



# An update on aegis

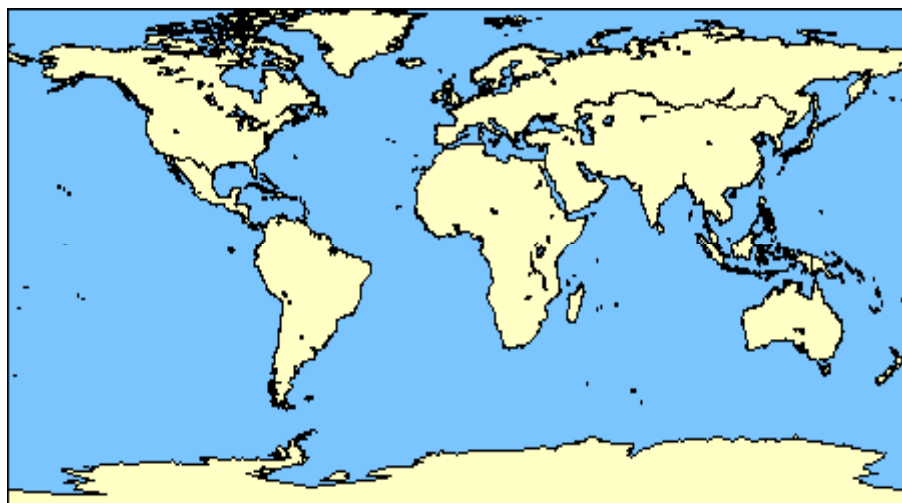
<http://www.aegis.cgiar.org/>

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Sixth Meeting of the Working Group on *Avena*  
22-23 October 2010, Bucharest, Romania

# Background

## Worldwide



- 1,750 genebanks/collections
- Approx. 7 million accessions
- Estimated 2 million unique
- Example: approx. 148,000 *Avena* accessions (Source: SoW Report II)

## Europe



- App. 625 genebanks/germplasm coll.
- > 2 million accessions
- 30-40% unique (estimate)
- Example: approx. 34,000 *Avena* accessions; held in 45 genebanks in 31 countries (Source: EURISCO, Oct. 2010)

# 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 1<sup>st</sup> half of 2009
6. Currently **23** countries have signed MOU

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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. **Iceland** (22 February 2010)
13. **Ireland** (22 July 2009)
14. **The Netherlands** (28 May 2009) - Associate Members
15. **Norway** (17 August 2009)
16. **Poland** (17 May 2010)
17. **Portugal** (20 November 2009)
18. **Romania** (14 April 2010)
19. **Slovakia** (16 June 2009)
20. **Slovenia** (21 September 2009) - Associate Members
21. **Switzerland** (27 May 2009) - Associate Member
22. **Ukraine** (30 April 2009)
23. **United Kingdom** (18 June 2010)

## RELATED INFORMATION



The International Treaty

## Highlights

### Second Call for Proposals - AEGIS Competitive Grant



On behalf of the ECPGR Steering Committee and the AEGIS Advisory Committee, the ECPGR Secretariat is pleased to



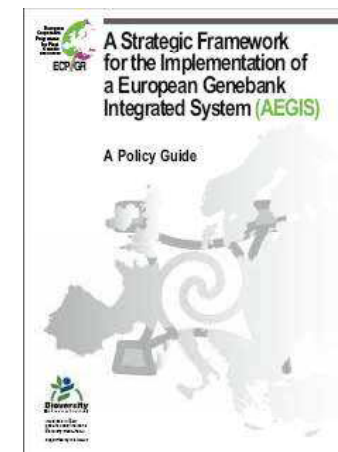


# Establishment and milestones of AEGIS

7. Agreement on development of a Quality System (AQUAS); discussion paper
8. Agreement on requirements and criteria to select Most Appropriate Accessions (MAAs)
9. Competitive Small Grant Scheme launched (to facilitate establishment/operation process); 3 proposals awarded in 2010. New Call published on AEGIS Web site (deadline 31 December 2010)
10. EUROGENEBANK proposal submitted to FP7 Research Infrastructure Call; met threshold but not selected for funding

# 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/>



# European Collection

## Selection of Most Appropriate Accessions

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# 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 Crop Working Groups and Countries
- No precise definition of MAA exists (result of a process!)
- Proposed simplified procedure to select MAAs (see handout)
- 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
- 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

- Need to be agreed by **each WG** for their specific crop(s)
- Used when deciding **which accession to accept** among two or more “quasi duplicate” or similar accessions / genotypes
- **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 criteria**



## MAAs: simplified selection procedure -1

1. WGs to develop **crop specific selection criteria** for identification of the Most Appropriate Accessions (MAAs) (selection among “duplicates”)
2. WGs (or delegates) to elaborate a list from a crop “pool”, as documented either in EURISCO and/or in CCDB, regardless MoU, Associate members, etc.
3. All selected accessions must meet Selection Requirements (WG should mainly focus on genetic uniqueness)
4. Selection criteria are used to select among duplicates (also considerations of management practices)

## MAAs: simplified selection procedure -2

5. WG sends list with candidate accessions to respective NCs for consideration of possible inclusion in the European Collection
  - Also inviting the country to check if any other accessions conserved in country could be included in European Collection
  
6. NC, in close consultation with the holding institute(s), and as the national focal point, indicates to WG whether or not proposed 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
  - WG looks for alternative accessions not confirmed by NC and seeks acceptance for inclusion by a different holder



# **AEGIS Quality System (AQUAS)**

## **Proposed next steps**

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# AQUAS - Principles

Quality system to be based on the principles:

## Quality assurance

- **Plan:** Say what you do
- **Do:** Do what you say
- **Check:** Let an independent body check that you do what you say
- **Act:** Correct and improve what you say you do

Decisions by **consensus**

**Agreed** minimum standards – involve partners; get “buy-in”

**Capacity building** plays a key role

Avoid unnecessary **bureaucracy** (pragmatic; not doctrinaire)

Effective **guidance** and **advisory approach** as **monitoring**



# Technical elements

**Elements** to be established:

**Operational genebank manual** – all AEGIS Associate Members;  
based on genebank template (**advanced draft available, version 9**)

**Generic operational standards** – Secretariat (based on manuals and suggestions by **WGs**; cooperation with FAO)

**Agreed minimum crop specific technical standards** – all **WGs**  
(complementing generic standards)

**Quality management system procedures** – Secretariat; all **WGs**;  
**Associate Members**:

- a. **record keeping**
- b. **reporting**
- c. **monitoring (not policing, but guiding and advisory approach)**



# Capacity building and oversight

## Capacity building:

If standards are not met -> capacity building  
(national funds or through projects)

## Oversight:

First level monitoring of implementation of AQUAS by WGs  
Second level monitoring across WGs by AEGIS Advisory  
Committee

# The way forward AQUAS - WGs

- Adopt and use the final template for a genebank manual (Associate members)
- Comment on **generic technical standards** (**Autumn/Winter 2010**)
- Initiation of process to develop **crop specific technical minimum standards**:
  - a. Collecting / Acquisition**
  - b. Regeneration / Propagation**
  - c. Drying and other preparatory steps**
  - d. Storage / field genebank maintenance**
  - e. Seed quality and viability monitoring**
  - f. Distribution**
  - g. Characterization**



Thank you  
for your  
attention!

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