

Report of a Network Coordinating Group on Fruit

First meeting - 7 November 1999 - Gembloux, Belgium

L. Maggioni, *compiler*

European Cooperative Programme for Crop Genetic Resources Networks (ECP/GR)

**Report of a meeting of the Fruit Network Coordinating Group (NCG)
Gembloux, Belgium, 7 November 1999**

Report prepared by Lorenzo Maggioni, ECP/GR Coordinator

Participants

Janos Apostol
Jan Blazek
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Manfred Fischer
Emma-Jane Lamont
Marc Lateur
Bruno Lefrancq
Lorenzo Maggioni
Robert Oger
Viviane Planchon
Ken Tobutt
Anne Zanetto

1. Introduction

Marc Lateur welcomed participants to the Agricultural Research Centre, Gembloux. Manfred Fischer, who kindly accepted to chair the morning session of the meeting, asked the participants to introduce themselves. Invited members of the Network Coordinating Group attending the meeting were the Chair, Vice-Chair and Database manager of the Working Group on *Prunus* (respectively Françoise Dosba, Ken Tobutt and Anne Zanetto), the Chair and Vice-Chair of the Working Group on *Malus / Pyrus* (respectively Manfred Fischer and Jan Blazek) and the database managers of the European *Malus* Database (Emma-Jane Lamont) and of the European *Pyrus* Database (Marc Lateur and Robert Oger). Lorenzo Maggioni (ECP / GR Coordinator), Janos Apostol (Fruit growing station, Budapest), Denis De Froidmont (National Coordinator for Belgium) and other staff from the local Institute attended the meeting as observers.

2. Presentations

2.1 ECP/GR

L. Maggioni introduced the European Cooperative Programme for Crops Genetic Resources Networks (ECP / GR), explaining objectives, mode of operation and workplan for Phase VI of the Programme (1999-2003). He specifically outlined the role that the Network Coordinating Groups (NCGs) were expected to play. Background information on the function of the NCGs had also been distributed to participants in preparation of the meeting.

2.2 European *Malus* Database

E.-J. Lamont explained that a pilot version of the European *Malus* Database (EMDB) is available from the Internet as downloadable in Access. She also reminded the Group that the "Corestore" structure of the database had been distributed to all the members of the Working Group on *Malus/Pyrus*. She informed the meeting that the list of minimum descriptors is also available from the web. E.-J. Lamont expressed the wish that more data should be sent for inclusion in the database. However, the pilot European *Malus* database is in a very simple format and it is different in structure to the "Corestore" program that has been distributed to members of the *Malus/Pyrus* Group.

2.3 European *Pyrus* Database

Marc Lateur presented an update on the preparation of the European *Pyrus* Database (EPyDB). The Entry page is available from the European Information Platform, where it is possible to find background information, the list of *Pyrus* species and potential data contributors, as well as the list of agreed minimum passport descriptors and proposed specific descriptors. A request for preliminary data was sent to all European *Pyrus* collection curators and the *Pyrus* DB manager is expecting to receive a list of accession names by 25 November 1999. As a workplan for the year 2000, M. Lateur proposed that all WG members collect passport and specific data for a subset of 9 cultivars common to different countries. This initial exercise would allow the structure of the database to be established and which discriminating characters remain stable under different environments to be clarified. The Group approved the proposed workplan for the EPyDB and suggested that the 9 cultivars to be screened could be the following:

1. Beurré Hardy
2. Alexander Lucas Butterbirne (Beurre Alexandre Lucas)
3. Comtesse de Paris (Gräfin von Paris)
4. Conference
5. Doyenne du Comice
6. Josephines de Malines (Josephin von Mecheln)
7. Précoce de Trevoux (Frühe von Trevoux)
8. Seigneur Esperen (Belle Lucrative, Esperen Herrenbirne)
9. Williams Bon Chretien (Bartlett)

The Group agreed that it would be more practical to send the request for data directly to individual curators. However, the WG members should also be informed of all the requests made within their country. They could ultimately make themselves instrumental in encouraging the provision of data to the DB manager, or they could even centralize the data collection, if appropriate in the specific situation.

The issue was raised of the use of different synonyms for species and for cultivars. It was considered useful to define a catalogue of names that would be accepted for inclusion in the DB, together with the respective conversion tables to the names originally used. However, this task was considered too demanding, unless a specific project could be funded.

2.4 Working Group on *Malus/Pyrus*

Manfred Fischer summarized the main elements of a workplan that he and J. Blazek were suggesting for the *Malus/Pyrus* WG. These would include the further development of the two databases and their presentation on Internet. It was also suggested that action could be intensified on collection, evaluation and use of wild species of *Malus* and *Pyrus*. M. Fischer also proposed that discussion be continued in the Group regarding evaluation methods. He quoted the example of the German research programme “EVA”, which is studying methodologies for the analysis of evaluation data (<http://www.dainet.de/genres/eva>). The definition of draft standard protocols for evaluation of canker, scab and mildew resistance, fruit firmness, fruit storage quality, fruit sugar/acid ratio was still considered a priority for the Group. J. Blazek suggested that more effort be put into gathering data from collection holders who, for different reasons, have not yet sent their data for inclusion in the European Database. He offered to establish contacts directly with respective National Coordinators and to encourage them to provide their data to the EMDb.

M. Fischer was pleased to announce that E.-J. Lamont had agreed to collaborate closely with the Chair and Vice-Chair of the *Malus/Pyrus* WG, by offering her help as a native English speaker.

2.5 European *Prunus* Database

Anne Zanetto informed the Group that a computer expert, who was in charge of solving a few technical constraints before the DB could be ready for Internet presentation, was checking the European *Prunus* Database. However, due to its complex structure, the DB, , would be presented on Internet only in a simplified version and this should happen before the end of the year. The ECP/GR Coordinator suggested that the DB problem could also be shared with the ECP/GR Internet Advisory Group (<http://www.cgiar.org/ecpgr/platform/Advisgrp.htm>), which was created to offer advice in similar cases.

2.6 Working Group on *Prunus*

Françoise Dosba summarized the achievements of the *Prunus* WG throughout the last four years. She confirmed that the interaction between the Gen Res 61 project partners and the ECP/GR Working Group on *Prunus* had been complete and very effective. The main objective accomplished was the establishment of the EPDB and its imminent transfer to Internet. The standardization of passport data had been easy thanks to the existence of the IPGRI/FAO Multicrop

descriptors. Also the definition of a minimum set of characterization descriptors was accomplished, although it required longer time and extensive discussion. Reference cultivars were defined for most of the descriptors and also specific references for eastern European countries were included. As a result, the EPDB already includes a high coverage of passport data, a good coverage of primary characterization data and some additional characterization data. Reports of the joint Gen Res 61 and ECP/GR meetings were all published by IPGRI and they were also integrated into the reports prepared for the European Commission. Three issues of a *Prunus* Newsletter were produced and distributed to *Prunus* experts in Europe. F. Dosba listed the future mode of operation under the coordination of the ECP/GR Fruit Network Coordinating Group and the establishment of a European *Prunus* collection, as immediate elements for discussion within the Group.

3. Discussion

3.1 Movement of germplasm

The ongoing issue of the difficulty of exchanging fruit propagating material between countries was briefly discussed. Legal and phytosanitary constraints are currently limiting the free and safe movement of germplasm. It was agreed that it would be desirable to assign a study on this subject to an expert who could advise the Group on possible solutions to facilitate the exchange of material in Europe. The Group will try to identify the potential expert(s) in the near future and funds should also be sought to cover the cost of this study, which could be undertaken either at IPGRI or at any other host institute.

3.2 European collection

Ken Tobutt reported about the ongoing discussion in the task force which was appointed at the last meeting of the *Prunus* Working Group, to consider the possible option of a European *Prunus* collection and the mechanism for its establishment (the task force is comprised of D. Benediková, H. Duval, M. Fischer, K. Tobutt and A. Zanetto). K. Tobutt distributed a draft consensus document, towards the definition and implementation of a European *Prunus* collection. Discussion on this document continued on the following day, during a meeting of the Gen Res *Prunus* project group.

Points of discussion:

- Objective of the European collection (such as formalization of responsibility, long term conservation);
- Availability of the material;
- Phytosanitary status of the material;
- Criteria to belong to the European collection;
- DB manager role;
- Linkage between the collection and the Database;

- Formalization of the responsibility by the countries /by the institutes;
- Responsibilities at different levels;
- Standards for conservation to be defined crop by crop;
- Extension of the concept to *Malus* and *Pyrus*.

A revised document was produced (see Annex I). This document is open for comments from all the members of the Network. If approved by the Network members, the concept could be applied to *Malus* and *Pyrus* European Collections, as well as to the *Prunus* European Collection.

4. Network Coordinating Group

The Group discussed whether crops other than *Malus*, *Prunus* and *Pyrus* should fall within the scope of the Fruit Network. It was feared that the limited resources available would be stretched too thin if the scope was expanded to other areas. However, it was acknowledged that other groups already exist in Europe which deal with other fruit crops. The establishment of a link with these groups was considered useful to achieve better coordination and to develop synergies at a regional level on fruit genetic resources. The Group agreed that at least two additional people should be invited to be members of the Fruit Network Coordinating Group, thereby participating in the future discussion and strategy planning at the Network level. The first is Ignacio Batlle, Department Arboricultura Mediterranea, Reus, Spain, focal point for "minor fruits" in the ECP/GR Minor Crops Network. The second is Edgardo Giordani, University of Firenze, Italy, database manager of the European Minor Fruit Tree Species database, which includes fig, pomegranate, Japanese persimmon, loquat, cactus pear, quince, European chestnut, pistachio, strawberry tree, cornelian cherry, medlar, jujube, azerole, sorbe, mulberry tree and carob tree.

K. Tobutt suggested that a contact also be established with the EUFORGEN Network on Noble Hardwoods. He suggested that exchange of information would be useful especially in the areas of *in situ* conservation, collecting and selection of wild germplasm.

It was agreed that the Fruit NCG will operate mainly by correspondence until the next Fruit Network meeting. However, another meeting of the Fruit NCG could be autonomously organized by its members in the near future, making use of available funds budgeted in ECP/GR for the Fruit Network Coordinating Group meeting, but unspent as a result of savings in the organization of the Gembloux meeting (the amount available is approximately US\$10,000).

A discussion on the future priorities for the Fruit Network was based on the document provided by the ECP/GR Steering Committee (Crop Working Group Process Analysis, Annex VIII of the report of the Seventh Steering Committee meeting). A list of priorities was agreed as follows:

Documentation:

- Inclusion of passport data for *Malus* and *Pyrus* in the respective Central Databases;
- Inclusion of missing primary descriptors data for *Prunus* in the EPDB;
- Make all fruit Databases accessible through Internet;
- Inclusion of evaluation data for *Prunus* in the EPDB;
- Linking with other programmes/ networks such as between Working Groups and with EUFORGEN and other groups working on fruit genetic resources in Europe;
- Establishment of a protocol for updating data every five years.

Conservation:

- Establishment of uniform standards for conservation of fruit germplasm. A draft was prepared during the meeting and reproduced here:

Uniform standards for conservation of fruit germplasm –DRAFT

Two trees per accession and two sites per cultivar. Propagation of scion cultivars to be by budding or grafting on to health clonal rootstocks; propagation of rootstock cultivars to be by budding, grafting or cutting. Good phytosanitary conditions to be maintained especially in relation to quarantine pests and diseases.

- Establishment of the most appropriate methods for fruit tree conservation (such as cryopreservation, in vitro growth, *in situ*, *ex situ*, etc.).

With regard to the use of synonyms in the European Fruit Databases, the following guidelines have been proposed:

- Names

As a general rule, the accepted name for a given accession is the first published name in the pomological literature; the name should be given in its original language without translation, but in the Latin alphabet (without accents). There are exceptions however, such as when a subsequent name has been used so frequently that it is then taken as the accepted name. For "local cultivars", each curator has to decide the most appropriate name.

Only synonyms in use should be included in the database but not necessarily all of them.

Trade names, marked with the ©, will also be included in the synonyms list to allow searching on trade names. The list will then be called "List of synonyms and trade names" in the database.

Some accessions do not have a real name, but are designated by numbers. Unless these are commercially available rootstocks, their inclusion in the database is not recommended, since they are generally selections. Each curator should check the meaning of these numbers to see if it is possible to delete these items from the database according to the meaning of these numbers.

The following crop-type specialists agreed to check, possibly before June 2000, the list of names currently existing in the database with the purpose of defining accepted names and their synonyms and harmonizing variant spellings:

- * **Almond:** Rafael Socias i Company
 - * **Sweet Cherries:** Ken Tobutt and Manfred Fischer
 - * **Sour cherries:** Janos Apostol and Manfred Fischer
 - * **Apricot:** Ioannis Hatziharisis and Fabrizio Grassi
 - * **Plums:** Marc Lateur, Henk Kemp and Jan Blazek
 - * **Japanese plums:** Henri Duval
 - * **Peach:** Fabrizio Grassi and Raymond Saunier
 - * **Rootstocks:** Arancha Arbeloa
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- * **Malus:** Markus Kellerhals/Monica Goerre and Henk Kemp (to be confirmed)
 - * **Pyrus:** Marc Lateur and M. Lelezec (to be confirmed)
- References
- References to the literature could be added. At present there is no field for references in the database, but these could be included in the "remarks" field. The introduction of a new field for "references" could be considered in the next version of the database.

Collecting

- Analysis of the Databases with genetic diversity indices and identification of duplicate accessions (the three DB managers would promote and coordinate the work). This work should facilitate the definition of collecting priorities in the future.

Characterization/evaluation

- Elaboration of a strategy to include in the DBs the available information on molecular markers. The results of the ISHS Symposium on molecular markers for characterizing genotypes and identifying cultivars in horticulture, to be held in Montpellier, 6-8 March 2000, will be considered before deciding how to integrate data in the DBs. Links with groups working on molecular characterization should be maintained. Different Working Groups should make proposals for the different species and elaborate conclusions for action before the next Fruit Network meeting.

Complementary activities

- Collaboration between *Malus/Pyrus* and *Prunus* WGs.

The Fruit NCG agreed to oversee the implementation of the above activities.

Fruit Network meeting and other business

A proposal was made that the next Fruit Network meeting could be held in the year 2002, according to the workplan established for Phase VI of ECP/GR. This meeting should be attended by the members of the Fruit Network Coordinating Group and all the attending members of the *Malus/Pyrus* and *Prunus* Working Groups. It was proposed to try to organize the meeting back to back with the meeting of the EUFORGEN Noble Hardwood Network, to take advantage of possible synergies. A kind offer was made by J. Apostol to host the meeting in Hungary. The Group thanked him for the offer, which will be taken into consideration.

It was proposed that the ECP/GR *Prunus* Newsletter could be merged with the EUCARPIA newsletter. M. Fischer will further develop this proposal for a year 2000 issue and inform the Group of necessary action to be taken.

The Centre de Recherches Agronomique, Gembloux, was thanked for the warm hospitality and the excellent organization of the meeting.

Annex I

(Revised October 2001)

Towards a definition and implementation of a European *Prunus* Collection

Purpose

To coordinate efforts of individual European countries to conserve, and make available for propagation and research, *Prunus* accessions originating in Europe or otherwise important to European horticulture, silviculture, cultural heritage or science.

Composition

The European *Prunus* Collection should be a decentralized *ex situ* collection comprising appropriate accessions held by participating genebanks and available for distribution.

Accessions to be regarded initially as European Collection accessions are those held in various European countries and accepted as European Collection accessions, by the ECP / GR *Prunus* Working Group.

Accessions should be accepted as European Collection accessions if they are:

- important accessions from the wild, collected in Europe;
- cultivars or certain selections raised in Europe.

In addition there may be included:

- other wild accessions, cultivars and selections important for horticulture, silviculture, cultural heritage or research in one or more European countries.

Cultivars protected by Plant Breeders' Rights and virus-infected items should be included even if they cannot be distributed freely at present.

Subsequently, if several accessions of the same genotype are held, a limited number may have the European Collection designation confirmed by the ECP/GR *Prunus* Working Group, to reduce duplication of efforts.

Implementation of decentralized collection

1. Curators, to offer accessions by sending a list to the Central Database manager.
2. Central Database manager analyzes the offers and, with agreement of the *Prunus* Working Group, notifies the participating genebanks concerned of the accessions that will be regarded as European Collection accessions.
3. Central Database Manager identifies European accessions held at only one site that need to be safety-duplicated in a second site and provides the list to the Working Group and the ECP/GR Secretariat for action.

Responsibilities of participating genebanks

- To provide the names (i.e. species, cultivar etc.) of the accessions they are offering as European accessions, with identification numbers where appropriate, to the European *Prunus* Database Manager.
- To endeavour to provide additional passport data, such as country of origin and virus status.

For accessions accepted into European *Prunus* Collection:

- Also to maintain the trees, ideally at least two per accession, or give at least two years' notice *via* the European *Prunus* Database Manager before grubbing.
- To endeavour to provide characterization data to European *Prunus* Database in accord with agreed descriptors.
- To make scion wood (e.g. two sticks) available in response to reasonable requests from within Europe, subject to restraints of Plant Breeders' Rights and Plant Passports.

Responsibilities of European *Prunus* Database Manager

- To obtain the lists of available *Prunus* accessions and location from participating genebanks, together with passport data, and make them available in a computerized version.
- To produce a list showing the number and location of accessions of each genotype. To draw attention to genotypes held at only one site (needing safety duplication).
- To cross check and confirm with the ECP/GR *Prunus* Working Group and the participants which accessions are regarded as European Collection accessions and to annotate the database by inserting 'yes' in the field 'European *Prunus* Collection'.
- To seek characterization data of accepted accessions.
- To notify each country of any genotypes originating in that country but not held there so that country can consider acquiring them.
- To receive and disseminate information about European Collection accessions threatened by grubbing with a view to arranging propagation and replanting.
- To update database when informed by holders.