



# Generic genebank standards and development of crop specific technical standards for *Malus* and *Pyrus*

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The logo for Mægis, featuring a stylized green and black symbol resembling a four-pointed star or a cross with rounded corners, with a green spiral inside. 

# Mægis Contents

1. Generic operational genebank standards
2. Minimum crop specific standards
3. FAO draft Field Genebank standards (as examples)
  - a) Establishment of field collections
  - b) Field management
  - c) Security and safety duplication
4. Proposed follow-up action



## AQUAS – Technical standards

1. **Generic operational standards - Secretariat**
2. **Agreed minimum crop-specific technical standards – all WGs** (complementing generic standards)

### 1. **Generic operational genebank standards**

- a) Agreement to join the FAO process;
- b) Several ECPGR members commented on draft **orthodox seed genebanks standards**;
- c) Secretariat participated in Expert Consultation
- d) Advanced draft was discussed by Commission during its meeting last July
- e) FAO produced revised draft orthodox seeds document

# AEGIS Technical standards – cont.

....., including evaluation standards; this version will be send to TWG and is placed on FAO and AEGIS websites

- e) Two new draft standards on **field genebanks** and **in vitro/cryopreservation** of non-orthodox seeds and vegetatively propagated crops have been prepared
- f) Both documents discussed by Expert Consultation and final drafts will be discussed by next **Technical Working Group of Commission** in November 2011
- g) Foreseen to include all 3 standards into **one document**

# Wægis FAO process

1. Whereas orthodox seed standards are close to finalization (i.e. the version that is on the FAO website), the two other documents still need further work.
2. Revised drafts based on the Expert Consultation will become available soon and comments will be requested.
3. It is planned to submit final drafts to TWG during the summer.
4. Assumed that final draft/s will be submitted to Commission for its meeting in 2013.
5. As an example, selected standards of the field genebank draft will be presented in the next slides.



## Some draft field genebank standards, as examples

### **FAO Draft Field Genebank technical standards**

Technical areas for which standards are suggested are:

1. choice of locations,
2. acquisition of germplasm,
- 3. establishment of field collection,**
- 4. field management,**
5. regeneration and propagation,
6. characterization,
7. evaluation,
8. documentation,
9. distribution, and
- 10. security and safety duplication.**



# Wægis Field genebank standards

## **Some examples of text of draft standards:**

### **3. ESTABLISHMENT OF FIELD COLLECTIONS**

- 3.1** Sufficient number of plants should be maintained to capture the genetic diversity within the accession and to ensure the safety of the accession.
- 3.2** A field genebank should have a clear map showing the exact location of each accession in the plot.
- 3.3** The appropriate cultivation practices should be followed taking into account micro-environment, planting time, rootstock, watering regime, pest, disease and weed control.



# Wægis Field genebank standards

## 4. STANDARDS FOR FIELD MANAGEMENT

- 4.1 Plants and soil should be regularly monitored for pests and diseases.
- 4.2 Appropriate cultivation practices such as fertilization, irrigation, pruning, trellising, rootstock and weeding should be performed to ensure satisfactory plant growth.
- 4.4 Genetic identity of each accession should be monitored by ensuring proper isolation of accessions wherever appropriate, inter-growth of accessions, proper labeling and field maps and periodic assessment of identity using morphological or molecular techniques.



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# Wægis Field genebank standards

## 10. SECURITY AND SAFETY DUPLICATION

- 10.1 A **risk management strategy** should be implemented and updated as required that address physical and biological risks identified in standards.
- 10.2 A genebank should follow the **local Occupational Safety and Health (OSH) requirements and protocols.**
- 10.3 A genebank employs **the requisite staff** to fulfill all routine responsibilities to ensure that the genebank can acquire, conserve and distribute germplasm according to the standards.

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# Wægis Field genebank standards

10.4 A field genebank accession should be **safety duplicated** at least in **one more site** and/or **backed up by an alternative conservation method/ strategy** such as *in vitro* or cryopreservation where possible.



## Proposed follow-up action

1. To **comment** on the FAO draft **field genebank** and **in vitro/cryopreservation documents**. The Secretariat will prompt the WG when the next draft versions are prepared.
2. When field genebank and in vitro/cryopreservation standards are endorsed by the Commission (expected in July 2013) it is proposed that the **WG assesses these standards** critically and decides whether (additional or new) crop specific standards are required.



Thank you for your attention!

