

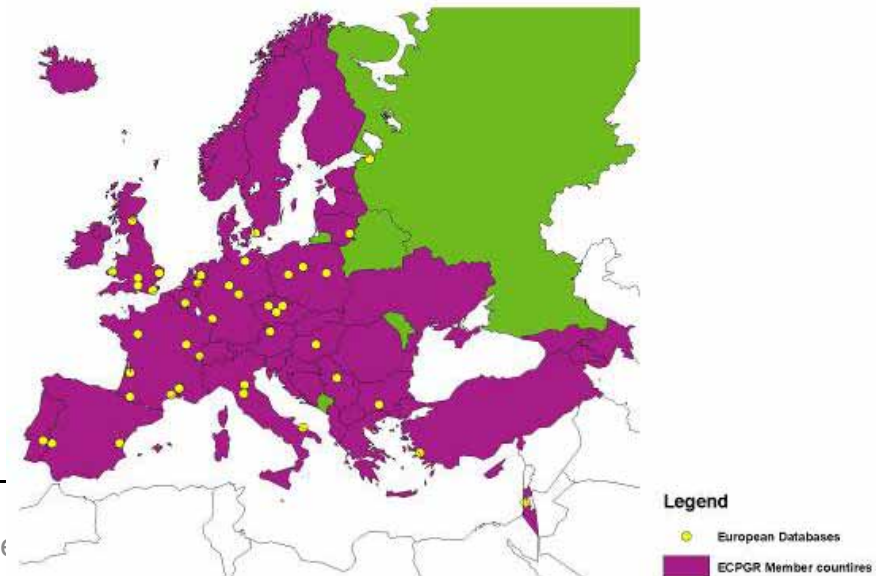
The Establishment of **A** **E**uropean **G**enebank **I**ntegrated **S**ystem



Lorenzo Maggioni and Jan Engels

ECPGR

- A network among European countries
 - To facilitate conservation and use of PGRFA
 - To increase cooperation and joint activities
 - To share responsibilities





ECPGR

- Started in 1980 as a UNDP project (East-West collaboration for agricultural development)
- Self-funded by the member countries as of 1987, using differential rates (today approx. € 550K/year)
- Secretariat hosted by IBPGR / IPGRI / Bioversity International

ECPGR Structure

Steering Committee

Coordinating Secretariat

Cereals Network	Forages Network	Fruit Network	Oil and Protein Crops Network	Sugar, Starch and Fibre Crops Network	Vegetables, Medicinal and Aromatic Plants Network	Documentation and Information Network	<i>In situ</i> and On-farm Conservation Network	Inter-regional Cooperation Network
NCG	NCG	NCG	NCG	NCG	NCG	NCG	NCG	NCG
Working Groups	Working Group	Working Groups	Working Group	Working Groups	Working Groups	• National Inventory Focal Points • European Central Crop Database Managers • EURISCO Advisory Group	• Wild Species Conservation in Genetic Reserves Task Force • On-farm Conservation and Management Task Force	• Inter-regional Cooperation Task Force
<ul style="list-style-type: none"> • <i>Avena</i> • Barley • Wheat 	<ul style="list-style-type: none"> • Forages 	<ul style="list-style-type: none"> • <i>Malus/Pyrus</i> • <i>Prunus</i> • <i>Vitis</i> 	<ul style="list-style-type: none"> • Grain Legumes 	<ul style="list-style-type: none"> • <i>Beta</i> • Fibre Crops (Flax and Hemp) • Potato 	<ul style="list-style-type: none"> • <i>Allium</i> • <i>Brassica</i> • Cucurbits • Leafy Vegetables • Medicinal and Aromatic Plants • Solanaceae • Umbellifer Crops 			

Crop Networks

Thematic Networks





ECPGR

(Inter-regional cooperation Network)

- ~ 5 % of Network operations' budget
- Inter-regional meetings in support of the implementation of the International Treaty

Ex situ conservation

Current situation in Europe

- Approx. 625 collection holdings in Europe
- Approx. 2.5 million accessions (estimate level of duplication: 35-50%)
- Distributed across 45 countries = wealth of expertise, capacities, different environments

International obligations

- Countries' obligations to conserve and make available biodiversity (CBD)
- Need to increase efficiency of conservation and to reduce duplication of efforts (GPA 1996)
- Call for efficient and sustainable system of *ex situ* conservation (International Treaty 2001)

Reported difficulties with the current situation

Difficulties reported to properly maintain PGR:

- Lack of long-term conservation facilities
- Insufficient safety-duplication
- Regeneration backlogs
- Lack of well-defined technical standards

Difficulties reported to better utilize PGR:

- Relative isolation of genebanks from users' community
- Germplasm insufficiently evaluated
- Inhomogeneous quality of material and information
- Variable germplasm exchange conditions

Why AEGIS ?

(An ECPGR initiative)

- *Ex situ* conservation in Europe can be more efficient and more effective through a regional approach
(estimate of overall level of duplication is 35-50 %)
- No country or sub-region is self-sufficient regarding the germplasm and/or capacity to use PGR
- Efficient regional system can contribute to a global effort to conserve GR with a benefit-sharing approach

AEGIS main objective

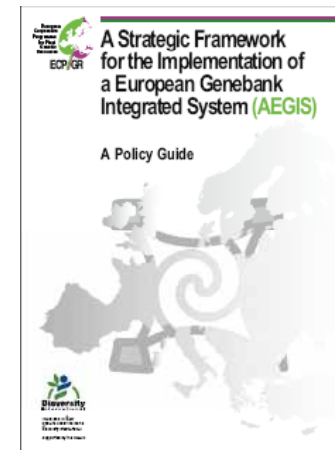
- Establishing a more efficient regional system of conservation and sustainable use of PGRFA through the setting up of a **European Collection**

Expected AEGIS achievements

- Establishment and operation of an effective and cost-efficient PGR system
- Conservation commitment secured (long-term)
- Quality standards adequately defined and applied
- Access to PGRFA and related information guaranteed

Key components of AEGIS

1. A **Strategic Framework** for the Implementation of a European Genebank Integrated System - A Policy Guide
2. Formal **agreement** with countries (**MOU**) and institutions within countries (Associate Membership)
3. **European Collection**
4. **Quality System** (generic and crop specific standards; reporting; monitoring; capacity building)



Key components of AEGIS

5. EURISCO as information portal for European Collection



35*. AEGIS Status

(AEGISSTAT)

The coded status of an accession with regard to the European Genebank Integrated System (AEGIS).

Provides the information, whether the accession is conserved for AEGIS.

0 – not part of AEGIS

1 – part of AEGIS

If the AEGIS status is unknown, the field stays empty

6. AEGIS Web site: <http://www.aegis.cgiar.org>

AEGIS Member countries

Member countries

The following countries have signed the MoU:



1. **Albania** (6 May 2009)
2. **Azerbaijan** (16 July 2009) - Associate Members
3. **Bosnia and Herzegovina** (19 May 2010)
4. **Bulgaria** (2 December 2009) - Associate Members
5. **Croatia** (2 December 2009) - Associate Member
6. **Cyprus** (15 September 2009) - Associate Member
7. **Czech Republic** (23 July 2009)
8. **Denmark** (22 February 2010)
9. **Estonia** (22 May 2009) - Associate Members
10. **Finland** (2 December 2009)
11. **Georgia** (18 May 2009) - Associate Member
12. **Germany** (9 September 2009) - Associate Members
13. **Iceland** (22 February 2010)
14. **Ireland** (22 July 2009)
15. **Lithuania** (12 October 2010)
16. **Montenegro** (16 December 2010)
17. **The Netherlands** (28 May 2009) - Associate Members
18. **Norway** (17 August 2009)
19. **Poland** (17 May 2010)
20. **Portugal** (20 November 2009)
21. **Romania** (14 April 2010)
22. **Slovakia** (16 June 2009)
23. **Slovenia** (21 September 2009) - Associate Members
24. **Switzerland** (27 May 2009) - Associate Member
25. **Sweden** (31 May 2011) - Associate Member
26. **Ukraine** (30 April 2009)
27. **United Kingdom** (18 June 2010) - Associate Members



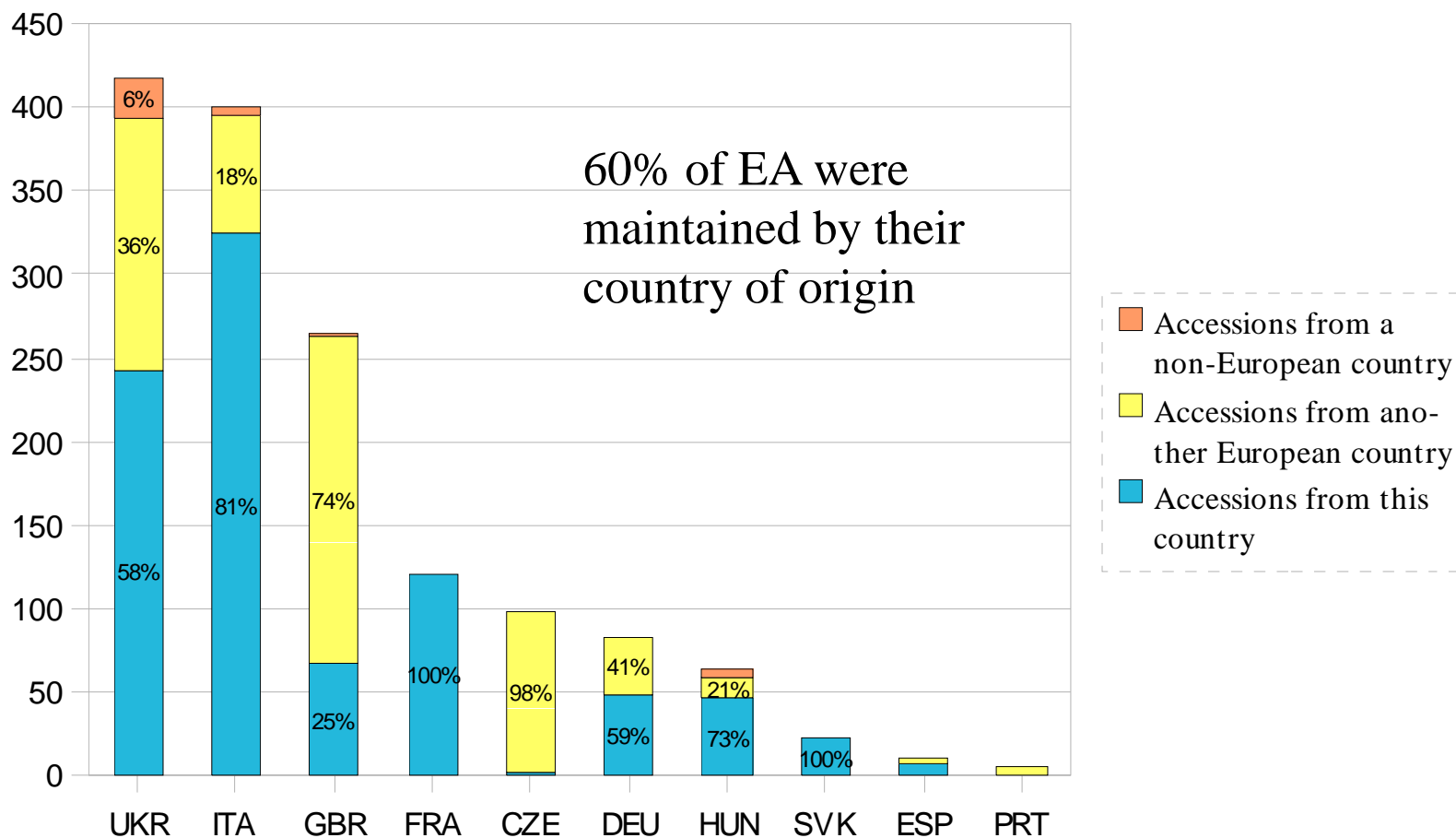
Scope of European Collection

- Material **under the management and control** of the member countries and their associate members, **in the public domain** and offered by the associate members for inclusion into AEGIS
- **Genetically unique** within AEGIS, to the best available knowledge (i.e. genetically distinct accessions; assessment based on available data and/or on the recorded history of the accession)
- **Plant genetic resources for food and agriculture** as defined in the International Treaty as well as **medicinal and ornamental** species
- **European origin or introduced** germplasm that is of actual or potential importance to Europe (for breeding, research, education or for historical and cultural reasons).

Preliminary designation of European Accessions (September 2011)

Crop	Accessions in European databases	Accessions selected for European Collection	% European Accessions from total
Carrot cultivars	2948	1281	43%
Sweet cherry	2731	1483	54%
<i>Poa</i> sp.	> 5000	3443	68%
<i>Brassica rapa</i>	3618	2170-2822	60—78%

List of EA generated for sweet cherry based on the EPDB: Analysing the draft list of sweet cherry EA



Draft list of EA for sweet cherry – host countries and countries of origin

AEGIS Quality System (AQUAS)

- Quality assurance based on the principles:
 - Say what you do
 - Do what you say
 - Let an independent body check that you do what you say
 - Correct and improve what you say you do

AQUAS principles

- Consensus
- Agreed minimum standards
- Capacity building
- As little bureaucratic as possible
- Monitoring system (not policing, but guiding and advisory approach)

Preliminary Crop specific standards

Allium

Beta

Brassica

Cucurbits

Forages

Prunus (Cherry)

Solanaceae

Umbellifer crops

[http://aegis.cgiar.org/documents/
crop_specific_documents.html](http://aegis.cgiar.org/documents/crop_specific_documents.html)

Management of the European Collection

- Management Standards to be proposed for each crop by respective Working Group and approved by ECPGR Steering Committee
- Associate Members of AEGIS to perform activities according to agreed standards (genebank manuals!)
- Public domain accession-level information as well as non-confidential characterization and evaluation data, to be made available
- Each European Accession to have identified safety-duplicate stored under the same or better conditions than the original (the Seed Vault at Svalbard is a valid option)

Transfer of germplasm

Standard Material Transfer Agreement (SMTA) to be used for the transfer of **Annex I crops AND of Non-Annex I crops**, under the same terms and conditions, with explanatory note

AEGIS sustainability

- Self-funded (time, facilities and services) by European national programmes (also part of their commitment to implement the International Treaty)
- ECPGR funds
 - Secretariat
 - Small Grant Scheme
- Project funds
 - Submission of proposals to EU

Conclusion

- AEGIS is the mechanism towards an efficient and sustainable system of *ex situ* conservation in Europe
- In principle, Europe will be committed to conserve and share ALL PGRFA in agreement with provisions of IT



Thank you



ECPGR/NEA Workshop,
Menemen, Turkey, 20
September 2011

