

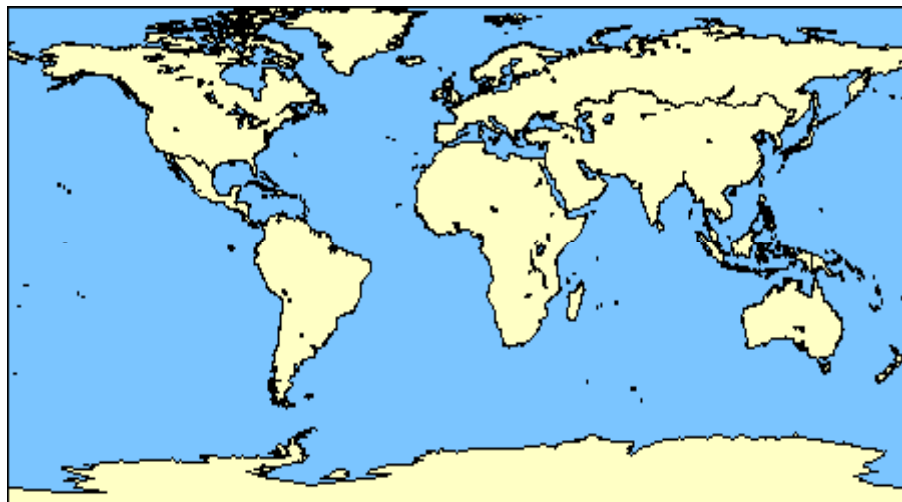
An update on aegis

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Eighth Meeting of the Working Group on *Prunus*
7-9 September 2010, Forlì, Italy

Background

Worldwide



- 1,750 genebanks/collections
- Approx. 7 million accessions
- Estimated 2 million unique
- Example: approx. 25,000 *Allium* accessions (**SoW Report II**)

Europe



- App. 625 genebanks/germplasm coll.
- > 2 million accessions
- 30-40% unique (estimate)
- Example: approx. 13,000 *Allium* accessions; held in 32 genebanks in 30 countries

Historical background

- Reported **difficulties in PGR maintenance**:
 - lack of long-term conservation facilities
 - insufficient safety-duplication
 - regeneration backlogs
 - inhomogeneous quality of material
- Discussed options for sharing conservation responsibilities in Europe already in 1998
- SC decided in 2003 to initiate an integrated European genebank system feasibility study (4 model crops) in 2004
- SC decided in 2006 to establish AEGIS

Selection of Model Crops

- **Seed propagated** material – annual
- **Annex I crops** of ITPGRFA

- ***Avena***

selfing



- ***Brassica***

outcrossing



-
- **Vegetatively propagated** material – biennial and perennial
 - **Non Annex I** of ITPGRFA

- ***Allium***
(Veg. propag.)



- ***Prunus***



AEGIS Objectives

To create A European Genebank Integrated System for plant genetic resources for food and agriculture, aimed at **conserving the genetically unique and important accessions for Europe** and **making them available** for breeding and research. Such material will be safely conserved under conditions that **ensure genetic integrity and viability in the long term.**

Perceived Benefits of AEGIS

- Improved **security of germplasm** through long-term commitment and systematic safety-duplication
- Facilitated access to and **availability** of germplasm
- Improved **quality standards** of conserved material
- **Cost efficient** conservation activities
- **Reduced duplication** of germplasm material
- Improved **sharing of knowledge** and information

Establishment and milestones of AEGIS

1. ECPGR SC decision to initiate establishment of AEGIS in 2006
2. ECPGR Secretariat to coordinate; an AEGIS Coordinator appointed
3. Feasibility studies for 4 model crops conducted (2004-2008)
4. Strategic framework policy guide agreed (2008)
5. Memorandum of Understanding (MOU) developed and sent for signature to all ECPGR member countries in 1st half of 2009
6. Currently 22 countries have signed MOU



A European Genebank Integrated System



AEGIS > Membership > **Member countries**

About AEGIS

Membership

> **Member countries**

> Associate Members

Structure

Implementation

Documents

AEGIS 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. **Cyprus** (15 September 2009) - [Associate Member](#)
6. **Czech Republic** (23 July 2009)
7. **Denmark** (22 February 2010)
8. **Estonia** (22 May 2009) - [Associate Members](#)
9. **Finland** (2 December 2009)
10. **Georgia** (18 May 2009) - [Associate Member](#)
11. **Germany** (9 September 2009) - [Associate Members](#)
12. **Ireland** (22 July 2009)
13. **The Netherlands** (28 May 2009) - [Associate Members](#)
14. **Norway** (17 August 2009)
15. **Poland** (17 May 2010)
16. **Portugal** (20 November 2009)
17. **Romania** (14 April 2010)
18. **Slovakia** (16 June 2009)
19. **Slovenia** (21 September 2009) - [Associate Members](#)
20. **Switzerland** (27 May 2009) - [Associate Member](#)
21. **Ukraine** (30 April 2009)
22. **United Kingdom** (21 June 2010)

Establishment and milestones of AEGIS

7. Agreement on **development of AQUAS**; discussion paper
8. Agreement on **requirements and criteria** to select MAAs
9. Competitive **Small Grant Scheme** launched (to facilitate establishment/operation process); **18** proposals received; **3** awarded.
New Call foreseen for late Autumn 2010!
10. EUROGENEBANK proposal submitted to **FP7 Research Infrastructure Call**; met threshold but not selected for funding; consideration to re-submit for 2012 Call

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

- 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

- Dedicated **AEGIS website**: <http://www.aegis.cgiar.org/>

The European Collection

- The European Collection will consist of **dispersed accessions (MAAs)**, i.e. a virtual European genebank
- Through signing the **MOU** countries accept responsibilities for **long-term conservation** and **availability of EA**, and to
- Conserve/manage according to **quality standards**
- **Conservation/management strategies** for each crop needs to be prepared by respective Crop WG/NCG and approved by SC

European collection - current status

- Main players are countries and Crop Working Groups
- (Non-standardized) selection process used by all model crops
- There are no definite procedures fixed
- No precise definition of MAA exists (result of a process!)
- Selection requirements have been approved by the Steering Committee
- The selection criteria have been discussed by the model crop groups, without much divergence of opinion
- As foreseen in the process, a WG agreement on selection criteria will be required for each crop or crop group

Selection requirements

1. Material under the management and control of the governments of member countries and their associate members, in the public domain and offered by the associate members for inclusion into AEGIS
2. 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)
3. Plant genetic resources for food and agriculture as defined in the International Treaty as well as medicinal and ornamental species
4. European origin or introduced germplasm that is of actual or potential importance to Europe (for breeding, research, education or for historical and cultural reasons).

Selection criteria

- A. Need to be agreed by **each WG** for their specific crop(s)
- B. **Not** fully discriminative
- C. Used when deciding **which accession to accept** among two or more “quasi duplicate” or similar accessions / genotypes
- D. **WGs** to decide if any of these considerations has **prevalence** over the others, or that the selection should be the result of a **combination of two or more** secondary criteria

Summary of the MAAs identification process

- **WGs** to develop **crop specific selection criteria** for identification of the Most Appropriate Accessions (MAAs)
- **WGs** to develop/agree **process** of identifying MAAs
- **WGs** could **pre-select candidate MAAs** and propose these pro-actively to countries and establish iterative process
- **Selection of "candidate" accessions at the National level**, using the selection requirements, selection criteria and the agreed "process".

Summary of the MAAs identification process

- **WG** to analyse list of all **candidate accessions** of a given crop proposed by countries to arrive at **list of MAA** per crop to be included in the European Collection
- Inform **National Coordinators** for **flagging these European Accessions** in EURISCO

The process is not yet completely defined (it requires empirical testing) and alternatives to the above approach can be considered.

Proposed follow-up action - WG

1. Proceed with formulating the “final list” of selection criteria
2. Strive to ensure that missing data are provided to EURISCO as soon as possible!
3. Respective WGs, where relevant, to assist countries (and their Associated Member institutes) in identifying “candidate” MAAs in their collections
4. Develop crop (genepool) specific list of MAAs on the basis of the candidate accessions, using the selection criteria
5. Where necessary, suggest any “additional” accessions to countries
6. Establish “final list” of the European Accessions for a given crop genepool and confirm final decision with National Coordinators



Thank you
for your
attention!

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