TEN YEARS OF THE EUROPEAN FOREST GENETIC RESOURCES PROGRAMME

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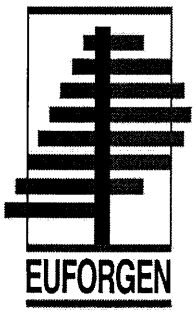

The European Forest Genetic Resources Programme, EUFORGEN, operational since October 1994, is a collaborative programme among European countries to promote conservation and sustainable use of forest genetic resources. It has been operating through species networks, which bring together scientists and forest managers to exchange information, discuss priorities and develop methodologies and guidelines for target tree species. As this issue goes to the print, the EUFORGEN Steering Committee meets (26–29 May 2004) to discuss progress accomplished in the current Phase II, which is about to finish at the end of the year 2004 and to decide upon priorities for a third five-year Phase.

Background

EUFORGEN was established to implement Resolution S2, *Conservation of forest genetic resources*, of the First Ministerial Conference on the Protection of Forests in Europe (MCPFE). This Resolution called for the development of a voluntary but functional instrument of international collaboration to promote and coordinate *in situ* and *ex situ* conservation of forest genetic resources and the exchange of reproductive material, and to monitor progress in these areas. As of May 2004, 32 countries participate in EUFORGEN.

Management and organization

The Programme is financed by the participating countries and coordinated by IPGRI in collaboration with the Forestry Department of the Food and Agriculture Organization of the United Nations. The Steering Committee, which provides oversight to EUFORGEN, is composed of national coordinators nominated by the countries. The EUFORGEN budget remains minimal to cover the cost of meetings, publications and coordination, while the network members carry out agreed activities with their own resources as inputs in kind. National Coordinators nominate members to the networks, facilitate linkages among partners involved in the activities on forest genetic resources and seek to commit all relevant institutions within their country to carry out the agreed, common work plans.

Networks

The five networks that have been operating during Phase II are: Conifers (started as *Picea abies* network in Phase I); Mediterranean Oaks (started as *Quercus suber* network); *Populus nigra*; Noble Hardwoods; and Temperate Oaks and Beech.

Long-term conservation strategies

As a first step in their activity, the EUFORGEN networks developed long-term gene conservation strategies for target species. The main objective is to ensure evolutionary adaptive potentials of European forests. *In situ* conservation efforts are given main importance but it is emphasized that *in situ* and *ex situ* conservation measures should be used in a complementary manner. During recent years, the networks initiated development of *Common Action Plans*. The objective is to identify gaps or overlaps in the coverage of gene conservation units for selected species. They essentially help to locate the already existing units in various countries and offer a pan-European picture with geo-referenced data for decision-making. As indicated by the name, the *Plans* are focused on how to effectively implement the conservation strategies in practice.

Information outputs of the Networks

Jointly agreed technical guidelines for gene conservation and use represent the main output of EUFORGEN networks during Phase II (see Box). The target audiences are forest officers and managers responsible for forest genetic resources in each country. Provision of widely accepted information standards represents another major output. In some cases, the existing data were compiled in joint databases. For example, the *Populus nigra* network developed a database of clone collections available in 30 different countries. All five networks collected grey literature published in participating countries and compiled

the information. The database includes approximately 2000 references and is available through the web site. EUFORGEN publications, including reports of twenty network meetings, are widely recognized as a valuable source of information. For public awareness purposes, the networks developed posters and other brochures, leaflets, CD-ROMs with images and similar material. In some countries, the network meetings have received a wide coverage in the local press and in some cases, in national TV broadcasts. Overviews of the status of gene conservation activities were also published internationally (*e.g.* TUROK 1997, ERIKSSON 2001, LEFÈVRE *et al.* 2001, KOSKELA *et al.* 2004).

Exchange of genetic material

The use of locally adapted genetic material is considered essential for sustainable management of forest tree species in general. The networks have frequently pointed at the risks associated with the transfer of reproductive material with unknown properties or from unknown sources. However, small quantities of genetic material have been exchanged for research purposes in certain species. The Mediterranean Oaks network facilitated the exchange of genetic material within an EU-funded research project on *Quercus suber*. Acorns were collected from seven countries, including three North African countries. The network of trials holds a unique collection of *Quercus suber* (cork oak) as it contains genetic material from throughout the species' natural range in the Mediterranean (VARELA 2000).

The wider linkages of EUFORGEN

In addition to promoting international collaboration, EUFORGEN contributed to the development of national plans and programmes for forest genetic resources. It has been recognized that integration of genetic considerations into national forest policies, involvement of all relevant stakeholders and efficient coordination of activities represent major challenges for the national programmes (TUROK & GEBUREK 2000). Through complementary international assistance, special efforts have been undertaken to assist the countries with economies in transition in eastern Europe to strengthen their national programmes. Most countries from the European part of the former Soviet Union, including countries of the Trans-Caucasus, have been actively involved in the activities carried out by the networks (*e.g.* GONCHARENKO *et al* 2001; BLADA *et al* 2002).

Strengths of collaboration

The networking mode of operation reinforces the basic role and responsibility of each country for decisions on the conservation and use of genetic resources. The participating countries determine priorities for common activities according to their needs and capacities. The networks have brought together partners with different interests but their outputs provide a stimulus for activities in all participating countries. One of the strengths of EUFORGEN is the sense of ownership that has developed in the participating countries. The experiences offered by EUFORGEN might be useful for emerging networking programmes on forest genetic resources in other parts of the world.

Mandate for the future

The MCPFE process has recognized the accomplishments of EUFORGEN in promoting collaboration on forest genetic resources in Europe. Under the Ministerial Resolution V4, adopted at the last Conference in Vienna, in April 2003, the signatory States and the European Community 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.*

As the EUFORGEN Programme moves towards its third five-year phase in 2005, the focus will very likely be on promoting practical implementation of gene conservation and appropriate use of genetic resources as an integral part of sustainable forest management; managing information (supported by the *Common Action Plans* and other tools); and facilitating further development of methodologies to conserve the genetic diversity of European forests.

Key publications and references

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resource conservation in forest ecosystems. *For. Chron.* **77**: 239–244.

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TUROK, J. & GEBUREK, TH. (eds.) 2000: International collaboration on forest genetic resources: the role of Europe, Proceedings of the second EUFORGEN Steering Committee meeting, 26–29 November 1998, Vienna, Austria. IPGRI, Rome, Italy.

VARELA, M.C. (ed.) 2000: Handbook of the EU concerted action on cork oak, FAIR I CT 95 0202. Estação Florestal Nacional, INIA, Portugal.

Box. List of Technical guidelines produced by the EUFORGEN networks (as of May 2004). The guidelines were published by and are available from the International Plant Genetic Resources Institute, Rome, Italy (E-mail: euf_secretariat@cgiar.org).

ALAN, M. & KAYA, Z. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for oriental sweet gum (*Liquidambar orientalis*). 6 p.

ALÍA, R. & MARTÍN, S. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for maritime pine (*Pinus pinaster*). 6 p.

COLLIN, E. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for European white elm (*Ulmus laevis*). 6 p.

FADY, B., SEMERCI, H. & VENDRAMIN, G.G. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for Aleppo pine (*Pinus halepensis*) and brutia pine (*Pinus brutia*). 6 p.

FERNÁNDEZ-LÓPEZ, J. & ALÍA, R. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for chestnut (*Castanea sativa*). 6 p.

JENSEN, J.S. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for lime (*Tilia cordata* and *Tilia platyphyllos*). 6 p.

KAJBA, D. & GRAČAN, J. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for black alder (*Alnus glutinosa*). 4 p.

KOSKI, V., SKRØPPA, T., PAULE, L., WOLF, H. & TUROK, J. 1997: EUFORGEN Technical Bulletin for genetic conservation of Norway spruce (*Picea abies* (L.) Karst.). 42 p.

LEFÈVRE, F., BARSOUM, N., HEINZE, B., KAJBA, D., ROTACH, P., DE VRIES, S.M.G. & TUROK, J. 2001: EUFORGEN Technical Bulletin: *In situ* conservation of *Populus nigra*. 58 p.

PLIŪRA, A. & HEUERTZ, M. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for common ash (*Fraxinus excelsior*). 6 p.

ROTACH, P. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for service tree (*Sorbus domestica*). 6 p.

RUSANEN, M. & MYKING, T. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for sycamore (*Acer pseudoplatanus*). 6 p.

RUSSEL, K. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for wild cherry (*Prunus avium*). 6 p.

SKRØPPA, T. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for Norway spruce (*Picea abies*). 6 p.

STEPHAN, B. R., WAGNER, I. & KLEINSCHMIT, J. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for wild apple and pear (*Malus sylvestris* and *Pyrus pyraster*). 6 p.

ULBER, M., GUGERLI, F. & BOŽIĆ, G. 2004: EUFORGEN Technical Guidelines for genetic conservation and use for Swiss stone pine (*Pinus cembra*). 6 p.

VANDEN BROECK, A. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for black poplar (*Populus nigra*). 6 p.

VARELA, M.C., ERIKSSON, G., LUMARET, R., GIL SANCHEZ, L., DÍAZ FERNÁNDEZ, M. P. & TUROK, J. 2004: EUFORGEN Technical Bulletin: gene conservation and management of *Quercus suber*. 40 p.

WOLF, H. 2003: EUFORGEN Technical Guidelines for genetic conservation and use for for silver fir (*Abies alba*). 6 p.