



THE PLANT GENETIC RESOURCES STRATEGY FOR EUROPE

Presented by Marianne Lefort, Chair of ECPGR Executive Committee

Meeting of the Working Groups Chairs and the ExCo, 5-6 April 2022

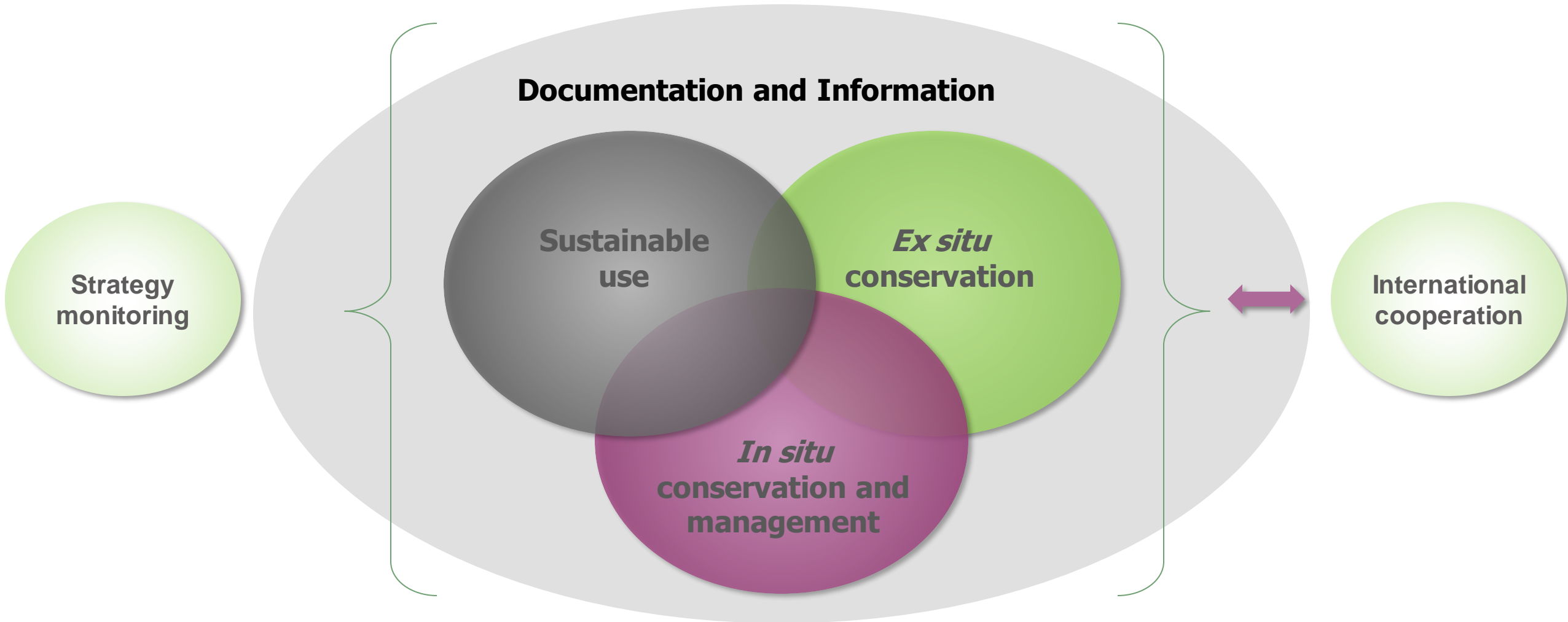
The need for urgent action

- ✦ Plant genetic resources (PGR) are the foundation of our food supply and bioeconomy
- ✦ PGR are essential for agricultural adaptation, also to climate change
- ✦ These resources are in danger:
 - ✦ Many genebanks function poorly
 - ✦ Natural environments are threatened
 - ✦ Landrace populations are disappearing
 - ✦ Documentation of PGR is poor
 - ✦ Access is difficult

AN URGENT POLITICAL COMMITMENT IN EUROPE IS NEEDED!



A new PGR Strategy for Europe



Enabling conditions to ensure the transition from current status **to realistic goals by 2030**

Focus on implementation of section 2 of the Strategy: Conserving and sustainably using plant genetic resources

- **Section 2 and its 6 sub-sections** → **Objectives by 2030**






- **Section 3 and 4** → **Recommendations**

Expanding *in situ* conservation of crop wild relatives (CWR) and wild food plants (WFP)

Despite their potential, CWR and WFP have been neglected and are threatened in Europe

By 2030

-  Comprehensive inventories
-  National conservation strategies including *ex situ* back-ups
-  A European *in situ* network of priority populations



Onion crop wild relative, Italy.
Credit: Bioversity International / A. Lane

Targets by 2030 (Expanding *in situ* conservation)

- 🎯 CWR and WFP conservation are included in national PGR programmes
- 🎯 CWR priority taxa and populations have been identified as part of national and European *in situ* network of CWR
- 🎯 Coordinated documentation of CWR and WFP *in situ* diversity in Europe has been centralized
- 🎯 Agreed guidelines for *in situ* management of CWR populations are implemented in Europe
- 🎯 Safety back-ups of CWR populations in *ex situ* collections are available to users

Promoting 'On-farm' PGR conservation and management

Despite their benefits for conservation of crop and landscape diversity, on-farm landraces remain at risk

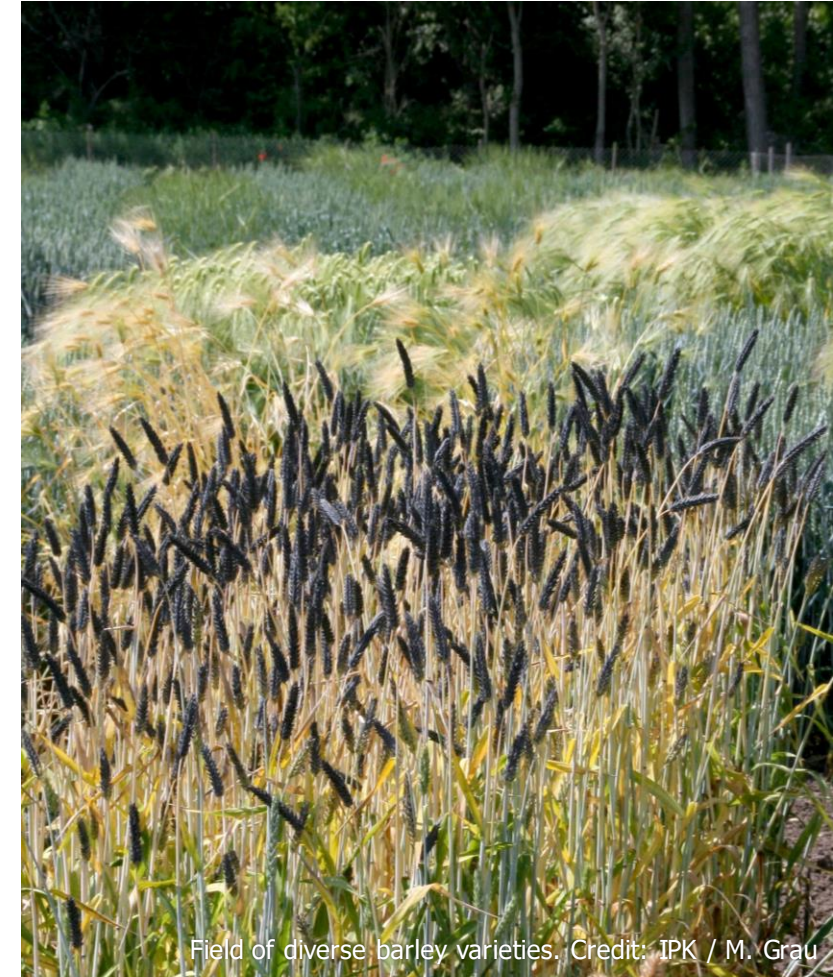
By 2030



European inventory of on-farm 'landraces'



Landrace diversity is conserved on-farm with *ex situ* back-ups



Targets by 2030 (Promoting on-farm conservation)

- 🎯 On-farm conservation/management is included in national PGR programmes
- 🎯 European Inventory of on-farm genetic diversity is formally established and documented
- 🎯 On-farm landraces - part of the European inventory – have been safely backed-up in national genebanks
- 🎯 Conservation and management guidelines for on-farm landraces are implemented at local level.

Consolidating and sustaining *ex situ* conservation

The variability of quality and efficiency of *ex situ* conservation weakens the overall European infrastructure

By 2030



PGR diversity in European genebanks is conserved reliably and made accessible for sustainable use

Reinforce and expand AEGIS with high-standard certification



Coverage of European diversity in genebanks is enhanced:

Landraces, Crop wild relatives, Minor and Underutilized crops, Wild food plants and other relevant material



Maize conserved at the Portuguese genebank.
Credit: L. Maggioni

Targets by 2030 (Consolidating and sustaining *ex situ* conservation)

- 🎯 Up to 100–150 European genebanks have been AEGIS-certified, relying on effective capacity-building and support system to reach certification
- 🎯 A decentralized network of AEGIS-certified genebanks – hosting the European collection – is operational in Europe
- 🎯 All accessions from the European collection are conserved to AQUAS standards, fully available and safety-duplicated
- 🎯 A comprehensive assessment of European plant genetic resources and diversity has been completed and is regularly updated
- 🎯 The genetic diversity maintained in European collection includes: a wide range of CWR diversity grown in Europe and European landraces, a representative selection of developed varieties, other relevant material grown in Europe

Promoting the sustainable use of PGR

The potential value of PGR European diversity to face agricultural challenges is under-exploited!

By 2030

- 🎯 Access to well-documented genetic diversity
- 🎯 Dynamic crop portals for European crops
- 🎯 Wide phenotypic and genotypic PGR characterization
- 🎯 Systematic use of CWR in research and crop improvement
- 🎯 Farmers and civil society participation to breeding
- 🎯 More diversified European production systems



Cucurbits. Credit: L. Maggioni




Targets by 2030 (Promoting the sustainable use of PGR)

- 🎯 Collections of PGR in Europe are increasingly characterized and evaluated under standard conditions
- 🎯 Data and accessions in the public domain are available to users through open centralized information systems
- 🎯 Pre-breeding of CWR and participatory-breeding on landraces on farm are extensively implemented
- 🎯 Existing relevant legislation have been reviewed including present disincentives for (small-scale) producers of diversified plant propagation material

Strengthening a comprehensive information system for PGRFA

Despite a lot of progress in the last decade, EURISCO needs continuous support and improvements

By 2030

-  Documentation National Focal Points supported and trained
-  National phenotypic data provided to EURISCO via standardized methods
-  FAIR principles applied to PGR data management



EURISCO is a trusted European and global open-access database repository

Targets by 2030 (Strengthening a comprehensive Information System for PGRFA)

- 🎯 The EURISCO network of National Focal Points is optimally supported
- 🎯 EURISCO contains high-quality passport data of all European *ex situ* collections
- 🎯 NFPs assure access to all publicly-available quality phenotypic data of conserved PGR
- 🎯 European genebanks and other PGR holders have improved their data management practices and have begun to adopt the FAIR principles to become part of the open-data community
- 🎯 Both data in EURISCO and the associated IT infrastructure are compliant with the FAIR principles
- 🎯 EURISCO becomes a trustable repository in the arena of European and global open-access databases

Developing a system to monitor European conservation and sustainable use of PGR

Need for simple, relevant and operational indicators to be consensually defined with stakeholders involved in monitoring

By 2030

- 🎯 Sets of agreed indicators are developed and integrated within monitoring strategies
- 🎯 A European Coordination and Information Centre for conservation and use of agricultural GR becomes the hub to gather and publish PGR data provided by local and national networks
- 🎯 Trends in PGR conservation and sustainable use are assessed, analyzed and published every five years.

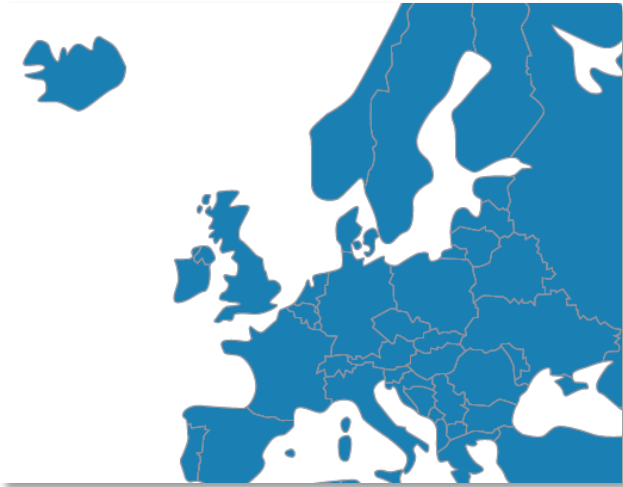


Targets by 2030 (Developing a system to monitor European conservation and sustainable use of PGR)

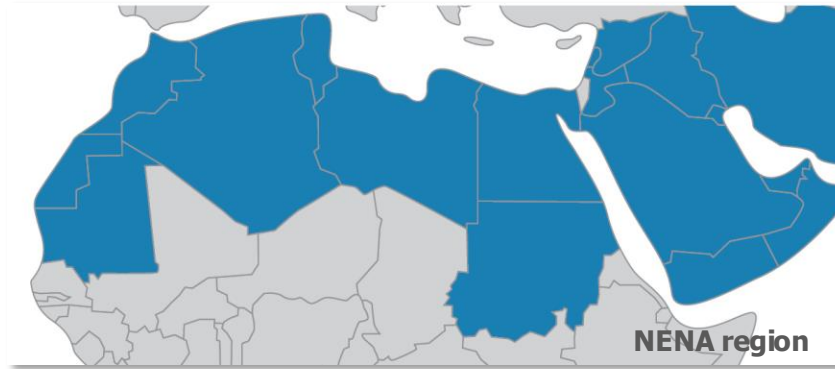
- 🎯 Sets of relevant indicators and associated baseline data have been consensually defined with all relevant stakeholders
- 🎯 A sound system for the collection of all relevant baseline data has been set up and their compilation provides baseline for monitoring.
- 🎯 Trends in the conservation and use of PGR in Europe are being monitored and associated information readily available and regularly disseminated to PGR managers and users, policy-makers and wider public
- 🎯 Europe is actively and efficiently contributing to international reports on monitoring of conservation and use of genetic resources

International Cooperation

EU and the European region



Europe and other regions



Europe and Global Cooperation



Enabling the transition to achieve the goals by 2030

- A coherent European policy framework
- An efficient long-term infrastructure for conservation, documentation and sustainable use
- A European Coordination and Information Centre on Agricultural Genetic Resources
- A sustained financial basis for collaborative European and national programmes



The European Coordination and Information Center on Agricultural Genetic Resources

- **Need for a legal entity** for the European Coordination and Information Centre for AGR, to be established by the EU on behalf of the European region:
 - Be attached to an existing European authority or be established as a specific entity
 - Hosting a newly-established trans-domains Secretariat and present domains' Secretariats
- **Potential tasks of the Centre:**
 - Report on all its activities to the EU and European governments
 - Assist/advise the EU and European governments in establishing or further developing the policy and regulatory framework for PGR conservation and sustainable use (C&SU) in Europe
 - Coordinate and monitor PGR Strategy implementation
 - Act as a European project implementation and financing agency for PGR C&SU
 - Raise public, policymakers' and other relevant stakeholders' awareness
 - Coordinate European input for international cooperation as it relates to PGR C&SU (FAO CGRFA, CBD, Nagoya Protocol, ITPGRFA, Global Crop Diversity Trust, *etc.*)

Conclusion

- ✦ PGR are essential for our food security
- ✦ Europe's PGR are in danger
- ✦ We now have a strategy, developed with many experts and stakeholders, to protect PGR and make it available for use
- ✦ Implementation is subject to firm political will in the context of the Green Deal
- ✦ Implementation will foster and emphasize Europe's position as a key player in the global arena.

The PGR community is eager to start!



European
Cooperative
Programme
for Plant
Genetic
Resources



ECP/GR

**Many thanks to all those
who have contributed to
the preparation of an
ambitious**

PGR Strategy for Europe