



Conserving Crop Wild Relatives (CWR) *in situ*

Where to establish a genetic reserve and who to involve

Introduction

From farms to protected areas, genetic reserves (GRs) for the in situ conservation of CWR can be established in both private and public lands as long as there is a commitment to preserve the target populations in the long run. To achieve this, it is important to build a strong network of stakeholders that will support the landowner or land manager in the maintenance of the GR and make the genetic resources available to end-users.



Objectives

The main challenge when conserving CWR in situ is to ensure that GRs are maintained in the long run (i.e. decades). For this purpose, it is critical to develop criteria and methodological approaches that consider social, managerial, and even political aspects. These are necessary to help conservation practitioners find the best locations for GR establishment, and to provide guidance to set up a local network of stakeholders that supports the initiative.

To achieve this, COUSIN aims at:

- (i) establishing GRs where the ecological conditions and day-to-day management practices remain unchanged to maintain existing CWR populations;
- (ii) signing voluntary conservation agreements with landowners;
- (iii) engaging and coordinating relevant stakeholders across multiple sectors (e.g., regulatory bodies, industry, and conservation) to collaboratively address CWR conservation and use;
- and (iv) providing the framework to implement clear protocols for accessing CWR genetic resources.





Results

COUSIN uses a comprehensive two-fold strategy for identifying optimal GR sites: a top-down approach based on plant distribution databases and species distribution modelling, and a bottom-up approach that directly engages farmers and landowners, ensuring local knowledge and participation are integral to site selection.

Following the second approach, potential sites in Greece, Italy, Switzerland and Spain are being identified to establish five pilot GRs. For instance, in Spain the two sites identified are in Biosphere Reserves territories: Monfragüe and Sierra del Rincón, in private and public lands respectively.

After establishing the GRs and developing comprehensive management plans, the project will work closely with landowners to secure conservation agreements. These agreements will ensure the long-term in situ conservation of the target CWR populations.

Recommendations

Conserving CWR in situ offers multiple strategic benefits. By establishing GRs, landowners and land managers can enhance the value of both private and public lands by supporting food security, creating new economic opportunities, improving ecosystem management, and providing innovative approaches to land stewardship.

The establishment of the five pilot GRs will provide plant breeders and researchers with direct access to CWR genetic resources while fostering cross-sector collaboration. The stakeholder networks built through this initiative will open new opportunities for cooperation, strengthening relationships between sectors around a shared goal of conserving genetic diversity and providing agricultural resilience.

Further readings

- **Conserving Crop Wild Relatives (CWRs) in situ. The role of Genetic Reserves.** *1 Practice abstracts.*
- **COUSIN project,** <https://cousinproject.eu/>
- **Iriondo JM, Magos Brehm J, Dulhoo ME & Maxted N (eds). 2021.** *Crop wild relative population management guidelines. Farmer's Pride: Networking, partnerships and tools to enhance in situ conservation of European plant genetic resources.* https://more.bham.ac.uk/farmerspride/wp-content/uploads/sites/19/2021/07/Crop_Wild_Relative_Population_Management_Guidelines.pdf

