

### *Discussion*

S.H. Hjeltnes: Considering the proposal, how can the quality standards be applied to trees maintained on-farm, such as the private collections that participate in national conservation networks?

Accessions that would be part of AEGIS need to respect the standards.

Guidelines should be developed for on-farm conservation and allowing evolution to continue. The Group however could not identify at the moment any volunteers to work on these aspects. This initiative, as well as the possibility of organizing an ad hoc meeting with key stakeholders and representatives of the *In situ* and On-farm Conservation Network can be considered for ECPGR's next phase.

## **Working Group parallel sessions**

The WG split into three separate groups to discuss specific items. The results of the discussions are reported below.

### **Prunus-specific standards for genebank management**

Chaired by E. Balsemin.

Participants: Kristiina Antonius, Eva-Maria Gantar, Inger Hjalmarsson, Stein Harald Hjeltnes, Rajmonda Sevo, Rafael Socias i Company, Sandor Szügyi, Selim Tokmak.

The group started the discussion on the basis of the minimum standards for *Prunus* conservation that were proposed by the AEGIS *Prunus* sub-group in 2008.

The following suggestions/precisions were given complementary to the proposal made in 2008:

- Minimum passport data required for the selection of MAAs for AEGIS
  - **Mandatory:** ACCENUMB, ACCENAME, INSTCODE, NICODE, GENUS, SPECIES, ORIGCTY (but not to be confused with the country of the donor; if not known, it should be left blank)
  - **Recommended:** ACQDATE, DONORCODE, DONORDESCR, DONORNUMB, OTHERNUMB, BREDCODE, BREDESCR
  - **Other recommended:**
    - IDENTIF (using a standardized method)
    - VIRUSTATUS and VIRUSDATE (descriptors to be revised)
    - SAMPSTAT
    - STORAGE (but need to revise EURISCO descriptor; e.g. it is not possible to indicate that an accession is stored both in the field and in the greenhouse).
  
- Minimum passport data for a given accession that is received/acquired
  - **Recommended to the donor or the collector:** ACCENAME, GENUS, SPECIES, DONORCODE or DONORDESCR, DONORNUMB, ORIGCTY, and other passport data known to the donor/collector
  - **Mandatory for the genebank** (for an accession that is registered in the genebank documentation system): ACCENUMB, INSTCODE, DONORCODE or DONORDESCR (if accession is received from a donor institute), and GENUS (if not previously mentioned by the donor/collector)

- **Recommended to the genebank:** ORIGCTY (but not to be confused with the country of the donor; if not known, it should be left blank).
- When an accession is dispatched, it should be accompanied by a label with minimum passport data, as follows:
  - **Mandatory:** NICODE (only for transfers from the National Inventory to EURISCO), INSTCODE, ACCENUMB and GENUS, because all are mandatory descriptors for EURISCO
  - **Recommended:** ACCENAME, SPECIES, ORIGCTY (if known).
- A set of minimum *Prunus* characterization data should be agreed by the WG (also useful for selection of MAAs for AEGIS), including both phenotypic and perhaps genotypic data and photographs of the fruit, if possible. This list is still to be discussed (see further, “Phenotypic and molecular characterization” session).
- Regarding the possible addition of other *Prunus*-specific standards as new elements to complete the whole process, it was considered that elements of management of a *Prunus* genebank such as managing human resources, ensuring physical security and ensuring security of equipment are not *Prunus*-specific. On the other hand, data management and traceability require the following standards:
  - Traceability of information for each individual, from the initial grafting to death;
  - Registration of data into dedicated files or databases.

It is also important to use a standard methodology to verify accession identity. The WG will need to develop this methodology.

Additional elements of the *Prunus*-specific standards need to be included, keeping in mind that other propagation techniques beside grafting are used:

- Propagation/re-propagation: use virus-tested compatible rootstocks (only if grafting is necessary);
- Distribution: maintain a record of the transaction.

Additional elements of the *Prunus*-specific standards may have to be included, keeping in mind other conservation methods:

- Seed collections: only for conservation of rootstock seed, but these are not part of a genebank activity (not to be included in the *Prunus* AQUAS);
- *In vitro* culture collections: *in vitro* experts would need to develop these standards;
- Cryopreserved collections: as the techniques are not well developed for *Prunus*, it is too early to include any standard in the *Prunus* AQUAS;
- Add greenhouse/screenhouse collection standards.

Regarding the draft version (v.8) of the template for the preparation of a genebank operational manual provided by the ECPGR Secretariat, it was recommended that a section on conservation in greenhouse/screenhouse be added. It was also suggested that the existing operation manual prepared by the Corvallis USDA genebank be used as a basis as it includes screenhouse operations.

**Workplan**

13. A proposed list of minimum passport descriptors (mandatory and recommended) for all *Prunus* species will be prepared by E. Balsemin and circulated to the Group for final approval **by November 2010**.
14. A document summarizing all the proposed *Prunus*-specific standards will be prepared by E. Balsemin and circulated to the Group for final approval **by June 2011**.

**Safety-duplication arrangements, in vitro and in vivo**

Chaired by Daniela Benediková.

Participants: Mihai Botu, Edite Kaufmane, Miroslav Cizmovic, Metka Hudina and Torben Toldam-Andersen.

Safety-duplication is considered very important. Many countries organize it in the field and greenhouse (*in vivo*); only a few countries organize it *in vitro* (Italy and Estonia at the experimental stage). *In vitro* safety-duplication is considered expensive and problematic for the slow regeneration of the entire plant. The protocols are also very crop- and variety-specific. *In vivo* safety-duplication is preferred, with 2-3 trees per accession in 2 places. The need to prepare protocols for *in vitro* conservation was also discussed.

**Workplan**

15. D. Benediková and M. Botu will prepare the safety-duplication methodology **by December 2010** and circulate it to the Group for approval.

**Phenotypic and molecular characterization**

Chaired by M. Lateur.

Participants: Felicidad Fernández (Rapporteur), Daniela Giovannini, David Szalatnay, Henryk Flachowsky, Hedi Kalmäe, Larisa Gustavsson, Petra Engel and Pakeza Drkenda.

As an introduction to the specific work of characterization and evaluation of genetic resource collections, M. Lateur presented some general methodological aspects of the work.

To start with, "characterization" work, which is of most specific importance for the identification of the material, should be differentiated from the "evaluation", which is of tremendous importance for the further potential use of the material. Characterization deals with the most stable and the less environmentally influenced traits. Therefore the characterization work can be carried out during a limited period of time with data collected during at least 3 representative years. Concerning the evaluation work, the methods used, the orchard management conditions and specific methodologies need to be properly defined; duration or number of years needed for a proper evaluation work depends on, for example, priorities defined by the curators, available budgets, available competent staff, orchard management systems, representative years. Evaluation is a dynamic process that needs to be properly planned to obtain logical series of data that can be finally analysed. For the evaluation, an average of 5-6 representative years would be optimal with a strict minimum of 3 good representative years.

The task of curators is to implement a good **primary evaluation** that can be defined as a first screening using standardized protocols, but with a very simple experimental design because the very large number of accessions allows only a few replications. This work should take place in a homogeneous environment to enable comparison of accessions in the same conditions. This primary evaluation could later on be followed by a secondary