



*A European Genebank
Integrated System*

www.ecpgr.cgiar.org/aegis



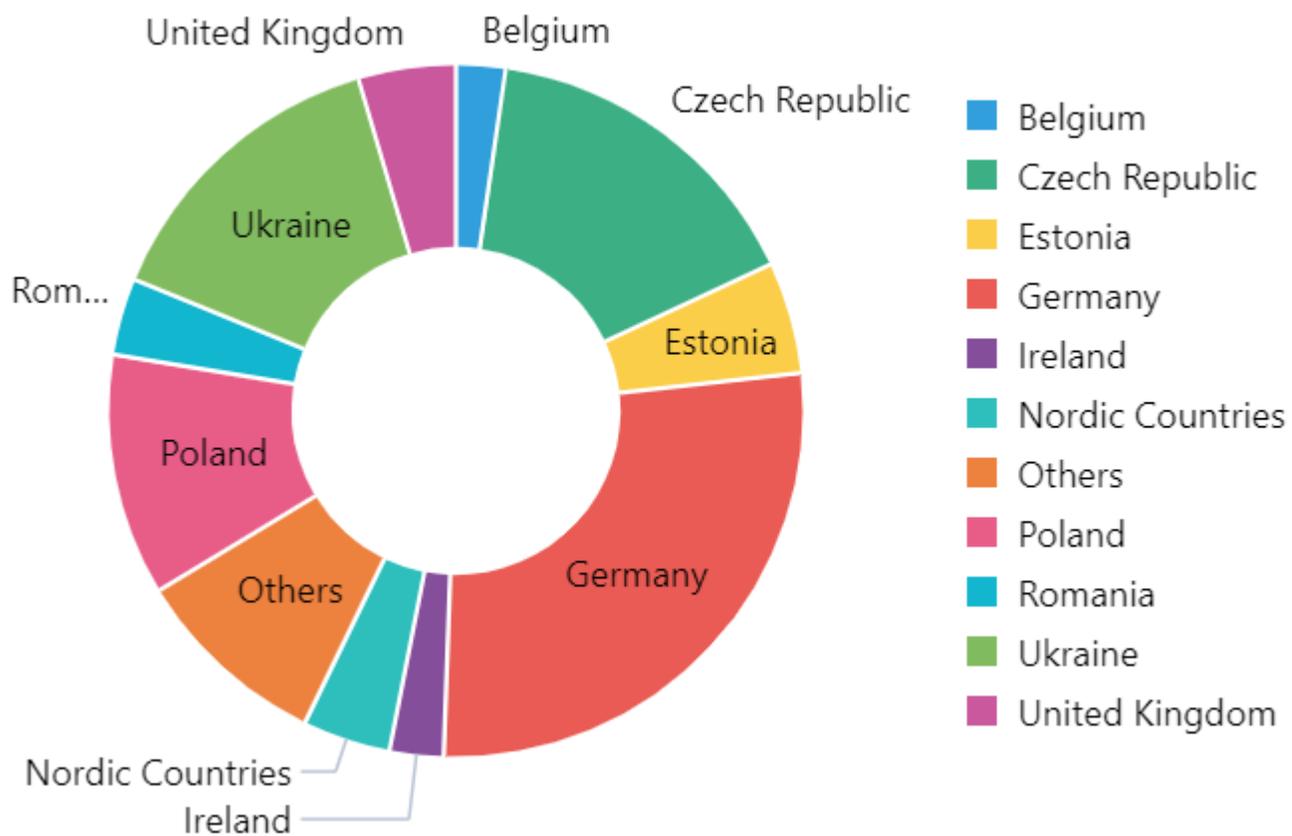
Ex situ conservation in Europe - Background

- 400 germplasm collections/genebanks in Europe across > 40 countries
- > 2 million accessions
- 35-50% unique accessions
- A genebank system created without planning or coordination – inefficient use of resources
- Not always accessible



Decentralized collections

POTATO (15,421 accessions)



(source: EURISCO 2024)

Reported difficulties by the genebanks

- Lack of long-term conservation facilities
- Insufficient safety-duplication
- Regeneration backlogs
- Lack of well-defined technical standards
- Inhomogeneous quality of material and information
- Variable germplasm exchange conditions



A Strategic Framework for the Implementation of a European Genebank Integrated System (AEGIS)

A Policy Guide



AEGIS objective

Conserving in a collaborative way and at agreed quality standards, the genetically unique and important accessions for Europe of all crops and making them available for breeding and research through SMTAs

Key components of AEGIS

- MoU (Memorandum of Understanding)
- European Collection
- AQUAS (AEGIS Quality System)

Memorandum of Understanding (MoU)

1. Signed by Country and deposited at Bioversity International, on behalf of ECPGR
2. Long-term conservation commitment for registered European Accessions
3. Provision of access to material and information under SMTA
4. Adherence to the AEGIS technical standards
5. Separate agreement between National Coordinator and participating national institutions (Associate Membership Agreement).



AEGIS membership

35 Member countries
68 Associate Member Agreements



How to add Accessions to the European Collection:

National Coordinator promotes and coordinates with the Associate Members the designation of European Accessions

Use of "Revised simplified procedure" for selection of Accessions

Associate Members propose to the National Coordinator selected Accessions for registration as European Accessions

National Coordinator ensures registration in EURISCO through the National Inventory System (This simply consists in flagging the descriptor "Part of AEGIS" with YES)

New AEGIS accessions are reflected on the map of the European Collection
(<http://www.ecpgr.cgiar.org/aegis/european-collection/european-collection/>)

1. Accessions originating within the country (Check the old name of the country!)
2. Accessions collected or received from collecting missions outside the country and considered unique (after verification that legal status allows distribution with SMTA)
3. At the discretion of each country is the option of considering additional criteria



- a) Identified Accessions are free from any third-party obligations or registrations
- b) Identified Accessions meet [the selection requirements](#) adopted by the ECPGR Steering Committee





The European Collection (Mar. 2024)

Country	No of accessions
Albania	8
Belgium	2
Bosnia and Herzegovina	29
Bulgaria	391
Croatia	90
Czechia	2,097
Estonia	135
Germany	37,220
Italy	10,918
Latvia	27
Lithuania	45
Montenegro	31
Netherlands	5,840
Nordic Countries	4,785
Poland	443
Portugal	86
Romania	752
Slovakia	640
Slovenia	21
Switzerland	5,611
United Kingdom	1,659
Total	70,830



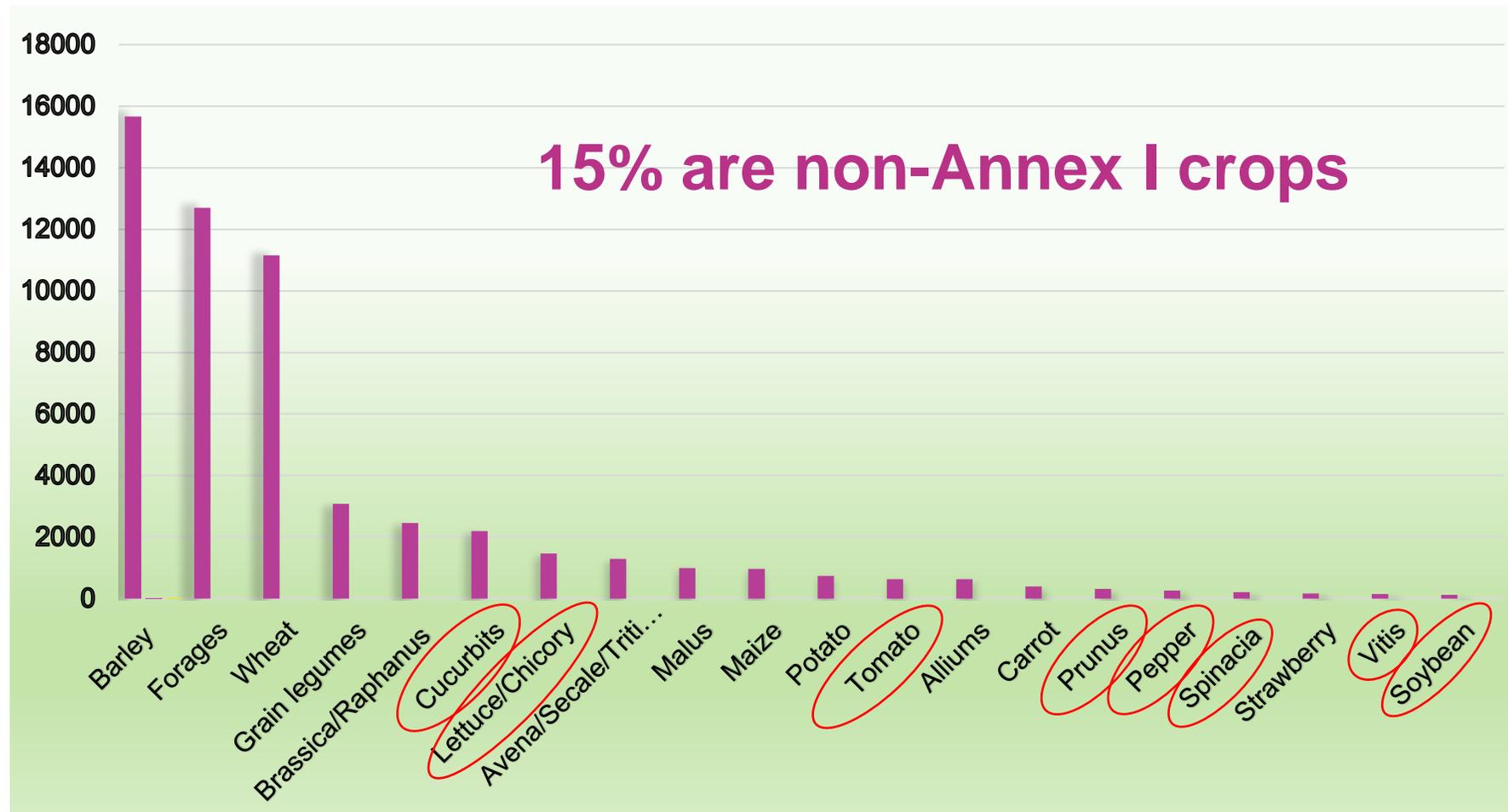


The European Potato Collection (*Solanum tuberosum*) (Mar. 2024)

Country	No of accessions
Germany	445
Czech Republic	179
Nordic Countries	70
Netherlands	46
Estonia	36
Total	776



European Collection by crops

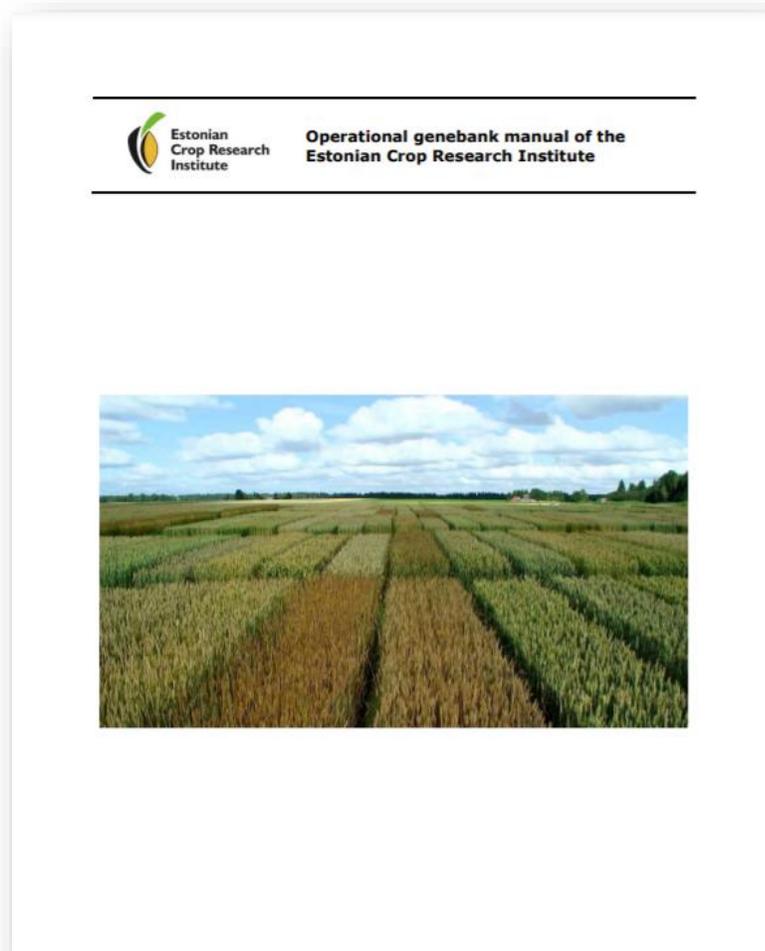


AQUAS – Quality system

- Transparency: operational **genebank manuals**
- Agreed common conservation **standards** (FAO + crop-specific)
- **Safety-duplication** policy
- **Distribution** guidelines
- **Monitoring** system: voluntary capacity building peer visits



Genebank Manuals



Associate Members' Genebank Manuals

Bulgaria	Operational genebank manual of the National Genebank of Bulgaria, Institute of Plant Genetic Resource 'K. Malkov' (February 2023) (429,2 KB)
Czech Republic	Operational genebank manual of the Crop Research Institute (CRI), Czech Republic (March 2022) (438,2 KB)
	Operational genebank manual of the Potato Research Institute (PRI), Czech Republic (March 2016) (373,1 KB)
Estonia	Operational genebank manual of the Estonian Crop Research Institute (ECRI), Estonia (October 2017) (747,6 KB)
Germany	Operational genebank manual of Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany (February 2011) (230,0 KB)
	Operational genebank manual of Julius Kühn-Institute, Dresden-Pillnitz, Germany (July 2012) (1,0 MB)
	Operational genebank manual of Bundessortenamt, Federal Plant Variety Office (May 2013) (425,0 KB)
	Operational genebank manual of Julius Kühn-Institute, Geilweilerhof, Siebeldingen, Germany (February 2021) (562,3 KB)
Netherlands	Operational genebank manual of the Centre for Genetic Resources, The Netherlands (CGN) (July 2022) (240,2 KB)
Romania	Operational genebank manual of the "Mihai Cristea" Plant Genetic Resources Bank, Suceava, Romania - SVGB (December 2021) (560,0 KB)
Slovakia	Operational genebank manual of the National Agricultural and Food Centre - Research Institute of Plant Production Piešťany, Slovak Republic (November 2022) (2,3 MB)
Spain*	Operational genebank manual of COMAV, Spain (May 2019) (606,8 KB)
	Genebank manual of the Spanish Plant Genetic Resources Centre (CRF), Alcalá de Henares, Madrid, Spain (July 2022) (1,3 MB)
	<i>*Spain is not yet member of AEGIS</i>
Switzerland	Operational genebank manual of Agroscope ACW, Switzerland (June 2013) (292,4 KB)

Agreed crop-specific conservation standards

Allium

Avena

Beta

Cucurbits

Forages

Leafy vegetables

Prunus

Solanaceae

Vitis

Wheat



Prunus-specific standards (PGS) for genebank management

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Opinion

AEGIS, the Virtual European Genebank: Why It Is Such a Good Idea, Why It Is Not Working and How It Could Be Improved

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<https://www.mdpi.com/journal/plants>

