



European Cooperative Programme for Plant Genetic Resources (ECPGR)

Phase VIII (2009-2013)

2011 Progress Report

CONTENTS

Summary	2
1. Introduction	3
2. Implementation of ECPGR Phase VIII	3
2.1. Activities of the Executive Committee (ExCo).....	3
3. Activities carried out within the Networks	4
3.1. Cereals Network.....	4
3.2. Forages Network	5
3.3. Fruit Network	6
3.4. Oil and Protein Crops Network.....	7
3.5. Sugar, Starch and Fibre Crops Network	8
3.6. Vegetables Network	9
3.7. Documentation and Information Network.....	12
3.8. <i>In situ</i> and On-farm Conservation Network.....	15
3.9. Inter-regional Cooperation Network	17
4. AEGIS initiative for “A European Genebank Integrated System”	18
5. Links with other Networks and initiatives	19
6. Publications	20
6.1. Publications produced in 2011	20
6.2. Publications in preparation in 2011	21
7. ECPGR meetings held in 2011	21
8. Coordinating Secretariat and Bioversity International	22

SUMMARY

Following the extraordinary Steering Committee (SC) meeting held in Bratislava, Slovakia in December 2010, this third year of Phase VIII saw the start of the operation of the new Executive Committee (ExCo). The ExCo defined its Terms of Reference and started to deal with the issues of the outstanding contributions and formalization of country membership. The ExCo offered advice to the Secretariat, specifically supporting its decision to get involved in the coordination of an FP7 project on Plant Genetic Resources (Plant Gene Access). A detailed workplan was scheduled for the preparation of the "Options paper" with a view to the next SC meeting in November 2012.

Membership of ECPGR has reached 39 countries which have signed formal membership and 2 additional countries which are providing contributions without a signed formal membership.

The membership in the initiative for "A European Genebank Integrated System (AEGIS)" increased from 26 to 30 countries and the Associate Member Agreements between National Coordinators and institutions holding *ex situ* accessions within their respective countries increased from 19 to 45. The three projects funded by the first round of the AEGIS Grant Scheme were concluded and five additional projects were selected for funding and started this year. The European Collection was created with a first batch of *Allium* accessions conserved at IPK, Gatersleben, Germany. Many other Working Groups have been analysing their crop collections and are close to defining other AEGIS accessions.

The contributions offered by the Networks to the process led by FAO of updating the *Genebank Standards* for seed germplasm have now extended to "*Field Genebank and In vitro and Cryopreservation Standards*". All the FAO genebank standard documents will be submitted to the FAO Technical Working Group for its approval in November 2012.

The Barley Working Group (WG), after its Seventh Meeting in Cyprus, made a special effort to contribute to the Plant Gene Access project proposal by acting as a model crop for genotyping and phenotyping activities and promoting the conservation of precise genetic stocks. A proposal to improve the European rye collection was successful for the AEGIS Grant Scheme. The Wheat Database was updated with considerable additions of new characterization and evaluation data.

The Forages WG obtained a project funded by AEGIS for the establishment of the European Forages Collection.

A renewed *Vitis* Database was launched in Germany with uploading modules for passport, characterization, SSR, virus data and a photo gallery. The *Prunus* Database was improved and expanded.

The project on inventory and sampling of *Origanum* populations was completed by the WG on Medicinal and Aromatic Plants. Samples from 19 countries were analysed by the University of Veterinary Medicine, Vienna, Austria, and these showed gradients of genetic differentiation and the detection of high essential oil contents in examples from Greece, Israel and Turkey.

The WG on *Beta* benefited from the AGRI GENRES project AEGRO and managed to negotiate a "*Beta patula* genetic reserve action plan" with the Natural Park of Madeira, which is going to establish the first genetic reserve for *Beta* in the EU. The Potato WG combined available funds from ECPGR and AEGIS and started a project on the identification of old potato clones using microsatellite (SSR) markers to assist in setting up the AEGIS collection for potato cultivars.

The *Allium* WG promoted the method that was developed through the AEGIS granted project for cryopreserving bolting garlic. The hosting and management of the *Allium* Database was transferred from the University of Warwick, UK to IPK Gatersleben, Germany. Heartfelt thanks were expressed to Dave Astley, who is retiring after 29 years of leadership of the Group.

The Umbellifer Crops WG made a tentative selection of 1415 carrot cultivar accessions for AEGIS and agreed on minimum descriptors for characterization of carrot, celeriac, celery, dill and parsley. The Minor Leafy Vegetables Database, managed by IPK, Germany, was improved and extended to several new genera.

The EURISCO Web site was entirely revised and launched in its new form in November. Functionalities and search options were upgraded, also providing users with more accurate results of the taxonomy searches. The number of accessions reached a total of nearly 1.1 million. Moldova joined EURISCO with its national inventory, raising the number of participating countries to 42.

As part of the FP7 project PGR Secure for "Novel characterization of crop wild relatives and landrace resources as a basis for improved crop breeding", the *In situ* and On-farm Conservation Network held a Joint ECPGR/PGR Secure Workshop in Lithuania to discuss and agree on a strategic approach to European and national crop wild relatives and landrace conservation that will result in the systematic conservation of these important resources across Europe. Several *In Situ* and On-farm National Inventory Focal Points were nominated by the National Coordinators for this occasion.

The Inter-regional Cooperation Network organized a Joint Workshop between ECPGR and the Near East and North Africa Plant Genetic Resources Network (NENA PGRN) in Turkey, dedicated to exchanging views, information and experiences related to the implementation of the International Treaty.

1. INTRODUCTION

This is the third Annual Progress Report of Phase VIII (2009-2013), covering the period from 1 January to 31 December 2011.

This document aims to put on record all the relevant events which occurred during 2011 for the purpose of reporting on the progress of Phase VIII to the Steering Committee and to the Implementing Agencies. The Steering Committee (SC) has been kept informed on a regular basis through the dedicated "Steering Committee listserver", which is managed by the Nordic Genetic Resource Center (NordGen), as well as through the dedicated ECPGR Web site.

Following the establishment of the ECPGR Executive Committee in December 2010, the communication flow between the Secretariat and the Chair of the ExCo has been intense during 2011.

2. IMPLEMENTATION OF ECPGR PHASE VIII

By end of December 2011, 39 countries had signed the Letter of Agreement for Phase VIII (five more than at the end of last year). Two other countries (France and Israel) had not signed the Letter of Agreement but had, nonetheless, paid annual contributions for Phase VIII after active follow-up. The remaining two traditional members of ECPGR that have not yet joined Phase VIII are Armenia and Malta.

2.1. Activities of the Executive Committee (ExCo)

The ExCo, composed of Gert Kleijer (Chair), Merja Veteläinen, Silvia Străjeru, Alvina Avagyan, Fernando Latorre and Lorenzo Maggioni (*ex officio*), started its operation in 2011, with the following activities:

- Definition of its Terms of Reference (ToRs) (draft of 30.11.2011 was uploaded on the Web site).
- Preparation of letters inviting those countries which had not paid their dues for more than one year or which had delayed their regular payments to settle their dues to ECPGR promptly, and those countries that had not signed the membership agreement (LoA) to join Phase VIII of ECPGR to do so. The letters were sent by the ExCo Chair in February 2011 to the implementing agencies of Armenia, Austria, Belgium, France, Georgia, Israel, Macedonia FYR, Malta, Portugal, Russian Federation, Turkey, United Kingdom and Ukraine. As a result, LoAs were signed by Austria, Belgium, Macedonia FYR and Turkey and outstanding contributions were settled by France, Macedonia FYR, Turkey, the United Kingdom and partly by Israel. Indications of difficulties in currently honouring the contributions because of the financial situation were expressed by Georgia, Portugal and Ukraine. Difficulties related to the decision-making process were reported by Armenia, Belgium and Russian Federation. No reply was received from Malta.
- Monitoring of dialogue between Bioversity and the Documentation and Information Network about the future development of EURISCO (see below, Section 3.7).
- Monitoring of the coordination of the organization of a joint meeting between ECPGR and the EU-funded PGR Secure project in Palanga, Lithuania in September 2011 (see below, Section 3.8).
- Approval of expenses for the employment of a consultant to help the Secretariat in the process of preparation for the FP7 proposal Plant Gene Access (after consultation with and agreement from the entire SC) (see below, Section 4).
- Participation of the Chair in the preparatory meeting (Maccarese, May 2011) for the preparation of the FP7 proposal Plant Gene Access, with a chairing function.
- Organization of the second ExCo meeting in Maccarese (October 2011) to make detailed plans for the preparation of the Options paper.
- Preparation of an advanced draft of the logframe for ECPGR objectives, following a request for inputs from the entire SC.
- In consultation with and approval from the SC, selection of two new members for the ExCo, Zofia Bulinska, Poland, and Jens Weibull, Sweden, respectively, replacing, as of January 2012, Silvia Străjeru, Romania and Merja Veteläinen, Finland.

The minutes and ToRs of the ExCo meetings are available from:
http://www.ecpgr.cgiar.org/executive_committee.html

3. ACTIVITIES CARRIED OUT WITHIN THE NETWORKS

Planned meetings and activities and their dates are reflected and kept up-to-date in the Networks' budget plans (available online from each Network's Web page (<http://www.ecpgr.cgiar.org/networks.html>) and in the List of upcoming meetings (http://www.ecpgr.cgiar.org/meetings/future_meetings.html).

3.1. Cereals Network

Working Groups: *Avena*, Barley and Wheat.

The **Cereals Network Coordinating Group (NCG)** consisted of seven members: Helmut Knüpffer, Germany (Network Coordinator); Iva Faberová, Czech Republic; Christoph Germeier, Germany; Marja Jalli, Finland; Andreas Katsiotis, Greece; Gert Kleijer, Switzerland; and Marcin Zaczyński, Poland.

The Seventh Meeting of the Working Group on Barley was held on 10-12 May 2011 in Nicosia, Cyprus, with the local support of the Agricultural Research Institute (ARI). Twenty-five country representatives participated. It was agreed that the European Barley Collection be established, as part of AEGIS, commencing with large parts of the barley collection of the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany, with the addition of accessions that were held in the respective countries of origin, and other evidently unique accessions. A detailed list of accessions recommended for inclusion into AEGIS, was expected to be produced relatively quickly. Regarding the AEGIS Quality System (AQUAS), a Task Group was formed, coordinated by Agnese Kolodinska Brantestam (NordGen), to draft protocols for the species-specific maintenance of wild *Hordeum* species and cultivated barley. An agreement on minimum standards should be reached by May 2012. The Group agreed that a long-term and sustainable solution for the maintenance of precise genetic stocks in barley should be found and a Task Group was therefore formed, also coordinated by A. Kolodinska Brantestam, to assist in carrying out a full survey and to draft a global conservation and utilization strategy paper for barley genetic stocks. An update of the contents of the European Barley Database (EBDB) was started in 2011 and will be completed in 2012.

The Group agreed on seeking cooperation for research connected to barley pre-breeding and breeding, including the following activities: development of a disease resistance database; development of phenotype tests for abiotic stress resistance; evaluation of germplasm through ring tests; lobbying for pre-breeding at EU and national level and collaborating for joint project proposals. Project planning should aim at collaborating with other international projects and implement the European leadership on barley research, breeding and farming, in order to deliver safe, high quality and functional food, feed and raw materials for energy in sustainable production systems.

Helmut Knüpffer, Germany and Marja Jalli, Finland were re-elected as Chair and Vice-Chair respectively.

The **ECPGR Wheat Database** was updated with additional Passport as well as Characterization and Evaluation (C&E) data sets. The Database provides currently data for 168 089 accessions and also includes nearly 150 000 C&E records for about 15% of the accessions.

The National Centre for Plant Genetic Resources, Radzików, Poland, implemented a new version of the **ECPGR Rye Database**, which now contains passport data for 13 187 accessions from 28 countries and also includes over 7000 C&E records for about 10% of the accessions.

The ECPGR project for urgent regeneration and safety-duplication activities, funded by the Global Crop Diversity Trust (2009-2010), continued in 2011 in order to complete the regeneration and safety-duplication. In the case of cereals, eight countries were involved (Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Greece, Hungary and Israel). Out of the 3956 cereal accessions that were expected

to be regenerated by the project, 3047 (77%) were successfully regenerated. Specific crop percentages were: 117% (sorghum), 95.5% (maize), 96% (barley), 80% (wheat) and 16% (*Aegilops*).

A proposal on rye was accepted for funding under the second call of the AEGIS Grant Scheme. The proposal "Improving the prerequisites for a European rye collection" was submitted by the Nordic Genetic Resource Center (NordGen), Sweden. This project, involving partners from Estonia, Finland, Latvia, Lithuania, Poland and the Russian Federation, will receive a grant of € 12 050. As part of this project, a meeting was held in Radzików, Poland, on 13-14 October 2011. The status of the European *Secale* Database and possibilities for improving its data quality were discussed. A decision was made on the options to use for the inclusion of C&E data into the Database. A task group was created to work on standards for descriptors. Standards for germplasm storage and for regeneration were discussed and a draft agreement was reached. Criteria to identify candidate accessions for the European Collection were also agreed and tasks were shared to start the analysis of the existing collections and define lists of candidates.

Summary of AEGIS development status

***Avena* WG**

Draft quality standards were recommended during the AEGIS model crop study (2008). A number of points requiring further discussion have been identified regarding standards for collecting, viability testing, conservation and multiplication/regeneration. A Task Force has been established to draft protocols on regeneration of wild accessions. An *ad hoc* meeting was planned in 2011 to make further progress regarding definition and agreement on crop-specific standards, as well as definition of European Collection accessions. However, the event did not take place and it was postponed.

Barley WG

It was agreed that the European Barley Collection would be established, commencing with large parts of the barley collection of IPK, Germany, with the addition of accessions that were held in the respective countries of origin and other evidently unique accessions. A detailed list of accessions, recommended for inclusion into AEGIS, is expected to be produced soon.

Regarding AQUAS, a Task Group was formed, coordinated by A. Kolodinska Brantestam (NordGen), to draft protocols for the species-specific maintenance of wild *Hordeum* species and cultivated barley. An agreement on minimum standards should be reached by May 2012.

Wheat WG

There is agreement to identify European wheat Most Appropriate Accessions (MAAs) and subsequently to prepare a list of potential European or AEGIS accessions, as well as to adopt the resulting list of European wheat accessions by the Wheat WG members and to safety-store the European wheat collection accessions in Svalbard. Practical implementation of the above agreement has not yet started and will be discussed at the Wheat WG meeting in May 2012.

Outlook for 2012

The Wheat WG is planned to meet in Piešťany, Slovakia in May 2012. An *ad hoc* meeting of the *Avena* WG to discuss the selection of accessions for AEGIS and the Quality System is also foreseen in 2012.

3.2. Forages Network

Working Group: Forages.

The **Forages Network Coordinating Group** consisted of six members: Merja Veteläinen, Finland (Network Coordinator); Beat Boller, Switzerland; Petter Marum, Norway; Vladimir Meglič, Slovenia; Ian Thomas, United Kingdom and Evelin Willner, Germany.

A proposal on forages was accepted for funding under the second call of the AEGIS Grant Scheme. The proposal "Establishment of the European Forages Collection" was submitted by MTT

AgriFood Research, Finland. This project, involving partners from IPK, Germany, IBERS, United Kingdom and NordGen, Sweden, as well as all the Forage Database Managers, will receive a grant of € 18 000.

Summary of AEGIS development status

Forages WG

- European Collection: Selection criteria for Forage Most Appropriate Accessions were defined and test analyses of the *Phleum* and *Poa* collections were made, with assignment of "Primary Collection" status to 1536 *Poa* accessions (i.e. it was defined which institutes are proposed to be the "primary holders" of those accessions – primary holders should take the responsibility for the long-term conservation of the given accessions). A mechanism for formal acceptance of European Collection status still needs to be set in motion and it is planned to achieve this during the AEGIS Grant Project Workshop in 2012.
- AQUAS: Preferred and acceptable quality standards for regeneration have been agreed at the Working Group level.

Outlook for 2012

As part of the AEGIS Grant Scheme-funded project, a workshop aimed at making progress in assigning forage accessions to the European Forage Collection, according to the principles of AEGIS, is planned in Tápiószele, Hungary in January-February 2012.

3.3. Fruit Network

Working Groups: *Malus/Pyrus*, *Prunus* and *Vitis*.

The **Fruit Network Coordinating Group** consisted of seven members: Marc Lateur, Belgium and Emilie Balsemin, France, until August 2011 (Interim Co-Coordinator); Daniela Giovannini, Italy; Stein Harald Hjeltnes, Norway; Erika Maul, Germany; Jesus Ortiz, Spain and Matthew Ordidge, United Kingdom.

The **European *Vitis* Database** (<http://www.eu-vitis.de>), maintained by the Julius Kuehn-Institute (JKI), Institute for Grapevine Breeding Geilweilerhof, Siebeldingen, Germany, has been adapted to the EURISCO format and an online interactive uploading module has been implemented. The Database now includes 49 descriptors (EURISCO descriptors plus 14 *Vitis*-specific descriptors) and uploading modules for passport, characterization, SSR and virus data. A photo gallery has also been implemented. The Database has been developed as part of the EC-funded Gen Res project GrapeGen and with complementary ECPGR support.

A new structure for the **ECPGR *Prunus* Database** has been nearly completed by the National Institute for Agronomic Research (INRA), Bordeaux, France, with partial support from ECPGR. Following the departure in August 2011 of the Database Manager, Emilie Balsemin, and the ongoing restructuring of the institute, INRA is expected to reconfirm its commitment to manage the Database and to make it available online.

Models for national genebank management have been provided by Germany and Switzerland and are available from the ECPGR Fruit Network homepage:

<http://www.ecpgr.cgiar.org/networks/fruit.html>

Summary of AEGIS development status

Malus/Pyrus WG

The Group will meet in 2012, 5 years after its previous meeting, and AEGIS-related topics will be part of the agenda.

Prunus WG

- European Collection: The procedure to select accessions for the European Collection has been tested with cherry accessions and the Group was finalizing agreed selection criteria. 1116 unique cherry genotypes and 367 duplicate groups were identified. WG members agreed to promote in their respective countries the definition of a proposed list of candidate European Accessions and the lists are planned to be discussed in 2012.
- AQUAS: Minimum standards for *Prunus* conservation were proposed by the AEGIS *Prunus* sub-group in 2008 and re-discussed by the group in 2010. Finalization of the list for formal approval is ongoing. Safety-duplication methodology development is also planned.

Vitis WG

The Group will meet in 2012, nine years after its previous meeting and AEGIS topics will be part of the agenda.

Outlook for 2012

The fourth meeting of the *Malus/Pyrus* Working Group, jointly with two *ad hoc* meetings on Fruit synonyms and descriptors will be held in Weggis, Switzerland, in March 2012. The synonym meeting will focus on clarification of *Pyrus* accession synonyms.

The Second meeting of the *Vitis* Working Group will take place in Siebeldingen, Germany, in September 2012.

3.4. Oil and Protein Crops Network

Working Group: Grain Legumes.

The **Oil and Protein Crops Network Coordinating Group** consisted of four members: Mike Ambrose, United Kingdom (Network Coordinator); Siyka Angelova, Bulgaria; Andrea Carboni, Italy; and Gérard Duc, France.

As a result of the Grain Legumes Working Group activities, the following paper was published:

Suso MJ, Vishnyakova M, Ramos Á, Duc G, Ambrose M. 2011. An international survey on state of the art of grain legume management in gene banks. *Journal of Agricultural Science and Technology B* 1:975-981.

The **ECPGR project for urgent regeneration and safety-duplication activities**, funded by the Global Crop Diversity Trust (2009-2010), continued in 2011 in order to complete the regeneration and safety-duplication. In the case of grain legumes, six countries (Albania, Azerbaijan, Bulgaria, Georgia, Hungary and Portugal) were involved. Out of the 1255 grain legume accessions that were expected to be regenerated in the project, 1091 (87%) were successfully regenerated. Specific crop percentages were: 100% (grasspea), 109% (chickpea), 91% (bean), 110% (lentil), 61% (faba bean) and 40% (cowpea).

Summary of AEGIS development status

Grain Legumes WG

The WG has never had an opportunity to discuss AEGIS implementation (the last meeting was in 2006). The first opportunity will be at its fifth meeting in 2013. However, the proposal, "Towards comprehensive pea germplasm management for future use", coordinated by Agritec Plant Research, Czech Republic, was concluded in 2011 and, based on the analysis carried out as part of an AEGIS Grant Scheme supported project in 2011, a set of core accessions from Czech Republic were recommended to be designated as AEGIS accessions.

Outlook

The Fifth Meeting of the Grain Legumes Working Group, which could not take place due to air transport difficulties in May 2010, has been rescheduled for 2013, with a possibility to hold the meeting in spring in Novi Sad, Serbia, jointly with the new group "International Legume Society",

which is progressively emerging and replacing the European Association for Grain Legume Research (AEP).

3.5. Sugar, Starch and Fibre Crops Network

Working Groups: *Beta*; Fibre Crops (Flax and Hemp); Medicinal and Aromatic Plants (MAPs); Potato.

The **Sugar, Starch and Fibre Crops Network Coordinating Group** consisted of four members: Roel Hoekstra, The Netherlands (Network Coordinator); Lothar Frese, Germany; Martin Pavelek, Czech Republic; and Ana Maria Barata, Portugal.

The ECPGR-funded project on **inventory and sampling of *Origanum vulgare* L.** populations was completed by the Working Group on Medicinal and Aromatic Plants. Samples from 51 populations from 19 countries were analysed by the Institute of Applied Botany, University of Veterinary Medicine, Vienna, Austria. Genetic structure analysis has shown genetic radiation originating from a hotspot in the eastern Mediterranean area, with a gradient that could be observed from East to West but not from South to North. High essential oil content was detected especially from samples from Greece, Israel and Turkey and generally a high selection potential for maximizing essential oil content was shown to be available. Each population was assigned to a specific chemotype, based on its essential oil composition.

The project “An Integrated European *In Situ* Management Workplan: Implementing Genetic Reserve and On Farm Concepts (AEGRO)” funded through the GENRES programme EC 870/2004 (<http://aegro.jki.bund.de/aegro/>) helped the implementation of the workplan of the **Beta Working Group** agreed upon at its third meeting. The results of Workpackage 6 “Case study *Beta*” were published by CABI in 2011.¹ In addition a “*Beta patula* Aiton genetic reserve action plan” has been developed within the framework of WP6 and negotiated with the competent agency, the Natural Park of Madeira, which is going to establish the first genetic reserve for *Beta* in the EU. As a result of AEGRO Workpackage 10 “Documentation for genetic reserves management field work and ECCDB capacity building” four independent modules, collectively called “Population Level Information System” (PLIS), were developed for *Avena*, *Beta*, *Brassica* and *Prunus*, allowing the search for occurrence within a specific species in their natural distribution area. PLIS extends the Crop Wild Relative Information System (CWRIS) operated by the University of Birmingham in an exemplary way. PLIS combines different data sources, uses harmonized data and allows: (i) the search for occurrences by taxon information; (ii) the search for occurrences by geographical information; and (iii) the combined search for occurrences by geographical information (Eurostat administrative units, NUTS, LAU) and Natura 2000 protected areas. The search results can be displayed on a map or downloaded as a file (see also below, Section 3.8). The module for *Beta/Patellifolia* was used to search for populations and sites in the EU suited for the establishment of genetic reserves in addition to that for *Beta patula*. Based on information from PLIS the Rey Juan Carlos University (Madrid) developed an information system called GenResIS. It provides information on recommended locations, mainly in protected areas, suited for the establishment of genetic reserves for *Beta* taxa across Europe in the context of the AEGRO project. In summary, due to the EU-project funding, the Working Group on *Beta* made significant progress in the field of *in situ* conservation of wild taxa related to cultivated beets.

A proposal on potato was accepted for funding under the **second call of the AEGIS Grant Scheme**. The proposal “Identification of old potato clones having unreliable variety names by means of fingerprinting using microsatellite (SSR) markers to assist in setting up the AEGIS collection for potato cultivars” was submitted by the Centre for Genetic Resources (CGN), The Netherlands. This

¹ Maxted N, Dulloo ME, Ford-Lloyd BV, Frese L, Iriondo JM, Pinheiro de Carvalho MAA, editors. 2011. Agrobiodiversity Conservation: Securing the Diversity of Crop Wild Relatives and Landraces. CAB International, Wallingford.

project will involve partners from SASA, UK and potato curators from IPK, Germany, INRA, France and others. The assigned AEGIS grant (€ 11 000) has been complemented by re-allocation of funds (€ 15 800) that were originally budgeted for a Potato WG meeting. The Steering Committee agreed to this change on condition that the project would aim at identifying the clones to be included in the European potato collection under the AEGIS regime. These clones will therefore be expected to be documented in EURISCO through the respective National Inventories as AEGIS accessions.

Summary of AEGIS development status

Beta WG

- European Collection: The WG has never had an opportunity to discuss AEGIS implementation (its last meeting was in 2006). The first opportunity will be at its fourth meeting in 2012.
- AQUAS: The Group has developed a seed increase protocol for wild and cultivated *Beta* germplasm. The Group has identified areas where a quality concept should be developed: germplasm acquisition; status of acquired material; regeneration; post-harvest; pre-storage; germination capacity and storage conditions.

Fibre Crops (Flax and Hemp) WG

The Group discussed the AEGIS implementation in 2010 among the few participants in its meeting. It was felt that more time was needed to fully absorb information on AEGIS and that the involvement of all members of the WG was necessary in order to implement the process. The participants agreed to focus on the procedures to select flax accessions for the European Collection, under the coordination of the Chair. However, the Group members were not completely convinced of the feasibility and value of a European Collection. They were also discouraged by the cost of devoting time to the selection of accessions. Moreover, the establishment of a European Hemp collection is hampered by legal issues that make it difficult to implement free movement of germplasm.

Medicinal and Aromatic Plants WG

- European Collection: The Group discussed the implementation of AEGIS during its meeting in 2009 and agreed that MAP accessions could be proposed for the European Collection, but did not start developing procedures for their selection. Similarly, there was agreement on the need to adopt quality standards for conservation, without entering into the process of defining the standards. The *Origanum* project has provided data that could be used in defining *Origanum* accessions for the European Collection.
- AQUAS: A methodology for using insect pollinators in heterogamous vegetable species, medicinal, aromatic and culinary plants grown in technical isolation was published by Crop Research Institute, Prague and Bee Research Institute Ltd., Dol.

Potato WG

European Collection: The project funded by the AEGIS Grant Scheme will analyse 500 potato clones with SSR markers and will identify mislabelling or confirm the genetic uniqueness of the clones. Based on the results, the project will indicate which of the fingerprinted varieties will be the most appropriate for inclusion in the European Collection. Due to the late start of the project in the potato growing season, the duration has been extended by six months. Therefore, the project is expected to be concluded in December 2012.

Outlook for 2012

The *Beta* Working Group will hold its fourth meeting in June 2012 in France.

3.6. Vegetables Network

Working Groups: *Allium*, *Brassica*, Cucurbits, Leafy Vegetables, Solanaceae and Umbellifer Crops.

The **Vegetables Network Coordinating Group** consisted of 11 members: Marie-Christine Daunay, France (Network Coordinator), Willem van Dooijeweert, The Netherlands (Vice-Coordinator); Dave Astley (retiring at the end of 2011), United Kingdom; Noortje Bas, The Netherlands; Ferdinando

Branca, Italy; Maria José Díez, Spain; Emmanuel Geoffriau, France; Joachim Keller, Germany; Charlotte Allender, United Kingdom and Rob van Treuren, The Netherlands.

The Seventh Meeting of the *Allium* WG was held 6-8 September 2011 in Perea near Thessaloniki, Greece, involving 14 WG member and 7 observers. J. Keller, coordinator of the European GENRES Project EURALLIVEG (European *Allium*, vegetatively propagated – Web site <http://euralliveg.ipk-gatersleben.de>), reported on the conclusion of this project in March 2011: 202 well-characterized garlic accessions are now stored and safety-duplicated in cryopreservation in CRI, Czech Republic, IPK, Germany and RIVC, Poland. A list of 202 candidate European garlic accessions were then sent to the National Coordinators for flagging them as European Accessions in EURISCO and the first European Collection accessions were thus flagged by Germany in December 2011.

J. Keller also reported the results of the AEGIS-funded project on cryopreservation of young inflorescence bases of garlic [Bioversity Newsletter for Europe 43:9 (2011)]. It has been recommended to use the studied method for cryopreserving bolting garlic in European collections. It has the advantage that the material is much cleaner than that from bulbs dug out of the soil, there is direct access to the material without long pre-culture (unlike the case of *in vitro* donor plantlets), and the regenerating explants usually produce many shoots due to the presence of several meristems in the cryopreserved pieces of tissue. The hosting and management of the European *Allium* Database will be transferred from the University of Warwick to IPK Gatersleben in January 2012.

The Group agreed on a workplan to establish European Accessions for seed-propagated landraces and wild taxa, as well as cultivars, starting with *A. ampeloprasum* and then extending the list to other priority groups of seed-propagated species. Black box safety storage of seeds was offered by four institutions. The need to establish a new project on garlic characterization by molecular markers was underlined. A letter will be sent to the European crop genebanks, asking for their interest in collaboration. The meeting was concluded with the resignation of Dave Astley from his position as the Chairman of the Working Group, owing to his retirement. The Group representatives expressed their heartfelt thanks to Dave for his preparatory input to establish the *Allium* Working Group and for his continuing leadership for 29 years altogether. J. Keller (Germany) and T. Kotlińska (Poland) were elected as new Chair and Vice-Chair, respectively.

A Task Force of the **Brassica Working Group** has investigated the status of the collections of wild brassicas and their availability and has verified that samples are available from the University of Tohoku, Sendai, Japan. No replies were received from most of the other sources in Europe, which indicates the need for a more reliable system for germplasm exchange.

The N.I. Vavilov Research Institute of Plant Industry (VIR), Russian Federation, started an ECPGR-funded activity for the identification and morphological, biochemical and molecular description of 58 unknown *Brassica rapa* accessions provided by European genebanks.

The Department of Agriculture and Food Science (DISPA) of the Catania University, Italy, started an ECPGR-funded activity for morphological and molecular (SSR) characterization of 26 accessions of wild *Brassica* species collected from different European genebanks.

The Working Group on Cucurbits completed in April 2011 a document on “General guidelines for regeneration, processing and storage of cucurbit species”.

A poster on the activities of the WG was presented at the EUCARPIA Genetic Resources Congress held in Wageningen, The Netherlands, in April 2011.

A table on the current level of safety-duplication of Cucurbit collections in Europe was updated and made available online. It shows that there is a wide variability across genebanks and that safety-duplication is still far from being complete.

The Second meeting of the ECPGR Leafy Vegetables Working Group, planned for November 2011 in Slovenia, has been cancelled, owing to the low number of countries that were using their country quota and to insufficient inputs of the Working Group members to the agreed workplan. The opportunity to organize a Leafy Vegetables WG meeting as an “ad hoc” meeting was brought to the attention of the Executive Committee, who decided to discuss this option at the next Steering

Committee meeting in November 2012, when the budgetary situation of ECPGR Phase VIII will be clearer.

The Minor Leafy Vegetables Database, managed by IPK, Germany, was improved at the end of 2011. Apart from updating the existing data of rhubarb, asparagus, lamb's lettuce, artichoke and rocket salad, data were also added of the genera *Atriplex*, *Chenopodium*, *Chrysanthemum*, *Lepidium*, *Portulaca*, *Rumex*, *Taraxacum* and *Tetragonia*.

The First official meeting of the **Solanaceae Working Group**, originally planned for 2011 has been postponed to February 2012 in Menemen, Turkey. The Group needed more time to improve the passport data before being able to select Most Appropriate Accessions in order to allow the identification of the European Accessions.

The First Meeting of the **ECPGR Working Group (WG) on Umbellifer Crops** took place on 29 March–1 April 2011 at the Julius Kuehn-Institute (JKI) in Quedlinburg, Germany, jointly organized and held with the second and final workshop of the AEGIS-funded project "Assessment of unique material in the European collections of umbellifer crops". A tentative selection of 1415 carrot cultivar accessions was made for AEGIS. Minimum descriptors for characterization of carrot, celeriac, celery, dill and parsley were selected and agreed. Proposed minimum standards for conservation and regeneration were drafted. As part of an ECPGR-funded project, partners from Belgium, Czech Republic, France, Germany, Poland, Sweden and UK agreed to carry out characterization of a number of umbellifer wild relative accessions. Evaluation for resistance to *Alternaria* and *Botrytis* and presence of volatile compounds will be done in Germany. Taxonomic identification will be carried out in France and Germany. The Genetic Resource Unit of the Warwick University offered to continue the maintenance of the Umbellifer Crops Database, providing an updated new structure, including characterization descriptors. An update of ongoing national activities related to PGR was also presented by several members. Emmanuel Geoffriau (France) and Charlotte Allender (UK) were re-elected as Chair and Vice-Chair respectively.

A research task using carrot as a model has been included in the **project proposal "Plant Gene Access"**, submitted for funding under the FP7 of the EU (see below, Section 4). The task intends to facilitate access to genebank collections of variable, outcrossing crops. An optimal marker system will be selected to assay genetic diversity in carrot accessions and a core collection of carrot will be defined.

A **proposal on brassica was accepted for funding under the second call of the AEGIS Grant Scheme**. The proposal "*Brassica* selection criteria for the identification of the MAAs related to the *Brassica oleracea* of the Iberian collection" was submitted by Banco Português de Germoplasma Vegetal, INRB, I.P., Portugal. This project, involving partners from The Netherlands, Portugal, Spain and United Kingdom, will receive a grant of € 12 450.

Summary of AEGIS development status

***Allium* WG**

- European Collection: As an outcome of the GENRES EURALLIVEG project, a list of 202 candidate European garlic accessions were sent to the National Coordinators for flagging them as European Accessions in EURISCO: a first batch of 61 accessions were thus flagged by Germany in December 2011. An updated and enlarged list of candidate garlic accessions will require molecular screening of the European garlic collection, which has not been successfully completed so far. The Group has established a workplan to select seed-propagated wild accessions, landraces as well as cultivars. They will start with a focus on *A. ampeloprasum*.
- AQUAS: The Group has agreed on recommendations for field maintenance of garlic and shallot accessions and on protocols for *in vitro* medium-term storage and for cryopreservation of garlic. Two levels of phytosanitary standards were adopted, with or without virus elimination.

Brassica WG

- European Collection: A test was made for selecting Most Appropriate Accessions of *B. rapa*. It was concluded that insufficient data were available for many accessions of *B. rapa*, meaning that the selection criteria could not be applied in an objective, unequivocal manner.

The methodology to define MAAs among groups of duplicates is being tested on Iberian *B. oleracea* landraces, as part of a project funded by the AEGIS Grant Scheme.

- AQUAS: A summary of present practices and the draft minimum standards have been completed.

Cucurbits WG

- European Collection: Following an update of the Cucurbits Database, expected for January 2012, volunteers from the WG have planned to screen the Database to identify Most Appropriate Accessions for the European Collection. Bulgaria has offered to designate for AEGIS the 1064 accessions that were safety-duplicated in 2010.

- AQUAS: General guidelines for regeneration, processing and storage of cucurbit species were agreed.

Leafy Vegetables WG

- European Collection: The WG agreed to start focusing on lettuce and spinach and to develop a shortlist of potential AEGIS accessions that should be discussed at the next meeting of the WG. Information on potential AEGIS accessions has been collected for both lettuce and spinach from five collection holders. Once the exercise is completed with lettuce and spinach, the Group will move on to chicory and minor leafy vegetables.

- AQUAS: Developing a list of suggested minimum standards for leafy vegetables is part of the Group's workplan. Information on genebank procedures has been collected for both lettuce and spinach from four collection holders.

Solanaceae WG

- European Collection: The Group initially aimed at improving the passport data of the Solanaceae collections as a first step, in particular the geographical origin of the accessions. However, given the difficulties encountered, the selection of the European Accessions will be discussed at the next meeting with the Database Managers, on the basis of the existing passport data.

- AQUAS: The Group agreed in 2004 on a "Standardized minimum protocol for seed regeneration and seed storage of Solanaceae". The protocol includes disinfection of seeds, identification, number of plants regenerated, transplanting seedlings, isolation, harvest, seed cleaning, desiccation and storage. The safety-duplication of all collections is a priority for the future.

Umbellifer Crops WG

- European Collection: The Group agreed on a methodology for selecting accessions for AEGIS. In total, 45% of the original 2498 cultivar accessions were identified as potential European Accessions. The list needs to be cross-checked, confirmed with complementary information and extended to landraces and wild relatives. A workplan was decided, to extend the analysis to other Apiaceae.

- AQUAS: A proposal for minimum standards for regeneration and long-term conservation conditions was made. The standards still need to be formally agreed by the Group.

Outlook for 2012

The First Solanaceae WG Meeting is planned for February 2012 in Turkey, including one day dedicated to a Database Managers meeting.

Activities funded by the Vegetables Network will be carried out by the *Brassica* WG for the morphological, biochemical and molecular characterization of unknown *B. rapa*, *B. oleracea* landraces and wild *Brassica* accessions.

3.7. Documentation and Information Network

The **Documentation and Information Network Coordinating Group** consisted of nine members: Theo van Hintum, The Netherlands (Network Coordinator); Frank Begemann, Germany; Iva Faberová, Czech Republic; Helmut Knüpffer, Germany; Jonas Nordling, Sweden (NordGen); Idin

Fazlic, Bosnia and Herzegovina (SEEDNet); Ahmet Semsettin Tan, Turkey; and Ian Thomas, United Kingdom. Four additional *ex officio* representatives were Lorenzo Maggioni, ECPGR Secretariat; Sónia Dias (EURISCO Coordinator); Michael Mackay, Bioversity International, Rome; and José Iriondo, Spain (*In situ* and On-farm Conservation Network representative).

Following indications received from the ECPGR Steering Committee (Bratislava 2010), the Network Coordinator, Th. van Hintum, sought clarification from Bioversity on the progress made for the development of EURISCO with a letter to the Director General in February 2011. He received a reply in March 2011, reassuring him that a specific investment was made by Bioversity for a thorough revision of the EURISCO Web site and that it was the intention of Bioversity to take advantage of the development of GENESYS in order to apply the same functionalities to EURISCO, also indicating that the process of integration between EURISCO and GENESYS was planned. As a result of this integration, which would still permit EURISCO to retain its own identity, Bioversity would be prepared to cover operational costs and essential developmental costs also in the future as an in-kind contribution to ECPGR. The Network Coordinator was also invited for a meeting at Bioversity headquarters in Maccaresse (April 2011), where arrangements were made to speed up the development process for the various needs, such as standardization of taxonomy and inclusion of Characterization and Evaluation data. It was also made clear that ECPGR (through the Documentation and Information (D&I) Network Coordinating Group), will be invited to be fully represented in the steering group that should lead the future developments of GENESYS. As a follow up, two members of the D&I Network participated in the meeting at CIMMYT, Mexico, to define GENESYS in its second phase (see p.14).

A proposal from the D&I Network was accepted for funding under the **second call of the AEGIS Grant Scheme**. The proposal “PGR Duplicate Finder”, a software package to assist in the identification of putative duplicates in germplasm databases” was submitted by the Centre for Genetic Resources (CGN), The Netherlands. This project, involving partners from IPK, Germany and JKI, Germany, will receive a grant of € 10 330. A number of crop collections have been identified to participate in a testing phase of the software package.

A joint PGR Secure/ECPGR Workshop on “Conservation strategies for European crop wild relative and landrace diversity” was held on 7–9 September 2011 in Palanga, Lithuania, hosted by the Nature Research Centre, Lithuania. This Workshop involved the **Working Groups of the ECPGR *In situ* and On-farm Network and National Inventory Focal Points**, as well as the project partners of the EC-funded project PGR Secure. Several new nominations of *In situ* and On-farm National Inventory Focal Points (NIFPs) were made by the National Coordinators in preparation for this meeting and eventually 30 *In Situ* and 31 On-Farm NIFPs participated in the meeting (with the two functions being represented in many cases by the same person per country). ECPGR funded the participation of 21 NIFPs. On-farm and *In situ* NIFPs were expected to offer their technical advice on the establishment of national inventories of crop wild relatives and landraces and on issues of data collection, management and exchange.

Points that emerged during the meeting were the following:

- The majority of countries have no plans to monitor landraces on-farm and there were several doubts expressed about the usefulness of such an activity, while a more keen interest was expressed for inventorying fruit trees at their *in situ* locations.
- Lack of funding at national level has hindered progress on establishing *in situ*/on-farm inventories.
- The approach preferred by a number of countries about on-farm and CWR data is that of providing to a regional information system only the collecting data that are associated with existing accessions stored *ex situ*, rather than providing data about living material in the field.
- Some countries have official lists of “Conservation Varieties”, but these may not meet the “landrace” definition as agreed by the PGR Secure project.
- A list of CWR descriptors for data exchange and an information system in which to store the data at regional level need to be established.
- The Focal Points offered, based on a collaborative effort between D&I Network and On-farm WG members, to review and revise the existing draft list of on-farm descriptors proposed by

PGR Secure so that it will comply with documentation standards and could be formally agreed, jointly with the D&I Network.

The **Second Capacity Building Inter-regional Workshop** on International Treaty Implementation, organized by the Inter-regional Cooperation Network (see below, Section 3.9), was organized in Menemen, Turkey, on 28-29 September 2011, jointly with the Near East and North Africa (NENA) Plant Genetic Resources Network. A presentation by F. Begemann and Th. van Hintum on "Regional documentation and information of PGRFA in Europe" was made by F. Begemann and raised the interest of the audience towards the possibility of searching for funds for the development of a documentation system inspired by the EC proposal that funded EURISCO back in 1999. The NENA Network was provided with a copy of the original project proposal (EPGRIS) submitted to the EC for the establishment of EURISCO.

The D&I Network played a major role in the development of a new Bioversity coordinated proposal for the EU Seventh Framework Programme. The 10 Million Euro project called "**Plant Gene Access**" includes a major component aiming at improving the coverage, functionality and quality of EURISCO, as well as developing additional PGR documentation facilities. The proposal was submitted in November 2011.

On 5-9 December 2011 the CGIAR Genebank Managers convened a **meeting at CIMMYT in Mexico to discuss the future of GENESYS**. GENESYS is the internationally funded global portal to information about PGR, which has been developed over the last few years at Bioversity International. Two representatives from ECPGR were invited. In consultation with the ExCo and the D&I Network Coordinator, the Secretariat confirmed the participation of Th. Van Hintum, The Netherlands and Iva Faberová, Czech Republic at the meeting in Mexico. The meeting resulted in a clear vision of the future of GENESYS, regarding governance, operation and functionality, and a strategy to implement this vision. As such it created the basis for the development of a proposal for the second phase of GENESYS. It became clear that the early development of EURISCO can be used as a model for the further development of GENESYS, as it will have to become based on the communities that own and supply the data. Like EURISCO, GENESYS will only be as good as the data it provides, and this data quality is in the hands of the communities managing the data sources. EURISCO will continue to be a major data-donor to GENESYS, and the ECPGR D&I Network will increasingly be involved in the governance of GENESYS.

EURISCO in 2011

With the Republic of Moldova joining EURISCO as a newcomer in 2011, the Catalogue now represents 42 National Inventories and 318 collection holdings. The total number of accessions, as of 31 December 2011, was 1 096 182. These accessions were listed as wild/weedy species (9%), landraces (25%), advanced cultivars (19%), breeding/research material (15%), others (1%). The status of the remaining 31% is unknown. The registration of Multilateral System accessions in 2011 was 22.5% of the total in EURISCO reported accessions. This year, the German Inventory was the first to assign accessions to AEGIS (61 garlic accessions) and to flag them accordingly in EURISCO.

The EURISCO Web site has been entirely revised and transferred into the Typo3 environment and the new site was launched on 17 November 2011. The revision included upgrading of the functionalities and search capacity, providing users with more accurate results of the taxonomy searches and ensuring that synonyms are also captured in the search. This was based on a review of the taxonomic nomenclature of EURISCO², and is achieved through the implementation of a static middle layer on the search, matching the existing genus and species in the database against the accepted genus and species in the GRIN-Taxonomy. This process will allow for the search and display of corrected taxonomy (without misspellings) and synonyms that are found within the GRIN-

² van Hintum TJL, Knüpffer H. 2010. Current taxonomic composition of European genebank material documented in EURISCO. *Plant Genetic Resources: Characterisation and Utilisation* 8:182-188.

Taxonomy Catalogue. Consequently, users will have the possibility to search not only by scientific names but also use and/or see the synonyms. Besides upgrading the search functionalities, some light “cosmetic” changes were made to the Web site: results displayed in selected views, from the dropdown menu; possibility to create a custom report; improved Passport view page with Google maps for the accession (where latitude/longitude have been provided), making it more attractive and user-friendly.

Data quality was analysed, and the results published³. To further increase data quality and completeness in the EURISCO, real time taxonomy and geo-referencing reports are available on countries’ upload pages. The taxonomy reports highlight taxonomic imprecision such as spelling mistakes, indicating which scientific names are fully matching, partially matching or not matching the GRIN-Taxonomy, while the geo-referencing reports cross-check that the coordinates given for the collecting site actually fall within the borders of the assigned “country of origin”; they can be downloaded in both Excel and for Google Earth viewing and the data are available by institute.

Three e-bulletins (September, November and December) were prepared and published on the EURISCO Web site (http://eurisco.ecpgr.org/releases/e_bulletin.html), as well as disseminated via e-mail to more than 200 individuals.

Some facts and numbers regarding changes and improvements in EURISCO during 2011 are summarized below:

- The total number of accessions has increased by 12 735, reaching a total of 1 096 182 accessions in December 2011;
- One new National Inventory joined (Republic of Moldova), raising the number of participating countries to 42;
- The number of data providers increased, now reaching 318 institutes conserving PGR in Europe;
- Accessions flagged in EURISCO as part of the Multilateral System have reached the number of 246 216 from 17 countries, representing around 22.5% of the total number of accessions recorded in EURISCO;
- During 2011 the EURISCO portal received 6737 visits of which 4023 were unique visitors.

Outlook for 2012

Coordination of EURISCO, maintenance and development. Upgrading and re-designing of the EURISCO intranet (staging area), which is responsible for receiving, processing and publishing the data on the EURISCO public site. Improvements and new expected functionalities are the following:

1. A Web site providing all the functionality (upload, validation, data quality reports and publishing) of the current EURISCO intranet.
2. A new data structure that can accommodate C&E data. A framework will be ready to be tested by selected EURISCO partners.
3. A new credentials system in which National Focal Points may delegate the uploading directly to the data providers and collect from the EURISCO staging area the national inventory data.
4. A series of published Web-services that can be used to search and refer to specific germplasm.
5. An access to germplasm information via Google Maps, regardless of the amount of coordinates data.
6. A new database structure that is more flexible and that can handle much greater amounts of data.

3.8. *In situ* and On-farm Conservation Network

Working Groups: On-farm Conservation and Management; Wild Species Conservation in Genetic Reserves.

³ van Hintum TJJ, Menting F, van Strien E. 2011. Quality indicators for passport data in *ex situ* genebanks. *Plant Genetic Resources: Characterisation and Utilisation* 9:478-485.

The *In situ* and On-farm Conservation Network Coordinating Group consisted of seven members: Nigel Maxted, United Kingdom (Network Coordinator); Lothar Frese, Germany; Paul Freudenthaler, Austria; José Iriondo, Spain; Valeria Negri, Italy; Zdeněk Stehno, Czech Republic; and Jens Weibull, Sweden.

The project proposal for “Novel characterization of crop wild relatives and landraces resources as a basis for improved crop breeding” (PGR Secure, www.pgrsecure.org), under the EU FP7 funding scheme for Collaborative Projects, started its activity in March 2011. One of the goals of the project is to assist national PGR programmes to generate and implement conservation strategies for national crop wild relative (CWR) and landrace (LR) diversity. In joint collaboration with ECPGR, PGR Secure convened a workshop to discuss and agree on a strategic approach to European and national CWR and LR conservation that will result in the systematic conservation of these important resources across Europe—the first time a systematic approach has been taken to CWR and LR conservation at a continental level. The workshop, held on 7-9 September in Palanga, was organized by the University of Birmingham, University of Perugia, ECPGR and the Nature Research Centre (NRC), Lithuania and hosted by the NRC, and was attended by 102 participants from 38 European countries and the USA. National representatives were nominated by ECPGR National Coordinators—36 members of the Wild Species in Genetic Reserves Working Group and 32 members of the On-Farm Conservation Working Group of the ECPGR *In Situ* and On-Farm Conservation Network were nominated, along with 30 *In Situ* National Focal Points (NFPs) and 31 On-Farm NFPs (some participants are members of more than one Working Group) (see also Section 3.7 Documentation and Information Network).

The main topics discussed at the workshop were:

- Revision / modification of already existing national CWR inventories (e.g. previously generated by the FP5-funded PGR Forum project)
- Creation of new national CWR and LR inventories where necessary
- Baseline threat assessment of CWR/LR extinction/genetic erosion
- CWR/LR diversity prioritization and *in situ* and *ex situ* gap analysis
- Creation/collation of desirable additional national data sets (e.g. distribution, threat status, use potential)
- Data quality and data standards
- Use of national CWR and LR inventories
- Traditional and novel characterization of CWR/LR diversity
- Development and implementation of national CWR/LR conservation strategies by the ECPGR Network members.

The workshop consisted of a series of presentations on the current state of the art of CWR and LR conservation in Europe and available approaches and methods for CWR and LR conservation, illustrated with case studies and followed by discussion sessions on the practical application of the approaches and methods, during which participants shared knowledge on current national activities and agreed on the way forward.

Participants agreed on the general approach to the development of national CWR and LR conservation strategies and the issue of funding the planning of the strategies was debated. PGR Secure will fully support the development of national CWR/LR conservation strategies in Finland, Italy, Spain and the UK and is also assisting Albania, Belarus, Cyprus and Czech Republic to develop national CWR conservation strategies. PGR Secure, via the project’s Helpdesk, agreed to provide a list of policy drivers that will help persuade governments to assist with formulating national strategies, along with guidance on identifying relevant national obligations and how to take them forward. The workshop facilitators emphasized the need to design national strategies to suit individual countries, adapting the models discussed in the workshop in a flexible way according to available resources. For a full report of the workshop, visit www.pgrsecure.org/palanga_workshop.

In 2011 the project AGRI GENRES 057 “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 ended. For further information see <http://aegro.jki.bund.de/aegro/>. This year also saw the publication of the

proceedings from the AEGRO project final dissemination conference held in Madeira, Portugal in September 2010. The publication details are:

Maxted N, Dulloo ME, Ford-Lloyd BV, Frese L, Iriondo JM, Pinheiro de Carvalho MAA, editors. 2011. *Agrobiodiversity Conservation: Securing the Diversity of Crop Wild Relatives and Landraces*. CAB International, Wallingford.

This publication contains a multi-author paper that summarizes the State of the Art in European *in situ* and on-farm conservation (Chapter 43). It is hoped it may prove useful to the group not only in establishing a baseline for progress assessment but also in terms of providing a tool for lobbying national governments for funding for CWR and LR conservation and use. It was also agreed that the summary tables for CWR and LR conservation implementation would be put up on the PGR Secure Web site (<http://pgrsecure.org/>) and that the tables would be updated with State of the Art changes as they occur.

Finally this year saw the production of **the first Global Priority CWR species checklist** from which a European Priority CWR species checklist can be abstracted. The work was funded by the Norwegian Government and was carried out by the Global Crop Diversity Trust, in collaboration with CG Centres, the Royal Botanic Gardens, Kew and the University of Birmingham. CWR are native or naturalized in 21 world regions; the region with the most CWR is Western Asia with 1142, the second richest region is Southern Europe with 1026 native CWR taxa. The Web-enabling of the database (<http://www.cwrdiversity.org>) provides an important tool to assist *ex situ* and *in situ* conservation and use, thus helping underpin future food security.

Outlook for 2012

Activities of the Network will continue within the framework of the PGR Secure project, with national CWR/LR conservation strategies becoming available for Finland, Italy, Spain and the UK, as well as national CWR conservation strategies for Albania, Belarus, Cyprus and Czech Republic

As part of the Sixth European Botanic Gardens Congress (EUROGARD VI) with the title "European Botanic Gardens in a Changing World", to be held on Chios Island, from 28 May-2 June 2012, the Coordinator of the *In situ* and On-farm Conservation Network, Nigel Maxted, will organize a workshop on "Wild Species Conservation in Genetic Reserves".

3.9. Inter-regional Cooperation Network

The **Inter-regional Cooperation Network Coordinating Group** consisted of five members: Frank Begemann, Germany (Network Coordinator); Merja Veteläinen, Finland; Petra Engel, Italy; Silvia Străjeru, Romania; and Ayfer Tan, Turkey.

A joint workshop between ECPGR and the Near East and North Africa Plant Genetic Resources Network (NENA PGRN) was organized on 28-29 September 2011 in Menemen, Turkey, with the local support of the Aegean Agricultural Research Institute. This workshop was dedicated to exchanging views, information and experiences related to the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty).

The NENA PGRN Network was represented by the Coordinator and members from Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Sudan and Yemen. ECPGR was represented by the Secretariat and members from Germany, Sweden and Turkey. International organizations (Bioversity International, ICARDA and GFAR) were also involved, as well as the Secretary of the Treaty, Mr Shakeel Bhatti.

The workshop consisted of presentations from both networks regarding the national and regional approaches to *ex situ* conservation, documentation and information, implementation of the Multilateral System (MLS) of the Treaty and its related policies and legislation.

Examples provided by ECPGR for consideration by NENA PGRN were the concept for "A European Genebank Integrated System" (AEGIS) and the online EURISCO catalogue. A strong recommendation was directed from the meeting to NENA PGRN, indicating the need to reach self-

sustainability through the acquisition of firm national commitments as a pre-requisite for regional collaboration.

This workshop opened the way for further exchanges of information between the two Networks and to possible opportunities for advice or training in the near future. NENA PGRN specifically expressed interest in future collaboration with ECPGR on different aspects of PGR conservation and management.

Outlook for 2012

Opportunities for additional joint workshops between ECPGR and other regional networks will be discussed with the Treaty Secretariat.

4. AEGIS INITIATIVE FOR “A EUROPEAN GENE BANK INTEGRATED SYSTEM”

Whereas the hope for financial support from the European Union through the EUROGENEBANK proposal, submitted at the end of 2009, did not materialize, the Secretariat, in close collaboration with and the full support from the Working Groups, continued the development and implementation of AEGIS activities as planned during 2011. A number of activities and the major achievements during 2011 are summarized below:

- By the end of December 2011 the following 30 countries (compared to 26 in 2010) had returned the signed Memorandum of Understanding (MoU) to Bioversity International: Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Georgia, Germany, Hungary, Iceland, Ireland, Lithuania, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom. In addition, in 18 countries, 45 (compared to 19 in 2010) AEGIS Associate Membership Agreements between institutions holding *ex situ* accessions and the respective National Coordinators were concluded.
- Final reports of the three selected projects of the first call of the AEGIS Competitive Grant Scheme have been received and placed on the AEGIS Web site. The second call for proposals was published at the end of 2010 and a total of 10 eligible proposals were received. Under the leadership of the AEGIS Advisory Committee, the following five proposals were selected and funded:
 1. Establishment of the European Forages Collection; MTT AgriFood Research, Finland.
 2. “PGR Duplicate Finder”, a software package to assist in the identification of putative duplicates in germplasm databases; Centre for Genetic Resources, The Netherlands, (CGN).
 3. Improving the prerequisites for a European rye collection; Nordic Genetic Resources Centre (NordGen).
 4. Identification of 240 old potato clones having unreliable variety name by means of fingerprinting using 12 microsatellite (SSR) markers to assist in setting up the AEGIS collection for potato; Centre for Genetic Resources, The Netherlands, (CGN).
 5. *Brassica* selection criteria for the identification of the MAAs: relate to the *Brassica oleracea* of Iberian collection; Banco Português de Germoplasma Vegetal, INRB, I.P., Portugal.
- The developed and approved template for an operational genebank manual was made available on the AEGIS Web site and discussed at a number of WG meetings. Further follow-up with the various AEGIS Associate Members will be required.
- The Secretariat and the ECPGR community participated in the process of revision of the FAO *Genebank Standards* (for seed germplasm) and the final draft was discussed by the Commission during its 13th Session. As the FAO process of revising the genebank standards started to coincide with the AEGIS process it was agreed with the SC to use the approved revised FAO *Genebank Standards* rather than to develop new ones. Thus, ECPGR experts were invited to comment on the draft revised *Genebank Standards* document. A number of them did, a next version was produced and during the discussions of this new version the Commission requested to add a section on the evaluation of germplasm, to hold a second electronic consultation as well as to also develop standards for field genebanks as well as for *in vitro* and cryopreservation. The further to-be-revised draft on seed germplasm as well as the new drafts

are planned to be submitted to the Technical Working Group for their approval in November 2012.

- With the establishment of the European Collection the following activities were undertaken. The adopted “simplified” procedure for the selection of European Accessions has been used by several Working Groups and a number of candidate lists of European Collection accessions were established. The *Allium* Working Group was the first one to approve 61 garlic accessions for inclusion in the European Collection and upon acceptance of the conditions for their long-term conservation and continued availability by the German National Coordinator, these accessions have been flagged in EURISCO as the first European Accessions.
- The Secretariat attended several WG and other meetings, including the Inter-regional Network meeting with the Near East and North Africa Region in Izmir, Turkey and made presentations on the concept and the status of the development of AEGIS. Presentations given are available on the AEGIS Web site.
- The preparation of a project proposal entitled “Access to plant genetic resources for food and agriculture in Europe” or “Plant Gene Access” in short, was coordinated by the ECPGR Secretariat, upon request of the ECPGR Steering Committee. The proposal has 33 partners that formally agreed to participate in the project and was submitted on time to the 2012 Call under the Seventh Framework Programme of the EU (Research Infrastructures – Support to existing research infrastructures – Integrating Activities) on 23 November 2011. Whereas this proposal addresses a few areas that are (still) outside of the direct scope of AEGIS, including work packages on genetic stocks, crop wild relatives and historical seeds as well as on genotyping and phenotyping, an eventual acceptance of the proposal would greatly boost the further development of AEGIS. The results of the project evaluation are expected in March/April 2012.
- During the course of 2010 and the beginning of 2011 the AEGIS Web site was revised. It is foreseen that with the actual establishment of the European Collection further revisions will be undertaken.

Outlook for 2012:

Special attention will be paid to the further designation of accessions to the European Collection and to continuing the efforts on defining crop-specific standards, in close consultation with FAO and its Commission where relevant. Efforts to formulate the reporting and monitoring components of AQUAS will be started in 2012. During 2012 the conclusion of the second set of projects funded by the Grant Scheme is expected.

Should the Plant Gene Access proposal pass the selection hurdles, a lengthy process of negotiating the final workplan and budget is foreseen and will have to be coordinated by the Secretariat.

5. LINKS WITH OTHER NETWORKS AND INITIATIVES

The following interactions between ECPGR and other Networks and initiatives took place during 2011:

➤ Global Crop Diversity Trust

The project funded by the Global Crop Diversity Trust for the regeneration and safety-duplication of regionally prioritized crop collections continued in 2011 to complete regeneration and safety-duplication. The project, prepared by the ECPGR Cereals Network and the Oil and Protein Crops Network, involved ten European countries (Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Greece, Hungary, Israel and Portugal) and was granted nearly US\$ 130 000 from the Trust. The 11 partner institutions involved have successfully regenerated 79% of the expected accessions, i.e. 4138 out of a total of 5211 planned grain legume (chickpea, common bean, cow pea, faba bean, grass pea and lentil) and cereal accessions (*Aegilops*, barley, maize, sorghum and wheat).

The remaining accessions resulted non viable or it was not possible to regenerate all the expected faba beans due to isolation space. Bad weather conditions and diseases also compromised the harvest in a few cases. 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. Passport data are being made available through EURISCO and characterization data are also available upon request. Safety-duplication at CGIAR Centres and at Svalbard is in progress. Safety-duplication at ICARDA has so far been impossible due to the unsettled situation in Syria.

➤ **European Commission**

The ECPGR Steering Committee members who are also representatives in the Committee on Council Regulation 870/2004 have managed to include a presentation on all genetic resources networks (including ECPGR) as part of the agenda for the next meeting. The meeting is planned in June 2012 in Bruxelles, Belgium.

A participation of ECPGR in the survey for the evaluation of this Regulation is also foreseen. The Secretariat has agreed to send its input for an e-consultation to be concluded in January 2012. ECPGR National Coordinators have also been invited to send their inputs to the consultation, either directly or through the Secretariat.

The AGRI GENRES project EURALLIVEG (vegetative *Allium* core collection) (<http://euralliveg.ipk-gatersleben.de/home.php>) was concluded with a final meeting in Prague, Czech Republic, 1-2 March 2011. Three non-project partners and members of the *Allium* WG from Portugal, Spain and the United Kingdom were able to attend this meeting with ECPGR support. The ECPGR Secretariat also attended (see Section 3.6 above).

The Task Force on EU matters, which is planned to coordinate ECPGR actions towards the EU, will be led by Siegfried Harrer. A draft strategy is being prepared.

➤ **The International Treaty on PGRFA**

Progress in the collaboration with the Secretariat of the International Treaty for capacity building on the implementation of the Treaty in other regions is briefly described above in Section 3.9.

EURISCO (see Section 3.7) allows displaying those accessions that are part of the Multilateral System. So far, 17 countries have flagged a total of 246 216 accessions.

AEGIS (see Section 4) provides a mechanism for regional cooperation in the implementation of the Treaty in the European region. Wherever possible, AEGIS uses the Treaty's mechanisms, procedures and instruments, including the Standard Material Transfer Agreement (SMTA), and thereby contributes to its effective implementation. The 61 *Allium* accessions designated as part of AEGIS at the end of 2011 are *de facto* extending the Multilateral System to non-Annex I crops.

6. PUBLICATIONS

6.1. Publications produced in 2011

The following publications were produced in 2011 and are available in electronic format through the ECPGR Web site (<http://www.ecpgr.cgiar.org/homepage.html>).

Proceedings

- Report of a Cereals Network. Second Meeting, 21-24 April 2008, Foça, Turkey.
- Report of a Working Group on Cucurbits. Ad hoc Meeting, 23-24 October 2008, Warsaw, Poland.
- Report of a Working Group on Forages. Tenth Meeting, 28-29 April 2010, Island of Poel, Germany.
- Report of a Working Group on Fibre Crops (Flax and Hemp). Second Meeting, 7-9 July 2010, Šumperk, Czech Republic.
- Report of a Working Group on *Prunus*. Eighth Meeting, 7-9 September 2010, Forlì, Italy.
- Report of a Working Group on *Avena*. Sixth Meeting, 21-23 October 2010, Suceava, Romania.
- Report of a Working Group on Cucurbits. Second Meeting, 9-11 November 2010, Tbilisi, Georgia.

- Report of a Working Group on Umbellifer Crops. First Meeting, jointly held with the Second Workshop of the AEGIS-funded project on Umbellifer Crops, 29 March–1 April 2011, Quedlinburg, Germany.
- Report on a Working Group on Barley. Seventh Meeting, 10-12 May 2011, Larnaca, Cyprus.
- Report on a Working Group on *Allium*. Seventh meeting 6-8 September 2011, Perea, Thessaloniki, Greece.

Administrative and working documents

- ECPGR Technical report 2010 and Financial report 2010
- Report of the Twelfth Steering Committee meeting, 14-16 December 2010, Bratislava, Slovakia.
- General guidelines for regeneration, processing and storage of cucurbit species
- Report of the Second ECPGR Executive Committee Meeting, 17-19 October, Maccaresse, Italy.

Bioersivity publications

- Issues 42 and 43 of Bioersivity's **Regional Newsletter for Europe** were also published in 2011 with contributions and partial financial support from ECPGR.

Other publications

- Díez MJ, van Dooijeweert W, Maggioni L. 2011. The European Cooperative Programme for Plant Genetic Resources (ECPGR) Cucurbits Working Group. Poster presented at the EUCARPIA Genetic Resources section meeting "To Serve and Conserve", Wageningen, The Netherlands, 5-7 April 2011.
- Maxted N, Dulloo ME, Ford-Lloyd BV, Frese L, Iriondo JM, Pinheiro de Carvalho MAA, editors. 2011. Agrobiodiversity Conservation: Securing the Diversity of Crop Wild Relatives and Landraces. CAB International, Wallingford.
- Suso, M. J., M. Vishnyakova, Á. Ramos, G. Duc and M. Ambrose. 2011. An international survey on state of the art of grain legume management in gene banks. *Journal of Agricultural Science and Technology B* 1:975-981.

Web site

A renewed ECPGR Web Site was launched in April 2011, offering an easier and better structured access to contacts, databases, budgets, meetings, publications, workplans and other documents.

6.2. Publications in preparation in 2011

There are no publications in the pipeline. All the reports of ECPGR meetings held in 2011 under the responsibility of the Secretariat have been finalized and published on the Web.

7. ECPGR MEETINGS HELD IN 2011

- First Meeting of the Working Group on Umbellifer Crops, jointly held with the Second Workshop of the AEGIS-funded project on Umbellifer Crops, 29 March–1 April 2011, Quedlinburg, Germany.
- Seventh Meeting of the Working Group on Barley, 10-12 May 2011, Larnaca, Cyprus.
- Seventh Meeting of the Working Group on *Allium*, 6-8 September 2011, Perea, Thessaloniki, Greece.
- Joint PGR Secure/ECPGR European crop wild relative and landrace conservation workshop, 7-9 September 2011, Palanga, Lithuania.
- Joint ECPGR/NENA Workshop on the ITPGRFA implementation, 28-29 September 2011, Menemen, Izmir, Turkey.
- Second Meeting of the ECPGR Executive Committee, 17-19 October 2011, Maccaresse, Italy.

8. COORDINATING SECRETARIAT AND BIOVERSITY INTERNATIONAL

During 2011, the following staff have worked for the Coordinating Secretariat: Jan Engels (as half-time AEGIS Coordinator and Interim Director of the Regional Office for Europe); Lidwina Koop (as ECPGR Programme Assistant, assisting in all administrative and financial matters); Elinor Lipman (as half-time Scientific Assistant, based in Montpellier, France, involved in the compilation and layout of ECPGR publications and general support to the Secretariat activities); and Lorenzo Maggioni (ECPGR Coordinator).

The scientific and technical contributions, as well as management and administrative support provided by Bioversity International and its staff to the work of ECPGR are duly acknowledged. Bioversity also provided funding for the half-time EURISCO Coordinator (Sónia Dias).

★★★

Lorenzo Maggioni
ECPGR Coordinator

(with inputs from Sónia Dias, Jan Engels, Lidwina Koop, Elinor Lipman,
and from the ECPGR Network Coordinating Groups)

Rome, 13 March 2012

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