

# **Report of a Network Coordinating Group on Sugar, Starch and Fibre Crops**

**Third Meeting, 8-9 October 2009, Quedlinburg, Germany**  
L. Frese and R. Hoekstra

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## PARTICIPANTS

(contact details in Appendix II)

### Members of the Network Coordinating Group

Martin Pavelek, AGRITEC, Czech Republic

Lothar Frese, JKI, Germany

Ana Maria Barata, INRB/INIA, Portugal

Roel Hoekstra, CGN, The Netherlands

### Manager of the International Database for *Beta*

Christoph Germeier, JKI, Germany

### Manager of the ECPGR Cultivated Potato Database (on behalf of Stuart Carnegie)

Heather Campbell, SASA, United Kingdom

## INTRODUCTION

The former Network Coordinating Group (NCG) on Industrial Crops and Potato of the European Cooperative Programme for Plant Genetic Resources (ECPGR) held its second meeting in Bologna, Italy in 2002. It was renamed Sugar, Starch and Fibre Crops NCG at the end of Phase VI of ECPGR. The NCG held a database managers' meeting at Braunschweig, Germany in 2005.

In 2006 the ECPGR Steering Committee moved the Medicinal and Aromatic Plants Working Group (MAP WG) from the Vegetables Network to the Sugar, Starch and Fibre Crops Network so that this NCG now comprises the representatives of the Working Groups on *Beta*, Potato, Fibre Crops (Flax and Hemp) and Medicinal and Aromatic Plants. It is a very heterogeneous Network dealing with a very wide range of crops. Hence, the WGs have little crop-specific similarities but share common interests in the field of data management and *in situ* management of crop wild relatives (for *Beta* and MAPs).

The outcome of the NCG database managers' meeting (2005) was the project proposal "Development of a reference implementation for access to and management of a Central Crop Database (*Linum* spp.) based on Open Source Internet technology". The Fibre Crops WG was relatively new and lacked tools and skills to efficiently handle their data. This proposal was not granted by the ECPGR Steering Committee.

In 2008 the Network budget for actions in Phase VIII was directed to the *Origanum* project of the MAP WG. The project comprises molecular characterization of 1140 genotypes (20 plants x 3 populations x 19 countries) by means of simple sequence repeat (SSR) markers to analyse the genetic diversity of *Origanum*.

## PRESENTATIONS

The NCG Coordinator Lothar Frese welcomed the participants, introduced the agenda and started the meeting by discussing the financial plan of the Network and the allocation of funds to the Working Groups and tasks. He said that looking for synergies and fields of common interest would be a major task of the NCG. The Chairman noted that this meeting is a good opportunity to discuss and determine the role of the European Central Crop Databases (ECCDBs) in the ECPGR system, particularly with regard to further developments of the process for "A European Genebank Integrated System" (AEGIS). If the European

Internet Search Catalogue (EURISCO) starts including characterization and evaluation (C&E) data, then the ECCDBs may get into competition with EURISCO.

### **Medicinal and Aromatic Plants**

Ana Maria Barata informed that the MAP WG recently held its Fourth Meeting at Kuşadası, Turkey on 29 September - 1 October 2009 ([http://www.ecpgr.cgiar.org/Workgroups/Med\\_aromatic/med\\_aromatic.htm](http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm)).

The *Origanum* project will be starting up in 2010. Unfortunately, the MAP WG is not participating in the AEGRO project ("An Integrated European In Situ Management Work Plan: Implementing Genetic Reserves and On Farm Concepts", <http://aegro.bafz.de/>). The MAP WG referred to the lack of appropriate descriptors in EURISCO for *in situ* genetic resources conservation. A.M. Barata addressed the lack of appropriate information systems suited to document such material. There is no common database in the MAP WG. Therefore, individual countries have set up local databases. The workplan of the MAP WG was structured around ten target species. The synthesis of the information provided in the country reports showed that the main part of the genetic material is maintained *ex situ* and only a smaller part is *in situ*.

### **Fibre Crops**

Martin Pavelek gave information about the developments in the Fibre Crops (Flax and Hemp) WG. In Europe the cultivation of flax and hemp has dropped considerably over the last years, due to imports from e.g. China. In the Czech Republic the number of flax processing factories was reduced from ten to one. In Italy the research on hemp has stopped at the Istituto Sperimentale per le Colture Industriali (ISCI), Bologna and the Vice-Chair resigned from his tasks in the WG. M. Pavelek is still hoping for future ECPGR support for his Flax Database project, which was unsuccessfully submitted for funding at the Tenth Meeting of the ECPGR Steering Committee (Jurmala, Latvia, September 2006). A WG meeting is foreseen in June or July 2010 at Šumperk, Czech Republic. The Flax Database partly contains accessions without an accession number, because the data donors did not supply it.

### **Beta**

Lothar Frese reported on the *Beta* WG and noticed that communication between the Chairman and the 26 members of the Working Group is rather limited, while there is more communication with the user community. The users investigating *Beta* germplasm are often non-members. He explained that the communication and intensity of collaboration within a WG is positively correlated with the input a Chairperson can invest and that the resources available for plant genetic resources (PGR) work within the Julius Kühn-Institut (JKI) have decreased considerably during the past years. Searching for and the arrangement of financial support to facilitate the participation of non-members to the WG meetings is unfortunately no longer possible.

The *Beta* WG intends to meet together with the World *Beta* Network in 2011, one year after the AEGRO final project meeting and mini-conference planned to take place at Funchal, Madeira, September 2010. There is interaction with the AEGRO project, which is coordinated by L. Frese (JKI). *Beta nana* (Greece) and *B. patula* (two islands near Madeira; leaf material was collected by the University of Madeira) have been (re-) collected and the plant materials are being characterized with molecular markers by the United States Department of Agriculture-Agricultural Research Service (USDA-ARS) and the JKI, respectively.

There is an urgent need to update the content of the online International Database for *Beta* (IDBB). Due to the continuing reduction of staff resources within the JKI, updates and

improvements of the online system can only be made within the framework of project funding. Christoph Germeier stressed the need for querying multi-records rather than viewing only one record at a time. He demonstrated CyberTracker, software that runs on a Win-CE, Smartphone or handheld computer. Applications can be developed with this Open Source software tool kit and can be used to record any type of observation in the field ([www.cybertracker.co.za/](http://www.cybertracker.co.za/)). It is a highly flexible tool kit which can be used for georeferencing leaf sample probes, observation on the presence of a species or characteristics of a collection site. The specific application developed within the AEGRO project may support the *in situ* management work and could also be of interest to the MAP WG. The software tool kit is maintained and further developed by a developer community.

## Potato

Heather Campbell reported that Science and Advice for Scottish Agriculture (SASA) is continuing to characterize potato varieties and check the available descriptions. This is a very time-consuming activity and therefore only a limited number of clones can be checked per year. Twenty old varieties are being tested every year for resistance to new pathotypes of late blight. DNA fingerprinting (12 SSRs) is offered by SASA as a commercial service to check the naming of a clone. Since 2006 an online tool facilitates data input in the European Cultivated Potato Database directly by the collection curators. After a test phase with 3 curators (Germany, France and Ireland), 15 curators received a password and 6 of them have entered data for their institutes. There has been no data input from East European countries so far. Material can be assigned the status “not maintained” from the curator when a clone is no longer in the collection. This status enables the maintenance of the C&E data in the database for the specific clone from this source. SASA itself does not change any data provided by other institutes, but performs some checks, and reports back abnormalities before the new data are published on the site. By requesting old Scottish varieties from different sources, SASA encountered a serious problem: the mislabelling of varieties, in particular old ones. This would hamper the implementation of the AEGIS concept here.

Roel Hoekstra reported on the Potato WG. Here also, the Chair has little contact with the members. The Wild Potato Database was recently updated and is available as a download. A WG meeting is foreseen in 2011 in conjunction with the European Association for Potato Research (EAPR) meeting. Furthermore, the NCG was informed of some large-scale ongoing research activities in the field of breeding value and genetics of potato genetic resources.

## OTHER ISSUES

Ana Maria Barata informed the NCG on recent developments in the AEGIS process ([www.ecpgr.cgiar.org/AEGIS/AEGIS\\_home.htm](http://www.ecpgr.cgiar.org/AEGIS/AEGIS_home.htm)). Fourteen countries have signed the Memorandum of Understanding (MoU) so far.

Roel Hoekstra clarified the concept of “Accession Level Information System” (ALIS) ([www.global-alis.org/](http://www.global-alis.org/)) and its implementation as part of the project “Global Information on Germplasm Accessions” (GIGA) ([http://ict-ensure.tugraz.at/content/index.php/ensure/content/download/756/6275/version/2/file/090115\\_04d\\_Lutzeyer\\_EU+Research+Priority+Setting+Agri+ICT\\_Paris+ICT-ENSURE.pdf](http://ict-ensure.tugraz.at/content/index.php/ensure/content/download/756/6275/version/2/file/090115_04d_Lutzeyer_EU+Research+Priority+Setting+Agri+ICT_Paris+ICT-ENSURE.pdf)). GIGA wants to push the limits of easy access of PGR data for the users.

## **DISCUSSION AND CLOSURE**

The crop database managers of the NCG feel that they receive little support from ECPGR. In particular when their own organizations do not support this database work, then they are unable to perform the job and need real and specific funding. Some DB managers are lacking the required IT skills. One could question the future role of the crop databases, in particular when EURISCO will be able to handle C&E data. But specific knowledge of crop and collection management is needed to add value to the data and make the information user-friendly. If the EURISCO process leads to a loss of the ECCDBs, the crop-specific Working Groups will lose a central management element and hence an important part of their corporate identity.

At the end of the meeting Roel Hoekstra was elected as the new Network Coordinator. It was decided to elect a new Coordinator at shorter intervals than during the previous period to better share the workload. The participants warmly thanked Lothar Frese for his 10-year chairmanship of the NCG. Finally the facilities of JKI were visited.

## APPENDIX I. AGENDA

### ***Third Meeting of the Sugar, Starch and Fibre Crops Network Coordinating Group 8-9 October 2009, Quedlinburg, Germany***

Venue of the meeting: Julius Kühn-Institut, Institute for Breeding Research on Agricultural Crops

#### **07 October 2009**

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Arrival of participants

#### **8 October 2009**

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- 09:00 – 09:30    **Welcome and introduction of participants**  
Approval of the agenda  
Minutes
- 09:30 – 10:00    **Report of the Network Coordinator**
- 10:00 – 10:30    **Report on the work programmes including planned meetings and projects**
- MAP
  - Fibre crops
- 10:30 – 11:00    *Coffee break*
- 11:00 – 12:00    **Report on the work programmes including planned meetings and projects**
- Potato
  - *Beta*
- 12:00 – 13:00    *Lunch at “Zum Moorfischer”*
- 13:00 – 13:30    *Visit of the JKI facilities*
- 13:30 – 15:00    **European Central Crop Databases (ECCDBs)**
- MAP
  - Fibre crops
  - Potato
  - *Beta*
- 15:00 – 15:30    *Coffee break*
- 15:30 – 17:00    **Joint assessment of current development**
- AEGIS process (*introduction by A. Barata*)
  - GIGA, ALIS and ECCDB (*introduction by R. Hoekstra*)
  - Views of the Working Groups
- 19:00            *Social dinner*

**9 October 2009**

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- 09:00 – 10:30    **Identification of fields of common interests**
- *Ex situ* method
  - *In situ* method
  - On-farm / conservation varieties
  - EU projects
  - Bilateral projects (DAAD for instance)
- 10:30 – 11:00    *Coffee break*
- 11:00 – 11:30    **Miscellaneous**
- NCG meeting in 2013
  - ECPGR Phase IX
- 11:30 – 12:00    **Election of new Chair, end of the meeting**

## APPENDIX II. CONTACT DETAILS OF PARTICIPANTS

### *Third Meeting of the Sugar, Starch and Fibre Crops Network Coordinating Group 8-9 October 2009, Quedlinburg, Germany*

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