Crop Wild Relatives WG report (2024–2025)

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Contribution to ECPGR Objectives

1. Achievements and success stories

1.1 Expanding *in situ* conservation of crop wild relatives and wild food plants

During 2024/25 there was very significant progress made in expanding both *in situ* and *ex situ* CWR conservation in Europe, notable among these actions were:

- The ECPGR CWR WG saw the fruit of long-term lobbying of the EU and helped obtain **€15M funding for CWR conservation and use in Europe**. They also helped prepare the Call text on behalf of the EU in 2024.
- Three projects with a budget of ≈5M euros each were selected for funding
  - **COUSIN** (Christian Schöb, University Rey Juan Carlos, Madrid, Spain): five-year project focuses on wheat, barley, pea, lettuce and brassicas with a consortium of 26 partners (https://cousinproject.eu/)
  - **FRUITDIV** (Véronique Decroocq, INRAE, Villenave d'Ornon, France): 4-year project focusing on *Malus*, *Pyrus* and *Prunus* species with 26 partners from 14 countries (www.fruitdiv.eu).
  - **PRO-WILD** (Jacques Le-Gouis, INRAE Clermont-Ferrand, France): five-year project focuses on wheat, sugar beet, and oilseed rape with 18 institutions from 11 countries (www.pro-wild.eu).
- There is a growing evidence-base concerning CWR diversity, conservation and use with **over half of European countries now with CWR checklists and inventories**.
- In Europe, Germany was the first country to have **officially designated genetic reserves** for selected wild *Apium* CWR and the UK was the first to have a multi-crop gene reserve on the Lizard in Cornwall.

PGR Strategy for Europe (PGRSE) Target 2030 Status

PGRSE Target	Status
1. All countries in Europe have included CWR and WFP conservation in national PGR programmes and actions.	*Partially achieved:* for CWR, but not achieved for WFP.

2. All countries in Europe have identified CWR priority taxa and populations – including those in protected areas – forming the basis of their national and a European *in situ* network of CWR.	*Partially achieved:* the majority of European countries now have CWR checklist and inventories
3. Europe has a coherent, comprehensive, coordinated and centralized documentation of CWR and WFP *in situ* diversity.	*Not achieved*: for either CWR or WFP, some steps forward made by countries recording i*n situ* CWR passport data, expanding EURSCO to hold this data and its inclusion.
4. CWR priority populations within the European network of CWR are managed and monitored following agreed guidelines for the *in situ* management of CWR populations.	*Not achieved*: formally recognized European CWR Network not discussed but national CWR *in situ* networks are operating in Germany, Spain, UK and the Nordic region.
5. *In situ* conserved CWR populations are safely backed up in *ex situ* collections and made available to users.	*Partially achieved:* small proportion of *in situ* pops. are backed up in a designated Genetic Resource Centre.
6. A wider use of pre-breeding of CWR and participatory-breeding on landraces on-farm generates added value to the unique diversity of these materials	*Not achieved*: It remains the case that CWR are poorly represented in European *ex situ* collections that are the prime route for users supply
7. EURISCO contains high-quality passport data of all European *ex situ* collections, progressively extended to include actively-managed *in situ* CWR populations and appropriate on-farm landraces data.	*Partially achieved:* Some *in situ* passport datasets have been uploaded to EURISCO but this data only represents a small sample compared to what exists in nature and is currently unconserved.

1.2 On-farm PGR conservation and management

It is acknowledged that the prime wild locations where CWR populations thrive are found on the margins of on-farm systems, therefore further integration of CWR with traditional low-input on-farm based systems would be desirable and mutually beneficial. Further it is noted that national or EU agri-environmental programmes serve as a key policy instrument to support on-farm implementation, and these may tangentially be designed and implemented to benefit landrace on-farm and CWR benefit.

1.3 Consolidating and sustaining *ex situ* conservation

In a recent special issue of the journal *Genetic Resources* focusing on "*Ex situ* conservation of plant genetic resources in Europe – A journey through history, mission, challenges and future opportunities", Maxted *et al.* (2025)[1] argued that the PGR community should move

[1] Maxted, N., Adam-Blondon, A.-F., Aguilar, C.H., Barata, A.M., Bartha, B., Bocci, R., De Paola, D., Fitzgerald, H., Fresta, L., Fusani, P., Giuliano, G., Guzzon, F., Holzherr, P., Holubec, V., Iriondo, J.M., Labokas, J., Maggioni, L., Magos Brehm, J., Palmé A.16, Phillips, J., Prohens, J., Raggi, L., Ralli, P., Ruņģis, D.E.., Sarikyan, K., Šuštar Vozlič, J., Thormann, I. and Zdunić, G., (2025). A significantly enhanced role for plant genetic resource centres in linking in situ and ex situ conservation to enhance user germplasm access. *Genetic Resources*. S2: 203-223. https://doi.org/10.46265/genresj.UNVV5571

beyond the traditional role of primarily conservation through population seed samples stored *ex situ* in genebanks to embrace the complementary application of *in situ* and *ex situ* techniques, and integrated resource management in the renamed Genetic Resource Centres (GRC). While the authors acknowledge that full integration of *ex situ* and *in situ* conservation may be unrealistic without adequate resources for the reskilled Genetic Resource Centres, the potential to significantly enhance the long-term, sustainable conservation of PGR diversity holds profound existential benefits for humanity in the 21st century.

1.4 Strengthening a comprehensive information system for PGRFA

See section 6 below.

1.5 Promoting sustainable use of PGRFA

The best way the CWR WG can support sustainable use of PGRFA is by expanding CWR diversity actively conserved and by promoting user availability of that diversity, whether held *in situ* or *ex situ*, to the broadest user community; this point has already been addressed above.

2. Gaps or constraints identified

Although progress in European CWR and WFP science has been significant in recent years, there still remain substantial gaps and constraints:

- **European CWR Networking**: As noted above in the review of PGRSE Target 2030 Status, formal recognition of a European CWR *in situ* network has yet to be discussed, although planning for such an initiative is in place[2,3]. It seems that the first integrated CWR *in situ* network in Europe will be those established at national level as these are currently being actively discussed, planned or implemented in Germany, Spain and the UK. However, it seems logical that national and multinational (i.e. Nordic, European) approaches should progress in parallel, as the foci of national and multinational approaches are undoubtedly distinct and clearly not synonymous. Formal establishment of a European CWR *in situ* network seems likely to be a fundamental element in supporting long-term, sustainable CWR conservation and use.
- **Taxonomic versus floristic-based conservation**: there are two fundamental approaches to CWR conservation, a taxonomic approach involves planning and implementing conservation actions for all known or a subset of known CWR taxa throughout their range, while a floristic approach involves planning and implementing conservation for all known taxa in a specific national or multinational region (e.g. Nordic,

[2] https://more.bham.ac.uk/farmerspride/wp-content/uploads/sites/19/2021/04/Farmers_Pride_Network_Concept_English.pdf

[3] Maxted, N. and Kell, S.P., (2009). *Establishment of a network for the in situ conservation of crop wild relatives: status and needs*. Commission on Genetic Resources for Food and Agriculture. Food and Agriculture Organization of the United Nations: http://www.fao.org/3/i1500e/i1500e18a.pdf

Europe)[4]. Both approaches have advantages, but when planning regional CWR conservation, it is preferable to plan and implement conservation actions using the floristic approach, which covers all priority CWR taxa within the region. Such a whole-region all-taxa approach avoids unnecessary duplication of effort of multiple such projects at different times that do not entirely match up results, and the discarding of historic partial initiatives that only address part of the topic. Formal establishment of a European CWR *in situ* network addressing all potentially valuable CWR taxa seems likely to be a fundamental element in supporting long-term, sustainable CWR conservation and use.

- **Balance between CWR conservation and use**: It is universally accepted by those working on PGR conservation that conservation of the resource should always be linked to the resource's utilization. However, it is less clear whether all appreciate that the most efficient and effective use of PGR is predicated on access to the maximum breadth of resource diversity; to use the resource, it must be conserved. As such, it is important that there is a balance between CWR conservation and use, it is a mistake to focus too tightly on resource utilization and ignore the parallel need to ensure the maximum breadth of resource diversity.
- **Balance between CWR *ex situ* and *in situ* conservation**: Since the 1980s, it has also been universally accepted by those working on PGR, as well as biodiversity conservation, that conservation should be complementary; conservation involving the complementary application of *ex situ* and *in situ* techniques. As recently argued by Maxted *et al.* (2025)[1] it is counter-productive to plan and implement PGR conservation, but perhaps especially for CWR diversity, without fully integrated, complementary technique application.
- **CWR and WFP conservation and use**: In recent years, CWR and WFP conservation and use have begun to be linked, undoubtedly because both CWR and WFP taxa are wild undomesticated taxa that are consumed as human food (although they may also have other uses). However, there are significant practical differences between the conservation and use of CWR and WFP diversity, not least the focus on single-gene or allelic use for CWR versus whole-plant use for WFP. Yet it is also recognized that, currently, WFP conservation and use is almost completely ignored, and the ECPGR CWR does need to urgently address this increasingly obvious deficiency.

3. Grant Scheme Activities, WG Meetings and Eva Activities

3.1 Grant Scheme proposals (submitted:0; approved:0)

3.2 Total number of partners involved in Grant Scheme: n/a

3.2.1 Meetings held

None

Total number of partners involved in WG Meeting: n/a

[4] Maxted, N., Magos Brehm, J. & Kell, S.P., (2013) *Resource book for preparation of national conservation plans for crop wild relatives and landraces*. Commission on Genetic Resources for Food and Agriculture. Food and Agriculture Organization of the United Nations, Rome, Italy. 457 pp. http://www.fao.org/agriculture/crops/thematic-sitemap/theme/seeds-pgr/resource-book/en/

Reports and related data

None

4 Funds mobilized

€15M funding for CWR conservation and use has been obtained from the EU Horizon Europe funding call for European CWR conservation and use. Although this very significant funding from the EU was not awarded to ECPGR or the CWR WG, members of the CWR WG are involved in all three **COUSIN, FRUITDIV** and **PRO-WILD** projects, and it is expected that these projects will work in collaboration with members of the ECPGR CWR WG, both benefiting from the WG expertise and helping fulfil WG and PGRSE target and goals.

5 Horizon Europe CWR Project Reports

COUSIN (Crop Wild Relatives Utilisation and Conservation for Sustainable Agriculture) (Christian Schöb) is a five-year project investigating how wild relatives of domesticated crops can contribute to more resilient and sustainable agriculture. The project focuses on five flagship crops – wheat, barley, pea, lettuce and brassicas – and covers the full translational pathway from the identification and mapping of wild plants to their use in breeding programmes. Since its launch in January 2024, the consortium of 26 partners has made significant progress. A list of over 1,200 wild relative taxa native to Europe has been compiled to guide conservation planning, both in natural habitats and in genebanks. Core collections of accessions are being assembled for each flagship crop, and first crosses between crops and wild relatives have been performed. Participatory Plant Breeding trials have started, directly involving farmers. The Germinate platform has been implemented for open data management, and public outreach activities are underway across Europe. Ultimately, COUSIN aims to demonstrate that conserving plant biodiversity is not only an ecological imperative, but a direct investment in food security and human health. More information can be found at https://cousinproject.eu/

FRUITDIV (Véronique Decroocq) is a Horizon Europe research project running until 2028 and addresses the conservation, characterization and use of fruit tree CWR with a focus on *Malus*, *Pyrus* and *Prunus* species. The project integrates *ex situ* inventories, *in situ* population sampling, phenotyping and downstream genetic analyses to support conservation planning and pre-breeding. By 2025, FRUITDIV has compiled harmonized passport data for more than 4,000 *ex situ* CWR accessions across Europe and completed a network analysis of key collections. In parallel, a coordinated sampling strategy has enabled the survey of over 3,832 mother trees from 195 *in situ* CWR populations across major European diversity hotspots with more than 8,200 different sample types (leaves, petioles, pollen, fruits, seeds, and wood cores) collected from 11 countries, generating associated environmental and phenotypic datasets. Standardized protocols for sampling, data management and *in situ* phenotyping have been developed and implemented by partners. Activities in 2025 focused on expanded phenotyping, targeted re-sampling to address gaps, and consolidation of datasets for genetic and G×E analyses, using ECPGR descriptors to define evaluation parameters for *ex situ* apple and pear trees. Through its multi-partner approach, it also aims to identify the local knowledge

and values attached to fruit CWR, so make a substantial and methodologically harmonized contribution to European CWR conservation, characterization and utilization efforts, complementing ECPGR CWR WG activities. More information can be found at www.fruitdiv.eu

PRO-WILD (Jacques Le-Gouis) focuses on three of Europe's most widely cultivated crops: wheat, sugar beet, and oilseed rape. The project, which runs from September 2024 to August 2029, involves 18 institutions from 11 countries. It addresses: (1) *in situ* conservation: mapping, characterizing and protecting areas where CWR occur; (2) *ex situ* conservation: propagating, conserving, and cataloguing CWR outside their natural environments to safeguard their genetic material, and (3) pre-breeding activities: identifying desirable traits in CWR and incorporating these traits into elite breeding programmes to enhance the genetic diversity and resilience of cultivated crops. In 2025, a finalized project checklist of 39 validated taxa with accepted synonyms and their countries of origin was produced (11 for wheat, 4 for sugar beet and 24 for oilseed rape). We designed a gene-pool specific strategy to assemble the PRO-WILD *ex situ* collections so that they can supplement existing collections, fill gaps, and capture as much of the available conserved genetic diversity as possible. Segregating populations between CWR and elite cultivars were started for the three crops, and phenotyping of parental lines for abiotic and biotic stresses was initiated. A comprehensive stakeholder mapping exercise was carried out to inform the development of the stakeholder engagement strategy. All results were presented at the first annual meeting held in Austria in November 2025. More information can be found at www.pro-wild.eu

Other activities (cross-Working Group activities, links with other networks, projects and initiatives)

6 Cross-Working Group activities:

The project 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets, was coordinated by ECPGR Secretariat and funded by the German Federal Ministry of Food and Agriculture (2021–2025) with involvement of the ECPGR Documentation and Information Working Group and the EURISCO Advisory Committee. Total budget €317,316. Overall, the implementation of this project endowed the European region with a centralized, public and web-searchable inventory of *in situ* CWR priority populations' passport data and with a fine-tuned data flow mechanism utilizing an internationally agreed data exchange standard. Initial sets of data from pilot countries were also made available. The extension of EURISCO to *in situ* data created a link with the existing *ex situ* data and thus improved the *ex situ*/*in situ* conservation interface. The implementation of this project helped achieve international commitments defined by the CBD, GPA and ITPGRFA, as well as by the Plant Genetic Resources Strategy for Europe, and made a significant step forward in expanding the range of conserved CWR resources available to users.

Meetings held:

The **third meeting of this project was held Sadovo, Bulgaria, 18-19 June 2024**

7 Others:

Working Group documents and publications

- **Descriptors for uploading in situ CWR passport data to EURISCO**
- **Crop wild relatives in EURISCO project brochure**

Expected additional achievements and future activities

National CWR Activity Reports

AL (Alban Ibraliu)

Albania has an extensive protected area network that supports *in situ* conservation, but these areas are mainly managed for general biodiversity and ecosystem protection rather than as formally designated plant genetic reserves. Protected areas cover around 21.36% of the country and include 798 sites, such as 15 national parks, nature reserves, and protected landscapes. The conservation of Plant Genetic Resources (PGR), especially CWR, is largely passively conserved within this network, which covers over 80,000 ha. However, management plans rarely include specific measures for CWR, leaving important gene pools insufficiently protected despite Albania having a high concentration of priority CWR with a national checklist of 472 CWR taxa extracted from the *Flora of Albania*, but Albania still lacks an officially approved national CWR inventory. Strengthening identification, monitoring, and targeted conservation actions is therefore a priority, including collecting threatened taxa for inclusion in the National Genebank.

AM (Alvina Avagyan)

In Armenia, *in situ* conservation of biodiversity is primarily carried out within the framework of Specially Protected Nature Areas (SPNAs), focusing on the preservation of ecosystems in their natural state. The country's protected area system includes 3 state reserves, 4 national parks, 27 state sanctuaries, and 232 designated natural monuments, together accounting for approximately 13.1% of the national territory. Across the country, around 140 species of wild relatives of fruit tree crops are found. When considering the broader group of higher vascular plants cultivated in Armenia, including food, medicinal, forage, melliferous, industrial, and ornamental species, the number of taxa belonging to this category exceeds 2,000. The last developments in *in situ* conservation of plant biodiversity including CWR includes the following actions:

- Armenia officially joined the International Union for Conservation of Nature (IUCN) in 2025, which strengthens its role in global conservation efforts and supports access to international collaboration and expertise.
- The BIOFIN project (Biodiversity Finance Initiative) was launched in Armenia in 2025 with support from UNDP and the Global Environment Facility (GEF) to strengthen biodiversity financing mechanisms. This is aimed at supporting broader conservation actions, including habitat protection.
- Armenia is developing a National Biodiversity Strategy and Action Plan (2025–2030), which includes targets to expand protected areas and improve habitat conservation frameworks.

- The on-going programme “Biodiversity and Sustainable Local Development in Armenia”, supported through German cooperation and WWF, focuses on protected territories and biodiversity conservation actions at the landscape level.

BE (Steven Janssens)

Belgium has an extensive protected area network, accounting for roughly 15% of the national territory, which provides at least potential passive *in situ* conservation for CWR, but these areas are not formally designated or managed as CWR genetic reserves. In addition, substantial *ex situ* conservation of CWR from Flanders is already in place, with approximately 850 accessions representing 28 CWR taxa conserved in the seedbank of Meise Botanic Garden. Further seed collecting activities will continue through the IZABEL project, including the collection of CWR material in Wallonia over the coming six years.

CH (Sylvain Aubry)

CWR work focused on a list 285 “CWR of concern” (Petitpierre *et al.*, 2023). *Ex situ* conservation based on this list is ongoing, in collaboration with the Botanical Garden of Geneva, about 2/3 of the list is in the bank now; more work is to be secured in the next two years. *In situ* conservation is focused on fodder crops and their CWR has been implemented and evaluated, with about 1,300 areas (< 2 ha) in the network (Kägi *et al.*, 2023) and planned to be extended for other CWR soon. A multi-species pilot CWR reserve is on track south of the Alps, in the frame of the Horizon COUSIN project in collaboration with the University of Lausanne and URJC, Spain. In this context, we plan with voluntaries to undertake up to 30 *ex situ* missions all over Europe for the CWR of our 5 flagship crops (wheat, barley, lettuce, brassica and peas).

References

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Petitpierre, Blaise, Julie Boserup, Adrian Möhl, Sibyl Rometsch,& Sylvain Aubry, (2023). Importance of agriculture for crop wild relatives conservation in Switzerland. *Global Ecology and Conservation,* 46, e02588. https://doi.org/10.1016/j.gecco.2023.e02588.

CZ (Holubec Vojtěch)

The Czech Strategy for CWR conservation (Taylor *et al.* 2017) prioritized 204 species. A new shorter updated list of 85 prioritized candidate species for *in situ* conservation was elaborated with optional localities. This list was sent to the Agency for Nature Protection/Ministry of Environment (ENVI) for approval. Annual monitoring, noting phytosociological reserves, was done for 30 species/localities. The CWR species from the category “Protected by law” are successfully protected within the system of National parks. Currently, we propose genetic reserves for 6 species outside of protected areas with a backup in the genebank. V. Holubec participates in a new governmental Concept of Biodiversity Conservation (ENVI), adding a proposal of CWR *in situ* conservation. The manuscript (Holubec *et al*., Methodology of CWR in situ conservation) is still under review of the Ministry of Environment.

DE (Imke Thormann & Nadine Bernhardt)

Germany has been active in expanding the *in situ* conservation of CWR. The German Network of Genetic Reserves now consists of three subnetworks. The wild celery network has grown to encompass 21 genetic reserves. In the framework of other two projects funded by the Federal Ministry for Food and Agriculture, a subnetwork for *Arnica montana* and a subnetwork for CWR hotspots have been established. The hotspot network currently consists of 7 genetic reserves. The *Arnica* network consists currently of 10 genetic reserves and is limited to the federal state of Hesse. The project that the Federal Ministry for Food and Agriculture funded to extend EURISCO to *in situ* data is already mentioned in the document prepared by the ECPGR Secretariat.

References

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Mewis, Inga; Bernhardt, Nadine; Bönisch, Maria; Brassac, Jonathan; Naumann, Annette; Zander, Matthias; Schirmak, Uta; Nachtigall, Marion; Ulrichs, Christian (2024): In situ conservation of *Helosciadium nodiflorum*: a crop wild relative of celery in Germany. Conservation genetics. 25 (1), 227-243. Doi: 10.1007/s10592-023-01554-x

EE (Rene Aavola)

In Estonia, the national priority list of CWR includes 88 species. *Ex situ* conservation based on this list is ongoing within the national programme *"Collection, Conservation and Use of Plant Genetic Resources for Food and Agriculture"*. In 2024–2025, seed samples of nine CWR species (forage and turf grasses and legumes) were collected from natural habitats. In addition, 90 multiplied grass seed samples of CWR were deposited for long-term storage in the genebank of the Centre of Estonian Rural Research and Knowledge.

Species-specific monitoring, targeted *in situ* conservation and active management of priority CWR in designated sites are currently lacking. However, CWR species are passively conserved within existing protected areas located on state-owned land, where the primary objective is the conservation of species-rich plant communities, endangered species and Red List taxa.

The national nature conservation system comprises a dense network of protected areas that indirectly supports *in situ* conservation of CWR among other plant genetic resources. This network includes 242 habitat and species conservation areas, six national parks and 150 landscape protection areas (including nature parks). The Natura 2000 network consists of 607 bird and habitat sites. The next priority is to conduct a comprehensive inventory of CWR species relevant for *in situ* conservation.

ES (José Iriondo & Francisco Antonio Galea Gragera)

In 2024/5 Spain expanded *in situ* conservation of crop wild relatives and wild food plants.

- Spanish National Strategy: To implement the national strategy, 42 potential genetic reserve sites within protected areas have been identified via occurrence data and complementarity analysis. Discussions with autonomous communities are underway to secure support, and six botanical expeditions have already verified species occurrences and site adequacy.

- DEHEWILD Project: Successfully established a CWR genetic reserve on private property near Monfragüe National Park, funded by the Extremadura region (Spain).
- Genetic Reserve Establishment: The COUSIN project has initiated five genetic reserves (two in Spain; [one each in Switzerland, Italy, and Greece]). Site selection is complete, and coordination with landowners and managers is ongoing.
- Hotspot Identification: The COUSIN project identified hotspots for the *in situ* conservation of CWR of five flagship crops – wheat, barley, pea, lettuce, and brassica. ECPGR National Coordinators and *In Situ* Focal Points are being contacted to provide this information and promote the establishment of new genetic reserves associated with these crops.

Expected additional achievements and future activities are likely to include, in 2026, funded by the COUSIN project to sample and *ex situ* conserve CWR populations to bolster genetic diversity efforts.

Other activities / Links with projects and initiatives include links to Extremadura (Spain) and its *in situ* conservation, knowledge transfer and engagement with rural stakeholders. CICYTEX (Extremadura, Spain), together with the APRISCO Association, organized the workshop "Extremadura: Crop Wild Relatives, key for the agriculture of the future" at the CICYTEX Agricultural Research Institute "Finca La Orden–Valdesequera" (Guadajira, Badajoz). The programme included presentations on the Spanish National Strategy for the conservation and use of CWR and Wild Food Plants, the National Network of Genetic Reserves for *in situ* CWR conservation, conservation experiences in Mediterranean grasslands, and European initiatives aimed at translating CWR diversity into more resilient crops, with a particular focus on the EU-funded COUSIN project.

FR (Laurene Gay & Magalie Delalande)

France has a national inventory of CWR checklist (1,213 taxa of which 845 are at species level and 170 species are a priority for active *in situ* conservation), as well as a priority inventory list (535 species), established in collaboration between INRAE and the National Conservatory of Botanical Species. The accompanying manuscript describing the process will be submitted to a scientific journal shortly. A national review of *ex situ* conserved CWR is currently underway for 2026, covering all species listed in the French inventory. France is leading two of the Horizon Europe research projects, FruitDiv and PRO-Wild.

GR (Popi Ralli):

Greece is involved in all three research projects – COUSIN, PRO-WILD and FruitDiv – see separate reports below. Specifically, Greece is contributing to ECPGR CWR WG by:

Expanding *in situ* conservation of crop wild relatives and wild food plants

- Genetic Reserve Establishment: Through the COUSIN project, a genetic reserve will be established in Greece, site selection is complete, and coordination with landowners and managers is ongoing.

Consolidating and sustaining *ex situ* conservation

- The Greek genebank (ELGO-DIMITRA) already conserves in its premises more than 180 species of CWR. In the framework of the PRO-WILD project new collecting expeditions took place in specific areas of Greece and 22 new accessions of *Beta* and *Brassica* CWRs were added in the *ex situ* collection. Regeneration of 250 accessions of CWR of *Beta*, *Brassica* and *Aegilops* species was implemented, and trials for the

characterization and evaluation of 300 accessions of sugar beet CWRs in drought stress conditions were conducted in Greece (ELGO-DIMITRA) and Italy (UNIPG).

- Expeditions in mainland and islands of Greece were conducted also in the frame of the FruitDiv project, where a total of 332 trees were sampled from *Amygdalus*, *Cerasus*, *Malus*, *Prunophora* and *Pyrus* CWRs. About 130 accessions of apricot CWRs were established in common orchards at ELGO-DIMITRA together with partners in France (INRAE) and Romania (IBRC), in order to disentangle genetic effects and G×E interactions in CWR.

HR (Tatjana Klepo)

Croatia has a well-developed network of protected areas that supports *in situ* conservation of PGR, although these areas are not managed as formal genetic reserves. The national system includes 8 national parks, 12 nature parks, 2 strict reserves and 79 special reserves, covering 9.3% of the national territory (approx. 1.0 million ha). Croatia hosts around 5,000 native vascular plant species, of which over 1,100 plant species are legally protected, and > 600 CWR taxa are estimated to occur, mainly within protected areas, including Natura 2000, but without designated CWR genetic reserves or a nationally approved CWR inventory. Improving CWR identification, prioritization, monitoring and targeted *in situ* and *ex situ* conservation, including collecting for the National Plant Gene Bank, is therefore a key priority.

IT (Lorenzo Raggi & Domenico De Paola)

Italy's protected area system includes 27 national parks covering more than 1.5 million hectares (5.2% of the national territory), along with an extensive Natura 2000 network, which together form the main framework for species and habitat protection. Italy has a very rich flora and substantial diversity of CWR taxa, many of whose populations occur within Natura 2000 sites and outside protected areas. Furthermore, the designation of dedicated CWR genetic reserves is still lacking, and continued work is needed to strengthen coordinated identification, prioritization, monitoring, and targeted *in situ* measures. However, it identified the best sites for genetic reserves to actively protect CWR of the key crop genera (*Allium, Brassica and Triticum*). Italy is the second richest country in Europe with 5,712 CWR. Potential genetic reserve sites were identified using available data and CAPFITOGEN analysis tools. The results show 46.4% of the target conservation populations and 66.7% of the priority CWR taxa are coincident with protected areas. Alarmingly only 7.4% of the 379 populations are currently conserved *ex situ* and novel sites for collection and *ex situ* conservation are proposed (Raggi *et al.*, 2024). Sites for the conservation and new collections of *Beta vulgaris* subsp. *maritima* in Italy were also proposed using the same approach. The comparison of distribution and density analysis results revealed the presence of several gaps between sites hosting *in situ* populations and sites where *ex situ* conserved accessions were originally collected (Zucchini *et al.*, 2025). Best sites for genetic reserves establishment were also proposed for Lebanon for 35 targeted CWR taxa belonging to *Aegilops* L., *Triticum* L., *Avena* L., *Hordeum* L., *Cicer* L., *Lens* Mill. and *Pisum* L. CWR using the CAPFITOGEN toolbox. 253 different CWR-Eco units from a total of 1,460 CWR population occurrences were identified. Complementary analysis results show that 22.2% of the considered protected areas harbour populations of 18 target CWR taxa (51.4% of the total). A network of 79 cells (5 × 5 km each) is required for the conservation of the whole predicted diversity of taxa not included in the 6 identified protected areas. A total of 215 CWR-Eco units (85.0 % of the total) are covered by *ex situ* conserved material (Sayde *et al.*, 2024; 2025). Within the framework of the European project PRO-WILD, extensive work was conducted in 2025 to assess CWR of *Aegilops*, *Beta*, *Brassica* and *Triticum* genera across Europe and the Middle East, with the ultimate objective of identifying priority sites for *in situ* conservation.

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LT (Juozas Labokas & Eglė Norkevičienė)

In Lithuania, there is currently a network of 38 genetic reserve sites, including 6 selected in 2024–2025, and to be officially approved this year. All these sites are established on state-owned land with the purpose of conservation and sustainable utilization of medicinal and aromatic plant (MAP) genetic resources, as well as crop wild relatives (CWR). All sites are multispecies reserves and most of them include both MAP and CWR species, collectively called target species, totalling 10–60 per site. Prioritization of CWR and MAP species for *in situ* conservation is still undergoing. Four more genetic reserve sites are to be selected in 2026.

During the nationally commissioned projects carried out in 2020–2022, 18 genetic sites were visited, and populations of forage grass CWR were collected. The populations were multiplied under isolation to maintain their genetic identity in seed production fields at LAMMC. In 2025, 50 populations were sampled and deposited for long-term conservation. In 2026, an additional five populations are planned to be deposited for long-term storage at the seed vaults of the Lithuanian State Forest Service. We believe that the conservation of CWR is strengthened when populations are maintained both *in situ* at their original sites and *ex situ* through storage of the same populations in seed banks.

LV (Agnese Gailīte)

The priority in Latvia is to expand *in situ* conservation of crop wild relatives and wild food plants. To implement the national strategy in Latvia, three potential genetic reserve sites have been surveyed with the aim of assessing species occurrences and site adequacy for *in situ* conservation. Two sites are located in protected areas, one is without any protection status.

MT (Louis Fresta)

An inventory of CWR for Malta was compiled in 2022, and it identifies 378 taxa of CWR occurring in the Maltese islands, and prioritizes 44 taxa of direct interest to Malta's socio-economic interests. Although our national genebank is still new, we aim to collect, conserve and further study these taxa *ex situ* as well as *in situ* in collaboration with our colleagues in other ministries.

NMK (Mirjana Jankulovska)

North Macedonia joined ECPGR in 2025 and immediately focused on building a national inventory structure for CWR, which was developed, and priority taxa were identified based on their potential for crop improvement. Initial steps were taken to establish a national network of data providers to support coordinated data sharing. A first set of *in situ* population data was compiled and submitted to EURISCO, comprising 188 accessions across 10 genera and 21 taxa. Based on the available resources, it is planned to organize collecting missions in different areas of the country and to implement both *in situ* and *ex situ* conservation of CWR.

NL (Rik Lievers)

In the Netherlands, a national inventory and prioritization of CWR has been completed and published, identifying 214 CWR taxa, of which 53 are prioritized for conservation. Priority CWR populations and candidate sites for *in situ* conservation have been identified, mainly within existing protected areas, although no formal CWR genetic reserves have yet been designated nationally. Population-level data for priority CWR are being curated and shared through EURISCO to ensure centralized documentation, visibility and accessibility of actively conserved *in situ* CWR populations, and to support coordination and monitoring at European level, alongside complementary *ex situ* conservation coordinated by CGN.

NORDIC (DK, FI, IS, NO, SE; Anna Palmé)

In November 2024, Jomfruland National Park was formalized as an *in situ* conservation area for crab apple in Norway. The Nordic project “Conservation and sustainable use of genetic resources in the Nordic countries” was completed and several outputs were published:

- A publicly available report was published to summarise the results (Palmé et al 2025), as well as a policy brief (Weibull *et al*., 2025)
- Two scientific papers were published on Nordic CWR, one studying the effect of climate change on CWR distributions in the Nordic region (Fitzgerald *et al.*, 2025) and one on genetic diversity in caraway (de Haro Reyes *et al.*, 2025)
- A Nordic inventory of wild food plants has been published (Fitzgerald *et al.*, 2024)
- Efforts were made to communicate CWR and their importance including plant portraits published on the Nordic CWR website (www.nordgen.org/CWR), information films available on the same site, as well as a lunch webinar series.

Seeds of CWR have been collected during both 2024 and 2025 within another Nordic project dedicated to seed collection and *ex situ* conservation of CWR (“Filling the gaps in NordGen's CWR collection”). Collections have been conducted in Iceland, Norway, Sweden, Finland, and Denmark.

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PL (Denise F. Dostatny)

In Poland, a National checklist of 1,458 taxa was prepared in 2020 (Dostatny, Dajdok, 2020), and in 2024 and 2025, a draft list of priority CWR species in Poland was prepared. It will be published in 2026 and will provide an update of some of the data on the occurrence of CWR *in situ*. Furthermore, information regarding *in situ* occurrences from long-term stored (*ex situ*) samples cannot be clearly linked in most cases. This is because *ex situ* material was most often collected in anthropogenic areas, where vegetation is highly dependent on human activity and dynamic, meaning these sites can change after just one, or even two or three years. Steps are being taken to secure additional funding to create a "safety copy" (backup) of the resources stored *ex situ* by documenting, preserving and monitoring them *in situ*. CWR collection missions in 2024 collected for the first time wild lettuce species (*Valerianella* spp,) across the country, and 59 samples were collected (Dostatny & Treuren, 2025). Work is currently underway on germination and regeneration of these seeds, as they were not collected in sufficient quantities for direct *ex situ* storage. Data is being maintained in a database as part of the crop wild relatives documentation and can be found at: https://grin-global.inhort.pl/gringlobal/search?f=all&q=polval%25.

CWR are not officially recognized as official conservation targets or regulation in Poland, which makes it difficult to create dedicated reserves. However, work is underway to create one reserve next to the existing xerothermic plant reserve, which will be dedicated to CWR, and one reserve within a private property. One important step last year was the inclusion of a great part of CWR taxa (from the Poland checklist: Dostatny & Dajdok, 2020) in the National Strategy for Pollinators in Poland (prepared to meet the requirements of the National Restoration Law). This strategy will officially appear on the Ministry of the Environment's website in 2026 and will be a good step towards highlighting the importance of CWR in Poland. Poland still lacks appropriate systemic tools that would enable and ensure stable funding for activities related to CWR conservation and use. Poland recently submitted passport data describing 111 populations of crop wild relatives from 43 plant genera (58 species) were uploaded to EURISCO in December 2024 using the standard data format described in ‘Descriptors for uploading *in situ* CWR passport data to EURISCO’. All of these accessions are included in the CWR-National Inventory of the genebank in NCPGR, Radzikow, and were originally collected from their wild habitats.

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PR (Joana Magos Brehm & Ana Maria Barata)

Within Portugal, activities were primarily aligned with the project 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets.' A national Task Force was established to supervise the development of the *In Situ* CWR National Inventory, extending coverage to the previously undocumented Azores and Madeira archipelagos. The methodology involved updating national checklists, prioritizing CWR taxa, and compiling occurrence data to identify key populations for conservation and sustainable utilization. Notably, priority populations for *Olea europaea* var. *sylvestris* and *Vitis vinifera* subsp. *sylvestris* were identified within the Iberian Peninsula. While core activities – including data formatting for EURISCO integration – were finalized, ongoing initiatives continue to evaluate climate change impacts on CWR distribution, support the INIAV *in situ* database development, and engage with protected area authorities to facilitate active *in situ* conservation.

SK (Pavol Hauptvogel and René Hauptvogel)

Slovakia harmonized 364 *in situ* CWR records (34 species, 16 genera) and delivered a pilot dataset to EURISCO, strengthening the linkage between *in situ* and *ex situ* documentation. The Red List confirms high national threat levels (1,218 plant taxa), while national activities focused on field monitoring, prioritization of key taxa, and coordination with protected areas, supported by GRISS interoperability. Key lessons highlight the need for standardized data, stable institutional capacity, and stronger coordination between conservation and agricultural sectors for long-term CWR monitoring sustainability.

SI (Jelka Šuštar Vozlič & Andreja Čerenak)

Slovenia is regarded as a 'biodiversity hotspot', with almost 4,000 vascular plant species found in an area of 20,271 km^2. Despite its great taxonomic and ecosystem diversity, CWR have been overlooked and their conservation has yet to be systematically addressed. Within the ECPGR project 'CWR in EURISCO' an overview of the Slovenian flora was prepared, focusing on the CWR and their representation in *ex situ* collections. More details were given to wild grapevine (*Vitis vinifera* L. subsp. *sylvestris* (C. C. Gmelin) Hegi), hops (*Humulus lupulus* L.) and *Prunus cerasifera* L.

Recently, monitoring and genotyping of *V. vinifera* subsp. *sylvestris* was performed (Perko *et al.*, 2024; Vršič *et al.*, 2024). Samples of *V. sylvestris* (126 plants) were found at five different sites in floodplain forests in Slovenia. The *V. sylvestris* plants were examined by molecular markers, and potential *V. sylvestris* plants were recognized using the OIV descriptors for morphological assessment of *V. sylvestris* (Perko *et al.*, 2024). A safety duplication of the wild grapevine accessions has been established WHERE. Eighty-nine accessions of *V. sylvestris* from Slovenia were included in a European population genetic study of *V. sylvestris* based on 3,000 individuals from 20 countries (Röckel *et al.*, 2024).

Slovenia has a long tradition of hop cultivation and breeding; 99% of hop production fields are planted with varieties that have been bred at the Slovenian Institute of Hop Research and Brewing over the last 70 years. In recent years, collecting missions have been organized

across Slovenia to collect wild hops. A total of 114 accessions were collected, and hop rhizomes of individual accessions were transferred to *ex situ* collection maintained at the Slovenian Institute of Hop Research and Brewing in Žalec.

In 2025, as part of the 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data' project, 39 Slovenian accessions were included in the EURISCO database. However, a comprehensive overview and a national strategy for conservation of CWR are still lacking.

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UK (Hannah Rose Lindley and Nigel Maxted):

In the UK, 2024/2025 work continued in building the second iteration of the National CWR Inventory, gap analysis of active *ex situ* and *in situ* active maintenance and associated gap filling. The CWR conservation was led by four collaborating *ex situ* genetic resources centres (Millennium Seed Bank; UK Vegetable Genebank, University of Warwick; John Innes Centre, and IBERS, University of Aberystwyth) and two *in situ* focused institutions (Natural England and University of Birmingham). These institutions are currently focusing on CWR populations (Clarke *et al.*, 2025). The UK engaged in the project 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' and a draft data set was uploaded to EURISCO. The links between *in situ* or on-farm and GRCs were further elaborated by Maxted *et al.* (2025).

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