide solutions to specific needs. Among others (see report at above website) a proposal was made to use the Toolbox as an occasion to revive the Plant Genetic Resources Newsletter and allow for online publication of articles on PGRFA (conservation and) use activities. ECPGR would offer support and expertise.
- The ECPGR Secretary on behalf of ECPGR, as well as National Coordinators from Germany and The Netherlands, on behalf of the European Region, attended the [First meeting of the Scientific Advisory Committee \(SCA\) on Article 17 of the International Treaty on Plant Genetic Resources for Food and Agriculture](#). A presentation was offered on EURISCO as a tool for the implementation of the ITPGRFA, which was well received as a possible model for other regions. Recommendations were made that the development of the Global Information system (GLIS) should take into account existing systems such as Genesys, Divseek, WIEWS and others as ‘preferential’ partner systems. Guidelines for the use of Digital Object Identifiers (DOIs) started to be discussed. The minutes are available at the above website. A second meeting is planned for June 2017.

### **3.3. OTHER INITIATIVES INVOLVING WORKING GROUP MEMBERS**

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#### **Wheat Working Group**

##### [Wheat Initiative](#)

Created in 2011 following endorsement from the G20 Agriculture Ministries, the Wheat Initiative provides a framework to establish strategic research and organisation priorities for wheat research at the international level in both developed and developing countries.

François Balfourier, Chair of the ECPGR Wheat WG, was nominated as member of the Steering Committee of the “Global Wheat Germplasm Conservation and Use Community Expert Working Group” of the Wheat Initiative.

He attended the Expert Working Group meeting held 2-3 February 2016 in ICARDA, Rabat, where he gave a presentation on ECPGR and AEGIS and their wheat-related activities.

#### **Avena Working Group**

Several members of the *Avena* Working Group attended the [10th International Oat Conference](#) held 11-15 July 2016 in St. Petersburg, Russian Federation. They held a small satellite meeting on 13 July to discuss ECPGR matters and plan future activities (minutes of the meeting [here](#)).

#### **Forages Working Group**

As reported in 2015, some members of the Forages Working Group are involved in the project [GrassLandscape - Bridging landscape genomics and quantitative genetics for a regional adaptation of European grasslands to climate change \(FACCE-JPI ERA-NET Plus action ‘Climate Smart Agriculture: Adaptation of agricultural systems in Europe’\)](#). The main objective of the project is to detect genomic markers of climatic adaptation in the natural diversity of perennial ryegrass and to use this information to adapt this species to the anthropogenic climate change foreseen to happen in next decades. In 2016, materials sampled in 2015 were genotyped based on high-throughput sequencing

technology which released more than 300 000 SNPs usable for genetic analyses. Populations were also assessed in field trials (2015 to 2017) and on high-throughput phenotyping platform (2015).

### **Prunus Working Group**

The PRUNDOC Activity Coordinator attended the [ISHS IX International Symposium on Plum and Prune Genetics, Breeding and Pomology](#) held 17-21 July 2016 in Freising-Weihenstephan, Germany, and presented a poster concerning the SSR results from PRUNDOC ([Genetic diversity of \*Prunus domestica\* selected from ten countries across Europe](#)). The manuscript will be published in Acta Horticulturae.

## **4. PUBLICATIONS AND PUBLIC AWARENESS**

### **4.1. PUBLICATIONS PRODUCED IN 2016**

#### **4.1.1. Administrative and operational documents**

- ECPGR [Annual Progress Report 2015](#) and Financial Report 2015

#### **4.1.2. Reports from ECPGR Bodies**

- [Report of the Steering Committee, Fourteenth Meeting, 31 May-2 June 2016, Višegrad, Bosnia and Herzegovina](#)
- [Minutes of the EURISCO Advisory Committee meeting, 14 October 2016, Angers](#)
- [Minutes of the 9th ECPGR Executive Committee meeting, 14-16 December 2016, Maccarese, Italy](#)

#### **4.1.3. Grant Scheme Activity Reports**

##### **First Call – Activity Reports**

- [Genetic diversity of \*Patellifolia\* species \(GeDiPa\). Interim Activity Report \(February-December 2015\)](#)
- [ECPGR WG for Forages towards 2020s \(Forages 2020\) \(final report\)](#)
- [Triticum in AEGIS: Identification and Documentation \(TRAID\) \(final report\)](#)
- [Identification of a representative set of \*Prunus domestica\* accessions of European origin, well documented and characterized, to be included into the AEGIS system \(PRUNDOC\) \(final report\)](#)
- [Identification and updating of C&E data in EBDB of AEGIS \*Hordeum\* \(HordEva\) \(final report\)](#)
- [Collection, Characterization and Evaluation of wild and cultivated BRASSicas \(COCHEVA BRAS\) \(final report\)](#)

##### **Second Call – Meeting report**

- [Minutes of the EU.CHERRY kick-off meeting, 6 April 2016, Naoussa, Greece](#)

#### 4.1.4. AEGIS-related documents

- [Record keeping, reporting and monitoring of the European Collection. Final version endorsed by the Steering Committee, 15 January 2016](#)

#### 4.1.5. ECPGR Information Bulletin

Four issues of the quarterly bulletin were published in 2016: February (issue no. 6), May (no. 7), August (no. 8) and November (no. 9).

The bulletin is distributed by email to all members of the Steering Committee and is also available [online](#).

#### 4.1.6. External publications with contribution from Secretariat

- Weise S, Oppermann M, Maggioni L, Hintum Th van. 2017. [EURISCO: The European search catalogue for plant genetic resources](#). Nucleic Acids Research 45(D1):D1003-D1008 (published online 2016, DOI: 10.1093/nar/gkw755)
- Ardenghi NMG, B. Foggi B, Orsenigo S, Maggioni L, Cauzzi P, Rossi G. 2017. *Festuca* and allied genera (Poaceae) as Crop Wild Relatives: Checklists and Red Lists are urgently required. Plant Biosystems 151(1):6-8 (published online 2016, DOI: 10.1080/11263504.2016.1165753)

## 4.2. PUBLICATIONS IN PREPARATION IN 2016

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- **ECPGR Concept for on-farm conservation and management of plant genetic resources for food and agriculture** (*endorsed by the Steering Committee in January 2017*)

## 4.3. PRESENTATIONS AT INTERNATIONAL MEETINGS

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The Secretary and/or ExCo Chair represented ECPGR in the meetings listed below, offering presentations and/or contributing to project planning. The relevant presentations are available from the ECPGR website ([here](#)). Further details can be found in the Information Bulletins (available [here](#)).

- **11-12 January 2016, Brussels – Genetic resources for value chain development**  
**Workshop** organized in the context of the ongoing [European Commission Preparatory action on EU plant and animal genetic resources](#)
- **27-28 January 2016, Brussels – European conference “Designing the path: A strategic approach to EU agricultural research & innovation”**
- **21 April 2016, Bonn, Germany. Implementation of the Global Plans of Action (FAO): which role for the EC?** (Seventh workshop organized in the framework of the *Preparatory action on EU plant and animal genetic resources*)  
This workshop was jointly organized by FAO and the Federal Office for Agriculture and Food (BLE), Germany. The workshop report is available online [here](#) (under section C, item no. 7).
- **19–21 July 2016, Volterra, Italy**

[FAO/Treaty Expert Meeting on the Toolbox for Sustainable Use of Plant Genetic Resources for Food And Agriculture](#)

- **9 June 2016, Brussels, Belgium**  
[Final Conference of the Preparatory action on EU plant and animal genetic resources](#)
- **29 August - 1 September 2016, Zurich, Switzerland**  
[20th EUCARPIA General Congress "Plant Breeding, the Art of Bringing Science to Life"](#)
- **29 September 2016, Brussels, Belgium**  
EU workshop on draft guidance document for plant breeding sector
- **7 October, Italian Chamber of Deputies, Rome, Italy**  
Conference on "[The International Year of Pulses: Research and Policies for Sustainable Agriculture and Food Security](#)"
- **9-11 October 2016, Rome, Italy**  
European Seed Association Annual Meeting
- **27-28 October 2016, Wageningen, The Netherlands**  
Phenotyping, genotyping, breeding, reproduction techniques and evaluating alternative crop species for adaptation to climate change – state-of-art and opportunities for further cooperation  
Workshop organized by the Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI)
- **16 November 2016, Cagliari, Italy**  
[RIBES, una rete per la biodiversità: 10 anni di conservazione](#) (RIBES, a network for biodiversity: 10 years of conservation)
- **24-25 November 2016, Rome, Italy**  
[First meeting of the Scientific Advisory Committee \(SCA\) on Article 17 of the International Treaty on Plant Genetic Resources for Food and Agriculture](#)

## 5. MEETINGS HELD IN 2016

### 5.1. GRANT SCHEME ACTIVITIES (SECOND CALL)

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- [Collaborative action for updating, documenting and communicating the cherry patrimonial richness in EU \(EU.CHERRY\)](#): kick-off meeting, 6 April 2016, Naoussa, Greece
- [Increasing the efficiency of conservation of wild grapevine genetic resources in Europe \(InWiGrape\)](#): 5 July 2016, Split, Croatia
- [CWR Conservation Strategies](#): Joint Nordic/ECPGR Workshop "Plant genetic resources for food security and ecosystem services; planning and implementing national and regional conservation strategies," 19-22 September 2016, Vilnius, Lithuania

- [EURISCO Training Workshop 2016](#), 12-14 October 2016, Angers, France

## 5.2. MEETINGS OF ECPGR BODIES

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- [Eighth meeting of the ECPGR Executive Committee](#), 30 May 2016, Višegrad, Bosnia and Herzegovina
- [Fourteenth \(Mid-term\) meeting of the ECPGR Steering Committee](#), 31 May-2 June 2016, Višegrad, Bosnia and Herzegovina
- [First meeting of the EURISCO Advisory Committee](#), 14 October 2016, Angers, France
- [Ninth meeting of the ECPGR Executive Committee](#), 14-16 December 2016, Maccarese, Italy

## 6. COORDINATING SECRETARIAT

During 2016, the following staff employed by Bioversity International have worked for the Coordinating Secretariat: Jan Engels (part-time [25%] AEGIS Coordinator); Lidwina Koop (ECPGR Programme Assistant, assisting in all administrative and financial matters and website maintenance); Elinor Lipman (half-time Scientific Assistant, based in Montpellier, France, involved in the compilation and layout of ECPGR publications, website quality check and general support to the Secretariat activities); and Lorenzo Maggioni (ECPGR Secretary). Stephan Weise (IPK, Gatersleben, Germany) acted as EURISCO Coordinator.

The scientific and technical contributions, as well as management and administrative support provided by other staff from Bioversity International and IPK to the work of ECPGR are duly acknowledged.

★★★

**Lorenzo Maggioni**  
ECPGR Secretary

(with inputs from Jan Engels, Lidwina Koop, Elinor Lipman and Stephan Weise)

**Rome, 20 April 2017**

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