



Establishment of the European Collection for Malus/Pyrus

Jan Engels

Fourth Meeting of the ECPGR Working Group on Malus/Pyrus, 06-09 March
2012, Weggis, Switzerland

The logo for Wægis, featuring a stylized green and black symbol resembling a knot or a stylized letter 'W' with a spiral inside, followed by the text 'Wægis' in a black serif font and 'Contents' in a green sans-serif font.

Wægis Contents

- The European Collection - general introduction
- Selecting European Accessions
- General principles of European Accessions
- Selection Requirements
- Selection Criteria
- Simplified selection procedures
- Selection Criteria and approach used by *Prunus* (cherry) WG
- Proposed action points



The European Collection

- The European Collection consists of **dispersed accessions** ('unique and/or important'), maintained by genebanks as a virtual collection
- Through signing the **MOU** countries accept responsibilities for **long-term conservation** and **availability of EA**
- Only **formally accepted accessions** by countries enter the EC
- Conserve/manage according to agreed **quality standards**
- **Conservation/management strategies** for each crop needs to be prepared by respective Crop WG/NCG and approved by SC



Selecting European Accessions

- Main players are **Crop Working Groups** and **Countries**
- **Simplified selection procedure** to identify European Accessions, including MAAs, available
- **Selection Requirements** have been approved by the Steering Committee (see later)
- No precise **definition** of MAA exists (as **result of a process** and thus might vary from crop to crop!)
- The **Selection Criteria** have been discussed by the model crop groups, without much divergence of opinion (see later)
- **A WG agreement on Selection Criteria will be required for each crop or crop group**



General principles of European Accessions

1. AEGIS Members have discretionary rights to propose European Accessions;
2. Proposed European Accessions must meet the agreed Selection Requirements;
3. European Accessions must be free from any third party obligations or restrictions;
4. SMTA to be used for the transfer of Annex I crops;
5. Transfer of Non-Annex I crops registered as European Accessions to be under the terms and conditions of the SMTA with explanatory note



General principles of European Accessions (cont.)

6. Management Standards of European Collection to be proposed for each crop genepool by respective ECPGR Crop Working Group and approved by ECPGR Steering Committee;
7. Associate Members of AEGIS to perform all specified activities according to agreed standards;
8. Public domain accession-level information, as well as non-confidential characterization and evaluation data to be made available;
9. Each European Accession to have an identified safety-duplicate stored under the same or better conditions than the original



Selection Requirements

Need all to be fulfilled/met

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

To sort out duplicates —► MAA

- 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 (i.e. **MAAs**)
- **WGs** to decide if any of these criteria have **prevalence** over the others, or that the selection should be the result of a **combination of two or more** criteria



MAAs: suggested 'generic' Selection Criteria

1. Maintained in "country of origin"
2. A known origin (collected and/or bred; pedigree data!?)
3. Comprehensiveness of passport information
4. Number of regeneration/multiplication cycles (Do we know?)
5. Health status (i.e. is the germplasm disease free?)
6. Existence of morphological/molecular characterization data
7. Existence of (agronomical) evaluation data
8. Validated accession name (particularly relevant for perennial clonal crops where the same name can be attributed to different accessions; history of individual accessions is important; special attention to be paid to synonyms and homonyms)



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 requirements** have already been used to compile list of candidate accessions
- 4. Selection criteria** (crop specific) are used to select MAAs among “duplicates” (also considerations of management practices)
- 5. 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

6. 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



MAAs: Selection Criteria

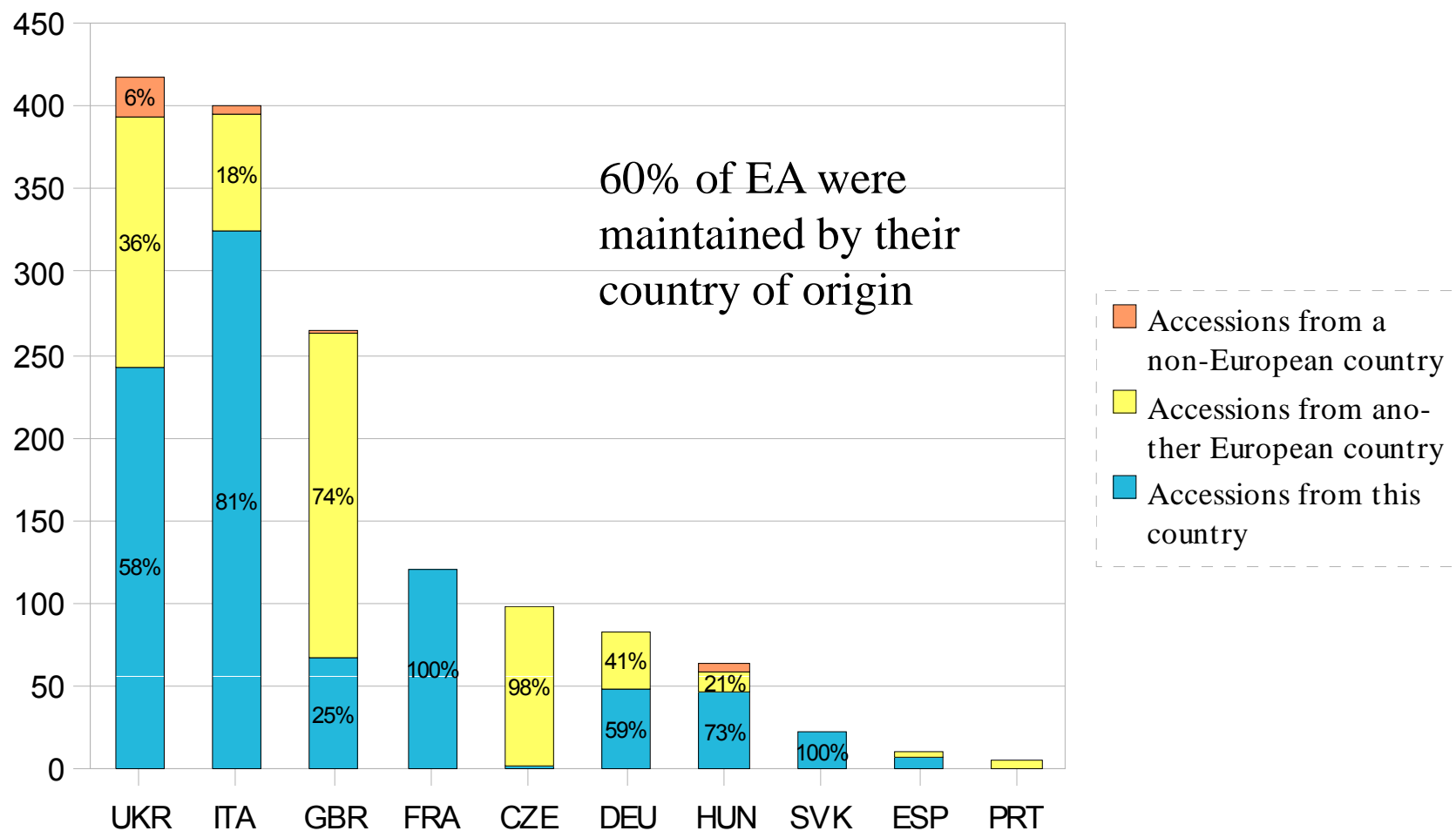
Approach taken by *Prunus* (cherry) WG

Selection criteria were prioritized and ranked as follows:

1. **Trueness-to-type** (particularly relevant for perennial clonal crops in which synonyms and homonyms are frequent)
2. Accompanied by **passport information** using the EURISCO multi-crop passport descriptors (being updated!)
3. Accompanied by **characterization and evaluation data** (at least those priority descriptors defined by the Prunus WG)
4. Maintained in the **country of origin**
5. Of high **health status**, e.g. virus free
6. Of **known source**, whether collected or bred



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



Proposed action points for WG workplan

1. Agree with which data to start (e.g. EURISCO; CCDB; both; consider to work on accessions offered by countries) and how to share the responsibilities
2. To agree on selection criteria for MAAs in order to allow decision on European Accessions (differentiate between *Malus* and *Pyrus*?)



Thank you for your attention!

