Stand-forming Broadleaves Network

Summary of the first meeting

Viterbo, Italy, 20-22 October 2005

EUFORGEN

European Forest Genetic Resources Programme (EUFORGEN)

FUTURE HARVEST
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Summary of the meeting

Opening of the meeting

L. Paule, Chair of the former Temperate Oaks and Beech Network, welcomed the participants from 28 countries to the first meeting of the new Stand-forming Broadleaves Network. It will continue the work of the Mediterranean Oaks Network and the Temperate Oaks and Beech Network. L. Paule then introduced Prof S. Grego, Vice Chancellor of the University of Tuscia, and Prof E. Rugini, Dean of the Agriculture and Forestry Faculty. They welcomed the participants to Viterbo and stressed the importance of international collaboration in promoting of sustainable management of forest resources.

After the welcome address, the selection of Chair and Vice-Chair for the new Network was discussed. The meeting participants unanimously elected G. von Wühlisch as Chair and A. Ducousso as Vice-Chair of the new Network. J. Koskela presented the tentative agenda of the meeting which was then adopted. J. Fennessy and S. de Vries were nominated as rapporteurs for the first day and J. Hubert and S. Bordács for the second day of the meeting.

Introduction to EUFORGEN Phase III (2005-2009)

J. Koskela welcomed the participants to the meeting on the behalf of the EUFORGEN Secretariat. He then provided an introduction to Phase III by presenting the objectives of Phase III and the new Network structure of the Programme. During Phase III, EUFORGEN continues to promote conservation and sustainable use of forest genetic resources in Europe. The new objectives are as follows: 1) promote practical implementation of gene conservation and appropriate use of genetic resources as an integral part of sustainable forest management, 2) facilitate further development of methods to conserve genetic diversity of European forests, and 3) collate and disseminate reliable information on forest genetic resources in Europe.

EUFORGEN now has three species-oriented Networks, namely Conifers, Scattered Broadleaves and Stand-forming Broadleaves. In addition, a new thematic Forest Management Network has been established to promote integration of gene conservation and sustainable forest management. Furthermore, an Information Working Group will facilitate inter-Network collaboration through *ad hoc* task forces on specific topics. So far, 24 countries have officially joined Phase III and in several other countries the official process is underway. New member countries include Georgia, Moldova and Romania. The discussions are also in an advanced stage with Greece and the Russian Federation, which may join the Programme soon.

During the following plenary discussion, it was highlighted that many tree species can be both stand-forming and scattered depending on a country and the environmental conditions. It was concluded that a rather pragmatic and pan-European approach is needed to separate the stand-forming and scattered broadleaved tree species for the EUFORGEN work.

Progress made in various countries

Central and Eastern Europe ***(Czech Republic, Georgia, Hungary, Moldova, Poland, Romania, Slovakia and Slovenia)***
The representatives of the countries shared information on recent achievements and progress in gene conservation efforts. Several countries (e.g. Slovenia, Czech Republic and Slovakia) have adopted new action plans for conservation of forest genetic resources. It was noted that the difference between stand-forming and scattered broadleaved tree species is rather well understood in this region. More attention should be paid to minor oak species which occur in low densities in the region's forest ecosystems. It was also reported that several PhD studies on gene conservation have been finalized in the region.

Mediterranean region (*Albania, Bulgaria, Croatia, France, Italy, Macedonia FYR, Portugal, Serbia and Montenegro, Spain and Turkey)*
The group discussed which Mediterranean broadleaved tree species should be addressed by the new Network. The main characteristic of the Mediterranean region is species richness and for example in Turkey, there are 18 oak species and two beech species. It was suggested that the Network should focus on those tree species that forms stands naturally. The group also highlighted that special attention should be given to the Mediterranean forests as they are highly threatened by overgrazing, fires, over harvesting, urbanization, introduction of exotic species and global change. Of all the countries, only France has a well-defined gene conservation programme for forest trees. In the other countries, gene conservation efforts are mainly carried out through protected forest areas.

Northern Europe (*Denmark, Estonia, Finland, Lithuania and Norway)*
The group noted that birch (*Betula* ssp.) is a major stand-forming broadleaved tree species in several northern European countries (Estonia, Finland, Latvia, Lithuania, Norway and, Sweden). Therefore, it was suggested that birch should part of the new Network's activities. The group also noted that several stand-forming broadleaved tree species are included in the national gene conservation and/or tree breeding programmes in the region. Several countries also reported conflicting aims between gene and habitat conservation in the management of protected forest areas.

In Lithuania, the gene conservation programme is based on the establishment of clonal seed orchards with a large number clones from natural populations.
Lithuania reported an oak decline after the drought in 2003 that affected about 30% of the oak populations (mainly *Q. robur*) in the country. Both Estonia and Lithuania are carrying out afforestation efforts on former farmland; the target is to plant at least 20% of the farmland with broadleaves species. Estonia also reported the development of a management plan for seed stands.

Western Europe (*Austria, Belgium, Germany, Ireland, Luxemburg, Netherlands, Switzerland and United Kingdom)*

Following the national reporting system on gene conservation, genetic monitoring efforts have made progress in Germany. For example, it is possible to analyse the origin of forest reproductive material. In Austria, gene conservation has been

integrated as part of biodiversity monitoring. In the United Kingdom and Ireland, "Native Woodland Schemes" are using local seed from natural or semi-natural stands, which are classified as 'Source Identified' (SI). The role of the British and Irish Hardwood Improvement Programme (BIHIP) in gene conservation was also highlighted. Ireland has developed recently a new national strategy for forest reproductive material. Luxembourg reported that the maximum area of a clear-cut area for conservation purposes is restricted to two hectares. The group also noted that climate change is an important issue for the future use of forest genetic resources in Western Europe.

Technical Guidelines and Technical Bulletins

M. Bozzano provided an update on the situation regarding the EUFORGEN Technical Guidelines for genetic conservation and use. A total of 22 guidelines have been published to date, including one for European white oaks (*Quercus petraea* and *Q, robur*). Hard copies of these publications can be obtained from the EUFORGEN Secretariat and they are also available electronically at the EUFORGEN Website.

Two additional Technical Guidelines are under development for stand-forming broadleaves, i.e. for beech and cork oak (*Fagus sylvatica* and *Quercus suber*). The draft text of the two guidelines was distributed to Network members for their comments. It was agreed that they should then provide comments through email directly to the authors (with a copy to the Secretariat) by **11 November 2005**. The finalization and printing of these two guidelines will then take place by the end of 2005 or early 2006.

The development of a Technical Bulletin for the white oaks was also discussed. The third meeting of the Social Broadleaves Network, held in Bulgaria in 2000, initiated the development of this bulletin based on the technical papers presented during the meeting. These papers were later published in the report of the meeting. J. Koskela informed that the draft text based on these papers should be updated and further developed before it can be published as a Technical Bulletin. It was agreed that J. Koskela should contact the authors of the draft bulletin and ask their interest to incorporate new research findings since 2000 into the draft text and provide their updated contributions to this publication. If needed and if the original authors agree, additional authors can also be invited to contribute to the bulletin on specific topics which were not included in the first draft (e.g. genetic variation of white oaks in Europe).

Development of a European Information System on Forest Genetic Resources (EUFGIS)

J. Koskela informed the meeting that the EUFGIS project proposal was submitted to the European Commission in September 2005 under the Council Regulation No 870/2004 on genetic resources in agriculture. The Secretariat developed the project proposal in collaboration with partners in six countries (Austria, Denmark, France, Slovakia, Slovenia and the United Kingdom) following the request of the EUFORGEN Steering Committee.

The proposed project aims at developing minimum requirements for dynamic gene conservation units of forest trees and common information standards at pan-European

level, and creating a web-based, permanent information system on national inventories on forest genetic resources in Europe. The role of the EUFORGEN Networks is to provide technical backup and contribute to the harmonization of minimum requirements for gene conservation units of different trees species and development of information standards for these units. Once established, the proposed information system would benefit all Networks in their further efforts to develop the common action plans. The project proposal will be made available to Network participants, upon request, once verified this is not in conflict with the EC requirements.

If the proposal is accepted, all EUFORGEN member countries will be invited to participate in the project. The EUFORGEN National Coordinators will be asked to nominate a focal point for the project and to compile national data for the information system. The focal points will receive training on FGR documentation and inventories as part of the project.

Development of a workplan for the new Network

J. Koskela introduced the topics of three working groups based on the Phase III objectives (see Annex I). He then asked the participants to join one of the three working groups to discuss the future activities of the new Network during Phase III. The working groups were given a task to develop concrete proposals for activities to be included into the new workplan. The working groups held their discussions during various sessions on 20 and 21 October, and their outputs were discussed in plenary during the wrap-up session in the afternoon of 22 October. The working groups and their suggestions are listed below.

Group 1: Promote practical implementation of gene conservation and appropriate use of genetic resources as an integral part of sustainable forest management
P. Mertens, P. Zhelev, I. Tvauri, G. von Wuehlisch, B. Schirone, F. Spada, G. Postolache, T. Myking, G. Parnuta, L. Paule, H. Kraigher and J. Hubert.

The group decided to consider only Activity 4 in detail since Activities 1-3 required either a request for action that had not yet occurred (Activities 1 and 2) or the implementation of the common action plans that had still to be developed (Activity 3). In order to gain a broader understanding of the issues across Europe, each country representative gave a short summary of the management practices and policies that have an impact on genetic resources in their country. Based on these summaries, the group identified a number of common themes and suggested several activities to tackle them.

The group proposed the following activities for the Stand-forming Broadleaves Network to be carried out before the next meeting:

Compilation of a Europe-wide map of provenance regions based on national provenance delineation for *Fagus sylvatica*, *Quercus robur, Q. petraea, Q. suber, Q. pubescens* (**H. Kraigher**, P. Zhelev, J. Hubert, B. Schirone, G. Parnuta). Timeframe: draft a background paper/questionnaire by **31 December 2005**, finalise the paper by **31 March 2006**, complete data collection by **30 June 2006** and submit the material to the EUFORGEN Secretariat.

Preparation of a case study on the use of provenances with an emphasis on the effects of transfer of forest reproductive material (**T. Myking**, P. Mertens, J. Hubert, G. von Wühlisch, J. Fennessy) Timeframe: collect examples by **31 December 2005**, draft the case study by **31 May 2006** and finalise it by next meeting.

Preparation of a case study on genetic consequences of silvicultural practices (**G. von Wühlisch**, L. Paule, H. Kraigher, B. Schirone) Timeframe: collect literature by **31 January 2006**, develop a draft by **30 September 2006**

The group also identified one long term activity to be carried out during Phase III in collaboration with other EUFORGEN Networks, i.e. development of thematic guidelines on the following topics (P. Mertens, H. Kraigher, P. Zhelev, G. Parnuta, G. Postolache, B. Schirone): 1) impact of silvicultural practices on genetic diversity, 2) use of forest reproductive material, 3) seed production/storage, 4) assessment of genetic vitality/adaptability of stands, and 5) genetic monitoring.

Group 2: Facilitate further development of methods to conserve genetic diversity of European forests
V. Burianek, J. K. Hansen, A. Vares, P. Vakkari, S. Bordacs, K. Cesnavicius, J. Kowalczyk, M.C. Varela, A. Soto and G. Kandemir.

Activity 1. Develop common action plans (CAPs) as part of pan-European gene conservation strategies

The group concluded that the common action plans (CAPs) should be developed for two groups of stand-forming broadleaves species based on different gene conservation approaches. The gene conservation of economically important and widely spread species should be predominantly based on *in situ* conservation. These tree species include *Quercus robur*, *Q. petraea*, *Q. cerris*, *Q. frainetto*, *Q. suber*, *Q. ilex*, *Fagus sylvatica*, *Castanea sativa*, *Betula pendula* and *B. pubescens*. The endangered/rare species, such as *Quercus pubescens*, *Fagus orientalis* and several minor Mediterranean oaks, would need additional *ex situ* conservation combined with *in situ* conservation.

As a first step in developing CAPs, it was agreed during the wrap-up session that the Network should define criteria and minimum requirements for gene conservation units of stand-forming broadleaves from the pan-European point of view. A task force (**T. Mykig**, S. Bordács, T. Geburek, A. Ducousso, P. Zhelev and H. Kraigher) was created to develop a draft the criteria and requirements. The task force should prepare a draft document **by 31 December 2005**. It will be then circulated to the whole Network and the members have time **until 28 February 2006** to provide their comments. Once the minimum requirements have been defined, the Network should select only a few species for which detailed data on the gene conservation units will be collected for further development of CAPs (the Secretariat to follow up). Later, the efforts can be broadened to additional species. This process is closely related to similar ongoing efforts by other species-oriented Networks so the Stand-forming Broadleaves Network can benefit from their experiences and outputs in this regard.

Activity 2. Develop common methods for genetic monitoring

The group proposed that simple indicators should be used for genetic monitoring. The use of molecular markers is recommended in some cases but this might not be obligatory. The indicators recommended were 1) survival rate, 2) pest resistance, 3) mast year (crop year) periods, 4) defoliation, 5) viability, and 6) germination rate.

It was recognized that the development of common methods for genetic monitoring is an issue for collaboration between the three species-oriented Networks. No concrete activity was agreed to be carried out before the next meeting but the Network members should inform the Secretary on various methods which are currently being used in their countries so that these can be discussed further during the next meeting.

Activity 3. Revise Technical Guidelines and develop new ones

The group suggested that the Network should develop new Technical Guidelines. It was agreed to develop the guidelines for the tree species listed below. The list also shows the name of the Network member(s) responsible for developing the text. The Network member(s) can nominate a scientist or other expert in their country as a replacement, if needed:

Quercus. ilex (B. Schirone, M.C. Varela)
*Q. pubescens (*S. Bordács, P. Zhelev, B. Schirone)
Q. frainetto (S. Bordács, P. Zhelev, B. Schirone)
Q. cerris (B. Schirone, P. Zhelev, G. Kandemir)
Betula pendula/B. pubescens (P. Vakkari, A. Vares)
Fagus orientalis (G. Kandemir)

The draft text for each publication should be sent to the Secretariat **by 30 June 2006**. The Secretariat will then circulate them to the Network members for comments and coordinate the development of the distribution maps.

Activity 4. Highlight negative consequences of the use of inappropriate forest reproductive material

It was proposed that the Network members should take/collect photographs on both negative and positive use of forest reproductive material. The members can send relevant photographs to the Secretariat together with a short information note.

Activity 5. Develop methods to promote genetically sustainable regeneration

The group concluded that in general traditional techniques for natural regeneration can be successfully used in regenerating *in situ* conservation areas. No specific activity was proposed to be carried out before the next meeting.

Activity 6. Improve collaboration between nature conservation and gene conservation efforts in Europe

The group suggested that EUFORGEN should increase collaboration with environmental NGOs. This could be done through developing common projects or publications with them. Observers from different NGOs and nature protection agencies could also be invited to attend Network meetings.

Group 3: Collate and disseminate reliable information on forest genetic resources in Europe
T. Geburek, S. Peric, A. Ducousso, J. Fennessy, F. Trossen, F. Popesco, S. Orlovic, S.M.G. de Vries.

The group proposed that the Network should carry out the following actions under each activity suggested by the EUFORGEN Steering Committee.

Activity 1: Increasing awareness among policy makers, forestry professionals, and the general public on the importance of forest genetic resources

All Network members should send short news on relevant national efforts (1-2 pages of text with a photograph) to the Secretariat to be published at the EUFORGEN Website. This is a continuous effort so the members can send the news when there is something relevant to report. The group also suggested that specific guidelines should be developed for public awareness purposes.

Activity 2: Compile and make available geo-referenced data on gene conservation units in Europe

As a long term action, the group proposed that maps of gene conservation units for stand-forming species should be developed. This is also linked to the development of CAPs. In addition, it was agreed that the Network should collect information on seed stands before the next meeting (P. Vakkari, T. Geburek, P. Mertens, J. Kowalczyk, H. Kraigher).

Activity 3: Publish the reports on the state of forest genetic resources in Europe and other relevant issues

The Network felt that this activity should be implemented by the Secretariat in collaboration with the National Coordinators.

Activity 4: Facilitate exchange of information among countries

It was recommended that relevant national highlights should to be presented during the network meetings.

In addition to the above-mentioned actions, the group made several other recommendations for the dissemination of relevant information at national level. As long term and high priority actions, the group recommended that a local meeting

organiser should develop a press release on EUFORGEN meetings for mass-media, establish demonstration plots of provenances and translate relevant documents on gene conservation into national languages. As medium priority actions, the group recommend that efforts should be made to introduce gene conservation into school books and organize courses for teachers on the conservation of forest genetic resources. As low priority activities, the group proposed investigating possibilities to combine gene reserves with cemeteries, when appropriate, or initiating campaigns (e.g. "Buy 1 m^2 of a gene reserve").

Other recommendations that could be implemented in short term at national level included development of Power Point presentations for training on the conservation of forest genetic resources. It was also advised to use simple and clear language when communicating with general public and avoid using scientific language. The group also considered it useful to organize visits to gene reserves for policy makers, forestry professionals and general public, or a tour across Europe for national experts using the EUFORGEN bus. Initiation of a quiz on gene conservation on different levels (schools, faculties, TV) was also mentioned as a mean to increase public awareness on forest genetic resources.

The group further noted that there is a need for professional aid to strengthen public awareness and public relation efforts at national level. This is an area which the Information Working Group could address. It was also recommended that articles on the conservation of forest genetic resources should be developed for relevant journals read by general public. For the Secretariat, the group recommended creation of links to national Websites from the EUFORGEN Website and exploring possibilities to launch "Gene conservation day/week/year".

Meetings, projects and other initiatives

*Impact of climate change on natural populations of sessile oak (*Quercus petraea*) to be studied by climate response modelling*

J. K. Hansen presented a project proposal which aims at investigating the possible consequences of changing climate and severe droughts for the survival and growth for natural populations of sessile oak. More specifically, the project is designed to test if it is possible to identify the most important climatic variables for survival and growth, and to estimate critical climatic changes for populations of sessile oak. It will also investigate risks and benefits involved in seed transfer of sessile oak to new sites as a method to mitigate the effects of climate change. The project will include studies on the importance of water use efficiency for survival and growth in sessile oak and how the severe drought in 2003 has influenced different populations of sessile oak. The project will obtain data on growth, survival, bud burst and growth cessation from a series of field trials located in Western Europe including a total of 163 European sessile oak populations. Financial support for the project will be applied from a Danish foundation or as a Marie Curie action of the EC.

COST Action E52 on 'Beech Diversity'

G. von Wühlisch informed other participants that a joint European Action on "Diversity of European Beech and Possible Future Distribution Range under Differing Scenarios of Global Warming" (COST Action E52) has been approved recently. The project serves as a platform to co-ordinate international data transfer and compilation of results based on about 60 common garden experiments established in 24 European countries. European beech (*Fagus sylvatica*) is a flagship tree species in many ecosystems occurring in western and central Europe and ranging between the Scandinavian and Mediterranean latitudes.

The network of common garden experiments makes it possible to analyse the growth reaction of a specific seed source at a number of contrasting sites and environmental conditions. The common garden experiments have reached the age of nine to eleven years and this means that the saplings have established themselves well at the different sites. First results show distinct differences in sapling survival rate and height growth between sites and between local sources. Additional growth data suggests that climate change may change the natural distribution range of beech in Europe. Many countries have already signed an agreement to participate in this COST action, which is expected to commence early 2006. Several other countries are also in the process of signing the agreement.

European Network of Excellence on Forest Tree Breeding & Improvement (TREEBREEDEX)

P. Mertens provided information on the TREEBREEDEX project, which has also been accepted for funding recently. The project is coordinated by L. Pâques at INRA Orleans (France) and it brings together a total of 27 participating institutes. The project builds on the earlier achievements by European forest tree breeders and their collections of trees and vast networks of experiments. The major aim of this project is to create a European Virtual Tree Breeding Centre to foster co-operation among research teams, to enhance R&D activities across Europe, to integrate tree improvement research into the activities of co-operative programmes, and to open research infrastructures to a larger scientific community in forestry and agriculture. Networking activities as part of the project will include creation of a Website, discussion forums and databases, exchange of expertise and methodology, development of common protocols.

IPGRI-IUFRO workshop on climate change

J. Koskela updated the Network members on the IPGRI-IUFRO workshop on forest genetic diversity and climate change. This is one of the actions of the MCPFE Work Programme to implement Vienna Resolution 5 (Climate change and sustainable forest management in Europe). The purpose of the workshop is to analyse the role of forest genetic diversity in mitigating the effects of climate change and maintaining sustainable forestry in Europe. It will also provide recommendations to the MCPFE process based on current knowledge on this topic. IPGRI and IUFRO are currently developing the agenda of the workshop which will be held in Paris, France on 15-16 March 2006 in collaboration with the French Ministry of Agriculture and Fisheries.

FAO, the European Forest Institute (EFI) and several other international organizations have also indicated their interest to participate in the workshop.

The EUFORGEN Networks will have an opportunity to participate in the workshop as well. EUFORGEN will support four representatives from each Network and it was discussed who should represent the Stand-forming Broadleaves Network in the workshop. Several participants (T. Mykig, J. Fennessy, L. Paule, T. Geburek, A. Ducousso, G. von Wühlisch, J. Kowalczyk, H. Kraigher, J. Hubert, S. de Vries, S. Peric and P. Zhelev) expressed their interest to represent the Network. It was agreed that the Secretariat will make the final selection of the Network representatives when all UFORGEN Networks have first identified their potential representatives. The selected representatives should cover the geographical distribution of the EUFORGEN member countries. Those countries which are not likely to have other resources to send their participants should be favoured in the selection.

EVOLTREE project

J. Koskela presented the current state of the EVOLTREE project (EVOlution of TREEs as drivers of terrestrial biodiversity) which was accepted by the European Commission under the 6th framework programme for research in spring 2005. EVOLTREE is a consortium of 25 partner institutes from 15 European countries and it is coordinated by A. Kremer at INRA (France).

The main aim of the project is to support integration of work on forest genomics in Europe by developing common infrastructures and exchanging human resources. The project also includes jointly executed research activities and dissemination of research results and other relevant information. The research activities will focus on selected target genera of broadleaves (*Acer, Alnus*, *Betula*, *Carpinus*, *Corylus*, *Crataegus*, *Fagus*, *Fraxinus*, *Prunus*, *Salix*, *Sorbus*, *Tilia*, *Ulmus*) and conifers (*Picea*, *Abies*, *Larix*). In addition to trees, the scope of the project includes other species associated with forest trees (defoliating insects and mycorrhiza).

IPGRI is an EVOLTREE partner and is leading a dissemination work package as one of the activities to spread excellence and disseminate the project outputs. EVOLTREE will establish a stakeholder group to facilitate dissemination to, and interaction with, various stakeholders. Other dissemination efforts include development of communications products for public awareness purposes and scientific conferences targeted specifically to the scientific community. The final negotiations between the project coordinator and the European Commission are underway and it is expected that the project will start on 1 March 2006 for a period of five years.

Seminar presentations on conservation and research on the genetic resources of stand-forming broadleaves in Italy

Chloroplast, mitochondrial and nuclear diversity in forest tree species

G. Vendramin delivered an overview of ongoing and completed research activities in this field. Forest trees offer excellent models to investigate how gene flow shapes the organization of genetic diversity as their three genomes can have different modes of transmission and hence they experience varying levels of gene flow. He then

presented results of a study which collected data from a large number of earlier published studies on chloroplast DNA (cpDNA), mitochondrial DNA (mtDNA) and nuclear markers in seed plants and analysed the possible effect of gene flow on the distribution of genetic diversity. Chloroplast DNA is paternally inherited in conifers and maternally inherited in angiosperms while mitochondrial DNA is maternally inherited in both conifers and angiosperms. The results indicate that the mode of inheritance appears to have a major effect on G_{ST} values measuring genetic differentiation. The G_{ST} values obtained with cpDNA and mtDNA markers correlate rather well when both genomes are maternally inherited (i.e. angiosperms) while the correlation between the G_{ST} values of the two markers is much weaker in conifers. The G_{ST} values of the maternally inherited markers are largely independent of values based on nuclear markers. G. Vendramin concluded that historical levels of gene flow through pollen dispersal are generally at least an order of magnitude larger than gene flow through seeds, and that the proportion of gene flow through seeds and pollen vary independently across species.

Finally, he showed examples of studies showing that the presence of a phylogeographic structure is common in forest trees. Studies on phylogeography have important practical applications, such as identification of key areas for the conservation of genetic resources or certification of the origin of wood, seeds and other plant material. Data based on phylogeographic surveys may also help to predict future migrations of forest trees following climate change.

Research activities on stand-forming broadleaves in Viterbo, Italy

M. Simeone presented the recent achievements of the research team working on stand-forming broadleaves at the University of Tuscia in Viterbo. These included a two-year project funded by the Ministry of Agriculture to develop a complete GIS cartography of cork oak (*Quercus suber*) distribution in Italy with bio-ecological characterisation of the stands. The team has also collaborated with the national forest service (Corpo Forestale dello Stato) in the development of a DNA bank for forest trees. This project collected samples for evolutionary studies (including biogeography, phylogeny, taxonomy, etc.) and for conservation and characterisation of tree populations and/or individuals. The University is also developing an International Centre for the Mediterranean Silviculture in Fondi, Latina, with the financial support from the Latium administrative region. The new Centre will focus on testing and promoting suitable methods for the sustainable forest management in the Mediterranean environment. The group is also involved in developing regional rules for the trade of forest reproductive material.

Introduction to the field trip

F. Spada gave an overview of Italian phytogeographical and climatic zones. He highlighted the wide genetic diversity of the country and the challenges for the conservation of forest genetic resources. He also presented the programme for the field trip.

Any other business

J. Koskela distributed copies of the newly produced EUFORGEN leaflet, which provides information on Phase III of the Programme.

Date and place of next meeting

Following the Steering Committee decisions, the species-oriented Networks can organize three meetings during Phase III. The timing of the remaining two meetings was discussed and it was agreed to organize the next meeting in spring 2007 and the third meeting possibly in spring 2009.

I. Tvauri and S. Orlovic offered to host the second meeting of the Stand-forming Broadleaves Network in Georgia and Serbia and Montenegro, respectively. S. Bordács also offered Hungary as a potential host for the next meeting. G. von Wühlisch thanked all of them for their offers on behalf of the Network. It was agreed that the Secretariat should investigate the financial costs of organizing the meeting in these countries before the location is decided. Countries which have not yet hosted a EUFORGEN meeting should be given a priority. The Secretariat will provide information on the location, meeting dates and the venue later.

Adoption of the meeting decisions

The meeting decisions were adopted and G. von Wühlisch closed the meeting.

Annex I. EUFORGEN objectives and Programme activities during Phase III.

Objectives	Activities
Promote practical implementation of gene conservation and appropriate use of genetic resources as an integral part of sustainable forest management. **Group 1**	1. Promote implementation of recommendations presented in the Technical Guidelines at national level, as needed or requested; 2. Provide advice to countries on issues related to forest genetic resources, if requested; 3. Facilitate implementation of common action plans and use of best management practices; 4. Develop protocols to evaluate genetic consequences of different management practices and identify genetically appropriate management practices in collaboration with forest managers and policy makers.
Facilitate further development of methods to conserve genetic diversity of European forests. **Group 2**	1. Develop common action plans as part of pan-European gene conservation strategies; 2. Develop common methods for genetic monitoring; 3. Revise Technical Guidelines and develop new ones, as needed; 4. Highlight negative consequences of the use of inappropriate forest reproductive material; 5. Develop methods to promote genetically sustainable regeneration; 6. Improve collaboration between nature conservation and gene conservation efforts in Europe;
Collate and disseminate reliable information on forest genetic resources in Europe. **Group 3**	1. Increase awareness among policy makers, forestry professionals and the general public on the importance of forest genetic resources; 2. Compile and make available geo-referenced data on gene conservation units in Europe; 3. Publish reports on the state of forest genetic resources in Europe and other relevant issues; 4. Facilitate exchange of information among countries.

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Annex I. EUFORGEN objectives and Programme activities during Phase III.

Objectives	Activities
Promote practical implementation of gene conservation and appropriate use of genetic resources as an integral part of sustainable forest management. **Group 1**	1. Promote implementation of recommendations presented in the Technical Guidelines at national level, as needed or requested; 2. Provide advice to countries on issues related to forest genetic resources, if requested; 3. Facilitate implementation of common action plans and use of best management practices; 4. Develop protocols to evaluate genetic consequences of different management practices and identify genetically appropriate management practices in collaboration with forest managers and policy makers.
Facilitate further development of methods to conserve genetic diversity of European forests. **Group 2**	1. Develop common action plans as part of pan-European gene conservation strategies; 2. Develop common methods for genetic monitoring; 3. Revise Technical Guidelines and develop new ones, as needed; 4. Highlight negative consequences of the use of inappropriate forest reproductive material; 5. Develop methods to promote genetically sustainable regeneration; 6. Improve collaboration between nature conservation and gene conservation efforts in Europe;
Collate and disseminate reliable information on forest genetic resources in Europe. **Group 3**	1. Increase awareness among policy makers, forestry professionals and the general public on the importance of forest genetic resources; 2. Compile and make available geo-referenced data on gene conservation units in Europe; 3. Publish reports on the state of forest genetic resources in Europe and other relevant issues; 4. Facilitate exchange of information among countries.