



# An update on the establishment of A European Genebank Integrated System



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# Establishment and milestones of AEGIS

1. ECPGR **SC decision** to initiate establishment of AEGIS in 2006
2. AEGIS Advisory Committee appointed
3. ECPGR Secretariat (incl. **AEGIS Coordinator**) to coordinate
4. **Feasibility studies** for 4 model crops conducted (2004-2008)
5. **Strategic framework** policy guide agreed (2008)
6. **Memorandum of Understanding (MoU)** developed
7. Agreement on development of **quality management system**; **AQUAS** discussion paper



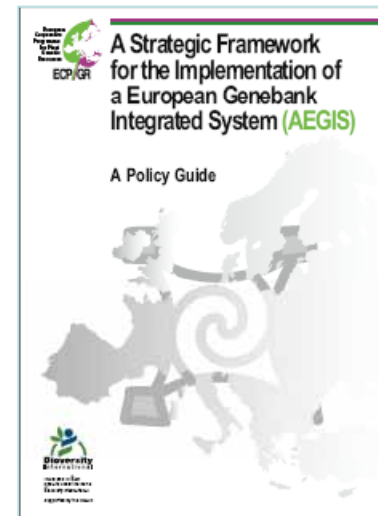
# Establishment and milestones of AEGIS

8. Agreement on selection requirements for European Accessions
9. Competitive Small Grant Scheme:
  - First Call 18 proposals received and 3 awarded;
  - Second Call 12 proposals received; 5 selected and funded
10. EUROGENEBANK proposal to FP7 Research Infrastructure 2010 Call; met threshold but not selected
11. New proposal (Plant Gene Access) submitted to 2012 Call of FP7 Research Infrastructures; again met threshold but not selected
12. European Collection formally established (12 Dec. 2011)



# 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 management system** (template for development of genebank manuals; generic and crop-specific standards; reporting, monitoring and 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. Dedicated AEGIS Web site:

<http://aegis.cgiar.org/home.html>



## A European Genebank Integrated System

Home Page > About AEGIS

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### About AEGIS

The AEGIS initiative is the brain child of the [European Cooperative Programme for Plant Genetic Resources \(ECPGR\)](#). At the present time, plant genetic resources for food and agriculture (PGRFA) in Europe are conserved in some 650 institutions scattered over about 43 European countries. While coordination of activities is carried out within the framework of the ECPGR and the ECPGR Crop Working Groups, each genebank basically operates on its own, providing for the conservation of a full range of crop germplasm important for agriculture in the area it serves.



Photo: V.Bozhkova

- ▣ [General Description of the AEGIS Initiative](#)
- ▣ [The Age of AEGIS \(J. Engels and L. Maggioni. 2011. Public Service Review: Science and Technology; Issue 7\)](#)

With this in mind, the countries of the European region believe that there is a need to improve coordination and share responsibilities with respect to the conservation of, management of and access to PGRFA in Europe by setting up AEGIS.

The legal mechanism for establishing AEGIS is the [Memorandum of Understanding \(MoU\)](#) entered into by eligible countries of the region and the European Commission. The MoU sets out their commitments as full Members of AEGIS and the main lines of AEGIS. To be eligible for membership, the countries listed must be members of ECPGR, and either Contracting Parties to the Treaty or otherwise willing to make PGRFA under their jurisdiction available under the conditions of the Treaty.

The MoU has come into force in July 2009. The MoU is supplemented by a series of Associate Member Agreements for the individual genebanks and other institutions that wish to become part of AEGIS.

- ▣ [Checklist for the implementation of the AEGIS Memorandum of Understanding \(MoU\) at National Level](#)

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### RELATED INFORMATION

#### Highlights

#### First accessions formally included in the European Collection

The *Allium* Working Group has recently notified a few countries about the Group's agreement on a first batch of garlic accessions to be proposed as European Accessions. On the 12th of December 2011, Germany has flagged **61 garlic accessions in EURISCO as belonging to AEGIS**, thereby giving birth to the European Collection: [more information](#)

#### FP7-INFRASTRUCTURES-2012-1 Call

- ▣ [Submission of "Plant Gene Access" project proposal](#)

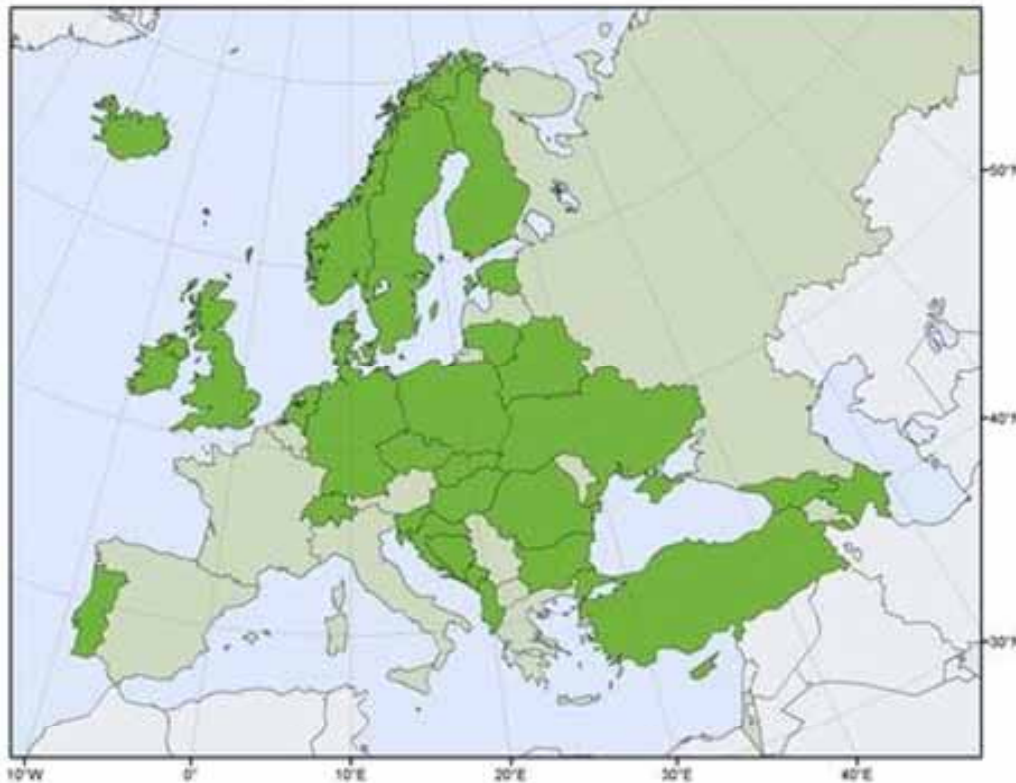
#### AEGIS Competitive Grant Scheme

- ▣ [Outcomes of the second call for proposals](#)

<http://aegis.cgiar.org/>

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# AEGIS member countries



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





# Associate Members

- 43 Associate Membership agreements received
- Associate Members per country:

Azerbaijan (2)

Belarus (8)

Bulgaria (1)

Croatia (1)

Cyprus (1)

Czech Republic (8)

Estonia (3)

Georgia (1)

Germany (3)

Hungary (1)

Netherlands (2)

Romania (1)

Slovakia (1)

Slovenia (5)

Sweden (1)

Switzerland (1)

Turkey (1)

United Kingdom (3)



## The European collection

- Composed of “unique” European Accessions (all crops), conserved for the long term by the AEGIS Associate Members as a decentralized collection
- Maintained under AEGIS Quality Standards
- Available under signature of SMTA

Recommended “simplified” selection procedure for the definition of European Accessions:

[http://aegis.cgiar.org/the\\_european\\_collection.html](http://aegis.cgiar.org/the_european_collection.html)



# Selection Requirements

**Need all to be fulfilled**

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).



# The European Collection

Has now been formally established and will hopefully steadily grow! .....

## The European Collection

Species	European accessions	Holding genebanks	Countries of origin
<i>Allium sativum</i> L.	143	IPK, Germany (61) CRI, Czech Rep. (82)	16

<http://aegis.cgiar.org>



## Simplified selection procedure of the European Accessions (1)

1. WGs (or delegates) to elaborate a **list from crop “pool”**, using information from either EURISCO and/or CCDB, regardless if countries concluded MoU and/or are AEGIS Associate Members, as well as offers from countries...

→ LIST OF CANDIDATE ACCESSIONS

2. Agree on **selection procedure** (examples: *Avena*, *Brassica*, Forages, *Prunus*, see AEGIS web site)
  - All selected accessions must meet “selection requirements”
  - Not worry about “governmental control” (*at this stage*)
  - Mainly focus on genetic uniqueness and/or importance
  - Can exclude categories, such as: “hybrids”, “unknown accessions”
  - Not a “core collection”



## Simplified **selection procedure** of the European Accessions (2)

- 3. Selection criteria** (crop-specific) are used to select MAAs among “duplicates” (also considerations of management practices)
- 4. WG sends list with **selected accessions**** to respective NCs for consideration of possible inclusion in the European Collection



## Simplified selection procedure of the European Accessions (3)

5. NC, in close consultation with the holding institute(s), indicates to WG whether or not the selected accessions can be included in European Collection:
  - Accessions proposed by the WG that are accepted by the country for inclusion, can be flagged in EURISCO as AEGIS Accessions (*by NFP*)
  - WG looks for alternative accessions not confirmed by NC and seeks acceptance for inclusion by a different holder



# **AEGIS quality system (AQUAS)** **- technical elements**

- 1. Operational genebank manual** – all AEGIS Associate Members; based on **genebank template** (template finalized – AEGIS Web site; so far only one manual received)
- 2. Generic operational standards** – Secretariat (cooperation with FAO; inputs into draft also by ECPGR members; revised draft of November 2011 for orthodox seeds – planned for final approval by the Commission in 2013)
- 3. Agreed minimum crop-specific technical standards** – all WGs (complementing generic standards)
- 4. Quality management system procedures** – Secretariat; all WGs; Associate Members:
  - a. record keeping**
  - b. reporting**
  - c. monitoring (not policing, but guiding and advisory approach)**





## Update of Cereals Network status regarding AEGIS

### ***Avena* WG**

AEGIS model crop. Procedure to establish list of European Accessions drafted but not implemented. Proposal to include all wild species accessions and material evaluated for the AVEQ project.

AQUAS: A TF to draft protocols on regeneration of wild accessions

### **Barley WG**

Start with large parts of the barley collection of IPK, with addition of accessions held in respective countries of origin and other evidently unique accessions

AQUAS: a TF to draft protocols for species-specific maintenance of wild species and cultivated barley



# AEGIS Grant Scheme (8 supported projects)

## 2010

1. Assessment of Unique Material in the European Collections of **Umbellifer Crops**
2. Towards comprehensive **pea** germplasm management for future use
3. Cryopreservation of young inflorescence bases in bolting **garlic**

## 2011

1. Establishment of the European **Forages** Collection
2. "PGR Duplicate Finder" a software package to assist in the identification of putative duplicates in germplasm databases
3. Improving the prerequisites for a European **rye** collection
4. Identification of **old potato clones** having unreliable variety name by means of fingerprinting using microsatellite (SSR)
5. *Brassica* selection criteria for the identification of the MAAs relate to the ***Brassica oleracea*** of Iberian collection



# Plant Gene Access proposal

Applied for **FP7 project proposal** "Plant Gene Access"

- 10 M Euro; 34 partners; Implementation of AEGIS (Coordination, Documentation, Research: genotyping and phenotyping, Capacity building, Partnership with industry)
- Evaluation: 10.5 (threshold just met; not accepted for funding)



## Proposed action points for WG workplan

1. Agree with which data to start (e.g. EURISCO; CCDB; both;) and on selection criteria for MAAs.
2. Compile first lists of possible AEGIS accessions.
3. Decide whether crop-specific standards are needed beyond current FAO draft list of technical standards for seed crops/species and, in case, plan for their elaboration.



Thank you for your attention!

