

Change and reform - the CGIAR Consortium begins to take shape

Inside this issue

EUFORGEN and EUFGIS	2
EVOLTREE	3
ECPGR	4-9
Genomics	10, 12
COST Actions	14-15
International Year of Biodiversity (IYB)	18-19
Announcements	20

About this Newsletter

Bioversity International is one of the 15 Centres of the Consultative Group on International Agricultural Research (CGIAR). Bioversity's vision is that: "People today and in the future enjoy greater well-being through increased incomes, sustainably improved food security and nutrition, and greater environmental health, made possible by conservation and the deployment of agricultural biodiversity on farms and in forests."

Bioversity's Regional Office for Europe provides the Coordination Secretariats for the European Cooperative Programme for Plant Genetic Resources (ECPGR) and for the European Forest Genetic Resources Programme (EUFORGEN).

From September 2010 Bioversity will publish online issues of the Newsletter for Europe. This Newsletter is intended to serve as an informal forum for the exchange of news and views, and to create closer ties within the genetic resources community in Europe. Previous issues are available from the Bioversity website: www.bioversityinternational.org

Articles for publication

We invite you to participate in the online version of the Newsletter by sending your ideas, feedback and written contributions to Bioversity's Regional Office for Europe, by email, to bioversity-europe@cgiar.org. Please send all contributions for **Issue 41 by 3 September 2010**.



Diversity of green leafy vegetables, onions and brassicas sold by young street vendors in Amman, Jordan. Photo: V. Alam, Bioversity International

Dear Reader,
As reported in previous issues of this Newsletter, the CGIAR has undergone a change management process aimed at reforming the system. To date, the process has reached substantial milestones. In particular, the Strategy and Results Framework was endorsed, major thematic areas of work have been developed and new governance mechanisms put into place.

The Strategy and Results Framework provides the vision for the results-oriented research agenda of the CGIAR. The Framework, prepared as a collective effort by the CGIAR Centers, was presented and discussed during the first Global Conference on Agricultural Research for Development, held in Montpellier, France, in March 2010. The Conference provided a special opportunity to engage with partners and stakeholders of the CGIAR. An estimated 1000 participants gathered in Montpellier, including researchers, policy-makers,

farmer representatives, donors and members of civil society from every region of the world. The Conference was aimed at developing a new agricultural research-for-development architecture and reversing the trend of under-investment in agricultural research. A report prepared for the Conference characterized the current agricultural research agenda, of which the CGIAR accounts for only 4-5% of total public expenditure worldwide, as too fragmented and proposed a roadmap to transform it.

This broader initiative links closely with the reforms underway within the CGIAR, which put an emphasis on improving development impact, more strategic and effective partnerships, greater accountability among stakeholders, improved aid coordination, and increased human and financial resources for international agricultural research.

The Consortium of the CGIAR Centers has now been formally established, with a Consortium Board appointed

and the decision on the Consortium Office location currently underway. Progress has also been made toward operationalizing the CGIAR Fund, with CGIAR donors working to finalize the legal framework and agreements. The Consortium and the Fund represent the two fundamental pillars of the future CGIAR, thus clearly separating those who implement and those who fund international agricultural research. The new structure of the CGIAR is expected to become fully operational in 2012.

Among the first items considered by the Consortium Board was a set of concept notes that outline research programmes in all major areas of work of the CGIAR. These big thematic areas have been defined as "Mega Programmes". The Consortium Board approved 11 Mega Programme concept notes, which have also been externally reviewed before they move forward to full proposal development for submission to *(continued on page 20)*

EUFORGEN Phase IV (2010-2014) launched



In January 2010, EUFORGEN launched its fourth phase to continue advancing conservation and sustainable use of forest genetic resources in Europe. The Programme also serves as a platform for pan-European collaboration in this area and an implementation mechanism of relevant resolutions of the "Forest Europe" process (previously Ministerial Conference on the Protection of Forests in Europe).

During Phase IV, EUFORGEN will focus on 1) promoting appropriate use of forest genetic resources to facilitate adaptation of forests and forest management to climate change; 2) developing pan-European

gene conservation strategies; and 3) making available reliable information on forest genetic resources in Europe. The work will be carried out through small working groups and workshops instead of the earlier Networks, as agreed by the Steering Committee in 2009. As of June 2010, a total of 21 countries have officially joined Phase IV.

EUFORGEN has been finalizing several additional Technical Guidelines for genetic conservation of Mediterranean firs (*Abies* spp.), Italian alder (*Alnus cordata*), walnut (*Juglans regia*), Macedonian pine (*Pinus peuce*) and European white poplar (*Populus alba*). It will soon initiate data collection on forest genetic resources for the next report on

the State of Europe's Forests, which will be released during the Oslo Ministerial Conference on 14-16 June 2011. EUFORGEN is also preparing its comments to the green paper on forest protection and information in the EU.

The EUFORGEN Steering Committee will have its seventh meeting in Vienna, Austria on 16-17 September 2010, to develop a detailed workplan for the next two years. The meeting was originally scheduled for April 2010 but had to be postponed due to the flight problems caused by the volcanic ash clouds across Europe. Further information on Phase IV is available on the EUFORGEN website (www.euforgen.org).



A beech forest near Leuven, Belgium. Photo: J. Koskela, Biodiversity International

EUFGIS Portal under development



The EUFGIS project (Establishment of a European Information System on Forest Genetic Resources) is now finalizing its activities, including the development of an online portal. During the past months, the National Focal Points have also been finalizing the uploading of data on the dynamic gene conservation units of forest trees into the EUFGIS database. As of June 2010, the database contained information on

nearly 2000 gene conservation units, managed for 127 target species.

The project partners are currently testing the database as part of the preparation process for case studies which will assess the status of the gene conservation efforts in Europe and identify needs for further development of gene conservation strategies for forest trees at the pan-European level. The case studies will be presented at the

final project meeting in Vienna, Austria on 13-15 September 2010. The EUFGIS Portal will also be launched officially during the final meeting.

The EUFGIS project is co-funded by the European Commission (Council Regulation No 870/2004 on genetic resources in agriculture) and coordinated by Biodiversity International. Further information is available on the project website (www.eufgis.org).

Forest ecosystem genomics - contributing to understanding how forests cope with climate change



A new scientific discipline – forest ecosystem genomics – and its application to climate change and the world’s forests have topped the agenda at an international conference held in San Lorenzo de El Escorial (Madrid), Spain, on 9-11 June 2010. The aim of the conference, entitled “Forest ecosystem genomics and adaptation” was to present new scientific findings and to look at the structure and evolution of gene diversity at the forest population and community level.

The event gathered about 230 participants from 37 countries attending the conference from as far afield as Argentina, China, Malaysia, Thailand and Vietnam, as well as Europe and North America. The event also attracted a number of stakeholders, users of the knowledge generated by research, invited to join a dedicated stakeholder session for policy-makers, non-governmental organizations, forest managers and nature conservation agencies.

Ecosystem genomics is an emerging field of research linking genetics, genomics, ecology and evolution to study the response of individual organisms and communities to biotic and abiotic influences. In the past decade, genomics has become a sophisticated tool to decipher diversity at the most refined scales. Now there is a growing interest in exploring the functioning of ecosystems and their adaptation to changing environmental conditions, not just in terms of their species diversity but, starting with DNA molecules, studying organisms in the context of ecosystems.

The conference, co-organized by the research partners in the Network of Excellence EVOLTREE



The Royal Monastery in San Lorenzo de El Escorial (Madrid) - an imposing architectural backdrop to the international conference venue, located nearby. Photo: B. Vinceti, Bioversity International

(www.evoltree.eu), funded by the European Commission’s (EC) 6th Framework Programme for Research, lined up top-notch speakers from across the world and representatives of the EC.

The sessions spanned a range of themes from phenotypic variation in different adaptive traits, to novel screening techniques to identify gene-functions, from different approaches to understanding evolutionary responses to environmental changes in trees and associated species to the recent findings on dispersal, colonization dynamics and pollination ecology, which allow formulating predictions on how the changing climate will likely affect the suitable habitat for many tree species. The most recent technological developments, including new sequencing technologies, high throughput genotyping methods, data handling and management applicable to ecosystem genomics were presented. Finally, different options to mitigate the negative impacts of climate change on forest health and productivity were examined.

This scientific event showed that our understanding has progressed considerably and we have now available large catalogues of genes that are responsible for determining adaptive responses of forest ecosystems. However, despite the technical achievements more thinking is needed to address some issues not properly tackled yet, such as how genes move across landscapes

through different mechanisms of dispersal, facilitating species migration under the pressure of environmental change. Moreover, further use of modeling is needed to be able to project future scenarios, filling the gaps in our knowledge and allowing application of current understanding to forest management.

Finally, the event showed that the interdisciplinary nature of research should be further strengthened. The investigation of forest ecosystem responses to climate change requires multidisciplinary approaches and while genetics, genomics and evolutionary biology were well represented in the conference sessions, ecology needs to be better linked to the other disciplines.

The stakeholder session, an unusual component within a highly scientific programme, was very well attended. The stakeholders appreciated the serious efforts made since the inception of the EVOLTREE project to engage the end users of the research findings produced. Several topics emerged from the comments of the stakeholder panel members: the need to maintain the genetic diversity and adaptation capacity of existing forests; the need for guidelines on how to use, and possibly move, forest reproductive material in the face of climate change; the growing need for regulatory mechanisms for access and benefit sharing of



forest genetic resources; the urge to implement coordinated efforts for the conservation and use of forest genetic diversity at national and international levels; and finally, the need to bring the scientific research findings to the attention of policy-making fora (such as Forest Europe), in a format largely accessible to non-experts in genetics and genomics.

The EU funding of the EVOLTREE project will end in September but the dialogue with the Stakeholders will continue. Just before the conference started, the members of the EVOLTREE Governing Board met to discuss long-term durable integration of the common infrastructures established within the four years of operation of the Network of Excellence. Some EVOLTREE partners are committed to carry forward networking efforts through the establishment of a consortium. A dialogue is taking place with the European Forest Institute, which it is expected will become a host for EVOLTREE in the long term.

The book of abstracts and other useful materials can be downloaded at: www.ecosystemgenomics2010.fgua.es/.



EVOLTREE Project Coordinator, Dr. Antoine Kremer (INRA, France) opens the conference. Photo: Pablo Quesada, Spain

First joint pre-breeding workshop on cereals



Marja Jalli
MTT Agrifood Research
Finland
Plant Protection
Jokioinen
Finland
marja.jalli@mtt.fi

A pre-breeding workshop on cereals was held in Alnarp, Sweden on 24-25 November 2009. The workshop was organized by ECPGR, NordGen, Swedish University of Agricultural Sciences (SLU), Graminor, Norway, MTT Agrifood Research Finland and Oatly AB, Sweden, as part of the activities planned by the ECPGR Working Group on Barley during the present ECPGR Phase. Altogether 49 participants from 12 countries joined the first meeting on this increasingly important subject.

The programme included 20 presentations in four themes: 1) Pre-breeding in cereals – status and examples of existing collaborations; 2) Breeding goals and needs; 3) Challenges of funding; and 4) Future needs and application.

Half a day was spent in smaller groups discussing the future needs and prospects,

based on the presentations. In the biotic stress group there was a broad and lively discussion on emerging diseases in cereals. The common interest was found on *Fusarium* head blight, *Ramularia* leaf spot in barley and leaf blotch diseases and rusts in wheat. As a first step in cooperation on pre-breeding for biotic stresses, the group suggested that a joint disease resistance database could be built up from various sources and experiences, including e.g. data on plant genetic resources (PGR) reactions to different diseases, and the availability of molecular markers. Such a database could also be used as a tool to identify missing data and the need for urgent complementary research. The group also felt that there was a need for access to joint differential sets and nurseries for the various diseases of importance.

In the yield stability, drought and salinity group it was noted that, in the light of climate change, problems due to drought are also increasing in Europe. There is a need to develop phenotype tests suitable for abiotic stress tolerance and to apply them to relevant germplasm. The target on yield stability depends on countries and regional socioeconomic conditions. However, limiting factors are funding schemes, which are not comprehensive enough to carry out activities with a global impact, and a lack of specific funding programmes devoted to pre-breeding. A proposed solution to these limitations was lobbying in favour of pre-breeding at EU and national levels, and supporting the establishment of private-public collaboration, where they do not yet exist. The main conclusion of the group was that the breeding aims are more associated with the needs of developing countries, but pre-breeding should also become a European priority.

The germplasm availability group discussed important

initiatives to support utilization of PGR in pre-breeding. These would be: to increase the online availability of characterization/evaluation data, to combine the “Focussed Identification of Germplasm Strategy” (FIGS) with evaluation data to develop precise models, to improve the dialogue between genebanks and breeders, to strive for transparency and build trust in the legal frameworks, and to make genotyping information available where differences in genome regions for adapted material vs. landraces have been demonstrated. However, the lack of feedback to the genebanks and of geographical and environmental information on accessions (quality of information), as well as problems concerning conservation of wild species were listed as limiting factors in the use of PGR. As a solution to these limitations, the group suggested using global unique identifiers (GUIDs, persistent identifiers), proactively contacting germplasm users in order to obtain information and making the best use of the data already available.

The fourth group discussed future collaboration possibilities. It was concluded that the stakeholders are genebanks (including AEGIS collaborative partners), plant breeding researchers, the European Seed Association (ESA), farmers’ organizations, the Global Partnership Initiative for Plant Breeding Capacity Building (GIPB) and the CGIAR Centres, and that the proposals for collaboration should be framed within the International Treaty or on a regional basis.

One of the conclusions of the workshop was the decision to form a task force to produce concept notes on pre-breeding issues. Ten participants volunteered for this and a concept note on small grain cereals is now ready and publicly available on the ECPGR webpage at: www.ecpgr.cgiar.org/Networks/Cereals/PreBreeding_Concept_Note.pdf.



The Nordic barley landraces have shown excellent resistance against barley leaf spot diseases and are useful resources in modern breeding programmes. Photo: Marja Jalli, MTT Agrifood Research, Finland

More AEGIS MoUs signed and Grant Scheme launched



www.aegis.cgiar.org/

As reported in the previous Newsletter (NL39, December 2009), the AEGIS Memorandum of Understanding (MoU) was sent on 22 April 2009 to all the ECPGR National Coordinators for signature by the respective country authorities. Since the last update in December 2009 the following countries have signed the MoU: Bosnia and Herzegovina, Denmark, Poland and Romania, bringing the AEGIS members to a total of 21 countries.

As part of the MoU, National Coordinators are requested to conclude so-called Associate Membership Agreements (AMAs) with institutions that hold germplasm collections that a given country is prepared to designate to AEGIS as part of the European Collection. So far, Bioversity has received 17 signed AMAs from 9 countries. For a more comprehensive overview of these (and other) AEGIS developments please

visit the AEGIS website <http://aegis.cgiar.org/membership.html>.

On the more technical front the Secretariat, in close collaboration with a number of Working Groups (in particular with the *Brassica* and Forages WGs) and genebanks (IPK, NordGen and IGER), is in the process of finalizing a template that will guide genebanks in the process of preparing operational genebank manuals. This is one of the elements that the Steering Committee agreed upon as being a critically important component of the AEGIS Quality Management System, i.e. AQUAS. It is foreseen that this process as well as the actual genebank manuals will facilitate the generation of the generic genebank standards. The latter will form another important component of AQUAS.

One of the next steps for completing AQUAS will be the definition of crop specific

standards. The ECPGR Working Groups will be driving this process for each specific crop or group of crops.

The designation of the accessions that will become part of the European Collection, AEGIS' main output, is a process that still requires further fine-tuning and coordination between the respective national programmes and the various ECPGR Working Groups. Obviously this step is fundamental for the actual operation of AEGIS as it provides the foundation for the European Collection.

In 2008, the ECPGR Steering Committee in 2008 approved an AEGIS Competitive Grant Scheme with a total amount of €103 000 to be allocated to smaller project proposals that contribute to the implementation and effective operation of AEGIS. The first call for funding under the Grant Scheme assigned three grants for projects aimed at supporting activities that will directly contribute to the establishment and/or operation of AEGIS. The following projects were granted:

1. Assessment of unique material in the European collections of umbellifer crops, University of Warwick, United Kingdom (€10 580);
2. Towards comprehensive pea germplasm management for future use, Agritec Plant Research, Czech Republic (€10 450);
3. Cryopreservation of young inflorescence bases in bolting garlic for germplasm storage, Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany (€13 500).

A second call will be launched at the end of 2010 (for more information see http://aegis.cgiar.org/about_aegis/latest_news/aegis_grant.html).



A healthy tree of Prunus divaricata (plum) growing in Armenia. Photo: Ivan Gabrielyan, UNEP GEF Crop Wild Relatives Project, Yerevan, Armenia

ECPGR Stakeholders' Consultation Report

As commissioned by the Steering Committee at its 11th meeting in September 2008, an independent external review of the ECPGR Programme will be carried out to analyze its effectiveness in terms of its strategy, priorities, objectives, *modus operandi* and overall management aspects, including funding mechanism, hosting arrangements and impact for PGRFA in Europe. The independent external review will be carried out in Rome, during the month of July 2010, by a panel of three international experts, Thomas Gass, Marianne Lefort and Orlando de Ponti.

In preparation of the review, a Stakeholders' Survey was conducted, the results of which, together with an overview document on ECPGR's current status, issues and future perspectives, prepared by the ECPGR Secretariat, are available for download on the ECPGR homepage (www.ecpgr.cgiar.org).

Fourth *Brassica* Working Group meeting

The University of Catania, Italy, was the host of the Fourth meeting of the *Brassica* Working Group (WG), held on 2-4 March 2010 in Linguaglossa, on the slopes of Mount Etna, Sicily. The meeting was attended by delegates from 16 countries and also welcomed the presence of O. De Ponti, President of the International Seed Federation and Senior Advisor for Nunhems. B.V. Mr De Ponti attended as an observer in his capacity of panel member for the Independent External Review of ECPGR that will be concluded in July 2010.

A project planned by the *Brassica* WG as an activity for Phase VIII of ECPGR involves the comparison of various populations of wild brassicas in the same environmental conditions, with the aim to establish a core collection of well characterized and diverse wild accessions. The accessions, selected mainly on the basis of their availability and obtained from various genebanks, were observed by the Group in a field on the farm of the University of Catania. It was remarked that these accessions can be very interesting for breeders, since they contain important resistance genes that are not available in the cultivated types. It was therefore decided to organize a "field demonstration day" in Catania in the near future, in order to show the wild *Brassica* project collection to breeders from Europe. The material will also be made available (either seed or freeze-dried samples) to anyone interested in carrying out characterization or evaluation work, and will make the resulting data publicly available.

Another project planned by the Group consists in characterizing accessions of *B. rapa* selected from the BrasEDB. Ninety-seven accessions were selected among the unknown accessions, on the basis of absence of a name or a cultivar group and on the basis of easy availability. N.I.

Vavilov Research Institute of Plant Industry (VIR), Russian Federation, volunteered to carry out the characterization for morphological and phenological descriptors. The selected samples will be requested from the respective genebanks and dispatched to VIR by June 2010.

Thanks to major updates carried out in 2005 and 2007, and more recent updates made by taking data from EURISCO, the ECPGR *Brassica* Database (Bras-DB) contains 23 753 accessions from 55 institutes in 28 countries. Accessions belonging to the core collections defined during the AIR (*oleracea*) and GENRES (*oleracea*, *rapa*, *napus*, *carinata*) projects are flagged. Duplicates within *B. rapa* accessions have been searched, based on name, country of origin and sometimes collection number. Among the 3622 *B. rapa* accessions, 545 duplicate groups covering 1698 accessions were found. The duplicate search function of the Bras-DB will be extended to *B. oleracea* by December 2010. Regarding the possibility to extend the Bras-EDB to *Raphanus*, the group felt that other interesting genera are also not covered (e.g. *Eruca*, *Diplotaxis* and *Sinapidendron*), but the prevailing opinion was that information about *Brassica* should be improved as a priority before extending the database to other species, also considering that basic information on other species is available through EURISCO.

The status of wild *Brassica* conservation at the Banco de Germoplasma Vegetal - Universidad Politécnica de Madrid (BGV-UPM), Spain was reported by Maria Elena González-Benito. The collection includes 4863 accessions of Brassicaceae, covering 1027 species. Among these, approximately 300-350 accessions are wild relatives of *Brassica*. In the short- and medium-term, it is planned that the facilities and the data management will be improved. A bar coding system will also be implemented. Regarding

the exchange of accessions, transfer agreement documents need to be adapted to recent Spanish laws. Multiplication of the seed is also a priority. While BGV-UPM is working to improve the facilities and the management of the collection, it was suggested that seed requests could be sent to the sites where duplicates are stored. Considering the temporary unavailability of material, the Group agreed to engage in tracking down duplicate samples stored and available for distribution in Europe and elsewhere. A Group Task Force was formed, with the aim of identifying locations where wild ($n=9$) *Brassica* accessions are stored in the world, verifying the availability of the above accessions for seed exchange, verifying whether the gene pool of wild *Brassica* can be considered safely conserved in *ex situ* genebanks or if further collecting is needed, and to identify the accessions

requiring multiplication and prepare a detailed time-frame for such multiplication.

The proposed steps for the creation of an AEGIS Quality system were outlined by the ECPGR Secretariat, including the presentation of a draft template for an operational genebank manual. The group agreed on the general terms of the proposed workplan and G. Poulsen offered NordGen's availability to test the template, report their experience to the rest of the *Brassica* WG, in order to reach an agreement on a standard way to fill it in. On the other hand, it was decided to postpone the start of the work on a crop-specific template, waiting for some experience to be gained with the generic standard exercise. The group re-elected Ferdinando Branca (Italy) as its Chair and Noortje Bas (The Netherlands) was reconfirmed as Vice-Chair. The draft report will be available on the ECPGR website.



Images from the *Avena* collecting missions in Sicily and Andalusia. Top: Figure 1. Sicily, *Avena insularis* habitat. Bottom: Figure 2. Andalusia, *Avena murphyi* habitat. Photos: Andreas Katsiotis, Agricultural University of Athens, Greece

Regeneration and safety-duplication of threatened cereal and grain legume accessions

The first year's activity of a two-year project funded by the Global Crop Diversity Trust for the regeneration and safety-duplication of regionally prioritized crop collections was concluded in March 2010. The project, jointly prepared by the ECPGR Cereals Network and the Oil and Protein Crops Network, and submitted for funding through the ECPGR Secretariat, is aiming at carrying out regeneration and safety-duplication of over 5000 threatened accessions identified in ten European countries (Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Greece, Hungary, Israel and Portugal). The total grant is nearly US\$130 000 and the ECPGR Secretariat is acting as the backstopping agent for the project. As a result of the first year of activities, the 12 partner institutions involved have successfully regenerated



Sowing of threatened wheat and *Aegilops* accessions for regeneration at the Armenian State Agrarian University (Yerevan) in October 2009.
Photo: Armenian State Agrarian University (ASAU), Yerevan, Armenia

414 grain legume accessions (chickpea, common bean, cowpea, faba bean, grasspea and lentil) and 1522 cereal accessions (*Aegilops*, barley, maize, sorghum and wheat). Low viability of the samples revealed to be a problem in many cases (especially for

grain legumes and wild barley), indicating that the project was timely, if not too late in some cases. All the regenerated samples are planned to be safety-duplicated both at the Svalbard Seed Vault and at a CGIAR centre or at another genebank meeting

the international management standards. All germplasm regenerated under the project will be made available and otherwise dealt with in accordance with the terms and conditions of the Standard Material Transfer Agreement of the International Treaty on Plant Genetic Resources for Food and Agriculture. Suitable regeneration protocols were recommended and the data obtained (passport and characterization) are planned to be made publicly available through international databases. The project was an occasion to raise awareness on the need to use appropriate standard regeneration practices and it has also been able to involve local farmers in the activity and contribute to highlight the richness of certain European collections and the importance of maintaining them.

Surveying and collecting *Avena* wild species in Sicily and Andalusia

Andreas Katsiotis, Agricultural University of Athens, Greece (katsioti@aua.gr); Ferdinando Branca, (DOFATA), University of Catania, Italy (fbranca@unict.it); Pedro Garcia, University of Leon, Spain (pgarg@unileon.es); and Gideon Ladizinsky, Hebrew University of Jerusalem, Israel (ladizins@agri.huji.ac.il)

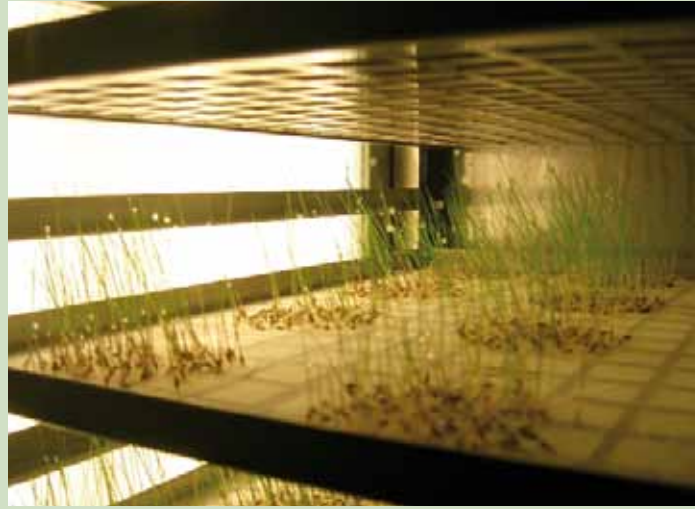
In May 2010, two missions, one to Sicily, Italy, the other to Andalusia, Spain, were carried out in order to survey and collect *Avena* populations of *A. insularis* and *A. murphyi*, *A. hirtula* and *A. longiglumis*, respectively. The missions fulfill the targets set in the AGRI GENRES 057 project "An Integrated European *In Situ* Management Work Plan: Implementing Genetic Reserves and On Farm Concepts" (AEGRO), co-funded by the European Commission, DG AGRI within the framework of council regulation 870/2004, as well as the collecting and *in situ* conservation priorities set during the Second meeting of the ECPGR Cereals Network in Izmir, Turkey (April 2008 – see NL36 page 8).

Avena insularis was first described in 1998 by Ladizinsky (Genet. Res. Crop Evol. 45:263-269). This species was first collected around Lago Comunelli in Sicily and later on was also found in Tunisia. During the present trip we visited the areas where this species was initially collected, to survey the population sizes and collect again, as well investigating areas with a similar habitat, to confirm or exclude its presence. *Avena insularis* is found on uncultivated clay soil, coexisting with *Lygeum spartum*, and sometimes with *A. sterilis* (Figure 1, see page 6). In at least four sites around the lake, *A. insularis* populations were found. One of the sites had a pure (no *A. sterilis* present) large *A. insularis* population, while at least two more populations were found in an area fenced in by the Regione Siciliana, Assessorato Agricoltura e Foreste, planted with pine trees. Another population, mixed with *A. sterilis*, was found at Mt. Giase, also fenced in by the same agency, where eucalyptus and pine trees were planted. A new site with *A. insularis* was found close to Borgo Franchetto. In areas investigated north of Mt. Etna with similar soil types, no *A. insularis* plants were found. Thus, it seems that this species is only present south of the Catania-Palermo highway.

Andalusia, in Spain, was visited mainly to survey *A. murphyi* populations and also to check sites with *A. longiglumis* and *A. hirtula*. Three years ago (in 2007) *A. murphyi* was collected in the southwest part of Andalusia, between Tarifa and Vejer. This year the same sites were visited to survey the populations. In at least one case, where *A. murphyi* coexists with *A. sterilis*, similar proportions of the species were observed compared to three years ago. Moreover, at least two fields, close to the road going to Bolonia, were found with pure dense populations of *A. murphyi*, while in neighbouring fields no *A. murphyi* plants were present (Figure 2, see page 6). In this area all fields are used as pasture land for cows. In the fields where *A. murphyi* was present the cows are brought in for grazing after *A. murphyi* sheds its seeds on the soil, thus large populations are maintained. New sites with small *A. murphyi* populations were located close to Atlantera and Barbate. Another site with this species present was north of Alcalá de los Gazules, a place that was indicated to us during our visit with Guillermo Ceballos of the Consejería de Medio Ambiente of the Junta de Andalusia in Sevilla. This site is interesting because it is not the typical *A. murphyi* habitat. None of the sites where this species is found are protected, but with proper management of the pasture land *A. murphyi* can also thrive in the area, thus recommendations to farmers are needed in order to maintain satisfactory population levels. *Avena longiglumis* was spotted in the Parque Natural Acantilado, west of Barbate and at the Parque Nacional de Donana, while *A. hirtula* was present at the Parque Nacional de Donana, in close distance to *A. longiglumis* plants.

Tenth ECPGR Forages meeting focuses on task sharing and *in situ* conservation

Merja Veteläinen
MTT Agrifood Research
Finland
Biotechnology and Food
Research/Genetic diversity
Jokioinen, Finland
merja.vetelainen@mtt.fi



Germination test at the IPK genebank, Malchow/Poel, Germany.
Photo: L. Maggioni, Biodiversity International

The Tenth meeting of the ECPGR Working Group on Forages was held on 28-29 April 2010 on the Island of Poel, Germany and was hosted by the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben. The meeting gathered together Working Group members, Central Forage Database Managers and numerous observers, including staff members of IPK and other ECPGR Working Group Chairs.

Since the 1990s the Working Group on Forages has been working towards the sharing of responsibilities in conservation and management of European collections. Specific Working Group mechanisms for identifying the most original samples (MOS) and holders of primary collection (PRIMCOLL) have been developed and shaped in order to identify forage accessions for the European Forage Collection (EFC). The present meeting reviewed achievements to date and made important decisions to complete the process to identify the unique European forage accessions and to promote AEGIS goals.

The Central Forage Crop Databases (CFCDBs) are the tools to provide information on European forage germplasm to the user community and to identify germplasm for the EFC. The establishment of

the EURISCO catalogue has called for the streamlining of the dataflow from national sources both to central crop databases (CCDBs) and to EURISCO. Even though there are still disparities in the contents of national data sources (visualized in the CCDBs) and EURISCO catalogue, the Forages Working Group decided to use EURISCO as a starting point when updating information in the CFCDBs. At the same time the forages database managers should encourage different forage germplasm data providers to enhance the inclusion of the missing data in EURISCO. New data sharing facilities for the specific forage crop data will also be utilized

in database management.

The second important meeting decision concerned the organization of the CFCDBs. Prior to the WG meeting the number of databases was 24. However, it was decided to merge several of the databases on the basis of the genus and the type of forage crop. This should rationalize the identification of accessions for the EFC and diminish the work load when updating databases. The institutes responsible for the management of the remaining eleven forage crop databases agreed to confirm their responsibility for the respective database.

Unlike many field crops, wild forms of common forage

species still exist and they are readily useful for breeding. In addition, conservation of forage crops in genebanks is a costly activity due to their propagation systems. For these reasons *in situ* conservation of forage crops is an activity that the Working Group has decided to promote in order to complement the *ex situ* conservation work. Beat Boller (Switzerland) presented a solution for database management of *in situ* inventories. In addition, Lothar Frese (Germany) - leader of the AEGRO project (An Integrated European *In Situ* Management Work Plan: Implementing Genetic Reserves and On Farm Concepts) - provided insights into the tools AEGRO will utilize for future *in situ* conservation of crop wild relatives. Several examples on national *in situ* and on-farm conservation activities were also presented during the meeting.

The Forages Working Group, which has many plant breeders as members, emphasized the importance of the inclusion of forage crop specific descriptors and characterization and evaluation (C&E) data in CFCDBs. For the time being, the Working Group decided to observe the ongoing development, within the other ECPGR Networks, of the mechanisms to include C&E data in the CCDBs, rather than setting up its own activities in this challenging task. However, forages database managers were introduced to the present possibilities to include C&E data in the databases and were encouraged to use these possibilities whenever feasible.

Overall, the WG meeting was very fruitful due to the excellent local arrangements and also to the active participation of WG members. Inputs from ECPGR thematic Networks and on-going research projects provided cross-fertilization for the future activities in the Working Group.



Tenth Forages Working Group meeting participants.
Photo: Helmut Knüppfer, IPK, Gatersleben, Germany

Fourth meeting of the Documentation and Information Network Coordinating Group

At the last ECPGR Steering Committee meeting in 2008, it was agreed that the Documentation and Information (D&I) Network Coordinating Group (NCG) would take on the responsibility of acting as the specific advisory body to monitor progress in the development and maintenance of EURISCO and to provide advice to Bioversity International, for the further development of EURISCO. The D&I NCG had its Fourth meeting on 17-18 February 2010 at Bioversity International Headquarters in Maccarese (Rome), Italy, where the Group reviewed progress of the Network's activities in 2008-09. It was noted with satisfaction that a number of activities prioritized by the D&I Network were carried out as part of the EPGRIS3 initiative (www.epgris3.eu), i.e. carried out on a voluntary basis by experts who made themselves available for these tasks. Among these actions, a discussion paper entitled "The European *ex situ* PGR Information Landscape" was prepared and presented at the Steering Committee in Sarajevo (2008). A proposal for inclusion of C&E data into EURISCO was also drafted, discussed, circulated and eventually approved by the D&I Network in June 2009. Several activities related to the improvement of EURISCO data quality and quantity, the uploading mechanism, the users interface, etc. require further collaboration and an effort could be made to try to engage more people. Participation is open to anyone willing to collaborate and with something to offer.

The group reviewed the Prague workshop for National Inventory Focal Points and the Inter-regional workshop on International Treaty implementation (see NL38 pages 6-7). A report was made on the Conference on Biodiversity Information Standards (TDWG-2009) (to be featured in the next issue of

the NL), and it was considered relevant for the D&I Network to remain informed about any future developments.

The proposed initiative to create a Characterization and Evaluation (C&E) data repository, as part of EURISCO, was discussed. This will consist of creating a data exchange format that is able to cope with non-standardized C&E data, at the same time providing a description of genotype, trait, method and experiment. It was noted that a "road map to the inclusion of C&E data in EURISCO" was followed up to the stage of harmonization with the Global Information on Germplasm Accessions (GIGA) project, which is co-funded by the Global Crop Diversity Trust, the International Treaty and Bioversity International, and is developing the global gateway to genetic resources called "GENESYS" (www.genesys-pgr.org). This process will eventually enable provision of European C&E data to EURISCO and GENESYS. Given the obvious complementarity and relatively small differences between GENESYS and EURISCO, it was considered advisable to let the two approaches converge and a number of action points to take the necessary steps forward in this direction were agreed.

EURISCO currently includes data from 40 National Inventories and 296 genebanks. The accessions can be listed as wild species (99 524), breeding and research material (151 454), and traditional cultivars and landraces (260 111). There are 211 805 registered Multilateral System accessions, bringing the total number of accessions to 1 050 197. Between November 2008 and December 2009, seminars and trainings were carried out in Armenia, Bosnia and Herzegovina, Czech Republic, Russian Federation, Spain and Ukraine, thereby training a total of 113 people. A workplan for EURISCO activities (February to September 2010) was approved, taking note that the Internet improvement task had the highest priority. Collaboration with GENESYS was also considered a high priority. An exercise of comparison between the ECPGR Central Crop Databases and EURISCO will also be carried out. A progress report on the implementation of the above workplan will be prepared for the attention of the D&I NCG in October 2010, including the achievements and a new proposed workplan with specific targets.

Regarding Art.17 of the Treaty on the Global Information System, it was

concluded that the procedure approved *ad interim* by the ECPGR Steering Committee in September 2008 for additional and voluntary reporting through EURISCO on concluded Standard Material Transfer Agreements is no longer applicable, since it did not consider details such as name and address of recipient or the identification of each accession. The latter requirements were agreed at the Third Session of the Governing Body. In view of the planned preparation of a vision paper to be presented to the Fourth Session of the Governing Body to outline a process for the development of the Global Information System, the Group agreed that the D&I Network should offer its expertise to contribute to writing the vision paper, as well as offering technology solutions.

Theo van Hintum (The Netherlands) was elected as new Coordinator of the D&I Network Coordinating Group. The Group thanked Frank Begemann (Germany), former Coordinator, for his constructive and proactive leadership of the Group in the past years.

The report of the meeting is available online at: www.ecpgr.cgiar.org/Networks/Info_doc/info_doc.htm. Related presentations can be downloaded at: www.ecpgr.cgiar.org/Networks/Info_doc/Feb2010_Presentations.htm.



A selection of local roots and tubers on sale at the market in Ljubljana, Slovenia.
Photo: L. Maggioni, Bioversity International

Second Congress on Genomics of Plant Genetic Resources (GPGR2)

Roberto Tuberosa
Department of
Agroenvironmental Science
and Technology (DiSTA)
University of Bologna
Bologna, Italy
roberto.tuberosa@unibo.it

Andreas Graner
Leibniz Institute of Plant Genetics
and Crop Plant Research (IPK)
Gatersleben, Germany
graner@ipk-gatersleben.de



Jia Jizeng (CAAS, Beijing, China), organizer of GPGR1 (2005); Andreas Graner (IPK, Gatersleben, Germany) and Roberto Tuberosa (University of Bologna, Italy), organizers of GPGR2 (2010); and Suk-Ha Lee (Seoul National University, Korea) organizer of GPGR3 (2013). Photo: Chiara Colalongo, Italy

The second Congress on Genomics of Plant Genetic Resources (GPGR2) held in Bologna, Italy on 24-27 April 2010, co-organized by Biodiversity International, the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben and the University of Bologna, followed the first edition held in 2005 in Beijing, China. The objective of GPGR2 has been to critically evaluate how the recent advances in genomics have improved our capacity to harness plant genetic resources for improving crop productivity and nutritional quality. The overwhelming opportunities that continue to emerge at the confluence of the various lines of research into plant genomics and biodiversity of plant genetic resources attracted more than 400 participants representing 53 countries. The unifying picture that emerges from over 90 oral and 300 poster presentations is that genomics is becoming increasingly important for understanding the genetic architecture of agricultural traits and selecting superior genotypes.

In the opening lecture, Emile Frison (Biodiversity International) analyzed how genomics contributes to building a global plant genetic resources system able to more effectively address issues such as managing *ex situ* collections, sample duplication and representation of crop wild relatives. Addressing these

issues effectively will require extended partnerships and a more global information system. The Congress keynote lecture given by Gebisa Ejeta (Purdue University, USA), recipient of the 2009 World Food Prize, reviewed the role of genetics and genetic resources to improve livelihoods. Examples were drawn from plant biodiversity manipulations against major plant epidemics, including the speaker's own outstanding research on sorghum tolerance to *Striga* that has brought benefit to millions in Africa. Peter Langridge, (ACPF, Australia) reviewed how the adoption of genomics-assisted breeding has increased the flexibility of breeding programmes and has contributed to improving the stability of wheat and barley production under conditions of abiotic and biotic constraints.

The pivotal contribution of genome sequencing for investigating plant evolution, crop domestication, biodiversity analysis and/or marker discovery was highlighted by presentations on *Arabidopsis* (Martin Koornneef, Max-Planck Institute, Germany; Karl Schmid, University of Hohenheim, Germany), *Brachypodium* (Alan Schulman, University of Helsinki and MTT/BI, Finland), tomato (Giorgio Valle, University of Padova, Italy), soybean (Suk-Ha Lee, Seoul National University, Korea), apple (Riccardo Velasco and

Silvio Salvi, IASMA, Italy), grapevine (Michele Morgante, University of Udine & IGA, Italy), rice (Scott Jackson, Purdue University, USA; Masahiro Yano, NIAS, Japan), barley (Robbie Waugh, SCRI, UK; Takao Komatsuda, NIAS, Japan) and wheat (Jerome Salse, INRA, France; Martin Ganal, TraitGenetics, Germany; Tzion Fahima, Haifa University, Israel; Beat Keller University of Zurich, Switzerland).

Joe Thome (CIAT, Colombia) reviewed the results of HarvestPlus, the project funded by the Bill & Melinda Gates Foundation on micronutrient deficiencies in the human diet. HarvestPlus deploys both natural and artificially induced variation to increase iron, zinc and provitamin A content in crops. Remarkable results have been achieved via transgenic strategies and marker-assisted breeding. Carmen de Vicente (GCP, Mexico) summarized how, in the Generation Challenge Programme (GCP), advances in molecular genetics have released a new generation of plants, especially for orphan crops. The GCP has developed a molecular marker toolkit, which aims to provide easy access to existing information on molecular markers used in breeding programmes. Additionally, the Genotyping Support Service (GSS) of the GCP offers cost-efficient genotyping services, both for fingerprinting and analysis of genetic diversity

and for molecular breeding.

Enrico Porceddu (University of Tuscia, Italy) and Ed Runge (Texas A&M University, US) presented two outstanding programmes (PhD in Agrobiodiversity and Monsanto's Beachell-Borlaug International Scholars, respectively) for training young scientists in the application of genomics to crop improvement. Along this line, an engaging round-table discussion among experts from the public and private sectors addressed the compelling issue of how to educate the next generation of plant breeders.

In the closing presentation, Andreas Graner (IPK Gatersleben, Germany) addressed the future challenges in exploiting plant biodiversity. The vast diversity resting on the shelves of genebanks has only marginally been tapped into. Both the improvement in phenotypic analysis and the generation and deployment of genetic information will be instrumental in more effectively harnessing germplasm diversity. Positional cloning of the genes that underlie agronomic traits will help to unveil their allelic diversity by systematically mining genebank collections for novel alleles. When the access to genes is hampered by low recombination, genetically modified approaches will facilitate the transfer of genes, especially from wild relatives into adapted breeding lines.

Details of the Congress and all abstracts are available at the Congress website (www.gpgr2.com). A special issue of the Plant Genetic Resources journal will be published containing the the abstracts and manuscripts from the Congress' invited speakers. The next Congress (GPGR3) will be hosted by Seoul National University in Korea in 2013.

The GPGR2 organizers wish to thank the sponsors for their generous financial support, as well as all the participants for their stimulating discussions.

The role of biodiversity in the “Italian Technology Platform Organic Farming”

Francesco Carimi
Institute of Plant Genetics
National Research Council (CNR)
Palermo, Italy
francesco.carimi@igv.cnr.it

Mauro Gamboni
AgriFood Department
National Research Council (CNR)
Rome, Italy
mauro.gamboni@cnr.it

Cristina Michelsoni
Italian Association for Organic
Agriculture (AIAB)
Rome, Italy
c.michelsoni@aiab.it

Downstream of a very successful conference on “Knowledge Advancement and Organic Farming”, held in Rome in April 2008, a meeting between researchers and stakeholders laid the foundations for an Italian Network for Research in Organic Farming (INROF) [Rete Italiana per la Ricerca in Agricoltura Biologica – RIRAB] and to establish the first six Thematic Working Groups (TWGs) dealing with different topics: biodiversity, energy, plant protection, quality, agricultural techniques, animal breeding. New TWGs were later created, covering topics such as: organic food production, natural resources and territory, social and economical aspects (www.rirab.it). The Groups are coordinated by experts from several research institutes, local authorities, farmers’ associations and organic sector representatives.

Italian Technology Platform on Organic Farming

In January 2009 a discussion forum within INROF was launched, leading to the decision set up an Italian Technology Platform on Organic Food and Farming. Consistent with the indications

of EU institutions, the Platform’s aim is to gather the needs of farmers, industry and other economic and societal actors and to define a basic framework for establishing priorities and action plans on issues of strategic importance.

The Italian Technology Platform on Organic Farming will identify the most promising research lines and prepare a strategic research agenda to be implemented nationally, based on a wide survey on research needs and available results.

Several national organizations involved in organic farming and representing the most important Italian research centres, universities, associations and enterprises took part to the Platform start up meeting. The Platform will be a forum open to all actors interested in the development of the organic sector in a systemic view of sustainability, environment protection and rural development. The Italian Platform intends to participate in the development of “TP Organics”, the European initiative for a Technology Platform on Organic Farming.

Importance of biodiversity for organic farming

The safeguarding and enhancement of biodiversity is a priority for organic farming that considers it not only a value *per se* but an important tool for the implementation of organic farming concepts. It is common understanding that organic farming on the one hand contributes to planned (cultivated species and produced breeds) and associated (the wide range of species that inhabit the farmed area) biodiversity and at the same time benefits from eco-functional biodiversity (the diversity on and around the farm that delivers prevention services to the crops). Many studies conducted world-wide over the past twenty

years have concluded that organic farming can have a significant positive impact on biodiversity at different levels (genetic, species and ecosystems) and with reference to various life forms (bacteria, other microorganisms, plants, insects, as well as small and large fauna, birds and so on). Research has also demonstrated that the positive effect of organic agriculture increases significantly with increased percentage of organic cultivation at the landscape level. As regards “biodiversity for organic farming”, the extent to which functional biodiversity may be used to improve and sustain yields and quality of organic crops is practically applied by all organic farmers.

An important issue to be considered, especially in those countries with an old culinary tradition such as Italy, is the linkage between organic farming and local plant varieties and animal breeds. Raw materials, including local germplasm, with highly specific characteristics, are to be identified and preserved, also for future breeding purposes, in systems able to produce materials that fit

to organic farmers’ needs. Maintenance and survey of traditional germplasm typical of the different regions, as well as its wild or semi-domesticated relatives, can be of strategic importance to ensure a useful genepool for breeding programmes specific for organic farming. Advances in conservation methods have generated new opportunities for genetic resources conservation and use. Both *in vitro* tissue culture and molecular biology have made available techniques that will greatly aid in the evaluation, collection and storage of germplasm. Seed storage has been the conventional method for plant germplasm conservation at low temperatures. However, some species (clonally propagated crops) can be maintained through field collections. Techniques such as *in vitro* culture and cryopreservation may represent an alternative for conservation of such species. For animal genetic resources the combined use of embryos and semen for cryogenic conservation of farm mammal genetic resources can be a valid alternative conservation method.



Vitis germplasm in Lampedusa during an INROF recovery mission to the small Sicilian islands off the Italian mainland.
Photo: Tommaso La Mantia, Dipartimento di Colture Arboree, Facoltà di Agraria, Palermo University, Palermo, Italy

Focus on the other regions...

Beyond model species: genomic tools for conservation and improvement of livelihoods

Judy Loo
Senior Scientist, Forest and
Other Wild Plant Resources
Biodiversity International
Rome
j.loo@cgiar.org

Can the rapidly evolving field of genomics be applied to conservation of forest genetic resources and improvement of livelihoods? This was a recurring question at the conference on "Sustainable Utilisation and Conservation of Forests in the Genomics Era" in Kuala Lumpur, Malaysia, held on 7-12 March 2010. Presentations by two keynote, 12 invited and 26 voluntary speakers, as well as approximately 50 posters, covered a broad array of topics from QTL (quantitative trait loci) and association mapping,

to propagation and enabling technologies. The conference highlighted recent advances in forest genomics and molecular genetics with a particular focus on conservation and sustainable use of tropical tree species.

Presentations included the application of molecular genetics tools to conservation-related questions, including surveys of genetic diversity across species' ranges to provide baseline data for defining conservation objectives; identifying species- and location-specific markers for timber-tracking; understanding pollen flow across landscapes to assess impacts of fragmentation and habitat loss; and characterizing chloroplast haplotypes for defining historical migration routes. These molecular

genetics techniques do not take full advantage of the growing body of genomics knowledge and emerging technologies, largely because the field of genomics has been focused primarily on knowing "almost everything" about a few well-studied commercially important species. The key conservation and livelihood questions, on the other hand, require transferable tools and techniques across a broader array of less-characterized species.

Participants in a special session on "Research initiatives on forest genomics and conservation" recognized that most genomics research has not yet been developed for conservation purposes and that the genomics knowledge gap between commercially important species in the wealthier countries and tree species important for livelihoods in the majority of the world is immense. Discussion focused on the availability and value of genomics approaches to answer questions such as:

1) How can the rapidly advancing field of genomics be applied to reduce poverty and conserve native tree species in tropical Africa and other areas where high numbers of tree species are locally valuable, almost all of them are declining and little is known about the genetics of any of them?

2) How can genomics tools be used to understand the genetic status of such species and identify vulnerability of genetic resources and set priorities?

3) How can genomic tools increase landscape restoration success by facilitating discovery and use of sources of adaptation within multiple tree species, without the benefit of field trials?

Tools and techniques that could be applied to such questions are under development but opinions varied regarding the length of time before they will be useful and the feasibility of transferring specific genetic knowledge across species within genera or, especially, among genera within families.

The approach used for the DNA Barcoding Initiative represents the opposite end of the spectrum from genomic characterization of tree species. Barcoding involves identifying one or two genes that are constant within, but variable among, species. The goal is to identify a unique sequence at one or two genes, for each species, so that any biological sample will be easily identifiable. Application of genomics tools to conservation and improvement of livelihoods requires characterization of a discrete set of variable genes that are involved in important known functions across a large number of species. The technology that is needed falls between the typical barcoding and genomics techniques. The idea of using variable well-characterized genes, that are known to be important for survival and productivity, as markers in genetic diversity studies is innately appealing, but there are still significant challenges. For example, how does one decide which traits will be needed for future conditions? A more serious issue is the high numbers of genes involved in almost any adaptive trait, with no way to identify which ones are the most important – yet.

Daunting questions remain, but the conference ended in a hopeful vein, with participants noting how far the field has progressed in a relatively short time, and recognizing the power of current technologies. The technological challenges can likely be overcome given the political will to focus attention and funding on conservation and livelihoods in the majority world.

The conference was organized jointly by the International Union of Forest Research Organisations (IUFRO) Working Parties 2.04.01 on Population, Ecological and Conservation Genetics and 2.04.10 on Genomics in collaboration with Universiti Kebangsaan Malaysia, Forest Research Institute Malaysia (FRIM), Universiti Putra Malaysia and Biodiversity International.



Many tree species contribute to local livelihoods, but genetic resources of most of them have not been characterized. Genomic advances have not yet been made relevant for species such as those in this arboretum in Brazzaville, Congo. Photo: J. Loo, Biodiversity International

Regional workshop on genebank documentation and management in the Near East and North Africa

At the end of January this year, participants from 11 countries (Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Saudi Arabia, Sudan and Yemen) gathered for a two-day workshop in Amman, Jordan. The workshop, organized as a joint initiative by Bioversity International and the Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA), with the participation of the International Center for Agricultural Research in the Dry Areas (ICARDA) and the Global Crop Diversity Trust, aimed at exchanging information on the current status of genebank documentation and management, building capacity on emerging global documentation systems and sharing best practices for genebank management. Most of the participants were genebank managers and researchers working with plant genetic resources, nominated to attend the workshop by the AARINENA member representatives. The National Centre for Agricultural Research and Extension (NCARE) hosted the workshop.

The workshop, opened by Dr Faisal Awawdeh, Director General of NCARE, had been organized to discuss the increasing importance of genebanks in the conservation of agricultural biodiversity and in countering the wider

environmental challenges, including climate change.

Technical deliberations were conducted in both parallel and plenary sessions. The plenary sessions started with presenting the rationale and principles of developing the Global Information on Germplasm Accessions and a live presentation of the GENESYS Portal. The participants also took part in practical exercises on the use of GRIN-Global, a genebank curator tool interface, and the Crop Genebank Knowledge Base, an interactive, web-based tool for genebank managers. The session also addressed the global training programme for GRIN-Global, and involvement and interactions with experts in the Region.

Other presentations and discussions included research and conservation of date palm germplasm in view of the outbreak of palm weevil in the Region, and building a global system on PGR for food and agriculture. An example of the ongoing genebank integration process in the framework of the European Cooperative Programme for Plant Genetic Resources (ECPGR) was also presented.

An important discussion during the workshop was on the function and structure of the newly established Regional Network on Plant Genetic Resources. The General

Conference of AARINENA adopted the establishment of a Regional PGR Network in 2008, which became its seventh technical Network. However, Network members had not met prior to the workshop. The overall goal of the Network is to enhance the conservation and sustainable use of PGR in the Near East and North Africa.

Members from the countries participating in the workshop, representing the institutions, identified as Focal Points, emphasized the strong need for the Regional collaborative mechanism on PGR. They constituted the Coordinating Board of the Network. The Board plans, coordinates and follows-up research, training and other work programmes, reviews and approves annual budgets, advises on PGR policy issues, facilitates communication among the Focal Points, Working Groups and the Regional PGR Network, and liaises with the AARINENA Secretariat on fund raising. The work programmes are prepared, monitored and supported by the Secretariat of the Network.

The Amman workshop recognized the need to build capacity at national level in many countries, with specific reference to the use of the Standard Material Transfer Agreement for exchange of germplasm under the International Treaty. Also,

linkages with the emerging global portal were recognized. The essential role played by ICARDA's genebank was acknowledged. Promoting involvement of user groups in PGR conservation activities and the importance of communication and information sharing between meetings of the Network were also stressed.

Dr Ahmed Tawfiq, National Genebank and Genetic Resources, Egypt was elected Chair of the Board for the Network. AARINENA assigned the function of the Coordinating Secretariat to the Agricultural Research Centre, Sudan.

The Regional workshop provided an opportunity for PGR specialists from across the Region to meet each other, exchange experiences and identify priorities for collaborative action. Further collaboration within AARINENA and cooperation with its international partners will be needed to implement common projects. The participants also expressed their wish to pursue closer linkages with other neighbouring Regions, such as Central Asia and Europe. The workshop took place in conjunction with the International Conference on Food Security and Climate Change in the Dry Areas. The full report is available from AARINENA's website (www.aarinena.org).



Participants and regional representatives at the AARINENA Regional workshop, Amman, Jordan. Photo: Luigi Guarino, Global Crop Diversity Trust

Final meeting of COST Action E52 “Evaluation of the genetic resources of European beech for sustainable forest management”

Georg von Wuehlisch
Federal Research Institute
for Rural Areas, Forestry and
Fisheries
Institute for Forest Genetics
Grosshansdorf, Germany
georg.wuehlisch@vti.bund.de



Maladapted beech provenance from The Netherlands in the Spanish beech provenance trial visited. The top shoots die back regularly during summer drought giving the beech a bush-like form. Adapted beech provenances not shown on this picture have reached six meters in height at this age already. Photo: Georg von Wuehlisch, Institute for Forest Genetics, Germany

Burgos, Spain, was the venue of the final meeting in May 2010 of COST Action E52 “Evaluation of the genetic resources of European beech for sustainable forest management” aimed at raising awareness on European beech forests. The venue was ideally chosen as three test sites of the International Provenance Trial of European beech are located in each of the provinces of Navarra, Castilla y León and La Rioja, the latter one of which was visited during the meeting.

The central focus of the COST Action E52 was the first joint evaluation of the aforementioned provenance trials planted in two series, in 1995 and 1998. They consist of a total of 200 beech provenances representing the distribution range of beech. Sets of these provenances are tested on a total of 60 trial sites located in 19 countries within the natural distribution range of beech plus Ireland outside the range.

One of the COST Action tasks was to collect and jointly evaluate data on survival, phenology (spring and autumn), growth increment, health state and trunk as well as branching characters. The data was used to estimate the adaptability of the species to the different environments at

the field trial sites. The results show that European beech is generally a plastic species, able to acclimatize well to different site conditions.

Among the sites, the survival and growth increment varied strongly depending on site quality in terms of location and climatic as well as soil characters. The variation among provenances gives a complex, differentiated picture, which cannot be explained simply by current regional adaptation patterns or influences of the site in which a provenance is growing. Consequently, at certain sites, some geographically distant provenances are performing unexpectedly well, whereas local provenances frequently are not among the best.

The results suggest that a general improvement in growth would result from movement of a provenance

north- and westwards by the magnitude of 50 to 100 km. However, interactions between genotype and environment are considerable, which complicate any schematic provenance recommendations.

Based on survival and growth increment data, a regional grouping of provenances shows a latitudinal division of two groups north of the Alps, dividing the beech of the low altitude northerly latitude, and the higher altitude beech of the lower latitudes, as well as a western, central and eastern group in the Mediterranean area. However, this grouping is based on relatively few provenances especially in the Mediterranean region, where a grouping in more than the three groups can be expected. The results of this first joint evaluation is presently being collated in a comprehensive

publication.

At an age of 12-15 years, the field trials offer manifold possibilities for scientific study for comparing growth expressions of a set of beech seed sources growing simultaneously at numerous locations throughout Europe. The data is kept in a permanent database at Grosshansdorf, Germany and is available for scientific analyses. It may especially serve to verify predictions about the future distribution range of beech.

During the excursion to the beech forests east of Burgos it became evident that due to abandoning of farmland and decreasing animal husbandry, beech is expanding on north-facing sites with favourable soil. However, at the same time damages due to drought were observed, especially on non-adapted provenances at the provenance trial visited.

Another output of the COST Action will be a publication on the state of beech genetic resources in Europe, including papers of all countries where beech occurs, giving information on distribution, silviculture, commercial uses, health state, availability of reproductive material, identification of gene conservation units and more.

The meeting was attended by 70 scientists and decision makers from 21 countries, underlining the importance of beech in the countries where it occurs. The organization of the meeting was shared among the local forestry divisions of Castilla y León, Burgos, and La Rioja, Logroño, and funding for the meeting and the COST Action E52 was provided by the European Science Foundation (ESF) Brussels.

COST - funding research cooperation in Europe

COST is an intergovernmental framework for European Cooperation in Science and Technology and is supported by the EU Framework Programmes. Its objective is to coordinate and integrate nationally-funded research on a European level. This research initiative makes it possible for the various national facilities, institutes, universities and private industry to work jointly on a wide range of Research and Development (R&D) activities. COST is structured around nine scientific domains (eg. “Food and Agriculture” or “Forests, their Products and Services” among others). The calls for proposals are published twice a year and follow a bottom-up approach, which means that topics are not pre-defined and can be chosen by applicants from any scientific area in any domain. COST does not fund research itself but provides a platform for European scientists to cooperate on a particular project and exchange expertise. These projects are called “Actions” and have a duration of four years. Each COST Action is a network composed of the institutes from at least five COST countries (currently 36 European countries are COST Members). Two examples of such COST Actions are COST Action E52 on European beech (see above) and COST Action 871 on Cryopreservation (see page 15).

COST Action "CRYOPLANET" meets Society of Low Temperature Biology in Germany

E.R. Joachim Keller
Genebank Department
Leibniz Institute of Plant Genetics
and Crop Plant Research (IPK)
Gatersleben, Germany
keller@ipk-gatersleben.de



While it is widely agreed that storage of genetic resources in liquid nitrogen (cryopreservation) is very useful because at such low temperatures there is no alteration or cellular change to stored material, there is indeed a vigorous movement in the related science and application itself. The Chair of COST Action 871 (CRYOPLANET), Bart Panis, host of the banana cryobank, ITC Leuven, Belgium, described these activities in the Newsletter for Europe (NL39, page 6). Cryopreservation becomes increasingly important as a cost-efficient, safe storage method for plant material which cannot be stored as seeds, i.e. mainly germplasm which needs to be maintained clonally or whose seeds cannot be stored because of recalcitrance or because they do not represent the proper genotype of the parental plants. Cryopreservation becomes of increasing impact as vegetatively propagated germplasm is especially endangered by global warming and genetic erosion.

Members of this COST action meet regularly in two working groups in one of the participating countries. One group is focusing on fundamental

research, while the other is mainly directed towards developing new protocols and applying them practically in germplasm collections. Practical application is only efficient when all available expertise is pooled. Thus, it was decided to link the COST action meeting of Workgroup 2 in Gatersleben on 9-11 September 2009, with the Annual meeting of the Society for Low Temperature Biology (SLTB) (www.sltb.info/) on 7-9 September 2009. SLTB's goal is to promote research into low temperature effects on all types of organisms, with application in a diverse range of scientific fields, including agricultural and conservation purposes. Such a society also facilitates cross fertilization of various fields of experience from very fundamental and theoretical aspects to application proper.

Last year, two German cryopreservation groups located in central Germany, the Institute of Multiphase Processes of the Leibniz University, Hannover, headed by Birgit Glasmacher, and the Research Group, *In vitro* Storage and Cryopreservation, Genebank of Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben (Group Leader, E.R. Joachim Keller), joined efforts and hosted a meeting that brought together more than 80 participants to the SLTB meeting in Hannover and 40 to the COST Action meeting in Gatersleben. Many of the participants attended both meetings.

The focus of the SLTB meeting was on "Application of Cryopreservation from Human Tissue Engineering to Plant Genebank Integration". Highlights of the Hannover meeting were presentations on basic research in human tissue engineering and deeper insights from molecular



Taking cryo samples out of the tank.
Photo: E.R. Joachim Keller, IPK Gatersleben, Germany

action of cryoprotective substances in model systems and living human cells, to the effects of LEA proteins on plant cell membranes. Practical aspects such as the beneficial influence of Vitamins C and E as antioxidants and cryopreservation of cocoa and yam were also discussed.

Since IPK Gatersleben hosts one of the largest cryopreserved plant collections of Europe (at present amounting to 1250 accessions of potato, garlic and mint), the subject "Integration of cryopreservation in genebank strategies" was very much justified at the meeting in Gatersleben. Keynote lectures focussed on two angles – political background of germplasm preservation in Europe in ECPGR and AEGIS (Jan Engels, Bioversity Rome) and technical needs to optimize technology transfer between laboratories (Barbara Reed, USDA Corvallis). The most prominent example of routine collection was given by Bart Panis. The local host stressed one of the main aspects of very diverse genebank collections i.e. the exact botanical knowledge of donor material, and described special requirements needed on

how to handle diversity. This was perfectly illustrated during the visit to the Gatersleben genebank facilities. The presentations on national programmes (Florent Engelmann, France; Hely Häggman, Finland; Monika Höfer, Germany) showed substantial progress made in several pioneer countries, which can be used by other countries as a model. The last session dealt with genetic and epigenetic aspects of cryopreservation. Corresponding to their scientifically fundamental character for cryopreservation, such issues are of high importance for routine application as their results touch the principal reliability of the technique. The generally accepted idea that genetic characteristics are preserved and that if the changes are observed, they are of epigenetic character could be confirmed.

This combined meeting was a good example of fruitful collaboration of fundamental science and application. Meeting abstracts are freely published in issues 1 and 2 of the specialized journal *CryoLetters*, vol.31. For further information, please contact the author.

East-West collaboration for grapevine diversity exploration approved

A new COST Action, number FA1003, entitled "East-West Collaboration for Grapevine Diversity Exploration and Mobilization of Adaptive Traits for Breeding" - GrapeNet, coordinated by Università degli Studi di Milano, Italy is due to start soon. Scientists and breeders from 21 COST countries, as well as New Zealand and the Caucasus and Black Sea region will work together to generate knowledge about the valuable diversity, its patterns, processes and correlations with traits such as resistance and grape quality. GrapeNet partners will explore the genetic diversity and mobilize adaptive traits for breeding and sustainable use of this very valuable horticultural crop. Sharing experiences, responsibilities, information and materials for the development of phenotyping methods and association genetics studies in core collections will greatly improve the impact of the research conducted by each partner and will introduce innovative areas of research at the European level, while contributing to long-term conservation and a greater quality of grape production in Europe. Up-to-date information on the calls for proposals, rules for participation, application procedures is available on the COST website (www.cost.esf.org).

SEEDNet collaboration enhanced



Eva Thörn
Swedish Biodiversity Centre
Swedish University of
Agricultural Sciences
Alnarp, Sweden
eva.thorn@cbm.slu.se

SEEDNet (South East European Development Network on Plant Genetic Resources) is a network of European institutions (currently 13) established in 2004 to ensure the long-term conservation and sustainable utilization of PGR diversity within South Eastern Europe. The Network activities comprise *ex situ* and *in situ* conservation, utilization of PGR and institution and capacity building. SEEDNet operates through six crop oriented and one thematic regional working groups. The Network is financially supported by the Swedish International Development Agency (Sida) for an estimated period of 10-15 years. The Swedish Biodiversity Centre (CBM), Swedish University of Agricultural Sciences provides the secretariat and coordination for SEEDNet.

In 2009 the Department for Agrobotany, Tápiószéle, Hungary became a new SEEDNet partner. The SEEDNet working groups (WGs) were therefore enlarged with members from Hungary, further strengthening the Network and adding value, especially to the activities of the regional WGs.

During 2009 the SEEDNet Regional Steering Committee (RSC) entered into discussions on collaboration with the N.I. Vavilov Research Institute of Plant Industry (VIR), St. Petersburg, Russian Federation during a meeting in St. Petersburg. Several VIR collecting missions in the western Balkans were

carried out in the past and exchange of material between VIR and the countries in the region have been active. It is therefore mutually beneficial to investigate material of common interest and look for possibilities for a rational handling. A number of proposals ranging from training and joint research, to the creation of a regional genebank have been put forward. Later in the year Sergey Alexanian from VIR presented his ideas and prospects for collaboration with SEEDNet when meeting with the RSC in Dubrovnik. A first step in the establishment of closer links with VIR will come through a meeting between the SEEDNet WG for Vegetables and VIR curators during the summer of 2010.

Inventoring and collecting of local landraces and autochthonous plant material are still a priority activity of the SEEDNet working groups. During 2009 all working groups intensified their efforts and

some 1800 new accessions were collected and included in the genebanks. Information on accessions originating or stored in SEEDNet genebanks can be searched through the database of the SEEDNet information portal.

All SEEDNet partners now have genebanks for long-term conservation. The last one to become operational was the Serbian genebank which was officially opened in December 2009. With a few exceptions, field genebanks for fruit and *Vitis* are also well established in the partner countries and extensive regeneration of accessions was carried out during 2009. The WG for Fruit and *Vitis* are presently describing material in the genebanks and they are working on a Balkan pomology on apple, to begin with, which is expected to be published in the near future.

The SEEDNet WG for Documentation and Information is presently implementing the "Balkan regional SESTO

Implementation" project as a common genebank documentation system for several partner genebanks. The Albanian documentation team is the leading partner in this project and they are making their server available to SEEDNet partners who do not yet have sufficient infrastructure and technical capacity for remote installation of the documentation system. Several persons from SEEDNet participated in the EURISCO training provided by ECPGR during 2009. Most genebanks are now regularly uploading data on their genebank accessions to EURISCO.

In the report from the recent Review and Appraisal of SEEDNet, it was recommended that the SEEDNet WGs should aim at a higher profile in their collaboration with the ECPGR Programme. In order to strengthen the individual member's role in the wider European collaboration, the RSC is presently looking into possibilities for a coordinated participation in ECPGR's Networks and WGs. A discussion will eventually be taken up with the ECPGR Coordinator.

Since SEEDNet's financial support from Sida will be phased out during the next few years, the RSC has started to prepare a plan for the consolidation of the Network and for the future coordination of its activities. The scope of the Network is expected to be similar to the present and many activities will focus on sharing of responsibilities for conservation. Utilization of PGR, including implementation of legislation related to PGR resources, will become more and more important and efforts will be made to further strengthen the collaboration among PGR stakeholders. New possibilities for common research and education programmes among the SEEDNet countries will be investigated in the years to come.

Further information on SEEDNet partners, events and activities can be found at www.seednet.nu.



Top: The SEEDNet Vegetables WG on a field trip during the EUCARPIA Genetic Resources section meeting in Ljubljana, Slovenia in 2009.
Bottom: Montenegro's PGR coordinators in front of their collection of autochthonous *Vitis* accessions. Photos: Eva Thörn, Swedish Biodiversity Centre, Alnarp, Sweden

Svalbard Global Seed Vault doubles its content after two years

Ola T. Westengen
Svalbard Global Seed Vault
Nordic Genetic Resource
Center
Alnarp, Sweden
ola.westengen@nordgen.org

The Arctic archipelago Svalbard is among the places on earth where the early effects of global warming are best known. Climate scientists from all over the world come to do research here. Spitzbergen, the largest of the islands, is home to the Svalbard Global Seed Vault. There is something symbolic about the location of this conservation facility for the seeds of tomorrow's food supply in this barren but spectacularly beautiful natural setting close to the North Pole. No effect of climate change will more directly affect the human condition than the impact on agricultural production and ecosystems and, to many, it is a symbol of hope that this project to ensure the conservation of the fundamental assets needed for adaptation to these impacts, are located in this place where the first signs of the looming crisis are being seen. This is probably one of the reasons why the opening of the Seed Vault in 2008 drew so much international media attention. Hundreds of stories were published and aired on TV and radio networks, and the story appeared on the front page of newspapers around the world. It is unquestionable that such extensive media attention increased public awareness about the importance of crop diversity. The Seed Vault is now in its third year of operation and it still functions as an ambassador for the cause of conserving plant genetic resources for food and agriculture (PGRFA).

Doubled content

Since the opening day, the collection of seed samples in the Seed Vault has doubled and in May 2010 the total holding stood at 526 000 samples originating from nearly every



A view of the Svalbard storage rooms.
Photo: Mari Tefre, Longyearbyen, Svalbard

country in the world. This is already one of the largest single global collections of PGRFA and the reason is, of course, that the Seed Vault is a back-up storage for insurance against loss of crop diversity held in regular genebanks. Since the opening there has been a concerted effort from genebanks around the world to send duplicate samples of their own accessions to Svalbard. Thus, the Seed Vault is not a stand alone facility, it is a project that only makes full sense as part of a global network of well managed genebanks and organizations working to conserve and make crop diversity accessible to breeders and farmers. The role of Bioversity International, the CGIAR and the regional PGRFA networks is essential in this effort. The Global Crop Diversity Trust is directly involved in the operation of the Seed Vault, both as a funding agency and as a major partner for ensuring that important genebanks in developing countries are provided with the resources to regenerate their collections and send fresh seed samples for back-up at Svalbard.

Keeping the momentum

The importance of the Seed Vault for a sound conservation of crop diversity is recognized in the latest State of the World's Plant Genetic Resources for

Food and Agriculture (SoW) from 2009, stating that the Svalbard Global Seed Vault represents a major achievement since the first SoW report was published and that "the world's PGRFA is undoubtedly more secure as a result". Later the influential "Global Biodiversity Outlook" published by the Convention of Biological Diversity in 2010 gives special mention to the important role played by Svalbard Global Seed Vault and the complimentary Millennium Seed Bank for the conservation of plant species and crop varieties for future generations.

A global collaborative effort

The largest share of the current holdings in the Seed Vault is from the International Agricultural Research Centres (IARCs). This is a consequence of the focus of the project on unique genetic resources conserved in collections operating under the terms and conditions of the International Treaty on PGRFA. The IARCs have a unique role as holders of material in trust for the world community through an agreement with the Governing Body of the International Treaty (ITPGRFA). However, all genebanks in the world are invited to make use of the Seed Vault after signing the standard deposit agreement. Among the ECPGR countries, institutes

in Georgia, Germany, Ireland, The Netherlands, the Nordic Countries, Russian Federation, Switzerland and the Ukraine have already sent seeds to Svalbard, while several others have expressed their intention to do so. The Nordic Genetic Resource Centre (NordGen) is responsible for the daily operation of the Seed Vault, a mandate laid down in an agreement with the Norwegian government and the Global Crop Diversity Trust, the two other partners behind the project. As an active institution in the European Network, NordGen certainly believes in a seamless integration of the regional networks with a well functioning global system of institutions working with *ex situ* conservation, with Svalbard Global Seed Vault as the ultimate security net.

For more information about the Svalbard Global Seed Vault visit: www.seedvault.no.

For specific information about the current content in the Seed Vault and on how to make a deposit, visit the Seed Portal: www.nordgen.org/sgsv.



The entrance to the Svalbard Seed Vault. Photo: Mari Tefre, Longyearbyen, Svalbard

Convention on Biological Diversity

Toby Hodgkin
Principal Scientist, GPP
Bioversity International
Rome, Italy
t.hodgkin@cgiar.org

2010, the International Year of Biodiversity, is marked by several important events in the framework of the Convention on Biological Diversity (CBD).

The key event is the tenth meeting of the Conference of the Parties (COP) to the CBD, to be held in Nagoya Japan, in October 2010. It is expected to assess achievement of the 2010 target to significantly reduce the rate of biodiversity loss, adopt an international regime on access and benefit-sharing and celebrate the International Year of Biodiversity.

SBSTTA is the scientific and technical body that supports the implementation of the CBD. It reviews the programmes of work of the Convention and reviews important new areas which the Convention parties need to consider. The 14th meeting of SBSTTA was held in Nairobi, Kenya at the headquarters of the United Nations Environment Programme (UNEP), on 10-21 May and was followed by the 3rd meeting of the Working Group on Review of the Implementation of the CBD (WGRI 3). More than 700 participants attended the meeting, representing governments, UN agencies, intergovernmental and non-governmental organizations (including Bioversity on behalf of the CGIAR Centers), indigenous and local community groups, public sector research, academia and business.

SBSTTA 14 launched the third edition of the Global Biodiversity Outlook (GBO). This publication, available from the CBD website, documents the world's failure to achieve the 2010 biodiversity target of reducing the rate of loss of biodiversity. This target was



Vegetable diversity on sale at Campo de' Fiori market in Rome, Italy.
Photo: Samuel Bird, IOWA State University, Iowa, USA

itself composed of a number of specific sub-targets and, while there were one or two areas where these were achieved, such as the area under protection, most specific targets were not achieved – e.g. reducing the rate of loss of species diversity or of animal genetic resources diversity.

SBSTTA14 adopted 18 recommendations that will be submitted to the meeting of the Conference of the Parties. The recommendations address: in-depth reviews of implementation of the programmes of work on mountain biodiversity, inland waters biodiversity, marine and coastal biodiversity, protected areas, biodiversity and climate change, and Article 10 (sustainable use); agricultural biodiversity, including biofuels; biodiversity of dry and sub-humid lands; forest biodiversity; invasive alien species; outcome-oriented goals and targets for the period beyond 2010; incentive measures; the Global Taxonomy Initiative; the Global Strategy for Plant Conservation; consideration of the GBO messages and implications; new and emerging issues; and ways and means to improve SBSTTA effectiveness.

The discussions on agricultural biodiversity and biofuels were of most direct relevance. On agricultural biodiversity there was strong support for the development

of a joint programme of work by the CBD and FAO and its Commission on Genetic Resources for Food and Agriculture. The decision lists a large number of areas where it feels collaboration should be strengthened including on-farm, *in situ* and *ex situ* conservation, underutilized crops and nutritional aspects of diversity, and the work on defining targets and indicators for the CBD's new strategy. There was also considerable interest in further work on sustainable use of agricultural biodiversity.

On biofuels there was considerable disagreement between Parties and the final decision contained much text still in square brackets (i.e. not agreed to by all Parties). Discussions centered on conceptual frameworks and guidelines for sustainable production and use, the development of a toolkit, assessing impacts, and the precautionary approach.

WGRI 3 discussed the implementation of the Convention and the Strategic Plan; the multi-year programme of work of the Convention for the period 2011-2020 and periodicity of meetings and organization of work of the COP; updating and revising of the Strategic Plan for the post-2010 period; concrete activities and initiatives including measurable targets and/or indicators to achieve the strategic goals contained

in the strategy for resource mobilization and on indicators to monitor the implementation of the strategy; review of guidance to the financial mechanism; and policy options concerning innovative financial mechanisms. A specific target on conservation of crop and livestock genetic resources has been included in the Strategic plan as well as a number of other relevant targets such as those on access and benefit sharing and sustainable production.

There is likely to be much further discussion on these and it may be important for the plant genetic resources community in Europe to provide inputs to their own relevant national bodies on the targets, their measurement and the relevant indicators that might be developed for them.

Another relevant event this year was the meeting of the *Ad Hoc* Open-ended Working Group on Access and Benefit-sharing (ABS) of the CBD, held in March 2010, in Santiago de Cali, Colombia. The meeting continued negotiations on an international regime on ABS, in view of its mandate to submit an instrument for consideration at the meeting of the Conference of the Parties in October. Delegates identified a series of issues with respect to the draft protocol text and established contact groups to address them. Although progress was achieved on a number of issues, including an internationally recognized certificate of compliance, the meeting was inconclusive. Due to procedural wrangling, an inter-regional group that had been established never managed to enter into text-based negotiations and talks temporarily broke down. It was then agreed to convene a resumed session, in mid-July 2010, in Montreal, Canada. As this Newsletter goes into print, the outcomes of the session are not yet available.

For full details, please visit the convention website: www.cbd.int. Neutral and effective coverage of many international events is provided by the Earth Negotiations Bulletin: www.iisd.ca

Rome celebrates biodiversity - "La Settimana della Biodiversità"

Ruth D. Raymond
Regions and Programmes
Communications Manager
Bioversity International
Rome, Italy
r.raymond@cgiar.org



Thousands of people attended "La Settimana della Biodiversità" (Biodiversity Week), a Rome-based celebration to mark the United Nations International Year of Biodiversity. The event took place over four days in May and focused on the links between culture and agriculture, people and food. La Settimana della Biodiversità was organized by Bioversity International with help from dozens of national and international partners.

More than 80 speakers participated in keynote presentations and roundtable discussions. There was a concert by the popular Orchestra of Piazza Vittorio, a multi-ethnic orchestra featuring music and sounds from the four corners of the Earth. The event also featured the 7th International Biodiversity Film Competition, workshops for children, an interactive exhibit and even a talking tree!

La Settimana della Biodiversità opened with a ceremony on Rome's Capitoline Hill where a tribute was presented to the Mayor in recognition of the tremendous contribution that Italy and the City of Rome have made to efforts on agricultural biodiversity. Rome hosts the major international organizations responsible for work in this area and the Italian government has supported national and international genetic resources programmes around the world.

Featured speakers during the week included Slow Food founder Carlo Petrini (Italy), celebrated food

activist Alice Waters (US), and well known writer and naturalist Gary Nabhan (US). A series of workshops, an interactive exhibition and a specially built urban garden encouraged children to make the connection between nature, food, and culture. The workshops were organized by partners FAO-YUNGA, Bioparco, Altromercato, Slow Food and the Italian Ministry of Agriculture.

The climax of the Settimana della Biodiversità was on Saturday 22 May, the International Day of Biodiversity, with a Call for Action by the Rome-based

food agencies and other partners. Bioversity, FAO, IFAD, WFP, the International Treaty, the Global Crop Diversity Trust and others called on the world to invest in smallholder farmers, rural communities, women and young people, all of whom have a role to play in the conservation and use of agricultural biodiversity. The Call for Action was followed by a moving ceremony to honour five Guardians of Diversity in the Mediterranean. This second annual event was co-sponsored by the City of Rome and the Permanent Conference of the Mediterranean Audiovisual Operators (COPEAM).



The 2010 Bioversity International nominated Guardians of Diversity in the Mediterranean. From top left, clockwise: Rena Martins Farias (Portugal), Enrico Porceddu (Italy), Wife of the late Cesar Gomez Campo (Spain) and Hrou Abouchrif (Morocco). Jesus Garzón (Spain) (not in photo) is the fifth awarded Guardian of Diversity. Their full stories can be viewed at www.bioversityinternational.org/news_and_events/la_settimana_della_biodiversita.html#c5619. Photos: Moreno Maggi, Italy

Forthcoming meetings

3-5 September 2010
SAVE Foundation and SAVE Network Annual meeting. Criewen, Germany.
http://www.save-foundation.net/pdf/SAVE_2010.pdf

13 September 2010
NordGen Forest: Who owns the genes of the forest trees?
BFW, Mariabrunn, Vienna, Austria.
www.nordgen.org

13-15 September 2010
EUFGIS final project meeting.
BFW, Mariabrunn, Vienna, Austria.
www.eufgis.org

16-17 September 2010
7th EUFORGEN Steering Committee meeting.
BFW, Mariabrunn, Vienna, Austria.
www.nordgen.org

13-16 September 2010
Joint meeting of ECPGR *In situ* and On-farm Conservation Network and the final meeting of the EU project AGRI GENRES 057 – AEGRO.
Madeira, Portugal.
www3.uma.pt/cem/aegro.
ecpgr.symp.

18-19 October 2010
Tenth meeting of the Conference of the Parties (COP 10).
Nagoya, Japan.
www.cbd.int/cop10/

**REGIONAL OFFICE
for EUROPE**
Bioversity International
Via dei Tre Denari 472/a
00057 Maccarese
Rome, Italy

This Newsletter is
produced by the
staff of the Regional
Office for Europe

Jozef Turok

Regional Director
Tel: 39-066118250
j.turok@cgiar.org

Vanessa Alam

Programme Assistant
Tel: 39-066118261
v.alam@cgiar.org

Michele Bozzano

Programme Specialist
Tel: 39-066118221
m.bozzano@cgiar.org

Sónia Dias*

Programme Specialist
Tel: 39-066118204
s.dias@cgiar.org

Jan Engels*

AEGIS Coordinator
Tel: 39-066118222
j.engels@cgiar.org

Ewa Hermanowicz*

Programme Assistant
Tel: 39-0661181229
e.hermanowicz@cgiar.org

Monika Kiczakajo

Consultant
Tel: 39-0661181229
m.kiczakajo@cgiar.org

Lidwina Koop

Programme Assistant
Tel: 39-066118251
l.koop@cgiar.org

Jarkko Koskela

EUFORGEN Coordinator
Tel: 39-066118223
j.koskela@cgiar.org

Elinor Lipman*

Scientific Assistant
Tel: 33-467611302
e.lipman@cgiar.org

Lorenzo Maggioni

ECPGR Coordinator
Tel: 39-066118231
l.maggioni@cgiar.org

Olga Spellman*

Programme Specialist
Tel: 39-066118411
o.spellman@cgiar.org

Barbara Vinceti*

Associate Scientist
Tel: 39-066118412
b.vinceti@cgiar.org

(*part-time)

Editing & layout

Olga Spellman
o.spellman@cgiar.org

Change and reform - the CGIAR Consortium begins to take shape

(continued from page 1)
the Consortium Board's consideration at its next meeting in October 2010. Four additional Mega Programmes on Rice, Maize, Wheat and Climate Change are "fast-tracked", i.e. their development is already more advanced with full proposals available.

"Mobilizing agricultural biodiversity for food security and resilience" was one of the thematic areas originally proposed, which would encompass a large proportion of Bioversity's mandate. However, a meeting of donors and the Consortium did not approve the idea of a separate Mega Programme on agricultural biodiversity. However, certain aspects of biodiversity and genetic resources, such as promoting nutrition and health through more crop diversity, will be incorporated into the other Mega Programmes that are being developed.

Among the 15 CGIAR Centres, there is significant overlap in research and administrative infrastructures and even projects and activities. The CGIAR currently has 253 locations in 80 countries. As the reforms are implemented, the Consortium will have a unique opportunity to increase its competitive advantage, rationalize and decrease the cost of operations by developing and using shared services, at global and regional levels. It is expected that regional support to the Centers and Mega Programme activities will be consolidated within a given geographic area and that "Regional Hubs" will be set up to provide such services and support. This concept is not entirely new to the CGIAR. The CGIAR System-wide Programme for Central Asia and Caucasus has facilitated close collaboration and

ensured sharing of services among the Centres operating in the Region for more than a decade.

The collaborative activities maintained by Bioversity in Europe – ECPGR, AEGIS, EUFORGEN and other related projects on conservation of plant and forest genetic resources – remain within Bioversity's mandate but do not become part of a Mega Programme, given their scope outside the research-for-development architecture. It is expected that the complementary linkages with the new CGIAR research agenda will be discussed with the Steering Committees, partners and stakeholders.

More information and updates about the CGIAR change management process can be found at www.cgiar.org. The website of the Global Forum on Agricultural Research (www.egfar.org) contains details about the Montpellier Conference.

Last printed issue of the Newsletter for Europe

We announce to our readers and colleagues, many of whom have followed and contributed articles to the Newsletter for Europe for many years, the new online era of the Newsletter. NL40 brings to a close the era of the printed Newsletter, since the first copy was printed in March 1994.

A more frequent, up-to-date Newsletter will be available online in pdf format that can be easily downloaded. This decision was taken in order to bring our readers more frequent, up-to-date information, and to minimize costs and pollution due to the production and distribution of the paper version.

From now on, every time a new issue of the Newsletter is available, we will send all interested recipients a notification of its availability for download via email. You should have already received an email from us, if your email address is already in our database. If you did not receive a message, please kindly register for the Newsletter at: www.bioversityinternational.org/around_the_world/europe/newsletter_for_europe.html. Or just send us an email at Bioversity-europe@cgiar.org and we will add you to the list of recipients. Your contact details will not be visible online.

Farewell...

On 31 August 2010, the Europe Regional Office bids farewell to Jozef Turok, after more than 15 years of service with Bioversity. Jozef joined Bioversity (then IPGRI) in 1995, starting as the EUFORGEN Coordinator and working in the position of the Regional Director for Europe for the last eleven years. In his own words, he tells of his satisfaction of having had daily opportunities to communicate and collaborate with partners in a very wide and diverse range of national programmes, in Europe, and more recently in the CWANA Region, as well as having been privileged to have led a talented inter-disciplinary team of professionals.

Under his leadership, the Europe Group's key achievements during the past eleven years include the strengthened commitment of the European countries towards the two principal Regional networking programmes, ECPGR and EUFORGEN, the securing of several restricted grants which allowed the Regional Office to recruit new staff and to invest more resources for the conservation, research and capacity building on plant and forest genetic resources in Europe, the core of Bioversity's business in the Region.

Jozef moves on from Bioversity International to Head the CGIAR Programme Facilitation Unit for Central Asia and Caucasus based in Tashkent, Uzbekistan. The interim direction of the Regional Office for Europe will be taken over by Dr Jan Engels, Principal Scientist and AEGIS Coordinator.