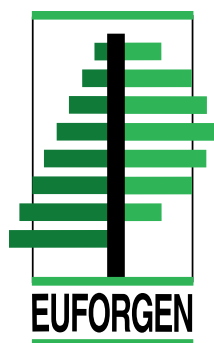




Noble Hardwoods Network

Summary of the seventh meeting

Arezzo, Italy, 22-24 April 2004



European Forest Genetic Resources Programme (EUFORGEN)

Seventh EUFORGEN Noble Hardwoods Network Meeting

Opening

F. Ducci welcomed the participants on behalf of local organizers and provided a short presentation on the Istituto Sperimentale per la Selvicoltura (ISSA) and its work on noble hardwoods. G. Corrado (ISSA Commissioner), A. Tocci (ISSA Director), D. De Laurentis (Corpo Forestale dello Stato and EUFORGEN Italian National Coordinator) welcomed the participants on behalf of their Institutes.

M. Rusanen, Chair of the Network, welcomed the participants from 27 countries and thanked the local organizers for the arrangements. All participants then briefly introduced themselves.

M. Rusanen presented the tentative agenda of the meeting which was adopted with some amendments. L. Salek, J. Buhagiar and S. Orlovic were nominated as rapporteurs for the meeting.

EUFORGEN update

J. Koskela provided a short update on recent meetings and outputs of EUFORGEN and listed various other meetings where the Secretariat promoted the EUFORGEN Programme. He briefly highlighted the outputs of the 4th Ministerial Conference on the Protection of Forests in Europe (MCPFE) and the recent meetings.

Introductory country report by Iceland

T. Eysteinnsson gave a general presentation on noble hardwoods in Iceland highlighting the role and the importance they have in the country. The present forest management goals are mainly multiple use with emphasis on timber production. Other important elements are soil conservation, land reclamation, amenity and recreation. The full country report will be published in the proceedings of this meeting.

Northern Europe (Denmark, Finland, Norway, Sweden, Iceland, Ireland and United Kingdom)

For most of the group and apart from Iceland the country reports have not changed to any notable degree since the last meeting in Portugal. However, there has been major changes in some areas, e.g. in the forest reproductive material sector. The change in European Commission (EC) regulation (1999/105/EC) on 1 January 2003, extended the regulation from the 13 'scheduled' species to 47 species. There is the additional impact of increased membership of EU with the additional ten new countries extending the open market area.

Plant material of unsuitable sources will have a negative effect on forest genetic resources, and material should be clearly identified and its adaptedness should be clearly stated. This is also important for material used for landscaping and roadside planting. The group stressed the importance of informing and raising awareness among forest professionals and the general public about the impact of provenance choice. However, the group expressed a wish to avoid the popular understanding that use of local is always best.

The discussion highlighted the category 'source identified' as causing some confusion in a number of countries. The group discussed the sources of forest reproductive material, some favouring improved seed orchard seed while others favour a close-to-nature approach. Species diversity requirements can be beneficial for hardwood gene conservation but the group recognised the extra cost in fencing the noble hardwood plantations.

Western Europe (Belgium, Hungary, Luxembourg, The Netherlands, Germany, Austria and Switzerland)

All countries have continued surveying and inventorying noble hardwoods species with different levels of detail and different focal points.

The Member States implemented the 1999/105/EC directive in 2003, Luxembourg is still working on the update. In Hungary, the updated legislation on forest reproductive material (FRM) will be in force on joining the European Union. Switzerland revised the Forestry Act with emphasis on conserving and enhancing biodiversity. The category 'source identified' is handled differently in each country.

Research activities cover pollination and variation studies, genetic characterisation of populations and studies on 'purity' of certain species affected by continuous introgression pressure (*e.g. Malus, Pyrus*).

The practical implementations had been summarised in the tables included in the country updates.

Austria and Germany published brochures explaining the new regulations on FRM. Additionally, the same countries issued recommendations/guidelines regarding the use of local material for non-forestry purposes (*e.g. landscape and amenity plantings*).

The group felt that questions on species not listed in *Annex I* of the EC directive, as well as experience regarding noble hardwood seed orchards should be put on the agenda of the next meeting.

Central and Eastern Europe (Estonia, Poland, Czech Republic, Slovenia, Serbia and Montenegro, Croatia and Bulgaria)

The virgin forests of this sub-region have an important role in conserving noble hardwoods genetic diversity. Field inventories are based mainly on state forest service or enterprises databases, but genuine inventories per species are also done by some research institutes.

Policy and legislation follow the EC regulations and the further development of national forest programmes is in line with MCPFE resolutions. An act on FRM has been prepared and implemented in all countries (in some in 2004). Slovenia added eight species to the national list.

A majority of countries continue in their research projects dealing with noble hardwoods. No recent research activities are reported for Estonia.

Practical implementation is different in each country. Coordination is done mainly by representatives of research institutes and through personal contacts.

Public awareness concentrated on seminars, teaching and producing leaflets, also some conferences and Web sites/virtual networks.

Mediterranean region (Portugal, Spain, Italy, Malta, Turkey and France)

Current problems concern the compilation of inventories, the main difficulty being on the definition of population or stand for those noble hardwood species scattered in mixed forests. Some noble hardwoods are recorded only by genus. In addition priority assigned to a species differs between countries with Portugal inventorying only chestnut, Spain and Italy added 3 and 39 species respectively to their national lists.

The main changes in policy and legislation concern the application of the 1999/105/EC Directive by all the countries within the group. However, the species list differs considerably between members. Harmonisation of laws and methods for establishing seed stands and provenance regions was highlighted.

Research in progress concerns population genetics, breeding and selection of new basic materials and their propagation techniques for a number of noble hardwood species. *Ex situ* conservation studies are undertaken in all countries.

Conservation work on *Liquidambar orientalis* and *Corylus colurna* are under way in Turkey. Legislation for establishing special areas of conservation to protect habitats or species has been enacted in some countries. In France four *ex situ* collections of noble hardwood species (*Sorbus domestica*, *Ulmus* spp., *Prunus avium* and *Juglans* sp.) are now becoming national collections.

In general coordination in most countries is undergoing reform following application of the 1999/105/EC directive.

Documentation, information and public awareness

Photo CD

B. De Cuyper updated Network members on the progress made on the image collection database providing statistics and highlighting gaps. Morphology is currently the most represented while other

topics such as management and wood utilisation are lacking. Therefore he stressed the importance of providing material to fill the gaps.

Participants were reminded that photos can be used freely for public awareness purposes provided that the name of the photographer and EUFORGEN (e.g. B. De Cuyper/EUFORGEN Noble Hardwoods Network) are acknowledged. B. De Cuyper agreed to simplify the classification and send a message with instructions to all participants via e-mail by 30 April and participants will send images to Bart by 30 June 2004. In addition B. De Cuyper will finalise the CD case cover design.

Network and EUFORGEN posters

An updated version of the Noble Hardwoods Network poster and a general EUFORGEN poster were displayed. The Network poster was originally developed for the DYGEN Conference and revised for the World Forestry Congress. These posters as well as other Network posters are available from the EUFORGEN Web site.

Noble Hardwoods poster

The poster text was originally agreed on during the sixth Noble Hardwoods Network meeting in Portugal. Relevant high-quality photos were selected by S. de Vries and T. Myking and sent to the Secretariat. The layout of two draft versions of the poster was presented and discussed during the meeting. The version showing the EUFORGEN Web-address was chosen and it was agreed to improve the layout following the suggestions provided during the meeting. The poster will be produced by the Secretariat and will also be made available through the EUFORGEN Web site.

Meetings, projects and other initiatives

CASCADE update

F. Villani presented the outputs of the CASCADE project (EVK2-CT-1999-00006), which focused on securing gene conservation and both adaptive and breeding potential of chestnut (*Castanea sativa*). The project aimed to integrate information from several research fields to devise long-term strategies for the conservation of chestnut genetic resources. The final project report has been submitted to the EC and the project partners are in the process of developing several publications based on the project. The Network participants considered the results of the project useful for the further development of the Common Action Plan-concept. More detailed information can be found at <http://soi.cnr.it/~chestnut>. F. Villani will provide a written update to be included to the meeting report.

EVOLTREE proposal

B. Heinze provided an update on EVOLTREE (Evolution and Management of Diversity in European Forest Trees) which was submitted as a Network of Excellence (NoE) proposal to the EU 6th Framework Programme in 2003. The proposal aimed to implement genomic approaches for monitoring, predicting and managing genetic diversity in European forest trees for sustainable resource management and environmental protection. EVOLTREE was a consortium of 32 partners from 14 different countries. The proposal was not accepted for funding because forest genomics was not considered as a high priority topic in the previous call, which had a major focus on marine ecosystems.

The EVOLTREE coordinator (A. Kremer, France) has recently sent out a message to the partners and asked them to provide feedback for the revision of the proposal. The next and final call for proposals under the 6th Framework Programme is likely to be opened in June 2004 and it will focus on terrestrial ecosystems. EVOLTREE II could be re-submitted with substantial changes.

Others

J. Svejgaard Jensen informed the Network on a recent US proposal to establish a IUFRO working party on silviculture and management of endangered species.

E. Collin presented the outcomes of the second International Elm Conferences held in Valsain (Spain) in 2003. The proceedings of the conference will be published soon.

New EC Regulations on Genetic Resources in Agriculture

J. Koskela reported on the development of new EC Regulations on Genetic Resources in Agriculture. The focus of this new Regulation will be on animal gene conservation and the budget will be € 10 million for a period of three years. The scope of the Regulation also includes crop, microbial and forest genetic resources with the focus on conservation, characterization, collection, utilization, documentation and evaluation. On-farm conservation and inventories are likely to be also eligible but research activities are specifically excluded. EUFORGEN is mentioned as the only forest-related framework in the Programme Regulation document. A first call is expected to be opened by autumn 2004, and a second call is scheduled for 2006. The Regulation is expected to provide funding for one or two forest-based projects.

E. Collin presented an elm conservation concept note to the new EC Programme on genetic resources conservation and utilisation. The possible project would be coordinated by L. Gil (Spain).

The possibility for a joint project on several species was discussed. Network members pointed out that there was too much emphasis on research in the draft and that as many countries as possible should participate in the project. Network members willing to contribute are invited to send their comments directly to E. Collin, A. Santini or L. Gil.

S.M.G. de Vries stressed on the importance of close and supportive collaboration among EUFORGEN Networks, avoiding duplicating efforts and especially not affecting negatively EUFORGEN's reputation.

J. Koskela forwarded a message from M. Lateur, Chair of the European Cooperative Programme on Genetic Resources (ECP/GR) *Malus/Pyrus* Working Group, who expressed the interest to collaborate with the Noble Hardwoods Network in developing a joint proposal for the new EC Regulation. The Noble Hardwoods Network welcomed the proposal and it was agreed that the electronic version of the proposal should be circulated to all members by the 27 April. Members should respond directly to M. Lateur copying correspondence to P. Rotach. The countries that expressed their interest in the further development of the collaboration are: Switzerland, The Netherlands, Hungary, Bulgaria, Belgium, Croatia, Slovenia, Italy, Malta, Czech Republic, Turkey, United Kingdom, France, Serbia and Montenegro, Germany, Poland and Portugal.

Progress made in the Network activities

EUFORGEN Web site, bibliography and technical guidelines

M. Bozzano presented the new structure of the EUFORGEN Web site, which is accessible directly through a new address (www.euforgen.org). The Web site is database-driven and includes a number of new features such as 'What's new'-section, species summary pages and an improved search engine. The EUFORGEN grey literature database is maintained as part of the new Web site and it currently includes nearly 2000 references. There is a need to include information on where to find given references and it was decided to indicate network members as contact persons in each country. Network members were encouraged to visit the Web site and to provide feedback to the Secretariat for further development.

M. Bozzano then provided an update of the state of the Technical Guidelines (TGs).

- The first set published in April 2003 includes *Fraxinus excelsior*, *Acer pseudoplatanus*, *Sorbus domestica*, *Prunus avium* and *Alnus glutinosa*;
- The second one, published in April 2004 includes: *Ulmus laevis*, *Malus sylvestris* and *Pyrus pyraster*, *Liquidambar orientalis*, *Castanea sativa* and *Tilia* spp. It was presented during the meeting.
- A third set is scheduled for publication later in 2004. The state of the remaining noble hardwoods TGs is as follows:
 - *Sorbus torminalis*: B. Musch has provided the final draft, ready for circulation.
 - *Alnus cordata*: F. Ducci has provided the draft, which will be circulated, after finalisation.
 - *Juglans regia*: J. Fernandez Lopez, M.E. Malvolti and K. Russell join F. Ducci in the development of the draft.
 - *Acer campestre*: L. Nagy will be supported by F. Ducci.

Deadline for sending final drafts to the Secretariat is 30 August 2004; no species modules will be accepted after this date. The Network expressed strong interest in continuing with this effort in the next phase.

M. Bozzano gave a live demonstration on the practical use of the free GIS software (DIVA-GIS) available through the EUFORGEN Web site showing some of the distribution maps developed by the Network.

It was agreed that Network members should advise potential stakeholders in their own countries on the tools and information available.

Common Action Plan (CAP)

M. Rusanen gave a presentation on CAP using *Acer platanoides* as a model species. The goal is to establish a pan-European network of primarily in situ gene conservation stands. The effort of many Networks in compiling the in situ conservation stands was acknowledged and the map showing the stands overlapping the species distribution was presented. The concept of Common Action Plan was explained and several questions were posed for discussion; an animated conversation followed the presentation. It was agreed:

- that henceforth the expression 'conservation unit' (cu) is to be used instead of conservation stand.
- that a conservation unit should ideally be dynamic.
- that a conservation unit need not necessarily be within the natural distribution area.
- that a working group (WG) (B. Heinze, T. Myking, H. Kraigher, P. Rotach, L. Nagy, M. Rusanen, M.C. Varela and J. Fernandez Lopez) will define criteria and minimum requirements for gene conservation units. A draft is to be circulated by the WG before 30 June 2004 to all Network members and any comments/ feedback is to be sent to the WG before 15 September 2004. The final version will be released before 31 October 2004.
- that M. Rusanen will continue work to further develop the Common Action Plan for *Acer platanoides* as a model and this will be presented in the next meeting.
- that J. Jensen will develop the Common Action Plan for *Tilia cordata* and this will be presented in the next meeting.

Outputs of the MCPFE process and development of EUFORGEN Phase III

After the EUFORGEN Steering Committee meeting in Sweden in June 2002, a Task Force produced a EUFORGEN strategy paper for the preparatory process of the Vienna Ministerial Conference. Based on this paper and other efforts, conservation of forest genetic resources were highlighted in the Vienna outputs.

J. Koskela presented recent outputs from the MCPFE process, i.e. the fourth Ministerial Conference (April 2003) and the Expert Level Meeting (October 2003), both held in Vienna, Austria and the *ad hoc* working group on the 'Development of pan-European understanding of the linkage between the ecosystem approach and sustainable forest management' (19 – 21 April 2004, Krakow, Poland). For more information the Web site is www.mcpfe.org.

At the Vienna Ministerial Conference, the European ministers responsible for forestry and the EC committed themselves to "take further steps to maintain, conserve, restore and enhance biological diversity of forests, including their genetic resources, in Europe and also on a global scale" (paragraph 22 of the Vienna Declaration). In Resolution 4 on Forest Biological Diversity, the ministers also committed themselves to "promote the conservation of forest genetic resources as an integral part of sustainable forest management and continue the pan-European collaboration in this area" (paragraph 16).

Following discussion on Phase III, the Network decided that it should convey the following message to the Steering Committee:

The Noble Hardwoods Network wishes to continue a species-oriented approach (without decreasing the current number of species) and contribute to thematic networks should they be established. The Network feels that there is a need to explore the opportunity of developing a working-group approach within the Network in order to focus on specific issues.

The question of sub-regional working groups was also raised, but it was agreed that the Pan-European approach is more appropriate for successful gene conservation.

Seminar on genetic conservation, tree breeding and utilization of noble hardwoods

Provenance regions for chestnut (Castanea sativa Mill.) and flowering ash (Fraxinus ornus L.) in Tuscany (M. Vannucci)

M. Vannucci made a presentation on the development of provenance regions in Italy with special reference to two species in Tuscany. Following the EC directive on FRM, it has become obvious that there is a need to develop a coherent system at national level to provide guidance for using the material appropriately. In Italy, the establishment of the provenance regions will be carried out independently by each region. These provenance regions should reflect species geographical distribution and variations in climatic and biogeographical factors. It is also necessary to obtain detailed forest inventory data as part of this process.

Clone selection for wild cherry (Prunus avium L.) (F. Ducci and G. Signorini)

F. Ducci and G. Signorini shared a presentation on clone selection for wild cherry using morphological traits such as stem and branch qualities as well as wood colour. Further information was provided using wood colour in clone selection and how to measure wood colour. The results of the studies indicate that clonal variation in growth and branch characteristics is considerably high (between 60 and 70 per cent) and that heritability is high for all traits. Regarding wood colour, it seems that there is no single colour that would be better than others in selecting clones. Information on colour preferences of the manufacturers should be taken into account while selecting clones. The relationship between wood colour and soil chemical composition should be further investigated.

In vitro tissue culture in wild cherry (Prunus avium L.) (A. De Rogatis)

A. De Rogatis presented research results on tissue culture techniques in wild cherry. The ISSA has been studying *in vitro* regeneration by somatic embryogenesis and by organogenesis from different types of somatic tissues. Isozyme studies have also been carried out among clones. Different genotypes have provided very different results in different growth media. No somaclonal variation was observed in shoots regenerated from leaf tissue. This has to be confirmed by DNA analysis.

Noble hardwoods cultivation techniques (S. Ravagni)

S. Ravagni provided an overview of cultivation techniques of noble hardwoods studied by ISSA to produce high-quality timber. She presented various alternatives for establishing single-species and multi-species tree plantations. *Quercus robur*, *Q. petraea*, *Juglans regia*, *J. nigra*, *Prunus avium*, *Sorbus* spp., *Pyrus communis* and *Fraxinus* spp. have been studied for single-species plantations. Other species such as *Alnus cordata*, *A. nigra*, *Elaeagnus* spp. *Robinia pseudoacacia* have been tested as accompanying species.

Walnut (Juglans regia L.) genetic variation in Europe (M.E. Malvolti)

M.E. Malvolti presented results from several studies on genetic diversity in walnut in Europe and Asia. The results indicate that walnut is threatened by genetic erosion and that gene conservation programmes are needed to preserve local varieties and ecotypes. These can also be used for tree improvement programmes focusing on fruit and wood production. She also informed the Network participants that the 5th International Walnut Symposium will be held in Sorrento, Italy, 9–13 November 2004 (www.walnut2004.sistemacongressi.com).

Any other business

Missing contributions (country updates and scientific papers) should be sent to the Secretariat by 30 June 2004. The importance of respecting deadlines was stressed in order not to delay the publication process. Contributions not received by this deadline will not be included in the proceedings.

Date and place of next meeting

Norway and Denmark have offered hosting the next meeting in spring/summer 2005. Both offers were acknowledged. It was agreed that the meeting will be held in Norway provided that local support will be confirmed and that the Noble Hardwoods Network will continue in its present form during Phase III of EUFORGEN. Denmark will be the alternative host.

Adoption of the summary of the meeting

The meeting summary was adopted and the Chair closed the meeting.

Seventh EUFORGEN Noble Hardwoods Network meeting

Arezzo, Italy, 22-24 April 2004

Theme: Genetic conservation, tree breeding and utilization of noble hardwoods

21 April 2004

Arrival of Participants

22 April 2004

- 0900 Opening of the meeting
 Welcome address (D. De Laurentis, Corpo Forestale, Italian EUFORGEN National Coordinator)
 Welcome by local organisers (Director/F. Ducci)
 Welcome by Chair (M. Rusanen)
 Adoption of the agenda and nomination of rapporteurs
- 0930 EUFORGEN update (J. Koskela)
- 0945 Introductory country report: Iceland (T. Eysteinnsson)
- 1000 Country updates: discussion on the progress made in sub-groups
- 1030 Coffee/tea break
- 1100 Country updates: discussion continued and sub-groups presenting highlights
- 1300 Lunch
- 1400 Documentation, information and public awareness
 Photo-CD (B. De Cuyper)
 Network poster (M. Rusanen)
 Poster on Noble Hardwoods species (T. Myking)
 Other initiatives (if any)
- 1430 Meetings, projects and other initiatives
 Outputs of the CASCADE project (F. Villani)
 EVOLTREE proposal (Berthold Heinze)
- 15:00 Outcomes of 2nd International Elm Conferences (E. Collin)
- 1530 Coffee/tea break
- 1600 New EC Regulation on genetic resources (J. Koskela)
 Discussion

23 April 2004

- 0830 Technical Guidelines (M. Bozzano)
 Presentation of the published modules
- 0900 Common Action Plans for NH species (M. Rusanen)
Acer platanoides as a pilot species
- 0930 EUFORGEN Phase III (J. Koskela)
 Vienna MCPFE outputs and development of a proposal for Phase III (2005-2009)
- 1000 Discussion on Common Action Plans, future activities, Phase III and the EC Regulations
- 1030 Coffee/tea break

- 1100 Further discussion on Common Action Plans, future activities, Phase III and the EC Regulations
- 1300 Lunch
- 1400 Seminar: Genetic conservation, tree breeding and utilization of Noble Hardwoods
Seed zones/provenience regions (F. Ducci, M. Vannuccini)
Clone selection for wild cherry and walnut (F. Ducci, R. Proietti, G. Signorini)
- 1530 Tea/coffee break
- 1600 Noble hardwoods and in vitro tissues culture (A. De Rogatis)
Noble hardwoods cultivation techniques (E. Buresti)
Walnut genetic variation in Europe (M.E. Malvolti)
Seminar wrap-up and recommendations
- 2000 Dinner

24 April 2004

- Field trip (half day)
- 1500 Wrap-up session
Any other business
Date and place of next meeting
Adoption of the summary of the meeting
- 2000 Social dinner

25 April 2004

- Departure of participants

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