

CEREALS NETWORK

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 Zaczynski, 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.