given the responsibility of signing the SMTA. If seed is distributed from the main seed storage in Radzików, the SMTA is signed by the Head of the Genebank, currently Z. Bulińska-Radomska. So far, fewer than 100 SMTAs have been issued. All the paper documents and electronic documents are centralized at Radzików.

M. Rasmussen described the Nordic approach: an SMTA is issued for all purposes under the Treaty, regardless of Annex 1 status as agreed by ECPGR. It has to be signed by the legally authorized person of the entity requesting the seed. A NordGen MTA is issued for all other professional uses, including farming. It reflects the SMTA and encourages the requesting entity to respect the conditions of the Treaty. If the recipient then wishes to use the seed material for any of the purposes covered by the Treaty, an SMTA must be issued and signed. For private or hobby purposes, a simple Hobby MTA is issued, explaining that the supplied material cannot be used for other purposes without signing either the NordGen MTA or SMTA, depending on the use. The basic idea is to secure and support the Treaty. The five Nordic countries are currently discussing a coordinated system for the signature of MTAs to cover the distribution of vegetatively propagated material from clonal archives.

G. Kleijer clarified that the Governing Body of the Treaty still needs to take a decision regarding the need to issue an SMTA if the material is requested for repatriation or by farmers for cultivation.

A. Börner indicated that SMTAs are issued also for distribution of material to foreign students or researchers working in a genebank.

In the Netherlands and France, SMTAs are issued even for transfer of material within the same institute.

AEGIS Quality Management System

Generic operational standards (FAO documents): Introduction, comments and possible acceptance

Zofia Bulińska-Radomska briefed the Group about the elements of the AEGIS Quality Management System (AQUAS), focusing on its technical elements. She then presented FAO's *Draft Revised Genebank Standards for the Conservation of Orthodox Seeds.* The standards, which "define the level of performance of a routine genebank operation below which there is a high risk of losing genetic integrity", are detailed in ten sections: acquisition, seed drying and storage, viability monitoring, regeneration, characterization, evaluation, documentation, distribution, safety-duplication and security/personnel. Each section was reviewed in detail. The presentation was followed by a discussion, specifically on the need to elaborate further standards for wild species.

Discussion

The Group commented that some of the guidelines seem too strict, others too lenient. The Group, however, did not see a need to elaborate additional crop-specific standards.

Regarding wild material, the Group thought that it would be useful to develop guidelines and technical protocols.

H. Sela remarked that the existing descriptors for "spike morphology", "yield" and "plant height" were not suitable for *Aegilops* and other wild species, but the decision to prepare new descriptors was postponed.

Recommendation

- The Group concluded that the FAO Genebank Standards could be adopted as they are and that the genebanks should strive to follow them. No need was felt to develop more stringent standards.

Workplan

- A. Börner and H. Sela agreed to prepare together a document summarizing the genebank management knowledge required for breaking dormancy, and for viability testing and multiplication of *Aegilops* and other wild cereals (by **end June 2012**).

Excursion to the Plant Production Research Center Piešťany

On 17 May, the participants visited the Slovak Genebank located at the Plant Production Research Center Piešťany (PPRC). They were welcomed by Dr Ján Kraic, Director PPRC, and Daniela Benediková, Head of the Genebank and National Coordinator for Slovakia. Michaela Benková, researcher at PPRC, guided the Group on a tour of the Genebank's facilities and the PPRC laboratories. This was followed by a visit to field experiments of wheat under the guidance of Pavol Hauptvogel.

Scientific and technical presentations

Diversity of wheat and its improvement for adaptability under climate change and use in agriculture

Pavol Hauptvogel, Plant Production Research Center Piešťany, Slovakia

The project SARD-0770-07 "Characterization and evaluation diversity of wheat and their wild relatives and their utilization in breeding" includes three Work Packages (WPs) with the following objectives: define the variability of morphological, biological and economic descriptors of wheat genetic resources; identify and characterize wheat storage; evaluate technological quality (WP 01); determine the phylogenetic relations among subspecies of *Triticum turgidum*; determine the regional differences and phylogenetic relations between the *Aegilops cylindrica* accessions; estimate the degree of non-specific resistance against powdery mildew in laboratory and field conditions (WP 02); analyse the growth and production characteristics of genotypes and source-sink relations of assimilates of photosynthetic reactions in conditions of environmental stress; identify stress proteins of chloroplasts and acclimation capacities of genotypes (WP 03).

As part of the project, the variability of genetic resources of wheat from different regions of the world was characterized. Basic statistical characteristics for morphological and agricultural traits, molecular markers and technological quality were described using multivariate data analysis. In its next phase, the project will evaluate DNA polymorphism in different accessions of tetraploid wheats. A new type of DNA polymorphism was developed based on amplification of DNA segments by means of resistance gene analogs (RGA) and retrotransposon primers (TERGAP technique). This technique led to the classification of the 'Kamut' variety into the *turanicum* subspecies. Evolutionary relations among the tetraploid taxa of wheats through the sequencing of the intron 9 of the *SBIIa* gene were estimated. A molecular marker for resistance to powdery mildew was identified; it is located on the short arm of 2A chromosome. A set of 31 wheat genotypes was examined over several testing cycles. A parameter derived from fast chlorophyll fluorescence kinetics was identified, namely relative variable fluorescence at 0.3 ms (WK), which is the quantification of K-step occurrence. The results showed considerable differences in heat sensitivity among