

ANNUAL PROGRESS REPORT



European Cooperative Programme for Plant Genetic Resources (ECPGR) Phase X (2019–2023)



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ECPGR IN 2022 – HIGHLIGHTS

Mid-Term Steering Committee meeting, Malmö/Alnarp, Sweden, June 2022

• Member countries participating in the Steering Committee unanimously agreed to proceed with a new Phase of ECPGR, starting in 2024, with priority objectives that correspond with the targets of the recently published *Plant Genetic Resources Strategy for Europe*. High-level priorities were also preliminarily selected. The mode of operation will be more flexible and efficient with the establishment of short-term ad hoc task forces to advance specific efforts. A new Working Group on Cryopreservation was established, aiming to develop a concept for the most rational and efficient way to collaboratively conserve under cryopreservation the relevant European material.

PRO-GRACE project approved for funding

• This project, submitted for funding in April 2022, was approved in July 2022 under the Call HORIZON-INFRA-2022-DEV-01-01 (Research infrastructure concept development). The ECPGR Secretariat is one of 31 partners in this proposal coordinated by ENEA (Italy), aiming to develop the concept for a European Research Infrastructure (GRACE-RI) dedicated to PGR, along the lines of the *Plant Genetic Resources Strategy for Europe*.

European Evaluation Network (EVA)

- Since the start of the EVA project in July 2019, the five crop-specific networks have been active in increasing the range of partners to currently 90 in 28 countries, planning and executing genotyping and phenotyping experiments and generating data for joint analysis.
- The EURISCO-EVA intranet database with a web-based user interface and visualization, search and filter functionalities was created to provide network partners access to all relevant experiment metadata and collected phenotypic data, facilitating analyses and compatibility with the EURISCO database, which should host the phenotypic data after the end of the project's embargo period. By end of 2022, data from 253 trials were uploaded to the database, totalling > 300,000 individual datapoints.
- In-person project meetings that had been delayed due to the COVID-19 pandemic were finally held in 2022 for all EVA networks, bringing the partners together for the first time to have strategic discussions on the work done as well as on plans for continued collaboration.
- The first results of the EVA networks were presented by the EVA coordinator and project partners at international conferences, including the EUCARPIA Maize and Sorghum meeting, the International Horticultural Congress and the International Carrot Conference.
- A recent amendment to the project added funds for effective data analysis and communication, and extended the project duration to December 2024, allowing the completion of data analysis of evaluations delayed by COVID-19 and further exploitation of generated results.
- A project in the Activity Grant Scheme by the Grain Legumes WG will work towards the establishment of an EVA Legumes network in 2023.



Activity Grant Scheme

Six new activities were selected by the Executive Committee in 2022 for funding:

- EURO-POTATOES (Potato Working Group)
- ExploDiv (Grain Legumes Working Groups)
- ForEVA (Grain Legumes Working Groups)
- Garli-CCS (Allium, Cryoconservation, and Documentation and Information Working Groups)
- INWHEATORY (On-farm Conservation and Management, and Wheat Working Groups)
- Sylvestris (Vitis Working Group)

German-funded project for in situ CWR data in EURISCO

- A document establishing the *Principles for the Inclusion of CWR Data in EURISCO* was finalized and agreed by project partners and the EURISCO Advisory Committee as reference for the documentation of wild populations and standard data provision to EURISCO.
- The group of pilot countries partnering in the project was extended from 7 to 11: Albania, Bulgaria, Cyprus, the Czech Republic, Germany, Italy, Lithuania, the Netherlands, Portugal, Spain and the United Kingdom. They are committed to the tasks of identifying priority taxa and populations, preparing the national database structure, organizing a national network of data providers, collecting and organizing the data according to the agreed standards, and finally providing the data to EURISCO.

AEGIS

- Belgium contributed accessions to AEGIS for the first time. France developed a draft Letter of Intent to participate in AEGIS.
- The European Collection has increased by 10,729 accessions (+18%).

EURISCO

- Following the revision of the upload/update mechanism for passport data for National Focal Points (NFPs) in 2020/2021, the corresponding mechanism for phenotypic data was also revised in 2022. A completely web-based solution was developed and integrated into the EURISCO intranet.
- The work on the general revision of the public EURISCO web application was continued in 2022. After the completion of extensive performance tests, the interface was made publicly available in spring 2022.
- An extension of EURISCO for *in situ* CWR data was started in autumn 2022 and will be continued in 2023.



1. ECPGR STRUCTURE AND MODE OF OPERATION IN PHASE X

1.1. MEMBERSHIP AND CONTRIBUTIONS

The list of signatory member countries is available online (<u>Membership webpage</u>). Thirty-three countries have signed the Letter of Agreement (LoA) for Phase X membership and Poland has announced its imminent signature. Two additional countries (Belgium and North Macedonia) contributed funds for Phase X, even though they have not yet signed the LoA.

The ECPGR budget for Phase X has been increased by €98,464 thanks to additional contributions pledged by Germany as an amendment to the project 'Implementation of the ECPGR European Evaluation Network (EVA) on wheat/barley and vegetable crops (carrot, lettuce and pepper)'.

The ECPGR budget for Phase X, therefore, increased from originally $\notin 2,688,250$ (agreed in May 2018 in Thessaloniki) to $\notin 4,378,981$ at the end of 2022 (see details in the Financial Report 2022).

1.2. CHANGES IN NATIONAL COORDINATORS

In 2022, the following change in National Coordinators took place:

- **Germany**: Frank Begemann, Federal Office for Agriculture and Food (BLE), retired in December 2022 to be replaced as National Coordinator by Imke Thormann, as of 1 January 2023.
- **Ireland**: In December 2022, James Quirke replaced Cara MacAodhain as National Coordinator.
- **Türkiye**: Davut KELEŞ, Head of Department, and Aysun ÖRÇÜN, Working Groups Coordinator, from the General Directorate of Agricultural Research and Policies (TAGEM), Ministry of Agriculture and Forestry, Ankara, replaced Gökhan Kızılcı and Havva Merve Yilmaz as National Coordinator and Assistant to the National Coordinator, respectively.

1.3. SIXTEENTH (MID-TERM) MEETING OF THE STEERING COMMITTEE

The <u>16th (Mid-Term) ECPGR Steering Committee meeting</u> took place in Malmö and Alnarp, Sweden, from 7–9 June 2022, gathering National Coordinators from 28 countries and observers from NordGen, the FAO Plant Treaty Secretariat and the European NGOs.

The meeting, hosted by NordGen at its new facilities in Alnarp, evaluated the implementation of the first three years (2019–2021) of ECPGR Phase X, taking stock of possible improvements for the future mode of operation and recognizing the achievements obtained so far, despite the difficulties in organizing meetings and carrying out activities due to the COVID-19 pandemic. The countries participating in the Steering Committee unanimously agreed to proceed with a new Phase of ECPGR, starting in 2024, with priority objectives that correspond with the targets of the recently published *Plant Genetic Resources Strategy for Europe*. High-level priorities were also preliminarily selected and the Secretariat was mandated to renew, for the time being, the hosting arrangements with Bioversity International and prepare a budget to be discussed and approved at the next meeting in 2023.

While ECPGR will maintain its structure of 24 Working Groups (20 crop and 4 thematic), the mode of operation will be more flexible and efficient with the establishment of short-term ad hoc task forces to advance specific efforts. Three task forces were proposed to be initially established, aiming at revising the Working Groups terms of reference, identifying opportunities for capacity development and strengthening communication and dissemination of ECPGR achievements.



The mandate of the new Working Group on Cryopreservation was discussed, with a concluding recommendation to develop a concept for the most rational and efficient way to collaboratively conserve under cryopreservation the relevant European material, sharing the task among a suitable number of European cryo facilities (see Section 1.4).

Special attention was given to the need to support the war-torn National Centre for Plant Genetic Resources of Ukraine. ECPGR, jointly with NordGen (the latter sponsored by the Novo Nordisk Foundation), decided to provide donations to cover the most urgent needs of staff and essential equipment (See Section 3.3).

The full report of the meeting as well as the presentations are available at this <u>link.</u>

1.4. MANAGEMENT OF ECPGR WORKING GROUPS

All Working Groups: A meeting of the Working Group Chairs and the Executive Committee was held online on 5–6 April 2022. This consultation meeting aimed at discussing the Working Groups' (WG) mode of operation and their current and future role in view of the Mid-Term Steering Committee meeting (7–9 June 2022). The discussion was based on the results of a survey submitted to the Chairs in late January 2022 to get feedback about their past chairing experience, the effectiveness of the WGs to achieve current ECPGR objectives, and their expectations for the new Plant Genetic Resources (PGR) Strategy implementation. The meeting's minutes, presentations, agenda, survey results and other background documents are available at this link. The Chairs agreed on a set of recommendations for the improvement of the Working Groups modus operandi.

Crop Wild Relatives Working Group: the name of the 'Wild Species conservation in genetic reserves' WG was changed to 'Crop Wild Relatives' WG by a suggestion of the Chair, accepted by the Steering Committee in June 2022. The scope of the WG will cover *in situ* and *ex situ* strategies and techniques, as well as wild food plants (WFP).

Cryopreservation Working Group: This new WG established by the Steering Committee in February 2022, aims to increasing collaboration and advancing cryopreservation science for the long-term conservation of European plant genetic resources, as well as defining a European strategy for cryopreservation. Miloš Faltus from the Crop Research Institute, Czech Republic and Bart Panis, from the Alliance of Bioversity International and CIAT and KU Leuven, Belgium, were appointed as Co-Chairs in August 2022.

Documentation and Information Working Group: in January 2022, Külli Annamaa, from the Estonian Crop Research Institute, was appointed as Vice-Chair.

Fibre crops (Flax and hemp) Working Group: The WG has no Chair and no Expressions of Interest were received throughout the year 2022.

On-farm Conservation and Management Working Group: in April 2022, Parthenopi Ralli, from the Hellenic Agricultural Organization – DIMITRA, Greece, was appointed as Vice-Chair.

Solanaceae Working Group: in March 2022, Willem van Dooijeweert from the Center for Genetic Resources, The Netherlands, stepped down from the position of Chair and a new Chair was being sought.



Vitis **Working Group**: in March 2022, Georgios Merkouropoulos, from the Hellenic Agricultural Organization – DIMITRA, Greece, was nominated as Chair of the ECPGR Vitis Working Group. Georgios is joined by Dragoslav Ivanišević, from the University of Novi Sad, Institute for Fruit Growing & Viticulture, Serbia, as Vice-Chair.

See full lists of <u>Working Group members</u>, <u>Working Group members by country</u> and <u>Working Group Chairs</u>

1.5. SECRETARIAT

Smart-working

During 2022, the Secretariat maintained an office at the Headquarters of the Alliance of Bioversity International and CIAT in Rome. However, all staff have largely operated in smart-working mode, working from home. Specifically, the Secretary opted for a permanent smart-working arrangement as of May 2022, working from home in northern Italy.

1.6. ACTIVITIES OF THE EXECUTIVE COMMITTEE (EXCO)

At the end of 2022, the ExCo was composed of Marianne Lefort (Chair), Pavol Hauptvogel (Slovakia), replacing Vojtech Holubec (Czech Republic) as of 12 June 2022, Birgitte Lund (Denmark), Benvindo Martins Maçãs (Portugal), Beate Schierscher (Switzerland), and Lorenzo Maggioni (ECPGR Secretariat, *ex officio*).

The ExCo held six main meetings in 2022:

- Meeting of Working Group Chairs and Executive Committee, 5-6 April 2022, online
- Twentieth meeting, 27 April 2022, online
- Twenty-first meeting, 17 August 2022, online
- Twenty-second meeting, 29 August 2022, online
- Twenty-third meeting, 29 November 2022, online
- Twenty-fourth meeting, 6 December 2022, online

In 2022, the main activities of the ExCo were related to the following items:

- Evaluation, selection and awarding of proposals submitted under the ECPGR Grant Scheme Proposals for the Sixth Call of Phase X were selected and awarded (see details in Section 2.1).
- Appointment of WG Chairs
- Consultation of WG Chairs in preparation for the Mid-Term Steering Committee meeting The ExCo participated in the WG Chairs online meeting (5-6 April 2022) on the ECPGR mode of operation and the Chairs' current and future role, and contributed to reaching an agreement on a set of recommendations for the improvement of the Working Groups modus operandi.

• Mid-Term Steering Committee meeting (Malmö/Alnarp, Sweden, 7–9 June 2022) The ExCo finalized the meeting's agenda and a table matching objectives and outputs of ECPGR Phase X with objectives and targets of the PGR Strategy for Europe, to serve as a discussion on priority activities for Phase XI. During the Steering Committee meeting, the ExCo members chaired various sessions and helped reach an agreement and draft the report.

• Terms of Reference for new ECPGR Task Forces (TF) and their establishment

The ExCo proposed ToRs for three new Task Forces: 1) revision of the ECPGR Terms of Reference; 2) capacity development; 3) communication and dissemination. Eventually, only the





first one was established, as it was not possible to find volunteers to serve for the other two. The Task Force for the revision of the ECPGR Terms of Reference was composed of Linn Borgen Nilsen (Norway, Chair), Audrey Didier (France), Imke Thormann (Germany), Petra Engel (Italy), Jelka Šuštar-Vozlič (Slovenia), Marianne Lefort (ECPGR) and Lorenzo Maggioni (ECPGR). The TF operated through online meetings (three in 2022), working towards the revision of the document 'ECPGR Goal, rules of procedures and terms of reference for the opeartional bodies, second edition, February 2018'.

• Establishment of a genebank network

The ExCo assigned to Lise Lykke Steffensen (Nordgen) the task to explore the interest and feasibility to establish a genebank network.

• Table of priorities for Phase XI

In various iterations, the ExCo proposed a table of priority activities for Phase XI and assigned priority levels, also in consultation with the WG Chairs and the Steering Committee.

Preparation of End-of-Phase Steering Committee meeting
 Dates and location for the Seventeenth Steering Committee meeting were defined (30 May – 1 June 2023, Oeiras, Portugal). The Secretariat was instructed regarding logistic arrangements, invitations and background documents to be prepared.

2. ACTIVITIES CARRIED OUT IN 2022

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 <u>here</u> (for Phase IX) and <u>here</u> (for Phase X).

Six proposals out of seven were selected for funding in the Sixth Call for proposals, which was launched on 23 August 2022, with a deadline on 15 November 2022 (see Table 1 below):

Acronym	Title	Working Group(s)	Activity Coordinator	Budget in Euros
EURO- POTATOES	Get Potatoes United – Collaboration Action for Updating the Virtual European Potato Collection	- Potato	Veli-Matti Rokka, Finland	€30,000
ExploDiv	Exploring grain legumes diversity for sustainable European agri-food systems	- Grain legumes	Creola Brezeanu, Romania	€28,600
ForEVA	Fostering the need for implementation of the ECPGR European Evaluation Network (EVA) on grain legumes	- Grain legumes	Creola Brezeanu, Romania	€16,500
Garli-CCS	Genotyping-by-sequencing of the European garlic collection to develop a sustainable <i>ex situ</i> conservation strategy	 Allium Cryopreservation Documentation and Information 	Manuela Nagel, Germany	€59,997

Table 1. Proposals approved by the ExCo under the Sixth Call of Phase X



INWHEATORY	Inventorying wheat on-farm diversity	 On-farm conservation and management Wheat 	Lorenzo Raggi, Italy	€28,050
Sylvestris	Increasing the efficiency of conservation of Vitis sylvestris genetic resources in Europe	- Vitis	Georgios Merkouropoulos, Greece	€25,520

See details on the web page: Outcomes of the Sixth Call

Overall, 15 activities have been granted during Phase X.

During Phase IX, 31 activities had been granted. By the end of 2022, 24 had been concluded with an Activity report and 7 reports were still pending. The status and/or outcomes of activities that were still ongoing or completed during 2022 are summarized in Table 2.

Working Group	Name of the Activity	Planned Activity Timeframe	Main information and outputs
Avena	<u>Updated morphological</u> <u>Descriptors for <i>Avena</i></u> <u>Species (UMORPHEAS)</u>	March 2020 – February 2022	Starting date was delayed, due to COVID-19 restrictions. Eventually, an online kick-off meeting took place on 11 March 2022. Partners made plans to update the IBPGR Oat descriptors, involving the widest possible global community. A core set of descriptors will be tested in the field, starting from December 2022, with a selected number of diverse accessions. The FAO-ITPGRFA Secretariat also attended the meeting and offered their expertise for this initiative.
Berries	Collaborative action for updating the documenting about berry genetic resources in Europe (EUROPE.BERRIES)	January 2021 – June 2022 (extended to February 2023)	Revision of berry genetic resources inventories were completed and updates sent to partners for submission to the National Focal Points and inclusion of data into EURISCO. A first draft of crop-specific technical guidelines for genebank management of berry genetic resources was prepared based on inputs from the partners. The results of the project were presented to the XXI International Horticultural Congress in Angers, France, August 2022.
Beta	Improving a cooperation network between actors involved in conservation and utilization of <i>Beta</i> genetic resources (BETANET)	December 2017 – November 2018	The final report is pending.
Brassica	CapturingBrassicaWildRelativesDiversityinSouthEasternEurope(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.

Table 2. Status of activities at the end of 2022



Working Group	Name of the Activity	Planned Activity Timeframe	Main information and outputs
Cucurbits	Exploitation of <i>Cucurbita</i> local germplasm for sustainable agriculture (Cucurbitlocal)	February 2021 – January 2023 (extended to September 2023)	Morphological characterization and regeneration of <i>Cucurbita</i> accessions was completed at the University of Naples, Italy (12) and at IPK, Gatersleben, Germany (75 accessions). A trial with two different irrigation treatments allowed to identify a potential genotype tolerant to drought and a comparative trial has been planned between Italy and Spain. Taxonomical characterization was done for all accessions at IPK and the AEGIS flagging was revised.
Documentation and Information	<u>GRIN-Global Workshop</u> <u>2021 for European</u> <u>Genebanks (GRIN-Global</u> <u>II)</u>	September 2020 – February 2021	After delays due to COVID-19, a workshop dedicated to countries with an interest in adopting GRIN-Global was organized in Prague, Czech Republic, 18-21 October 2022. An invited expert from USDA introduced the past, present, and future of GRIN-Global. The Activity report is pending.
Forages and Documentation and Information	Facilitating use on the European perennial ryegrass collection: improving access to genetic resources and C&E data (ImprovLoliumCol)	September 2018 – August 2021 (extended to April 2022)	The Activity was completed and the Activity report published. This Activity promoted the inclusion of as many as possible of the accessions used in the FACCE-JPI ERA-NET+ project GrassLandscape into EURISCO and to be flagged as AEGIS. It was concluded with 435 accessions registered in EURISCO and 344 expected to be flagged as part of AEGIS. Phenotypic data were made easily available as C&E data via an ECPGR European Forage Portal connected to the EURISCO database. Two levels of core collection were set up and flagged on the forage crop portal, a small one and a large one, including 159 and 211 accessions, respectively.
Grain legumes	Efficient management of resources for smart legumes utilization (SMARTLEG)	January 2017 – December 2017	The final Activity report was published in February 2023 (<u>here</u>)
Grain legumes	<u>Lathyrus diversity:</u> <u>available resources with</u> <u>relevance to crop</u> <u>improvement – progress</u> <u>reviews and relationship</u> <u>with AEGIS (EUGrainLeg)</u>	August 2018 – March 2021	The final Activity report was published in January 2023 (<u>here</u>) A panel consisting of 26 accessions of Lathyrus was grown in seven locations for phenotyping investigations (Bosnia and Herzegovina, Bulgaria, Greece, Portugal, Serbia, Slovenia, and Romania). Phenotypic data have been partially uploaded to EURISCO.
Malus/Pyrus	Building and promoting a European Pyrus collection - a case study (EcoHisPy)	January 2015 – December 2016	The final report is pending.
Malus/Pyrus	Common ECPGR protocols and tools available for Characterization & Evaluation of <i>Malus/Pyrus</i> genetic resources (Pomefruit – C&E)	February 2017 – September 2019	The Activity was completed. The ECPGRCharacterization and Evaluation Descriptors forApple and PearGenetic Resources were publishedin 2022.The final report is pending.This Activity was supported by the GermanFederal Ministry of Food and Agriculture.



Working Group	Name of the Activity	Planned Activity Timeframe	Main information and outputs
Medicinal and Aromatic Plants	Promoting the implementation and the establishment of the European MAP Collection (MAP EUROCOLLECTION)	September 2016 – September 2017 (extended to December 2019)	The final Activity report was completed in early 2022 (<u>here</u>). 241 accessions from 57 species from Bulgaria, Germany, Portugal and Romania were multiplied and will be included in the European MAP Collection as part of AEGIS.
Malus/Pyrus and Prunus	Improvement of Fruit Tree Data Inclusion in EURISCO (FRUITTREEDATA)	January 2023 – December 2024	This Activity, selected for funding in November 2021, was slightly revised with additional partners from Finland and Slovenia and approved in revised form in December 2022.
Umbellifer crops	Improving the characterization and conservation of umbellifer crop wild relatives in Europe (CarrotDiverse)	February 2017 – September 2019	The Activity was concluded in 2019, but partners wished to carry out the final analysis of the data, input in EURISCO and prepare scientific publications. However, the pandemic caused some issues in terms of staffing and ability to carry out the final analyses. The final report remained pending. This Activity was supported by the German Federal Ministry of Food and Agriculture.
Vitis	<u>Enhancing quality and</u> <u>quantity of Vitis genetic</u> <u>resources in AEGIS (AEG-</u> <u>VIT-IS)</u>	January 2020 – December 2020	The Activity was concluded with the definition of guidelines for the selection of <i>Vitis</i> candidate accessions for AEGIS. Partners agreed to prepare operational genebank manuals and one was completed (JKI, Germany). Molecular profiles of 284 local accessions were compared with international databases to determine unsolved identities. The final Activity report was published in March 2022 (here).
Wheat	<u>Training on identification</u> of botanical varieties in <u>Triticum</u> species (Training in Triticum species: TTS)	July 2018 – September 2019	The final report is pending.
Wheat and On-farm Conservation and Management	<u>Bi-Different</u>	January 2022 – December 2023	A revised version of the 'BiDifferent' proposal was approved by the ExCo in April 2022. Activities started with a kick-off meeting in July 2022, promoting the conservation and re-cultivation of central European club wheat (<i>Triticum aestivum</i> subsp. <i>compactum</i>).



2.2 WORKING GROUP MEETINGS

Allium Working Group

The Eighth meeting of the *Allium* WG was held in Skierniewice, Poland, from 11-12 October 2022, organized with the National Institute for Horticultural Research (InHort) and attended by representatives of 13 countries. The Co-Chair of the Working Group on Cryopreservation, Milós Faltus, Czech Republic, also attended and was instrumental in starting cooperation between the two Working Groups.

Each country representative presented the status of their *Allium* collections, including main problems and proposals for collaborative action. The Group decided to focus on the preparation of a project proposal under the ongoing ECPGR Grant Scheme Sixth Call. The project, in collaboration with the Working Groups on Cryopreservation and on Documentation and Information, aimed at systematic genotyping and phenotyping of garlic accessions provided by partner genebanks and defining a strategy for garlic conservation in Europe, including sharing tasks for cryopreservation. The project was eventually approved for funding by the ExCo (see Garli-CCS, Table 1). The meeting report was published here.

Crop Wild Relatives Working Group

An *ad hoc* meeting of the Crop Wild Relatives Working Group was held from 13–15 December 2022 in Thessaloniki, Greece, in collaboration with the Hellenic Agricultural Organization – DIMITRA, Institute of Plant Breeding and Genetic Resources. The meeting was dedicated to starting the preparation of a project proposal under the HORIZON Call CL6-2023-BIODIV-01-13 – Crop Wild Relatives for sustainable agriculture. The project proposal (EURO-CWR) was then submitted in March 2023.

2.3 AEGIS

2.3.1. AEGIS membership

In 2022, no additions were made to the number of countries or Associate Members of AEGIS, which remains at 35 Member Countries and 68 Associate Members (details <u>here</u>). However, progress was made in France with a consolidated version of a draft declaration of intent whereby France is expected to participate in AEGIS following the imminent signature of the declaration by French authorities.

2.3.2. Status of the European Collection

By the end of December 2022, a total of 70,413 accessions from 21 contributors were part of the European Collection.

In 2022, the European Collection has increased by 10,729 accessions (+18%). One new country contributed for the first time (Belgium). The changes in the composition of the European Collection over 2021 are shown in Table 3 below.



	No. of ac			
Contributor	utor by end 2020 by end		by end 2022	Difference
1. Albania	8	8	8	-
2. Belgium	0	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	1,682	1,682	-
7. Estonia	129	129	134	+5
8. Germany	26,725	26,725	37,220	+10,495
9. Italy	8,815	10,691	10,917	+226
10. Latvia	27	27	27	-
11. Lithuania	45	45	45	-
12. Montenegro	31	31	31	-
13. The Netherlands	5,841	5,841	5,840	-1
14. Nordic Countries	4,779	4,785	4,785	-
15. Poland	443	443	443	-
16. Portugal	86	86	86	-
17. Romania	732	752	752	-
18. Slovakia	640	640	640	-
19. Slovenia	0	19	21	+2
20. Switzerland	5,611	5,611	5,611	-
21. United Kingdom	1,659	1,659	1,659	-
Total	57,690	59,684	70,413	+10,729

Table 3. The European Collection: breakdown by contributors

2.3.3. AEGIS-related actions

Within the framework of the Horizon 2020 project AGENT (see below), a task led by CGN, the Netherlands, extended the peer-review exercise, involving genebanks from Bulgaria, Czech Republic, Germany, The Netherlands, Slovakia and Spain into reciprocal visits. The respective reports were published on the <u>AEGIS web site</u>. As part of this exercise, new genebank manuals were completed (CRI, Czech Republic, RIPP, Slovakia and CRF, Spain) or updated (CGN, The Netherlands) and published <u>online</u>. The genebank manual of IPGR, Bulgaria, was in preparation at the end of 2022.

2.4. EURISCO

Both the activity report for 2021 and the workplan for 2022 were made available online on the <u>EURISCO</u> <u>web interface</u>.

2.4.1 EURISCO coverage

During 2022, the number of accessions documented in EURISCO grew by 10,194, reaching 2,082,075. In total, passport data of 447,640 accessions were updated or newly imported. The number of AEGIS accessions was 70,413, an increase of 10,729. The number of phenotypic records increased by 33,297 to 2,716,599. Phenotypic data are sourced from 21 countries¹ and are available for 90,974 accessions. Against the background of the increasing global exchange of data on plant genetic resources, permanent and unique identifiers (PUIDs) are increasingly used. To this end, genebanks are registering more and more accessions for Digital Object Identifiers (DOIs). As of 31 December 2022, 230,532 accessions of 22 institutions from 8 countries had a PUID in EURISCO, which for most of them is a DOI.

¹ Accessions from the five Nordic countries are maintained jointly by NordGen, headquartered in Sweden, and are only counted as one country in this enumeration.



	Progress in 2022	Countries that contributed to the progress
Documented accessions	+10,194	Several countries. In addition, passport data updates of > 440,000 accessions
Phenotypic data records	+33,297	Austria, Azerbaijan, Belgium, Czech Republic, Estonia, France, Germany, Greece, Italy, Latvia, Lithuania, The Netherlands, Nordic Countries, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Switzerland, The United Kingdom
DOI/PUIDs	+1,615	Armenia, Azerbaijan, France, Germany, Italy, The Netherlands, Romania, Slovenia

2.4.2 EURISCO development

The focus of development activities in 2022 was on the revision of the EURISCO update mechanism for phenotypic data, the provision of the EURISCO-EVA infrastructure and the extension of the EURISCO backend for *in situ* CWR passport data (see details below).

Following the revision of the upload/update mechanism for passport data for National Focal Points (NFPs) in 2020/2021, the corresponding mechanism for phenotypic data was also revised in 2022. A completely web-based solution was developed and integrated into the EURISCO intranet. Third-party software and special firewall settings are no longer required.

The work on the infrastructure for EURISCO-EVA was continued in 2022 and was concluded at the end of September 2022. The creation of this EVA-Intranet environment as part of EURISCO is necessary to comply with the data embargo agreed within the EVA Networks. The related development is funded by the German Federal Ministry of Food and Agriculture, as part of the project 'Implementation of the ECPGR European Evaluation Network (EVA) on wheat/barley and vegetable crops (carrot, lettuce and pepper)'. The focus of the work in 2022 was on importing the data provided by the various EVA consortia. This required adaptations/further developments of the data import templates as well as the upload and check mechanisms. The necessary backend functionalities were implemented on the database side. Furthermore, extensive enhancements have been made to the EVA web interface according to the wishes of the users. The completed infrastructure is now available to existing and future EVA consortia.

Within the project 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets', funded by the German Federal Ministry of Food and Agriculture and coordinated by the ECPGR Secretariat, the adaptation of EURISCO for *in situ* CWR data started in October 2022. A data exchange standard was defined based on the white paper 'Principles for the Inclusion of CWR Data in EURISCO' (van Hintum & Iriondo, 2022).

An important focus of activities was EURISCO's new public web interface, which was completely revised. Extensive work on this was already started in 2021 and continued in 2022. In addition to necessary updates of the technology used, special attention was paid to the implementation of a responsive design. In this context, functionalities of the previous application were assessed to identify those used particularly heavily or little, in order to adopt or adapt them accordingly in the new application. Furthermore, new functionalities were introduced based on user feedback, in particular a combined search via passport data and phenotypic data. Additional functionalities were implemented, such as faceted search, map-based selection of accessions and search indices for scientific names and common crop names. After the completion of extensive performance tests, the interface was made publicly available in spring 2022.

More details can be found in the EURISCO Annual Report 2022.



2.4.3 Information on EURISCO provided at national and international meetings

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

- Various aspects of the extension of EURISCO to include *in situ* CWR data were presented at the GRIN-Global Workshop for European Genebanks (18–21 October 2022, Prague, Czech Republic) and at the Ad hoc Crop Wild Relatives Working Group Meeting (online).
- A publication on EURISCO has been accepted for the 2023 database issue of *Nucleic Acids Research* (DOI: <u>10.1093/nar/gkac852</u>). This special issue is published once a year with articles on the most important databases in the field of life sciences. The contribution will enhance the worldwide visibility of EURISCO.
- The EURISCO newsletter was circulated in <u>December 2022</u>. This is considered very important for providing feedback to EURISCO users.

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. Fortunately, some of the corresponding project applications were approved.

In 2022, the EURISCO coordination participated in the already running Horizon 2020 project 'Activated GEnebank NeTwork' (AGENT) (see Section 3.1).

During 2022, another project was approved for funding under the Horizon Europe programme – 'Promoting a Plant Genetic Resource Community for Europe' (PRO-GRACE) (see Section 3.1). In this context, the EURISCO coordination will be responsible for a work package focusing on an inventory of PGR-related systems and information standards.

2.4.5 EURISCO Advisory Committee

In February 2022, the EURISCO Advisory Committee member representing the European seed sector, Paul Olson (KWS), was replaced by Bettina Müller (Strube Research, Germany), under the indication of Euroseeds. The Committee was involved during this year mainly offering advice on the development of the 'Principles for the Inclusion of CWR Data into EURISCO'(see Section 2.5).

2.4.6 EURISCO Data Sharing Agreement (DSA)

As of December 2022, the following 22 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: Albania, Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, France, Germany, Israel, Latvia, Portugal, Romania, Spain, Sweden, Switzerland, the Netherlands, United Kingdom, Ukraine.

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' is funded by the German Federal Ministry of Food and Agriculture. The proposal, with a budget of €247,318 over three years, was approved in December 2021.

This intends to endow the European region with a centralized, public and web-searchable inventory of passport data for *in situ* CWR priority populations that can be made in principle accessible to users. A fine-tuned data flow mechanism using an internationally agreed exchange standard has been developed, under the leadership of Theo van Hintum and José Iriondo, to facilitate data transfer from National Inventories of *in situ* CWR populations to EURISCO. The document 'Principles for the



Inclusion of CWR Data into EURISCO' has been endorsed by the project partners and the EURISCO Advisory Committee and also in consultation with the FAO-ITPGRFA Secretariat. Its principles and data standards will be used by the pilot countries participating in this project. One of the main provisions is that EURISCO will collect only data related to populations that can in principle be made available to users. The material can be made available either by a population owner/manager or via the intermediation of a liaison organization. Thanks to a budget revision in 2022, it was possible to extend the initial group of participating countries from 7 to 11 (Albania, Bulgaria, Cyprus, the Czech Republic, Germany, Italy, Lithuania, the Netherlands, Portugal, Spain and the United Kingdom). In a progress meeting organized in Thessaloniki, Greece, on 15 December 2022, project partners reported their progress towards the tasks of identifying priority taxa and populations, preparing the national database structure, organizing a national network of data providers, collecting and organizing the data according to the agreed principles and data exchange format, and finally providing the data to EURISCO. Presentations and minutes of the meeting are available on the <u>ECPGR Web site</u>. Preparation of EURISCO to receive the data sets started in October 2022, as reported above in Section 2.4.2 and the first data transfers are expected in the second half of 2023.

2.6. EUROPEAN EVALUATION NETWORK (EVA)

In 2022, the five crop-specific networks of the <u>ECPGR European Evaluation Network (EVA</u>), funded by the German Federal Ministry of Food and Agriculture, proceeded with their project activities following their network-specific work plans for the phenotypic and genotypic evaluation of crop accessions, and commencing with analysis of the generated data.

An amendment to the current project granted by the donor at the end of 2022 provided an additional ~ ℓ 100,000 mainly dedicated to data analysis and communication, which, combined with an extension of the current project until December 2024, allows the networks to finalize their activities and plan for continuation of their collaborations.

The EVA networks currently have 90 active partners from 28 countries who have signed the Letter of Commitment and their network's cooperation agreements. Additional partners may join the networks for future evaluation cycles.

Annual project meetings of the crop-specific networks were finally held in person in 2022, allowing partners to interact and undertake strategic discussions on the work achieved so far and future collaborations beyond the duration of the current project. Additional virtual meetings were used to discuss, review and plan ongoing activities. Links to reports of the annual meetings are available in Section 4 of this report.

Some key indicators for the EVA networks in 2022 are listed in the table below.

EVA Network	Countries involved	Public partners	Private partners	Meetings held in 2022 ¹⁾	Trials in 2022	AEGIS accessions in evaluation 2)	Accessions evaluated in 2022
EVA Wheat and Barley	20	21	26	3	147	932	2,235
EVA Carrot	7	6	8	3	1	10	60
EVA Lettuce	8	6	6	3	4	48	62
EVA Pepper	10	9	6	2	9	33	170
EVA Maize	9	10	8	4	43	24	494 ³⁾

Table 4. Key indicators for the EVA networks in 2022

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

²⁾ Some accessions are evaluated as single seed descent (SSD) lines of original accessions ³⁾ Including original accessions, SSDs and hybrid populations



The development of the EURISCO-EVA intranet was finalized in 2022 (also see above, EURISCO section 2.4.2). This system provides network partners access to all relevant experiment metadata and collected phenotypic data via a user-friendly web interface, facilitating analyses and providing compatibility with the EURISCO information system, which should host the phenotypic data after the end of the project's embargo period. By end of 2022, data from 253 trials have been uploaded to the database, totalling 339,492 individual datapoints.

Phenotypic evaluations continued in 2022, with EVA Carrot and Lettuce finalizing evaluations of their first sets of accessions and initiating data analyses of the collected data on agronomic and biotic stress traits. EVA Wheat and Barley collected evaluation data of the first and second sets of barley, wheat and durum wheat accessions, mainly for biotic stress responses, from more than 70 evaluation sites across Europe, and multiplied a third accession set which had been supplied by genebanks through the AGENT project. EVA Pepper continued field trials across Europe on 160 pepper accessions. The EVA Maize network started evaluations of a second set of maize accessions and performed in-depth evaluations of a subset of accessions from the first set, which had also been used to produce testcross populations to assess their usability in hybrid crosses.

Multiplication of additional accession sets for wheat, barley, durum wheat and maize provide material for phenotypic evaluations in 2023.

Communication on the EVA project was facilitated through the production of a promotional flyer² and a stand-up banner and happened in the context of the in-person meetings, where the work of the EVA Lettuce network was promoted in online horticultural newsletters. The EVA coordinator was interviewed by local Serbian television³ during the EVA Maize meeting, held in conjunction with the XXVth Eucarpia Maize and Sorghum meeting, where the work of the EVA Maize network was also presented. Preliminary results of the EVA Carrot network were presented at the International Horticultural Congress 2022 in Angers, France (14–20 August 2022) and the International Carrot Conference (ICC) in Mt. Vernon, USA (29–30 August 2022) The EVA project was further promoted through invited presentations given by the EVA coordinator at several occasions throughout 2022.

3. LINKS WITH OTHER NETWORKS AND INITIATIVES

3.1. EUROPEAN COMMISSION

<u>Activated GEnebank NeTwork (AGENT) – a Coordination and Support Action on Establishing an</u> <u>innovative gene bank network</u> (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.

In 2022, two rounds of in-person genebank review visits were conducted, involving CRI (Czech Republic), IPK (Germany), NPPC (Slovakia), INIA (Spain), CGN (the Netherlands) and IPGR Sadovo

² <u>https://www.ecpgr.cgiar.org/resources/ecpgr-publications/publication/eva-the-european-evaluation-network-2022</u>

³ <u>https://youtu.be/5WPZKjesIJI?t=790</u>



(Bulgaria). Genebank manuals were prepared or updated by participating institutions and review reports are available on the dedicated AEGIS webpages⁴. Training events aimed at building the capacity of genebank curators included datathons on experimental phenotypic data management and data analysis using tools developed in the project. One thousand seven hundred (1,700) wheat and barley accessions from AGENT partner's collections were multiplied and distributed for evaluation by the EVA Wheat and Barley network.

• <u>BRESOV – Breeding for Resilient, Efficient and Sustainable Organic Vegetable Production</u> (2018–2023)

The project, coordinated by the University of Catania, Italy, aims to tackle the nutritional challenges of a growing world population and changing climatic conditions by enhancing the productivity of different vegetable crops in an organic and sustainable farming infrastructure. BRESOV works on *Brassica*, snap bean and tomato. The ECPGR Secretariat is represented on the scientific advisory board by the EVA Coordinator, Sandra Goritschnig, who during the BRESOV annual meeting in Valencia, Spain in July 2022 presented the EVA Networks as exploitation options to further disseminate the results and materials generated in the project. This idea was taken up by the Chair of the ECPGR Grain Legumes WG, Creola Brezeanu, who submitted a proposal to the ECPGR Grant Scheme on the establishment of an EVA Legumes network (ForEVA, see also Section 2.1).

• <u>BrasExplor – Wide exploration of genetic diversity in *Brassica* species for sustainable crop production (2020–2023)</u>

The ECPGR Secretary (L. Maggioni), member of the scientific Advisory Board, participated in the project's mid-term meeting, which took place on 21-22 June 2022 in Le Rheu, France, promoting EURISCO and the EVA network. The project, coordinated by INRAE, France, has undertaken collecting activities of landraces and crop wild relatives of Brassica oleracea and Brassica rapa, and evaluation of collected material for abiotic stresses is underway to identify genetic mechanisms that can alleviate climate change effects.

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

The project, coordinated by Università Politecnica delle Marche, Italy, aims at improving the sustainable use of plant genetic resources by enhancing the status of chickpea, common bean, lentil and lupin genetic resources. In 2022, the ECPGR Secretary attended the INCREASE workshop: 'Participatory science and enabling technologies for agrobiodiversity conservation in food legumes: towards food security and sustainable healthy diets', organized in Ancona, Italy, 12 September 2022. L. Maggioni presented ECPGR's work, the *Plant Genetic Resources Strategy for Europe* and the EVA network, and discussed possible collaboration with project partners. The video recording of the event is available on the <u>INCREASE YouTube channel</u>.

• <u>BreedingValue – Pre-breeding strategies for obtaining new resilient and added value berries</u> (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. It will apply the latest genotyping and phenotyping tools for the characterization of local varieties. The ECPGR Secretary, as a member of the Advisory Board,

⁴<u>https://www.ecpgr.cgiar.org/aegis/aquas/genebank-manuals</u> and <u>https://www.ecpgr.cgiar.org/aegis/aquas/peer-</u><u>visits</u>



participated online in the First Progress Meeting, held in Malaga, Spain, 23–25 March 2022. It was noted that the accessions being used within the project are not traceable in EURISCO. In fact, the project is focusing on prebreeding, and private companies are not inclined to openly document or share their material. Also, field trials are not in multi-environments. The EVA approach was mentioned as a possible model for future initiatives.

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

This project, submitted for funding in April 2022, was approved in July 2022 under the Call HORIZON-INFRA-2022-DEV-01-01 (Research infrastructure concept development). The ECPGR Secretariat is one of 31 partners in this proposal coordinated by ENEA (Italy), aiming to develop the concept for a European Research Infrastructure (GRACE-RI) dedicated to PGR, along the lines of the *Plant Genetic Resources Strategy for Europe*. The project will start in January 2023 and terminate on 30 June 2025. The ECPGR Secretariat will be leading a work package on 'Research Infrastructure concept, social and regulatory aspects, governance, and financial plan'. On 22 November 2022, the project partners met virtually for the first scientific meeting, in which the various work packages were illustrated and discussed.

3.2. LIAISING WITH PARTNER ORGANIZATIONS

Within the framework of the MOU between ECPGR and the **Crop Trust**, the Secretariat attended online the Crop Conservation Meeting held in Bonn, Germany on 28 November 2022, which focused on the development of global crop conservation strategies. ECPGR WG members contributed to the preparation of strategies on *Brassica, Capsicum*, Cucurbits, Eggplant, Pea, Potato and Temperate forages.

As a follow-up to the inter-networks collaboration undertaken during the implementation of the GenRes Bridge project, a Task Force was established with representatives of ECPGR and the European Regional Focal Point for Animal Genetic Resources (**ERFP**), dedicated to promoting the implementation of the genetic resources strategies at national and European level and, specifically, to brainstorming about ways and options to establish the European Coordination and Information Centre for conservation and sustainable use of agricultural genetic resources (ECIC). The Task Force held two meetings in 2022 (March and November), where lobbying efforts were discussed, leading to support ongoing initiatives by the French and Czech Presidencies of the EU (and the Swedish and Spanish ones in 2023) to maintain the topic of the genetic resources strategies high in the agenda of the Working Party on Genetic Resources and Innovation in Agriculture. Task Force members Szonja Csörgö, Euroseeds, and Jeanne Bormann, from the Administration of Technical Agricultural Services (ASTA), volunteered to analyze the existing legal framework, aiming to identify whether ECIC could be developed on the basis of existing EU or national legislation under the condition that it operates as an international organization, or whether new legislation would need to be promoted.

The Secretary continued in his role as a member of the **EUCARPIA** Genetic Resources section board. No activities happened in 2022, except the agreement to participate in advising on the development of the scientific programme of the next Section meeting, scheduled for 2024 in Portugal. The EVA coordinator had an opportunity to present the EVA networks during the XXVth EUCARPIA Maize and Sorghum Conference. All the EUCARPIA conferences are publicized on the ECPGR website.

Within the framework of the MOU between ECPGR and **Euroseeds**, invitations were sent to breeders for participation in the *Allium* WG meeting. In the follow-up of this meeting, Szonja Csörgö, Euroseeds





Director of IP and Legal Affairs, offered precious advice on intellectual property-related questions raised by *Allium* WG members.

The EVA Coordinator, S. Goritschnig took part in the Euroseeds Congress in Berlin, Germany, from 23-25 October 2022, where she presented the EVA Network. Euroseeds has granted continuous support for the EVA Networks, with advice and circulation of information, including showcasing EVA on its <u>website</u>.

Within the framework of the MOU between ECPGR and the **FAO-ITPGRFA** (Treaty) Secretariat, collaboration in 2022 was active as part of the *In situ* CWR data in EURISCO project, with contribution of the Treaty in commenting on the document *Principles for the Inclusion of Crop Wild Relative Data in EURISCO*. The Treaty was also supportive of the creation of the Cryopreservation Working Group. A specific collaboration is ongoing with the *Avena* WG for the update of Descriptors for *Avena*, as part of the ECPGR Activity UMORPHEAS. A Treaty representative (Mario Marino) attended as an observer the Mid-Term Steering Committee meeting in June 2022.

3.3. SUPPORT TO THE UKRAINIAN GENEBANK

During the Mid-Term Steering Committee meeting, the sympathy of all the Steering Committee was expressed for the staff in the Ukrainian institute and Ukrainian people who found themselves caught in a terrifying situation. An initiative involving a group that included Germany, NordGen, Poland, Romania, Sweden, the ECPGR Secretariat, the UK, the Crop Trust, the ITPGRFA Secretariat, USAID and Canada aimed to support and eventually restore the Ukrainian genebank system. Specifically, in May 2022, ECPGR sent a first donation of €5,000 to the National Centre of Plant Genetic Resources in Karkhiv to support the work carried out by the Ukrainian genebank in conserving and sharing important and unique plant genetic resources. In July 2022, two additional donations were provided, of respectively €5,000 to cover fuel costs at the National Centre of Plant Genetic Resources in Karkhiv and €18,896 for staff salaries at the Ustymivska Experimental Station of Plant Production.

4. PUBLICATIONS AND PUBLIC AWARENESS

4.1. PUBLICATIONS PRODUCED IN 2022

4.1.1. Administrative and operational documents

- ECPGR Annual Progress Report 2021 and Financial Report 2021
- <u>Mid-term report on ECPGR Phase X</u> (January 2019 April 2022)

4.1.2. Reports from ECPGR bodies

Executive Committee meeting minutes:

- Twentieth meeting, April 2022, online
- <u>Twenty-first meeting</u>, 17 August 2022, online
- Twenty-second meeting, 29 August 2022, online
- <u>Twenty-third and twenty-fourth meetings</u>, 29 November 2022 and 6 December 2022, online
- Meeting of the Working Groups' Chairs and the Executive Committee, 5–6 April 2022, online



Steering Committee:

• <u>Report of the Sixteenth (Mid-Term) Steering Committee Meeting</u>, 7-9 June 2022, Malmö and Alnarp, Sweden

Task Force for the European Coordination and Information Centre for conservation and sustainable use of agricultural genetic resources (ECIC):

• Minutes of the <u>ECIC first meeting</u>, 3 March 2022, online

4.1.3. Grant Scheme Activity reports and related data

- Facilitating use on the European perennial ryegrass collection: improving access to genetic resources and C&E data (ImprovLoliumCol) – by J.P. Sampoux and E. Willner
- <u>Promoting the implementation and the establishment of the European MAP Collection (MAP EUROCOLLECTION)</u> by A.B. Barata et al.
- <u>Enhancing quality and quantity of *Vitis* genetic resources in AEGIS (AEG-VIT-IS)</u> by G. Muñoz Organero

4.1.4. Descriptors

- Lateur M, Szalatnay D, Höfer M, Bergamaschi M, Guyader A, Hjalmarsson I, Militaru M, Miranda Jiménez C, Osterc G, Rondia A, Sotiropoulos T, Zeljković M K, Ordidge M. 2022. <u>ECPGR</u> <u>Characterization and Evaluation Descriptors for Pear Genetic Resources</u>. European Cooperative Programme for Plant Genetic Resources, Rome, Italy
- Lateur M, Dapena E, Szalatnay D, Gantar M E, Guyader A, Hjalmarsson I, Höfer M, Ikase L, Kellerhals M, Lacis G, Militaru M, Miranda Jiménez C, Osterc G, Rondia A, Volens K, Zeljković M K, Ordidge M. 2022. <u>ECPGR Characterization and Evaluation Descriptors for Apple Genetic Resources</u>. European Cooperative Programme for Plant Genetic Resources, Rome, Italy

4.1.5 EURISCO

Van Hintum T, Iriondo J. 2022. <u>Principles for the Inclusion of Crop Wild Relative Data in EURISCO</u>. European Cooperative Programme for Plant Genetic Resources, Rome, Italy

4.1.6. European Evaluation Network (EVA)

- Report of the EVA Lettuce network annual meeting, 24–25 May 2022, Salsomaggiore Terme, Italy
- Report of the EVA Maize network annual meeting, 2–3 June 2022 Belgrade, Serbia
- <u>Report of the EVA Carrot network annual meeting</u>, 28–30 September 2022, Schagen and Warmenhuizen, The Netherlands
- Report of the EVA Pepper network annual meeting, 26–28 October 2022 Vico Equense, Italy
- <u>Report of the EVA Wheat and Barley network annual meeting</u>, 17–18 November 2022, Freising, Germany

4.1.7. Working Groups

• Report of a Working Group on Allium, Eighth Meeting, 11–12 October 2022, Skierniewice, Poland



4.1.8. ECPGR Information Bulletin

The Bulletin was published in April (issue no. 24), July (no. 25) and December (no. 26). The Bulletin is distributed by email to all Steering Committee and Working Group members and is also available <u>online</u>.

4.1.9. Genetic Resources Journal

The open access journal *Genetic Resources* (www.genresj.org), launched in 2020 with the financial support from the GenRes Bridge project, continued operation in 2022, solely based on the ECPGR Secretariat resources. The ECPGR Secretariat provides the editorial office of the journal, which is published by Bioversity International on behalf of ECPGR and ERFP, which has committed to supporting the journal financially, starting in 2023.

The journal aims at disseminating 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.

In 2022, *Genetic Resources* published two regular issues 5 and 6, including 14 articles covering topics on animal and plant genetic resources as well as cross-cutting issues. The two issues are accessible here: https://www.genresj.org/index.php/grj/issue/view/genresj.2022.5 https://www.genresj.org/index.php/grj/issue/view/genresj.2022.5

Usage statistics for the journal confirm a global readership and continued interest of genetic resources stakeholders in the journal. Manuscript submissions from ECPGR stakeholders are welcomed.

4.1.10. External publications with contribution from the Secretariat

Pragna Kotni, Theo van Hintum, **Lorenzo Maggioni**, Markus Oppermann, Stephan Weise, EURISCO update 2023: the European Search Catalogue for Plant Genetic Resources, a pillar for documentation of genebank material, Nucleic Acids Research, 51(D1):D1465–D1469, 2023. https://doi.org/10.1093/nar/gkac852

Arnaud Thabuis, Charlotte Allender, Nicoletta Bertolin, Juliette Chevalier, Micha Groenewegen, Annette Hägnefelt, Aurélie Ingremeau, Violeta Lopes, Cristina Mallor, Thomas Nothnagel, Paolo Pagan, Sylvia Salgon, Miguel Santillan Martinez, Emmanuel Geoffriau and **Sandra Goritschnig**. Publicprivate partnership investigating European carrot genetic resources in EVA Carrot. Poster presented at International Carrot Conference 2022, Mt. Vernon, USA.

4.2. OTHER PUBLIC AWARENESS PRODUCTS

A policy brief – <u>'Plant Genetic Resources Conservation and Sustainable Use – What should Europe</u> <u>urgently do?'</u> – summarizing the main points of the *Plant Genetic Resources Strategy for Europe* for the attention of policymakers, was prepared by the Secretariat with input from the Strategy Drafting Team.

A <u>brochure on the European Evaluation Network (EVA)</u> was developed and shared with partners and stakeholders during conferences, annual meetings and other events.

The development of ECPGR brand guidelines and a refresh of the ECPGR branding products (letters, reports, documents, presentations and bulletin), with a new and fresh style in line with the original colours and logo, were carried out.

The <u>public awareness pages</u> on the ECPGR website were redesigned and rationalized to make products more accessible, and new pages were developed.



Between June and August 2022, Fernando Luque Cuesta, History and Arts PhD Student at the University of Granada, Spain, contributed to public awareness products for the ECPGR Secretariat and the University of Perugia, Italy. With an internship funded by ECPGR, Fernando was based at the University of Perugia, where he produced scientific illustrations in digital format of Italian landraces.

4.3. 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, 2nd Progress Meeting 10–12 May 2022, Prague, Czech Republic

XXVth EUCARPIA Maize and Sorghum Conference 30 May–2 June 2022, Belgrade, Serbia

BrasExplor Conference 21–22 June 2022, Rennes, France

BRESOV, 4th Annual Progress Meeting 5–7 July 2022, Valencia, Spain

Italian Society of Agricultural Genetics (SIGA), 65th Annual Congress 8 September 2022, Piacenza, Italy

Participatory science and enabling technologies for agrobiodiversity conservation in Food Legumes: towards food security and sustainable and healthy diets (INCREASE project) 12–13 September 2022, Ancona, Italy

Euroseeds Congress 23–25 October 2022, Berlin, Germany

5. ECPGR MEETINGS HELD IN 2022

5.1. GRANT SCHEME ACTIVITIES

- *Lathyrus* diversity: available resources with relevance to crop improvement progress reviews and relationship with AEGIS (EUGrainLeg), 28 January 2022, online.
- <u>Updated MORPHological dEscriptors for Avena Species (UMORPHEAS)</u>, kick-off meeting, 11 March 2022, online
- Collaborative action for updating the documenting about berry genetic resources in Europe (EUROPE.BERRIES), third meeting, 4 May 2022, online.
- <u>Chances for the conservation and re-cultivation of central European club wheat (Binkel) through a</u> <u>nutritional and genetic differentiation towards other wheat species (BiDifferent)</u>, kick-off meeting, 14-15 July 2022, Innsbruck, Austria



• <u>GRIN-Global Workshop 2021 for European Genebanks (GRIN-Global II)</u>, 18–21 October 2022, Prague, Czech Republic.

5.2. ECPGR BODIES

- <u>Meeting of the Task Force for the European Coordination and Information Centre</u> for conservation and sustainable use of agricultural genetic resources (ECIC), 3 March 2022, online
- Meeting of the Working Groups' Chairs and the Executive Committee, 5–6 April 2022, online
- Twentieth meeting of the ECPGR Executive Committee, 27 April 2022, online
- <u>Sixteenth (mid-term) meeting of the ECPGR Steering Committee</u>, 7–9 June 2022, Malmö and Alnarp, Sweden
- <u>Twenty-first meeting</u> of the ECPGR Executive Committee, 17 August 2022, online
- Twenty-second meeting of the ECPGR Executive Committee, 29 August 2022, online
- <u>Twenty-third and twenty-fourth meetings</u> of the ECPGR Executive Committee, 29 November 2022 and 6 December 2022, online

5.3. EUROPEAN EVALUATION NETWORK (EVA)

- EVA Lettuce network annual meeting, 24–25 May 2022, Salsomaggiore Terme, Italy
- EVA Maize network annual meeting, 2–3 June 2022 Belgrade, Serbia
- <u>EVA Carrot network annual meeting</u>, 28–30 September 2022, Schagen and Warmenhuizen, The Netherlands
- <u>EVA Pepper network annual meeting</u>, 26–28 October 2022, Vico Equense, Italy
- EVA Wheat and Barley network annual meeting, 17–18 November 2022, Freising, Germany

5.4. WORKING GROUPS

- *Allium* Working Group, <u>Eighth meeting</u>, 11–12 October 2022, Skierniewice, Poland
- Crop Wild Relatives Working Group, <u>ad hoc meeting</u>, 13–15 December 2022, Thessaloniki, Greece

6. COORDINATING SECRETARIAT

During 2022, the following staff employed by the Alliance of Bioversity International and CIAT have worked for the Coordinating Secretariat: Vanessa Bryant (half-time Administrative Assistant, November and December 2022); Nora Capozio (Specialist, editing and communication), Sandra Goritschnig (Scientific Officer – EVA coordination and editorial management of the Genetic Resources journal); Lorenzo Maggioni (ECPGR Secretary); Loredana Maria (Senior Administrative Assistant – assisting in all administrative and financial matters and website 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, Loredana Maria and Stephan Weise)

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c/o The Alliance of Bioversity International and CIAT Via di S. Domenico, 1 00153 – Rome, Italy Tel: (+39) 06 6118 231; Email: <u>l.maggioni@cgiar.org</u>