

# ANNUAL PROGRESS REPORT

2024

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#### **ECPGR IN 2024 – HIGHLIGHTS**

#### **ECPGR Phase XI started**

Phase XI of ECPGR started with 31 countries confirming their participation. The ECPGR structure continues to involve the Steering Committee, Executive Committee, Secretariat and 24 Working Groups. A new genebank managers network is associated with ECPGR. The ECPGR initiatives (AEGIS, EURISCO, EVA and the *Genetic Resources* journal), have been added as part of the structure with dedicated budget lines.

#### **Grant Scheme Activities and Working Group meetings**

Noticeable steps ahead were made by the ongoing activities 'EuroPotato', reactivating the Potato Working Group (WG) after many years with a meeting organized in Poland, and the 'Garli-CCS' Activity, which is sequencing and analyzing over 2,000 garlic accessions. The 'Bi-Different' Activity of the Onfarm Conservation and Wheat WGs has phenotyped, genotyped and tested in the field several club wheat accessions and promoted its use in the Alpine region with networks of farmers. The Grain Legumes Activity 'ForEVA' has been conducive to the establishment of a new EVA Legumes Network. The 'Sylvestris' Activity has extended the inventory of sites of wild *Vitis sylvestris*. New activities 'EuroPepLand' and 'Malanirs' were approved and started, focusing on the investigation and evaluation of pepper and maize landraces, respectively, linking also to the relevant EVA networks.

The Cryopreservation WG organized a practical training workshop in Tebano, Italy (May 2024) on the methodology of grafting apple dormant buds after their cryopreservation. The Documentation and Information WG held a meeting in Tallinn, Estonia (September 2024), discussing several aspects of the documentation of *in situ* CWR and on-farm landraces, as well as possible developments of EURISCO, such as a mechanism to develop an ordering system, the need to reinforce the training and capacity building activities.

#### **EURISCO**

- The EURISCO Advisory Committee met in Tallinn, Estonia (September 2024). The need to explore
  stronger synergies between EURISCO and Genesys was agreed. It was recommended to identify
  suitable technologies and integrate Genesys features into EURISCO's web interface, maintaining
  a EURISCO-branded environment. Other discussions included the types of material and data to
  include in EURISCO and the potential implementation of an ordering system.
- In situ CWR population data were provided to EURISCO by ten countries (Albania, Bulgaria, Cyprus, Germany, Italy, the Netherlands, Poland, Romania, Spain and the United Kingdom), with data from a total of 4,684 populations.
- A mechanism was proposed to link on-farm landraces data and the corresponding *ex situ* genebank accessions, to be developed through a Grant Scheme Activity.

#### **European Evaluation Network (EVA)**

- The EVA networks, now an ECPGR initiative, were enlarged by the newly established EVA Legumes network and the inclusion of new partners in existing networks, with its membership now numbering more than 120 partners operating in 34 countries.
- By the end of 2024, data from 425 evaluation trials had been uploaded to the dedicated EURISCO-EVA database, totalling almost 600,000 individual datapoints. A peer-reviewed article on the EURISCO-EVA information system was published in *Genetic Resources*.



- A new project EVA Boost was granted by Germany, supporting the implementation of the EVA Legumes network during 2024 to 2027, including also a preparatory action to extend the EVA framework to perennial crops, in line with ECPGR priorities in Phase XI.
- Two ECPGR Grant Scheme Activities EuroPepLand and Malanirs started in 2024 with the aim to develop and characterize new European landrace collections of pepper and maize, respectively. These projects align with and feed into the relevant EVA networks, enlarging the partnerships and providing new materials for evaluations.
- Two in-person project meetings took place in 2024 for the Wheat and Barley and Pepper networks, the latter including also the kick-off of the EuroPepLand Grant Scheme activity. All crop networks had regular virtual meetings for updates and planning.
- Results of EVA networks were presented by the EVA Coordinator and project partners in 11 international conferences and meetings. Two academic publications resulted from the work of the EVA networks (Balconi et al. 2024; Kumar et al. 2024).
- Additional communication materials were produced, including a promotional video on the EVA networks and a podcast explaining the results of the article published by the EVA Lettuce network (Tripodi et al, 2023), providing additional outreach to non-expert audiences.

#### German-funded projects

- The project 'Reinforcement of the AEGIS Quality System and EURISCO data coverage' (in short New AEGIS), was approved for funding with a budget of € 153,640. The project, running from September 2024 to February 2025 (and then extended until May 2025), obtained initial progress with 12 genebanks having committed to preparing and sharing their genebank manuals, 2 new crop-specific standards in preparation by the Berries and the Maize WGs, 15 genebanks testing a set of agreed genebank metrics and reciprocal genebank peer-review visits planned with 9 genebanks involved.
- The ECPGR project 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets' (December 2021–December 2023) was extended until December 2024 with additional funds (€66,997) by the German Ministry of Food and Agriculture, enabling a project meeting in Braga, Portugal and involving new countries (Georgia, Poland, Romania and Slovenia). As of December 2024, ten countries (Albania, Bulgaria, Cyprus, Germany, Italy, the Netherlands, Poland, Romania, Spain and the United Kingdom) had provided *in situ* CWR data to EURISCO, with data from a total of 4,684 populations.
- Two German-funded projects supported the implementation of EVA in 2024. The first EVA project with a total budget of €1,053,275 has facilitated the implementation of EVA Wheat and Barley, Maize and Vegetables networks from July 2019 to March 2025. A new project, EVA Boost, was approved with a budget of €353,740 and running from September 2024 to December 2027 for the implementation of the EVA Legumes network, providing funds for regeneration and specific evaluation activities in all seven crop groups. In addition, the EVA Boost project aims to establish a framework and roadmap for a new EVA Perennials network, focusing on berries and fruit trees, through the organization of a workshop involving relevant ECPGR WGs and interested stakeholders.

#### **PRO-GRACE** project

 The Horizon Europe PRO-GRACE project aimed at laying the foundations for a European Research Infrastructure (RI) dedicated to the conservation, management and study of European plant genetic resources. In collaboration with the EMPHASIS-RI, a policy symposium and workshop on cropspecific standards and protocols for the phenotypic evaluation of plant genetic resources took place in Brussels, Belgium, on 27-28 June 2024.



- The PRO-GRACE Consortium has been working on finalizing the portfolio of services, user programme, business and financial plan, structure and governance framework for a potential future RI on plant genetic resources.
- Partners have started working on the development of a proposal for the European Strategy Forum
  on Research Infrastructures (ESFRI), which is due in April 2025. The proposed GRACE-RI aims to
  unite the plant genetic resource conservation and research communities in a stable, long-term
  collaboration, focusing on standardizing and improving PGR conservation and documentation,
  developing innovative approaches for plant protection and breeding, and providing advanced
  scientific services to both academia and industry. The specific role of ECPGR in this new proposal
  remains to be clarified.





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

#### 1.1. MANAGEMENT STRUCTURE AND MODE OF OPERATION

Following the decisions made at the Seventeenth Steering Committee meeting in Oeiras, Portugal (May/June 2023), ECPGR is entering its Phase XI with a slightly revised management structure and mode of operation. The structure, as illustrated <a href="here">here</a>, continues to involve the Steering Committee, Executive Committee, Secretariat and 24 Working Groups (WGs). A new Genebank Managers Network is associated with, but not funded by ECPGR, as per its dedicated <a href="terms of reference">terms of reference</a>. The ECPGR initiatives (AEGIS, EURISCO, EVA and the *Genetic Resources* journal), have been added as part of the structure, considering that dedicated budget lines have been established to guarantee their coordination and implementation.

The main mechanism to assign ECPGR funds to the WGs is the ECPGR Activity Grant Scheme, organized as calls for proposals that are periodically launched by the ECPGR Secretariat. Meetings of WGs can be organized when necessary, based on the availability of funds and submission of requests by the WG Chairs through a dedicated form. Differently from the previous two phases, a country quota system will no longer be in operation. WG members continue to be nominated by the National Coordinators, with no limit in their number and continuously open the possibility to update the lists. WG Chairs have been invited by the Executive Committee to express their will to continue serving in their role through Phase XI or declare their intention to be replaced. New Chairs were appointed for the *Brassica* and the On-farm Conservation and Management WGs.

Revised <u>ECPGR Rules of Procedures and Terms of Reference for Operational Bodies and Mechanisms for Phase XI</u> were approved in June 2023.

A Hosting Agreement was concluded between Bioversity International and the Steering Committee (SC) of ECPGR. The agreement was signed in November 2024 by the ExCo Chair on behalf of the SC. This is regulating the relationship with the hosting institute, specifically defining the costs for hosting and provision of services and will be in force until 31 December 2026.

#### 1.2. MEMBERSHIP AND CONTRIBUTIONS

Following up on the decision made at the Seventeenth Steering Committee meeting in Oeiras, Portugal (May/June 2023), invitations to join Phase XI of ECPGR (2024–2028) were sent in 2023 to all the National Coordinators of countries eligible to be members of ECPGR. By the end of December 2024, 28 countries signed the LoA for Phase XI membership. The list of signatory member countries is available online (Membership webpage).

Three additional countries (Czech Republic, Hungary and North Macedonia) contributed funds for Phase XI, even though they did not sign the LoA yet. Azerbaijan, Belgium, Montenegro, Greece and Italy did not sign the LoA or paid their contributions<sup>1</sup>.

Belarus and Greece incurred into the provisions of ECPGR Rule of Procedure 2.6 related to non-payment of outstanding membership fees for two calendar years. Starting from 1 May 2024, these countries were deemed ineligible to receive funds until their outstanding contributions are paid.

<sup>&</sup>lt;sup>1</sup> During 2025, Azerbaijan signed the LoA and paid its 2024 contribution; also Montenegro and Greece paid their contributions.



As Iceland decided not to join ECPGR, the corresponding 5-year contribution of € 17,750 had to be removed from the Phase XI budget. The participation of Ukraine is expected, being facilitated by FAO support; however, this was pending the approval by the Ukrainian government of the overall strategy for the plant genetic resources programme, which was elaborated by the Ukrainian Academy of Science together with a consortium of donors².

Carry-over funds from Phase X, totalling €787,325 incremented the ECPGR regular budget for Phase XI, which was raised from the original € 3,114,250 (agreed in June 2023 in Oeiras) to € 3,883,824 at the end of 2024.

Voluntary contributions related to Phase XI expenditures had been provided by the German Federal Ministry of Food and Agriculture (BMEL) already during Phase X. These were incremented with additional voluntary pledges, including from the European Regional Focal Point for Animal Genetic Resources (see details in the <u>Financial Report 2024</u>). The voluntary contributions are adding to the budget of Phase XI a total additional pledge of € 766,339.

#### 1.3. CHANGES IN NATIONAL COORDINATORS

In 2024, the following changes in National Coordinators took place:

- **Ireland**: Mr Paul Rooney, Crops Evaluation and Certification Division, Tops Potato Propagation Centre, replaced James Quirke in January 2024.
- Lithuania: Ms Gitana Štukėnienė, Forest Genetic Resources Department, replaced Bronislovas Gelvonauskis in March 2024.
- **Sweden**: Ms Karolina Åsman, Swedish Board of Agriculture, replaced Jens Weibull, who retired in March 2024.

#### 1.4. MANAGEMENT OF ECPGR WORKING GROUPS

*Brassica* Working Group: In March 2024, Smiljana Goreta Ban from the Institute of Agriculture and Tourism, Croatia, was appointed as the new Chair, replacing Ferdinando Branca, University of Catania, Italy.

**On-farm Conservation and Management Working Group**: In February 2024, Lorenzo Raggi, University of Perugia, Italy, was appointed as the new Chair, replacing Valeria Negri, University of Perugia, Italy.

See full lists of Working Group members, Working Group members by country and Working Group Chairs.

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

After Marianne Lefort stepped down from chairing the ExCo at the beginning of September 2024, at the end of 2024, the Committee was composed of Jens Weibull (Chair), Petra Engel (Italy), Pavol Hauptvogel (Slovakia), Birgitte Lund (Denmark), Imke Thormann (Germany), replacing Beate Schierscher (Switzerland) at the beginning of 2024, and Lorenzo Maggioni (ECPGR Secretariat, *ex* 

<sup>2</sup> In 2025, the strategy was approved by the Ukrainian government and the decision to join ECPGR was pending at the Academy of Science.

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officio). A decision was taken for the replacement of B. Lund with Dainis Rungis (Latvia) at the start of 2025.

The ExCo held three main meetings in 2024:

- Twenty-ninth meeting, 6 March 2024, online
- Thirtieth meeting, 7 June 2024, online
- Thirty-first meeting, 11 October 2024, online

In 2024, the main activities of the ExCo were related to the following items:

# • Evaluation, selection and awarding of proposals submitted under the ECPGR Grant Scheme The proposals 'EUROPEPLAND' from the Solanaceae WG and 'MALANIRS' from the Maize WG were approved for funding under the First Call of Phase XI, with a total allocated budget of €59,867. A second Call for Proposals was agreed upon and launched at the end of November 2024, with a deadline of 28 February 2025.

#### • Requests from the Working Groups and National Programmes

The ExCo evaluated requests from WGs to hold meetings, as follows:

- o Cryopreservation WG to hold a training workshop on dormant bud cryopreservation in Italy in May 2024. This was granted after clarifications and revisions.
- Medicinal and Aromatic Plants WG to hold a meeting in 2024 in Albania. The proposal needed to be better elaborated with a more practical focus.
- Documentation and Information WG to hold a meeting in Estonia in September 2024, back-to-back with the EURISCO Advisory Committee. This was granted.
- Allium WG to hold a meeting in May 2025 in Germany, back-to-back with the final meeting of the Activity Garli-CCS. This was granted after some revisions to the length and scope of the meeting.
- o Berries WG to hold their meeting in June 2025 in Lithuania. This was granted.

#### • Request from the Genebank Managers Network

A request to fund the travel of one participant from Georgia to attend the First Genebank Managers Network meeting in Portugal in May 2024 was granted by the ExCo, together with support for the meeting's social dinner.

#### • Appointment of Working Group Chairs

During 2024, the ExCo appointed new Chairs for the *Brassica* and On-farm Conservation and Management Working Groups.

#### • Updates from the Secretariat

The Secretariat regularly informed the ExCo about the developments of the Horizon project PRO-GRACE, in particular the ECPGR-led Work Package 5, in charge of defining the structure, governance and financial plan of a potential future GRACE Research Infrastructure (GRACE-RI), and also about the progress made by CGN towards defining a blueprint for a genebank certification system. The role of ECPGR in the future GRACE-RI was discussed, with consideration of the importance of appropriately embedding the existing coordinating structure provided by ECPGR into the planned hub of the future RI.

The ExCo was also kept informed about the Secretariat's ongoing activities to re-activate AEGIS and about the Genebank Managers Network meetings, which were attended by the Secretary. The financial status of ECPGR was also monitored with updates on main expenditures, contributions received and estimated carry-over from Phase X.

#### • PRO-GRACE policy symposium

All the ExCo members were invited to a policy symposium and phenotyping workshop, organized by PRO-GRACE and EMPHASIS (the European Infrastructure for Plant Phenotyping)



in Brussels on 27-28 June 2024. On this occasion, J. Weibull presented ECPGR as a well-functioning network that can form the basis for GRACE-RI. At the policy symposium, the ExCo members interacted with other participants, especially policymakers, and conveyed the belief that ECPGR remains an unavoidable platform for the consolidation of the PGR conservation, documentation and evaluation infrastructure.

#### • Carry-over from Phase X

The ExCo took note of the estimated carry-over funds to be added to the ECPGR budget for Phase XI, which will enable the budget to cover almost entirely the missing funds of Phase XI related to the years 2027 and 2028. The ExCo suggested that the carry-over funds be maintained in a separate budget line for the time being so that their specific allocation can remain flexible, based on arising needs and opportunities.

#### Preliminary planning for Secretary recruitment in 2026

A draft table summarizing the necessary steps towards the recruitment of a new Secretary before the end of 2026 was prepared by M. Lefort and appreciated by the ExCo members.

#### • Signature of Hosting Agreement

On 20 November 2024, J. Weibull signed the Hosting Agreement between ECPGR and Bioversity International on behalf of the ECPGR Steering Committee. Its final version was circulated to the Steering Committee for approval. The agreement is valid until the end of 2026.

#### 2. ACTIVITIES CARRIED OUT IN 2024

#### 2.1. ECPGR ACTIVITY GRANT SCHEME

Note: for all activities, details on the implementation and all available documents (interim and final reports, complementary data, references etc.) can be found on the respective Activity webpages. The available final reports can also be found <a href="here">here</a> (for Phase IX) and <a href="here">here</a> (for Phase X).

Two new activities were granted in 2024 (Phase XI) and started to be implemented: EuropPepLand and Malanirs.

Fifteen activities were granted during Phase X. By the end of 2024, seven were concluded with an Activity report. The status and/or outcomes of activities that were still ongoing during 2024 are summarized below in Table 1.

Thirty-one Activities were granted during Phase IX, all completed except a final report was not obtained from the coordinators of four of them: Training in *Triticum* species; BETANET; CarrotDiverse; EcoHisPy.



**Table 1.** Status of ongoing Phase X and Phase XI activities at the end of 2024

Working Group	Name of the Activity	Planned Activity Timeframe	Main information and outputs
Allium, Cryopreservation and Documentation and Information	Genotyping-by- sequencing of the European garlic collection to develop a sustainable ex situ conservation strategy (Garli-CCS)	April 2023 – March 2025	The Garli-CCS-Cryopreservation workshop was held on 17-20 September 2024 in Prague, Czech Republic, aiming to transfer knowledge to institutions dealing with <i>Allium</i> cryopreservation. Trainees attended from Croatia, Latvia, Portugal and Spain. 1,664 unique European garlic accessions were selected and sequenced from leaf material. The data are being analyzed together with 504 additional accessions from IPK. Phenotyping was carried out by partners in 2023 and 2024. A discussion on Garli-CCS data, conservation and cryopreservation strategy of genebanks is planned during the <i>Allium</i> Symposium organized by IPK in Gatersleben, May 2025.
Avena	Updated morphological Descriptors for Avena Species (UMORPHEAS)	March 2020 – February 2022 (extended until April 2025)	The starting date was delayed until March 2022, due to COVID-19 restrictions. Partners made plans to update the IBPGR Oat descriptors, involving the widest possible global community. A core set of descriptors was tested in the field, starting from December 2022, with a selected number of diverse accessions. A second round of testing started in the end of 2023 and was largely completed in 2024, except one field in Greece that will be completed in spring 2025. Results and observations will be used to define stable and discriminating characters. The FAO-ITPGRFA Secretariat and the Canadian genebank curator also offered their expertise for this initiative. The final report is expected to be completed in 2025.
Brassica	Capturing Brassica Wild Relatives Diversity in South Eastern Europe (EUBRASWILD)	October 2020 – August 2023	Samples of several species of wild Brassicaceae were collected in Albania, Croatia, Italy, Serbia and Slovenia and populations were monitored. A summary paper of the collecting missions was submitted for publication in <i>Genetic Resources</i> . Field characterization was carried out in partners' fields. The final meeting was held in February 2024 in Catania, Italy.
Cucurbits	Exploitation of Cucurbita local germplasm for sustainable agriculture (Cucurbitlocal)	February 2021 – January 2023 (extended to September 2023)	The final Activity report was published in March 2024 (here).  Morphological characterization and regeneration of <i>Cucurbita</i> accessions was completed at IPK, Gatersleben, Germany (75 accessions), the University of Naples, Italy (12), and the Suceava genebank, Romania (20). A trial with two different irrigation treatments carried out both in Italy and Spain allowed the identification of potential drought-tolerant genotypes. Characterization was also carried out at CRRHAB, Tunisia (10) and UPV, Spain (13).  Taxonomical characterization was done for all accessions at IPK and the AEGIS flagging was revised in Germany and Romania.



Grain Legumes	Exploring grain legumes diversity for sustainable European agri-food systems (Explo-Div)	March 2023 – November 2025	The 11 partners selected for evaluation 641 accessions of beans, chickpeas, faba bean, grass peas, lupins and peas collected from traditional farms. Traits under evaluation will relate to tolerance to specific biotic and abiotic stressors, yield and yield components. Multiplication and evaluation started in 2024 and will continue in 2025.
Grain Legumes	Fostering the need for implementation of the ECPGR European Evaluation Network (EVA) on grain legumes (ForEVA)	March 2023 – April 2024	The project meeting took place in October 2023 in Bucharest, Romania. More than 50 project partners and other stakeholders made the preparatory steps towards the creation of a grain legumes EVA network, working on seven priority legume crops: beans, chickpeas, fava beans, lentils, lupines, peas and orphan legumes. The network was able to start its operation thanks to separate funding provided by Germany and inputs in kind.  The final Activity report was made available online in 2025.  This Activity was supported by the German Federal Ministry of Food and Agriculture in the frame of the
			EVA project.
Maize	MAize LAndraces traits phenomic prediction using Near InfraRed Spectra (MALANIRS)	September 2024 – September 2027	The Activity had a preliminary online meeting in November 2024 and planned its kick-off meeting jointly with the EVA Maize project meeting on 26-27 February 2025 in Bergamo, Italy.
Malus/Pyrus and Prunus	Improvement of Fruit Tree Data Inclusion in EURISCO (FRUITTREEDATA)	January 2023 – December 2024 – extended to November 2025	The 16 partners are committed to revising national inventory data in comparison with information currently in EURISCO and filling gaps in EURISCO for all the relevant accessions. An analysis of the presence in EURISCO of accessions corresponding to all known unique genotypic codes (MUNQ/PUNQ) is also being carried out. Accessions listed in EURISCO from Estonia have increased, as well as the characterization data submitted to EURISCO from The Netherlands. Further background work has been carried out and progress has been discussed in meetings, but this remaining work is ongoing.
On-farm Conservation and Management and Wheat	Inventorying wheat on- farm diversity (Inwheatory)	October 2023 – November 2024 – extended until May 2025	This Activity involving 14 countries has collected data on wheat landraces still cultivated on farm, aiming to create a database with related information. Case studies describing the history, distribution, current management and value of specific landraces have been prepared.



Potatoes	Get Potatoes United – Collaboration Action for Updating the Virtual European Potato Collection (EURO- POTATOES)	March 2023 – January 2025	The kick-off meeting took place on 19-20 March 2024 in Młochów and Radzikow, Poland. This was the occasion to re-start the activities of the Potato Working Group (WG). The Meeting Agenda, List of Participants and Presentations can be found on the project web page.  The main genotyping objective of this project is dedicated to the need to distinguish unique from duplicate genotypes and thus identify suitable accessions to be prioritized for conservation and possible inclusion in the AEGIS European Collection. Different opinions were expressed regarding the convenience of using SSR markers versus SNPs, with the former enabling comparison with a larger number of already referenced genotypes, while the latter technologies would offer more information for each individual genotype and the adoption of a more advanced and forward-looking methodology. It turned out that there is no publicly available off-the-shelf option for potato genotyping at the moment. A new genotyping array for potato (with approx. 15–20K markers) should be available in mid-2025. Since the genotyping information is critical for the identification of potato duplicates and variants, it was suggested to extend the project by another year or two since results cannot be achieved within the original timeframe.
Solanaceae	Implementing a trans- EUROpean PEPper LANDrace collection for resilient agriculture (EUROPEPLAND)	September 2024 – August 2026	The kick-off meeting was held jointly with the EVA Pepper annual project meeting on 30-31 October 2024 in Almeria, Spain. Twelve genebanks presented their diverse pepper collections and previous work, and they will jointly define a core collection of around 400 European pepper landraces. SNP genotyping and basic phenotyping of these accessions will guide the selection of new sets for multilocation evaluations by the EVA Pepper network and the project also intends to link with other previous, ongoing and future European projects on pepper.
Vitis	Increasing the efficiency of conservation of Vitis sylvestris genetic resources in Europe (Sylvestris)	March 2023 – May 2024	The Activity was completed by carrying out the following tasks:  i) Multiple natural <i>V. sylvestris</i> populations have been localized. Inclusion of these data in the online database was still pending.  ii) Molecular analysis has been performed on twenty microsatellite loci and the outcome is expected to be presented in a forthcoming joint publication.  iii) Update of the 'InWiGrape' <i>V. sylvestris</i> publication list.  The final report is expected to be completed in 2025.



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Wheat and	<u>Chances</u> for the	January 2022 –	The <u>BiDifferent</u> Activity, involving partners from			
On-farm	conservation and re-	December 2023 Austria, France, Italy and Germany, was concluded				
Conservation and	cultivation of central	(extended until	More than 20 accessions of club wheat have been			
Management	European club wheat	May 2024)	investigated in three cycles of field tests at five			
	(Binkel) through a		locations. Additionally, 25 accessions of genebank			
	nutritional and genetic		collections were screened and described. In order to			
	differentiation towards		compare modern soft wheat and commercial club			
	other wheat species (Bi-		wheat, accessions were molecularly characterized			
	<u>Different</u> )		and described using UPOV phenotype guidelines			
			and agronomic data. Greenhouse experiments			
			provided insight into resistance to pathogens and			
			tolerance to abiotic stresses. Product testing and			
			baking experiments were also carried out. Through			
			field days, presentations, conferences and a specific			
			website, a network was established for farmers and			
			other interested stakeholders. The final report of this			
			Activity was made available online in 2025.			

#### 2.2 WORKING GROUP MEETINGS

#### • Cryopreservation Working Group

The <u>Training school on cryopreservation of dormant buds</u> was held on 22-23 May 2024 in Tebano, Italy, at Centro Attivita Vivaistiche (CAV), a world-leading centre for the genetic and phytosanitary certification of nursery material. Nine ECPGR members of the Cryopreservation WG, selected for their involvement in national efforts to develop cryopreservation capacities, were trained in the methodology of grafting apple dormant buds after their cryopreservation. A general discussion focused on the opportunity to develop strategic collaborations to advance the cryoconservation of the European collections. The availability of the most advanced cryopreservation centres to share their knowledge and expertise within the framework of the Cryopreservation WG was considered critically essential by several partners who intend to develop autonomous cryobanks. A proposal was made to develop agreements in which a few centres would serve a subregional storage function for the South-East European region. The ECPGR Grant Scheme was identified as a potential means to initiate these agreements as part of collaborative capacity-building initiatives.

#### • Documentation and Information Working Group

A WG meeting was organized on 18-19 September 2024 in Tallinn, Estonia, in collaboration with the Centre of Estonian Rural Research and Knowledge (METK). This was attended by 14 participants from 9 countries, including representatives of the ECPGR and FAO Treaty Secretariats as well as representatives of the ECPGR On-farm Conservation and Crop Wild Relatives (CWR) WGs. Highlights of the agenda included topics related to the regional documentation of *in situ* CWR and on-farm landraces. In this regard, stock was taken of the developments made by the German-funded project on *in situ* CWR population data in EURISCO. The establishment of a European inventory of on-farm material was discussed. Knowledge of the existing diversity on-farm, with the approximate geographic distribution, size of cultivation area, and the most valuable traits of landraces and other heterogeneous material, would be useful to monitor, promote and manage on-farm diversity, including through incentives. It was concluded that it is the responsibility of the On-farm WG to create a European inventory of landraces, made of nationally prepared datasets, where the information units would be the landrace, genus and species names. The European list of 'names' could be linked to EURISCO, with each name being associated with the related accessions conserved in European genebanks. This virtual



link could serve to monitor the level of *ex situ* conservation of on-farm material, as well as for gap analyses of what still needs to be secured into a genebank. Other items under discussion focused on possible developments of EURISCO in terms of its functionalities and its role.

A mechanism to develop an ordering system in EURISCO while browsing collections from multiple genebanks was proposed to be applied to AEGIS accessions.

WG members also stressed the need to reinforce training and capacity-building activities. Proposals were appreciated to organize online webinars and discussion meetings on specific documentation themes, as well as to continue holding regular in-person training sessions of the National Inventory Focal Points. Relevant discussions for the development of EURISCO continued the following day with the EURISCO Advisory Committee meeting (see below).

#### **2.3 AEGIS**

#### 2.3.1 Coordination of AEGIS

A decision was made at the last Steering Committee meeting in June 2023, to dedicate a specific budget line to the AEGIS Coordination. Therefore, the ECPGR Secretary started in 2024 to dedicate about 20% of his time to this task. The first initiative consisted of verifying with the National Coordinators whether the Associate Member Agreements were still valid, including updating contact details and inquiring about the intention of the members to follow up with their inherent commitments. These include the voluntary designation of accessions as part of AEGIS, increasing transparency through the compilation of an operational genebank manual, striving towards conservation standards, safety duplication, and using SMTA for germplasm distribution. As a result of around 30 interactions with national coordinators, positive replies were received from 25 countries, confirming the intention to further engage with the implementation of AEGIS. In a few cases, reasons for no progress were attributed to lack of funds and staff resources and thus low priority (Bosnia and Herzegovina, Cyprus), and slow bureaucratic processes at the administrative level, hindering the possibility of making progress (Bosnia and Herzegovina, France). Four new operational genebank manuals were prepared as part of the AGENT project (Agroscope, Switzerland, CREA Vercelli, Italy, IHAR, Poland and NordGen, Sweden). Five other manuals were prepared in the framework of the New AEGIS project (see below): AGES, Austria, ECRI, Estonia, Polli, Estonia, PGBS, Serbia and University of Warwick, United Kingdom. Ca. 50,000 additional accessions were designated as part of AEGIS.

During the summer 2024, the opportunity materialized to propose to the German Ministry for Food and Agriculture a project specifically dedicated to AEGIS. This was submitted in June 2024 and approved with a start in September 2024 (see next section).

#### 2.3.2. New AEGIS project

The project 'Reinforcement of the AEGIS Quality System and EURISCO data coverage' (in short New AEGIS), was approved for funding by the German Ministry of Food and Agriculture with a budget of €153,640. The project, running from September 2024 to February 2025 (and then extended until May 2025), is addressing some of the obstacles that have made the AEGIS initiative only partially successful so far, as well as improving phenotypic data coverage in EURISCO. AEGIS Associate members are supported in improving their quality management system, ensuring the preparation of operational genebank manuals, encouraging the publication in English of Standard Operating Procedures (SOPs), promoting a methodology to increase transparency of operations through the development of a list of agreed genebank metrics and organizing reciprocal peer visits across genebanks.

The kick-off meeting of the 'New AEGIS' project was held online on 4 October 2024, bringing together over 60 participants.



Progress by the end of 2024 included:

- 12 genebanks have committed to preparing and sharing their genebank manuals
- 2 new crop-specific standards will be completed by the Berries and the Maize WGs
- 15 genebanks were testing a set of agreed genebank metrics
- Reciprocal genebank peer-review visits were planned as follows: 1) Nordgen, Sweden (lead), AGES, Austria, National Centre for Biodiversity and Gene Conservation, Hungary, 2) CGN, The Netherlands (lead), Latvian Genebank of Cultivated Plants, Latvia, INIAV, Portugal and 3) CARC, Czech Republic (lead), LEPL, Georgia, National Genebank Suceava, Romania.

#### 2.3.3 Status of the European Collection

By the end of December 2024, a total of 119,343 accessions from 22 contributors were part of the European Collection, with a 70% increase compared to 2023 and one new contributor, Hungary. The composition of the European Collection at the end of 2024 is shown in Table 2 below.

**Table 2**. The European Collection: breakdown by contributors

_	No. of accessions flagged as AEGIS			
Contributor	by end 2020	by end 2023	by end 2024	
1. Albania	8	8	8	
2. Belgium	0	2	2	
3. Bosnia and Herzegovina	29	29	29	
4. Bulgaria	341	391	391	
5. Croatia	90	90	90	
6. Czech Republic	1,659	1,695	2,097	
7. Estonia	129	135	257	
8. Germany	26,725	37,220	84,236	
9. Hungary	0	0	559	
10. Italy	8,815	10,918	10,946	
11. Latvia	27	27	27	
12. Lithuania	45	45	45	
13. Montenegro	31	31	31	
14. The Netherlands	5,841	5,840	5,840	
15. Nordic Countries	4,779	4,785	4,785	
16. Poland	443	443	443	
17. Portugal	86	86	86	
18. Romania	732	752	799	
19. Slovakia	640	640	1,381	
20. Slovenia	0	21	21	
21. Switzerland	5,611	5,611	5,611	
22. United Kingdom	1,659	1,659	1,659	
Total	57,690	70,428	119,343	

#### 2.3.4 AEGIS-related actions

Within the framework of the Horizon 2020 project AGENT (see below), a task led by CGN, the Netherlands, was completed with the organization of a fourth cycle of peer reviews, involving genebanks from Italy, Poland and Switzerland into reciprocal visits. The respective reports were published on the AEGIS website.



#### 2.4. EURISCO

As agreed by the SC in June 2023, EURISCO will continue to be hosted by IPK Gatersleben, Germany. An agreement until the end of 2028 was signed between Bioversity International on behalf of ECPGR, and IPK, which will continue the hosting and further development of the EURISCO information system and underlying network.

Both the activity report for 2023 and the work plan for 2024 were made available online on the <u>EURISCO website</u>.

#### 2.4.1 EURISCO coverage

During 2024, 33 production updates of passport data from various National Inventories were performed, either partially or completely. The number of accessions documented in EURISCO increased by 8,367, reaching 2,100,754. In total, data of more than 620,000 accessions were updated. These accessions were managed in 418 *ex situ* and 18 *in situ* CWR collections comprising 2,096,070 and 4,684 accessions, respectively. The number of AEGIS accessions increased significantly last year by 48,915 to a total of 119,343, while the number of phenotypic data records rose only moderately by 6,286 to a total of 2,736,066. In total, phenotypic data are available for 91,779 accessions from 21 countries.

	Progress in 2024	Countries that contributed to the progress
Documented accessions	+8,367	Several countries. In addition, passport data updates of > 620,000 accessions
Phenotypic data records	+6,286	Netherlands

#### 2.4.2 EURISCO development

Considering that a new software developer could join the team only in October 2024, few development activities could be carried out during this year. The upload/update mechanisms for *ex situ* and *in situ* passport data and for phenotypic data continued to be maintained, enabling checks and uploads of datasets.

The infrastructure of the European Evaluation Network (EVA) continued to be hosted. A DivBrowse instance for the visualization of genotyping data from lettuce was also integrated.

The extension of the EURISCO front end for *in situ* CWR data, the reorganization and display of phenotypic data and the revision of the public web interface could not start before October 2024 and remain tasks to be addressed during 2025. Areas for improvement in terms of design, usability and functionality were explored and identified.

#### 2.4.3 EURISCO coordination and public awareness

The EURISCO coordinator held an online training session in the context of the 'Crop wild relatives data in EURISCO' project with representatives of the pilot countries on 9 April 2024.

Two presentations were also given at the meeting of the 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' project that took place in Sadovo, Bulgaria, on 18–19 June 2024.

The EURISCO Coordination has made various additional efforts to raise awareness of EURISCO in the community through presentations and publications:



- A talk about rethinking plant genetic resources documentation in the age of data-driven science was given at the Joint PRO-GRACE/EMPHASIS Policy Symposium and Workshop on Plant Genetic Resources and Phenotyping, 27–28 June 2024, Brussels, Belgium (C. Aguilar).
- A presentation on opportunities and limitations of the FAIR principles for collections of plant genetic resources was given at the SPNHC & TDWG Joint Conference 'Enhancing Local Capacity, Elevating Global Standards', 2–6 September 2024, Okinawa, Japan (S. Weise).
- Two talks were given at the meeting of the ECPGR Documentation & Information Working Group, 18–19 September 2024, Tallinn, Estonia (M. Oppermann, S. Weise).
- The EURISCO newsletter was distributed in December 2024.

#### 2.4.4 Participation in EC projects

An indispensable task of the EURISCO coordination is to acquire additional funding for the future development of EURISCO.

Also in 2024, the EURISCO coordination participated in the ongoing Horizon 2020 project 'Activated GEnebank NeTwork' (AGENT), with a particular focus on improving the FAIRness of the data and evaluating solutions for linking traditional genebank data. Similarly, participation continued in the ongoing project 'Promoting a Plant Genetic Resource Community for Europe' (PRO-GRACE), focusing on information standards and the interaction of different information systems (see Section 3).

#### 2.4.5 EURISCO Advisory Committee meeting

The fourth meeting of the EURISCO Advisory Committee (AC) took place on 20 September 2024 in Tallinn, Estonia, on the sidelines of the Documentation and Information Working Group meeting. The AC agreed to explore stronger synergies between EURISCO and Genesys. It was recommended to intensify dialogue between their coordinators to identify suitable technologies and integrate Genesys features into EURISCO's web interface, maintaining a EURISCO-branded environment. Other discussions included the types of material and data to include in EURISCO and the potential implementation of an online ordering system. A solution was proposed regarding the inclusion in EURISCO of phenotypic data of Single Seed Descent (SSD) lines that are not per se part of EURISCO. The encouragement to National Inventory Focal Points to assign DOIs to their accession was reiterated. The minutes of the meeting are available online.

#### 2.4.6 EURISCO Data Sharing Agreement (DSA)

As of December 2024, 36 out of 43 countries have signed the EURISCO DSA, regulating the terms and conditions of data sharing between the Alliance of Bioversity International and CIAT, on behalf of ECPGR, and the data provider countries. The remaining countries providing data to EURISCO that still have to sign the DSA are the following: Belarus, Bosnia and Herzegovina, Greece, Lithuania, Malta, Russian Federation and Türkiye.

#### 2.5 Crop Wild Relatives in situ data in EURISCO

The ECPGR <u>project</u> 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets' was funded by the German Federal Ministry of Food and Agriculture,



initially with a budget of  $\le$ 247,318 (December 2021–December 2023). In February 2024, a budget revision with a request of an additional  $\le$ 66,997 was approved with an extension until December 2024<sup>3</sup>.

This extension with new funds enabled the organization of an in-person project meeting, with the purpose of sharing experience, especially in terms of prioritization of populations, types of data collected and transferred to EURISCO, interaction between research institutions and protected area managers, and mechanisms to organize a network of data providers, as well as to coordinate the future activities.

The <u>meeting</u> was held on 18-19 June 2024 in Sadovo, Bulgaria, organized in collaboration with the Institute of Plant Genetic Resources (IPGR). New country partners were involved in the project (Georgia, Poland, Romania and Slovenia) and some of the previous partners (Albania, Bulgaria, Czech Republic, Italy, Lithuania and Portugal) were given the opportunity to consolidate internal activities and mechanisms and provide additional data to EURISCO.

As of December 2024, ten countries (Albania, Bulgaria, Cyprus, Germany, Italy, the Netherlands, Poland, Romania, Spain and the United Kingdom) had provided *in situ* CWR data to EURISCO, with data from a total of 4,684 populations.

#### 2.6. EUROPEAN EVALUATION NETWORK (EVA)

In 2024, the <u>ECPGR European Evaluation Network (EVA)</u>, now an ECPGR initiative with a dedicated regular budget for coordination, was enlarged to six crop-specific networks by the newly established EVA Legumes network, which started activities within its seven legume crop groups at the beginning of the year. Together with the inclusion of new partners in existing networks, through engaging relevant WG members, EVA membership now numbers more than 120 partners operating in 34 countries.

Two ECPGR Grant Scheme Activities EuroPepLand and Malanirs started in 2024 with the aim to develop and characterize new European landrace collections of pepper and maize, respectively. These projects align with and feed into the relevant EVA networks, enlarging the partnerships and providing new materials for evaluations.

The first EVA project, funded by the German Federal Ministry of Food and Agriculture with a total budget of epsilon 1,053,275.40 was being finalized with a short no-cost extension until March 2025 granted to organize a final meeting of the EVA Maize network together with a kick-off of a follow-up Grant Scheme Activity Malanirs.

A new project – EVA Boost – was granted by Germany, with a total budget of  $\leqslant$  353,740 (September 2024 to December 2027) to support the implementation of the EVA Legumes network. The project also includes a preparatory action to extend the EVA Framework to perennial crops, in line with ECPGR priorities in Phase XI. A <u>factsheet</u> provides an overview of the planned activities.

By the end of 2024, data from 425 evaluation trials had been uploaded to the dedicated EURISCO-EVA database, totalling almost 600,000 individual datapoints. The embargo period for some trials is ending and a mechanism for transferring suitable data to EURISCO is under discussion.

A promotional <u>video</u> on the EVA networks and a <u>podcast</u> explaining the results of the article published by the EVA Lettuce network (Tripodi et al, 2023) were produced, providing additional outreach to non-expert audiences.

Two in-person project meetings took place in 2024 for the Wheat and Barley and Pepper networks, the latter including also the kick-off of the EuroPepLand grant scheme activity. All crop networks had regular virtual meetings for updates and planning. Links to reports of the annual meetings are available in Section 4 of this report.

<sup>&</sup>lt;sup>3</sup> Another no cost extension until the end of June 2025 was approved in January 2024, enabling the involvement of two additional countries (North Macedonia and Slovakia).



Results of EVA networks were presented by the EVA coordinator and project partners in 11 international conferences and meetings. Two academic publications were published, on the work of the EVA Maize network (Balconi et al. 2024) and on the EURISCO-EVA information system (Kumar et al. 2024).

Some key indicators for the EVA networks in 2024 are listed in Table 3 and individual highlights are listed below for each network.

**Table 3.** Key indicators for the EVA networks in 2024

EVA Network	Countries involved	Public partners	Private partners	Meetings held in 2024 <sup>1)</sup>	Trials planned in 2024	Accessions evaluated in 2024
EVA Wheat and Barley	25	22	22	2	30	1,545
EVA Carrot	8	6	8	2	0	0
EVA Lettuce	8	6	6	1	6	125
EVA Pepper	13	10	6	2	1	192
EVA Maize	9	11	8	2	19	1712)
EVA Legumes	23	39	11	8	4	2983)

<sup>1)</sup> Including annual and coordinating project meetings. Only the reports from annual meetings are made publicly available.

The <u>EVA Wheat and Barley</u> network met in person in January, and continued evaluations of SSD lines provided by the AGENT project in 2024, including in on-farm trials organized in an organic farmers network.

The <u>EVA Carrot</u> network conducted an analysis of volatiles on samples taken during previous lab trials, adding to the large datasets already collected. The focus of the network was on statistical analysis of the phenotypic evaluation data, the results of which will inform more effective future evaluations, identifying the most differentiating traits and environments.

Thanks to the project extension, the <u>EVA Lettuce</u> network was able to conduct additional lab trials and genotyping of wild lettuce accessions.

The <u>EVA Pepper</u> network also added genotyping and additional abiotic stress trials to their work plan in 2024. A Grant Scheme Activity EuroPepLand led by the Solanaceae WG Chair and EVA Pepper partner P. Tripodi started and will develop a new set of European pepper landraces for future evaluations. An in-person meeting of EVA Pepper and EuroPepLand provided the strategic discussions for follow-up work.

The <u>EVA Maize</u> network finalized the evaluations of their first three sets in 2024, generating data from 90 trials in total. A publication on the EVA Maize collection was published in the journal *Biology* (Balconi et al, 2024).

The <u>EVA Legumes</u> network started activities in 2024, with virtual meetings of the seven crop groups to define their work plans, first sets of accessions and target traits and environments. First, in-kind regenerations were conducted for chickpea and common bean. Thanks to funding from Germany through the EVA Boost project, additional regenerations were started in 2024 and other activities to implement this network are now possible.

<sup>&</sup>lt;sup>2)</sup> Including original accessions and hybrid populations

<sup>3)</sup> Multiplication activities within EVA Legumes were combined with some preliminary phenotypic evaluations



#### 3. Links with other networks and initiatives

#### 3.1. EUROPEAN COMMISSION-FUNDED PROJECTS

• AGENT – (Activated GEnebank NeTwork) – A Coordination and Support Action on Establishing an innovative gene bank network (2020–2025)

The project, coordinated by the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben, Germany, includes ECPGR-relevant activities such as capacity building for genebanks, genebank reviews and an extension to the EVA Wheat and Barley network, providing a third set of accessions. AGENT aims to unlock the full potential of the biological material stored in genebanks around the globe by using FAIR international data standards and an open digital infrastructure for the management of plant genetic resources. The ECPGR Secretariat leads one work package (WP7), in which CGN the Netherlands is also coordinating genebank peer reviews and training workshops.

During 2024, the AGENT project was finalizing many of the developed bioinformatics tools for the user community, which aim to enable genebanks to transition to active bio-digital resource centres. The tools, to be presented in a webinar series in early 2025, will be useful for data management and analysis in genebanks and research projects. Genotypic and phenotypic data for large collections of wheat and barley have been generated by project partners and the EVA Wheat and Barley network, and were being curated and analyzed for publication. The AGENT portal, a platform to display, search and download phenotypic data, was almost ready to be released to the public, with accompanying training webinars.

With the final round of genebank peer review involving CREA-CI (Italy), Agroscope (Switzerland) and IHAR (Poland), four cycles of genebank peer reviews were implemented during the AGENT project, involving 11 genebanks from 2022 to 2024. All reports are available on the <u>AEGIS website</u>.

PRO-GRACE - Promoting a Plant Genetic Resource Community for Europe (2023–2025)

The PRO-GRACE (Promoting a Plant Genetic Resource Community for Europe) project, coordinated by Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile (ENEA), Italy, aims at laying the foundations for a European Research Infrastructure (RI) dedicated to the conservation, management and study of European plant genetic resources. ECPGR is coordinating WP5 of PRO-GRACE: 'Research Infrastructure concept, social and regulatory aspects, governance, and financial plan'.

Within the PRO-GRACE framework and in collaboration with the EMPHASIS-RI, a policy symposium and workshop on crop-specific standards and protocols for the phenotypic evaluation of plant genetic resources took place in Brussels, Belgium, on 27-28 June 2024. The plant genetic resources and plant phenotyping communities, plant breeders, policymakers and stakeholders were involved, also raising their awareness during the <a href="Policy Symposium">Policy Symposium</a> about the potential of a future research infrastructure named 'GRACE-RI' dedicated to plant genetic resources. Jens Weibull's and Sandra Goristchnig's presentations provided a brief history and overview of ECPGR, outlining the plant genetic resource landscape in Europe and made the case for ECPGR being a well-established network that could serve as the foundation for GRACE-RI.

While the PRO-GRACE Consortium has been working on finalizing the remaining deliverables, shaping the portfolio of services, user programme, business and financial plan, structure and governance framework for a potential future GRACE-RI, partners have started working on the development of a proposal for the European Strategy Forum on Research Infrastructures (ESFRI), which is due in April 2025. The proposed GRACE-RI aims to unite the plant genetic resource conservation and research communities in a stable, long-term collaboration, focusing on standardizing and improving plant genetic resource conservation and documentation, developing innovative approaches for plant



protection and breeding, and providing advanced scientific services to both academia and industry. The specific role of ECPGR in this new proposal remained to be clarified.

• INCREASE – Intelligent Collections of Food Legumes Genetic Resources for European Agrofood Systems (2020–2025)

The project, coordinated by Università Politecnica delle Marche, Italy, aims to improve the sustainable use of plant genetic resources by enhancing the status of chickpea, common bean, lentil and lupin genetic resources. In 2024, the project has created strong linkages with the new EVA Legumes network through participating institutions, providing SSD lines of their chickpea and lentil collections for regeneration and future evaluation. The EVA Coordinator S. Goritschnig also presented the EVA network at the INCREASE annual project meeting in Rome, Italy, as an opportunity for further exploitation of project results by stakeholders.

• BreedingValue – Pre-breeding strategies for obtaining new resilient and added value berries (2021–2024)

This project, coordinated by the Università Politecnica delle Marche, Italy, focuses on berries (strawberry, raspberry and blueberry) to identify conserved germplasm appropriate for sustainable berry production throughout the EU.

BreedingValue stakeholders were invited to express their interest in a potential EVA perennials network on berries and/or fruit trees, for which a preparatory action has been initiated in the frame of the EVA Boost project.

• <u>COUSIN – Crop Wild Relatives Utilization and Conservation for Sustainable Agriculture (2024–2028)</u>

This project, coordinated by the Universidad Rey Juan Carlos, Madrid, Spain, involves 25 partners, including some members of the ECPGR WGs. The EURISCO Coordinator is involved in the data management work package. COUSIN aims to demonstrate a roadmap for the use of CWR in breeding and farming, working with five flagship crops: wheat, barley, pea, lettuce and brassicas.

• BELIS - Breeding European Legumes for Increased Sustainability (2023–2028) and Legume Generation - Boosting innovation in breeding for the next generation of legume crops for Europe (2023 – 2028)

These two projects, funded through the same Horizon Call, work on improving legume breeding activities and connect with the EVA Legumes network via stakeholder engagement activities, contributing expertise, plant material and evaluation capacity to the network and developing common standards for phenotypic evaluation.

• BrasExplor – Wide exploration of genetic diversity in *Brassica* species for sustainable crop production (2020–2024)

The project's main objectives were to explore the genetic variation of spontaneous and cultivated *Brassica oleracea* and *Brassica rapa* genepools in parts of Europe and North Africa, and investigate their adaptive potential to changing climatic stresses. The project focused on significant germplasm collections, largely from France and Algeria, as well as from Italy, Slovenia, Spain and Tunisia. L. Maggioni, as a member of the project's scientific advisory board, attended the final meeting held at INRAE in Montpellier, France on 8-9 July, and he encouraged the inclusion of evaluated material in genebanks to be made traceable and available to future users. He also provided guidelines on how to include information in the European catalogue EURISCO (including passport and phenotypic data).



#### 3.2. LIAISING WITH PARTNER ORGANIZATIONS

Collaboration between ECPGR and the European Regional Focal Point for Animal Genetic Resources (ERFP) remained ongoing for the joint support of the *Genetic Resources* journal. ERFP contributed both in kind through editorial support of its members, and with a contribution of  $\le 10,000$  against the running costs of the journal management.

The Secretary continued in his role as a member of the **EUCARPIA** Genetic Resources section board. However, no activities took place in 2024. The EVA project was presented and promoted during the EUCARPIA general congress in Leipzig, Germany, August 2024. All EUCARPIA conferences are publicized on the ECPGR website.

Partnership with Euroseeds was especially fruitful as part of the PRO-GRACE project, with shared tasks for the communication work package and intense collaboration for the preparation of the policy symposium in Brussels, June 2024 (see above). In November 2024, Euroseeds co-organized expert-led webinars specifically aimed at the plant science community on the topics of biodiversity regulation and intellectual property right protection. Exchange of information regarding potential joint participaton to EU Calls for proposals has been ongoing.

ECPGR and the **FAO-ITPGRFA** Secretariat worked towards the renewal of their MOU, which is formalizing cooperation towards the implementation of the Multilateral System and the sustainable use of PGRFA. The MOU was ready to be signed in 2025.

In representation of FAO-ITPGRFA, Marco Marsella attended the ECPGR Documentation and Information Working Group meeting in Tallinn, Estonia, in September 2024, where he stressed the importance of increasing the assignment of DOIs to genebank accessions.

Within the framework of a strategy setting out a plan for the Ukrainian genebank system's restoration, which was designed with the support of the international community and adopted by Ukrainian authorities in November 2024, FAO-Ukraine has set aside funds to ensure the participation of Ukraine in Phase XI of ECPGR. The formalization of this arrangement is expected in 2025.

The ECPGR Secretariat contributed inputs to the ECPGR-relevant sections of the FAO *Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture,* which was in preparation and published in March 2025.

In collaboration with the NGOs Arche Noah (Austria), Rete Semi Rurali (Italy) and Fundación Entretantos (Spain), a Webinar on the EU Plant Reproductive Material Marketing Law Reform was organized by the Secretariat on 4 June 2024. This provided an overview of the EU negotiations on the reform of the Plant Reproductive Material (PRM) marketing rules, presented the key elements of the original draft published in July 2023 by the EU Commission and their 'evolution', culminating in the proposal voted by the Parliament in April 2024. The webinar discussed critical issues to be addressed in the next negotiation phase and shared possible ways to influence the process at the national level through agricultural ministries. The recording of the webinar is available on the ECPGR website.

A smooth interaction with all the Alliance of Bioversity International and CIAT departments was maintained, receiving special support from the legal office regarding the preparation of the MOU with FAO-ITPGRFA. A hosting agreement between ECPGR and Bioversity International was finalized and circulated to the Steering Committee for approval. The agreement was signed by Jens Weibull in November 2024 on behalf of the Steering Committee.



#### 4. Publications and public awareness

#### 4.1. Publications produced in 2024

#### 4.1.1. Administrative and operational documents

• ECPGR <u>Annual Progress Report 2023</u> and <u>Financial Report 2023</u>

#### 4.1.2. Reports from ECPGR bodies

Executive Committee meeting minutes:

- Twenty-ninth meeting, 6 March 2024, online
- Thirtieth meeting, 7 June 2024, online
- Thirty-first meeting, 11 October 2024, online

Working Group meeting reports:

• Working Group on Cryopreservation, First Meeting, 3-4 May 2023, Prague, Czech Republic

#### 4.1.3. Grant Scheme Activity reports and related data

• Exploitation of *Cucurbita* local germplasm for sustainable agriculture (<u>Cucurbitlocal</u>) – by H Chikh-Rouhou et al.

#### 4.1.4 EURISCO

 Minutes of the fourth meeting of the EURISCO Advisory Committee, 20 September 2024, Tallinn, Estonia

#### 4.1.5 **AEGIS**

- Austria, Operational genebank manual of AGES (December 2024)
- Estonia, <u>Operational genebank manual of the Estonian Crop Research Institute</u> (ECRI) (April 2024)
- Estonia, <u>Operational genebank manual of the Polli Horticultural Research Centre</u>, Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences (May 2024)
- Italy, <u>Operational genebank manual of the Council for Agricultural Research and Economics</u> <u>Research Centre for Cereal and Industrial Crops Vercelli</u> (September 2024)
- NordGen, Operational genebank manual of the Nordic Genetic Resource Center (May 2024)
- Poland, <u>Operational genebank manual of IHAR National Centre for Plant Genetic Resources</u> (October 2024)
- Serbia, Operational genebank manual of the Plant Gene Bank of Serbia (PGBS) (December 2024)
- Switzerland, Operational genebank manual of Agroscope ACW (August 2024)
- United Kingdom, <u>Operational Genebank Manual for the UK Vegetable Genebank</u> (Warwick Genetic Resources Unit) (October 2024)

#### 4.1.5. European Evaluation Network (EVA)

- Report of the EVA Wheat and Barley annual meeting, 25-26 January 2024, Fiorenzuola d'Arda, Piacenza, Italy
- Report of the EVA Pepper annual meeting and EuroPepLand kick-off meeting, 30-31 October 2024, El Ejido, Spain

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#### 4.1.6. ECPGR Information Bulletin

The Bulletin was published in March (issue no. 30), September (no. 31) and December (no. 32). The Bulletin is distributed by email to all Steering Committee and Working Group members and is also available online.

#### 4.1.9. Genetic Resources Journal

The open-access journal *Genetic Resources* (www.genresj.org), launched in 2020 with financial support from the GenRes Bridge project, continued operation in 2024. The ECPGR Secretariat provides the editorial office of the journal, which is published by Bioversity International on behalf of ECPGR and ERFP, which has provided funding support to the journal in 2024.

The journal aims to disseminate global knowledge and tools used by the community of practitioners of plant and animal genetic resources involved in monitoring, collecting, maintaining, conserving, characterizing and using genetic resources for food, agriculture and forestry, welcoming contributions from all world regions. *Genetic Resources* is indexed in relevant open-access indexing services such as Scopus, CrossRef, DOAJ and Google Scholar.

In 2024, *Genetic Resources* published two regular issues 9 and 10, including 19 articles covering topics on animal and plant genetic resources as well as cross-cutting issues. The two issues are accessible here: <a href="https://doi.org/10.46265/genresj.2024.9">https://doi.org/10.46265/genresj.2024.9</a>

https://doi.org/10.46265/genresj.2024.10

In mid-2024, the *Genetic Resources* journal launched a special issue on *'Ex situ* conservation of plant genetic resources in Europe – A journey through history, mission, challenges and future opportunities', aiming to provide an updated overview of *ex situ* plant genetic resource conservation activities in Europe. The call for contributions was met with enthusiastic interest from the plant genetic resources community, resulting in the submission of 16 manuscripts. The first article was published in December 2024, and the full issue – available <a href="here">here</a> – is expected to be completed by June 2025.

Articles were further disseminated through the dedicated <u>Genetic Resources Twitter/X account</u> (which will be discontinued in 2025) and the ECPGR <u>LinkedIn</u> account. Usage statistics for the journal confirm a global readership and continued interest of genetic resources stakeholders in the journal. The data also indicate growth in engagement compared to 2023, with a 24% increase in unique visitors and a 21% rise in pageviews on the *Genetic Resources* website. Manuscript submissions from ECPGR stakeholders are welcome.

#### 4.1.10. External publications with contribution from the Secretariat

- Balconi C, Galaretto A, Malvar RA, Nicolas SD, Redaelli R, Andjelkovic V... & Goritschnig S. 2024. Genetic and Phenotypic Evaluation of European Maize Landraces as a Tool for Conservation and Valorization of Agrobiodiversity. *Biology*. 2024; 13(6):454. <a href="https://doi.org/10.3390/biology13060454">https://doi.org/10.3390/biology13060454</a>
- Kumar S, **Guzzon F**, **Goritschnig S**, **Weise S**. 2024. The EURISCO-EVA Information System, an innovative approach to the data management of multi-site crop evaluation data. *Genetic Resources*, 5(10), pp. 117–125. doi: <a href="https://doi.org/10.46265/genresj.IHXU5248">https://doi.org/10.46265/genresj.IHXU5248</a>
- Maggioni L, Bengtsson T, Poulsen GB, von Bothmer R. 2024. Survey and genetic diversity of wild *Brassica oleracea* L. germplasm from the northern coast of Spain. *Genet Resour Crop Evol* doi: 10.1007/s10722-024-02070-8, <a href="https://rdcu.be/dN1Mn">https://rdcu.be/dN1Mn</a>
- Maggioni L, Goreta Ban S, Jani S, Jasprica N, Treccarichi S, Išić N, Branca F. (2024). Collecting Mediterranean wild species of the *Brassica oleracea* group (*Brassica* sect. *Brassica*). *Genetic Resources* 5 (10), 1–16. <a href="https://doi.org/10.46265/genresj.PCWY8016">https://doi.org/10.46265/genresj.PCWY8016</a>



#### 4.2. OTHER PUBLIC AWARENESS PRODUCTS



In March 2024, a 4-minute <u>video</u> on the EVA Networks was published on YouTube and shared through multiple channels. The video illustrates how the EVA Networks operate and highlights the crucial role of conserving, characterizing and evaluating plant genetic resources in fostering sustainable agriculture and enhancing climate resilience. By the end of 2024, the video had reached more than 500 visualizations, and was well-received and shared by EVA partners.



An <u>audiobook</u> based on a research paper by the EVA Lettuce network – 'Development and Application of Single Primer Enrichment Technology (SPET) SNP Assay for Population Genomics Analysis and Candidate Gene Discovery in Lettuce' – was released on all major podcast platforms in December 2024.

Developed in collaboration with the UK-based company SciPod, the 10-minute audiobook offers a professionally narrated summary of the paper's key findings, making the content accessible and engaging for both scientific and non-scientific audiences.

In 2024, the ECPGR roll-up banner set was completed with the addition of a EURISCO poster. The full set now includes five banners, with print-ready versions made available for <u>download</u> to the ECPGR community – particularly National Coordinators – for use within their institutes and at events.





Branded virtual backgrounds for use by ECPGR staff and representatives during online meetings were developed and introduced in early 2024, receiving positive feedback.

The use of branded backgrounds in online events supports a professional and consistent visual identity, helping to reinforce the ECPGR brand and enhance its credibility in both internal and external communications.



#### 4.3. WEBSITE AND SOCIAL MEDIA

The migration of the ECPGR website domain from 'ecpgr.cgiar.org' to 'ecpgr.org' was concluded successfully in early 2024 with no disruptions for users.

The purpose of this migration was to prevent any potential confusion regarding ECPGR being a CGIAR centre and to underscore ECPGR's status as an independent entity.

In September 2024, a new <u>LinkedIn</u> page for ECPGR was launched to better connect with the science and policy communities and share relevant content more effectively. This move was also prompted by the noticeable decline in engagement and user activity on X/Twitter. By the end of 2024, the LinkedIn page had gained 400 followers, primarily from the research, education, biotechnology and farming sectors.

Like other PGR organizations in Europe, ECPGR has been reassessing its presence on X due to its decreasing relevance, reduced reach and growing concerns about the platform's direction and moderation policies. As a result, we will discontinue ECPGR's X accounts in 2025 and focus our communication efforts on LinkedIn, a platform that offers a more targeted and professional audience. We will also explore the potential of establishing a presence on Bluesky or other social media channels to further diversify and future-proof our outreach strategy.

#### 4.5. Participation in international meetings

The Secretariat represented ECPGR in the meetings listed below, offering presentations and/or contributing to project planning and/or attending as observers.

- AGENT progress meeting, 19-21 March 2024, London, UK
- INCREASE Annual project meeting, 8-9 May 2024, Rome, Italy
- Diversitas, 25-26 June 2024, Bologna, Italy

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- PRO-GRACE/EMPHASIS Policy Symposium and Workshop on Plant Genetic Resources and Phenotyping, 27-28 June 2024, Brussels, Belgium
- BrasExplor, 8-9 July 2024, Montpellier, France
- EUCARPIA General Congress, 18-23 August 2024, Leipzig, Germany
- BBMRI-ERIC, 10-Year Roadmap Launch event, 15 October 2024, Brussels, Belgium

#### 5. ECPGR MEETINGS HELD IN 2024

#### **5.1. GRANT SCHEME ACTIVITIES**

- <u>Capturing Brassica Wild Relatives Diversity in South Eastern Europe (Eubraswild)</u>, final meeting, 20-21 February 2024, Catania, Italy
- Chances for the conservation and re-cultivation of central European club wheat (Binkel) through a nutritional and genetic differentiation towards other wheat species (BiDifferent), final workshop, Ora, Italy, 14-15 March 2024
- <u>Get Potatoes United Collaboration Action for Updating the Virtual European Potato</u> Collection (EURO-POTATOES), kick-off meeting, 19-20 March 2024, Warsaw, Poland
- <u>Increasing the efficiency of conservation of *Vitis sylvestris* genetic resources in Europe (Sylvestris), final meeting, 29 May 2024, online</u>
- Genotyping-by-sequencing of the European garlic collection to develop a sustainable ex situle conservation strategy (Garli-CCS), Cryopreservation workshop, 17-20 September 2024, Prague, Czech Republic.
- Implementing a trans-EUROpean PEPper LANDrace collection for resilient agriculture (EuroPepLand), kick-off meeting, 31 October 2024, Almeria, Spain
- <u>Improvement of Fruit Tree Data Inclusion in EURISCO (FRUITTREEDATA)</u>, meeting, 4 November 2024, online

#### **5.2. ECPGR BODIES**

- Twenty-ninth meeting of the ECPGR Executive Committee, 6 March 2024
- Thirtieth meeting of the ECPGR Executive Committee, 7 June 2024, online
- Thirty-first meeting of the ECPGR Executive Committee, 11 October 2024, online

#### 5.3. EUROPEAN EVALUATION NETWORK (EVA)

- EVA Wheat and Barley annual meeting, 25-26 January 2024, Fiorenzuola d'Arda, Italy
- EVA Pepper annual meeting, 30 October 2024, Almeria, Spain

#### **5.4. WORKING GROUPS**

- Cryopreservation Working Group (<u>Training school on cryopreservation of dormant buds</u>), 22-23 May 2024, Tebano, Italy
- Documentation and Information Working Group (<u>ad hoc workshop</u>), 18-19 September 2024,
   Tallinn, Estonia



#### 5.5. EURISCO

• EURISCO Advisory Committee, <u>fourth meeting</u>, 20 September 2024, Tallinn, Estonia

#### **5.6. OTHER GERMAN-FUNDED PROJECTS**

• <u>Crop Wild Relatives in EURISCO</u> project meeting, 18-19 June Sadovo, Bulgaria

#### **5.7. GENEBANK MANAGERS NETWORK**

- Second meeting, online, 4 March 2024
- Third meeting, Braga, Portugal, 13-15 May 2024



#### 6. COORDINATING SECRETARIAT

During 2024, the following staff employed by the Alliance of Bioversity International and CIAT have worked for the Coordinating Secretariat: Vanessa Bryant (half-time Administrative Assistant, January-February 2024 and October to December 2024); Nora Capozio (Specialist, editing and communications), Sandra Goritschnig (Scientific Officer – Horizon Projects coordination, EVA coordination and editorial management of the *Genetic Resources* journal); Filippo Guzzon, (Research Specialist, working on the Horizon project PRO-GRACE, as well as supporting the EVA coordination, the *Genetic Resources* journal special issue and ECPGR communication activities), Lorenzo Maggioni (ECPGR Secretary); Loredana Maria (Senior Administrative Assistant – assisting in all administrative and financial matters and database maintenance). 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 the Alliance of Bioversity International and CIAT and from IPK to the work of ECPGR, are duly acknowledged.

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#### Lorenzo Maggioni ECPGR Secretary

(with inputs from Nora Capozio, Sandra Goritschnig, Filippo Guzzon, Loredana Maria and Stephan Weise)

Rome, 15 April 2025

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