

PAVOL HAUPTVOGEL

National Agricultural and Food Centre — Research Institute of Plant Production, 921 68 Piešťany, Slovak Republic

The National Programme of Plant Genetic Resources — development and priorities in Slovak Republic

Activities concerning collections of plant genetic resources started in Slovakia in 1950. However, the first document for a systematic management of these activities was approved by the Ministry of Agriculture SR in 1991. Its realization was in compliance with the decree of the Government SR, which approved the National Strategy of Biodiversity Conservation in Slovakia as our contribution to the Agreement on Protection of Biological Diversity, approved in 1992. In the next years, the National Programme was realized through the research tasks and tasks of professional assistance declared by the Ministry of Agriculture SR. National coordinator from RIPP Piešťany was entrusted with coordination of all tasks.

This project deals with gathering, documentation, base evaluation the using of crop descriptor and long-term conservation of Plant Genetic Resources. The Plant Genetic Resources and relevant information are provided to the users free of charge, but for non-commercial use exclusively, especially for breeding, research and education purposes. The project ensures present and future effective utilization of PGR, but especially maintenance of PGR for needs of future generations. Through fulfilling the aims of the National Programme, the Slovak Republic comply with responsibilities derived from signed international agreements, especially UNCED Convention (Rio de Janeiro, 1992) on protection of biodiversity, FAO resolution 8/83 „International Undertaking on Plant Genetic Resources“ and other documents of the FAO Commission of Plant Genetic Resources (CGRFA).

National Programme of Conservation of Plant Genetic Resources for Food and Agriculture has the following priorities:

- conservation of cultural and historical heritage and present created values expressed in plant genetic resources for food and agriculture for present and future generations
- contribution to national development, food safety, sustainable agriculture and agrobiodiversity management by means of conservation and utilisation of plant genetic resources for food and agriculture.

Through participation in above mentioned activities the Slovak Republic accepted engagement to protect and conserve PGR and to make them freely available for non-commercial use. On the other hand, the above mentioned agreements open access to world gene pools for Slovak users and allow equal sharing of benefits. Also information, technological and other assistance provided to institutions dealing with PGR through international collaboration are very important. We appreciate, that thanks to the support of the Slovak Ministry of Agriculture and Rural Development of the Slovak Republic could join those advanced countries which respect and protect wealth of gene pools in the world and cooperate by their conservation and utilization.

Collecting of Plant Genetic Resources

Collecting missions being continuation of those carried out in previous years aimed at endangered land races and wild relatives on the territory of the Slovak Republic. Altogether more 5500 accessions of PGR were gathered from the region of the Slovak Republic by all collecting trips. New increases in collections were also obtained through exchange of PGR, with partner gene banks, breeders and research.

Information systems and characterisation of Plant Genetic Resources

Documentation of all collections in all institutions dealing with PGR is provided by the Gene Bank with co-operation with working places of collections within the Genetic Resources Information System of Slovakia (GRISS) - <https://griss.vurv.sk/> (front office) and <https://kurator.vurv.sk/> (back office). Total amount of PGR registered in the passport data base reached 26 926 by the end of the year 2017 and this figure is close to the real status of collections in the Slovak Republic (excluding not high number of duplications and some new accessions not yet registered in collection). The largest collections are collections of cereals, followed by fruit species, legumes and other collections lower than 6%. The Slovak Republic provides every year the database of passport data to the web catalogue EURISCO.

Utilization of Plant Genetic Resources

Number of samples provided depends on demands of users and it is influenced by effectiveness of available information. In the year 2017, 2146 samples of PGR were provided to local users and 493 samples were sent abroad. In general, breeders, research workers and gene banks were main recipients of PGR and to a lesser extent PGR, were provided also to universities, schools and other institutions.

Education and training of Plant Genetic Resources

In Slovak Republic, education in the field of environment protection, agrobiodiversity and plant genetic resources is provided by secondary schools and universities under supervision of the Ministry of Education SR. At the Ministry of Environment SR, the Central Council for Environmental Education and Training has been established as an advisory and coordinating body of the Minister. At the institutional level, especially at the universities, there are created sufficient professional capacities for educational process. Education in the field of conservation of agrobiodiversity, land and landscape, is provided by faculties at Comenius University in Bratislava, Slovak Agricultural University in Nitra, Constantine the Philosopher University in Nitra, Technical University in Zvolen.

National legislation for Plant Genetic Resources

In accordance with intentions of the Government of SR in biodiversity conservation, namely its part concerning conservation of plant genetic resources for food and agriculture, the basic documents are:

- Announcement of the Ministry of Foreign Affairs of SR on conclusion of the Treaty on Biological Diversity published in Collection of laws no. 34/1996
- Decree of the Government of SR no. 231 of 1st April 1997 on acceptance of National Strategy of Biodiversity Protection in Slovakia
- The Act of National Council of SR no. 215/2001 Coll. on conservation of plant genetic resources for food and agriculture
- The Regulation of the Ministry of Agriculture no. 283/2006 Coll. to the Act on conservation of plant genetic resources
- Decree of the Government of SR no. 480 of 26th May 2004 to the proposal for accession to the International Treaty on Plant Genetic Resources for Food and Agriculture and proposal for concluding the Treaty on establishment of World Trustee Fund for Crop Diversity
- The Act of the National Council of SR no. 132/1989 Coll. on Protection of Rights to New Plant and Animal Varieties as amended by Act of the National Council of SR no. 22/1996 Coll.
- The Act no. 543/2002 Coll. on protection of nature and landscape and on the change and supplement of some acts as amended by Act no. 525/2003 Coll. and other acts

But the most important act is the Act no. 215/2001 Coll. on Conservation of Plant Genetic Resources for Food and Agriculture, where the National Programme is defined as a summary of organization, legal and economic measures for ensuring the complex and systematic conservation of plant genetic resources for food and agriculture.

Future perspectives

- Improvement of cooperation, between the sectors of agriculture and environment protection, which are responsible for a global protection of nature and landscape in Slovakia.
- Improvement of cooperation between the institutions involved in the National Programme and other potential holders of gene pools.
- Support for creation of non-governmental organizations, which would be more involved in conservation of selected plant species, because this type of organizations, taking care of biodiversity conservation, is not common, in Slovakia.
- Development and financing of projects oriented to education of society in biodiversity conservation.

During several years of activities, the Slovak gene bank has managed to assemble a fairly large number of accessions of obsolete and current crop plants and their allies in a well operating conservation programme. Although most of this material has been fairly well managed there are still gaps to be filled. Another extremely important issue to be resolved is a preservation of wild species such as those of grasses and legumes. Populations of wild species usually have narrow adaptive abilities and therefore, outside their natural environment they have diminished chance to survive without loss of less fit genotypes.

Acknowledgement:

This research was supported by the Slovak Research and Development Agency under the Contracts No. APVV-15-0156 and No. APVV-15-0721.