COLLECTION OF HOP GENETIC RESOURCES IN THE CZECH REPUBLIC

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Hop Research Institute has two rich collections of genetic resources. The first collection contains hop varieties grown all over the world in the frame of "National Program of Conservation and Utilization of Genetic Resources in Plants and Biodiversity" issued by Czech Ministry of Agriculture. There are 395 items, which represent old and new hop cultivars, which serve as donors of important characteristics within the breeding process. The second collection contains wild hops, which have been regularly collected since 1997. There are 275 items from Europe (108), North America (73) Caucasus (76) and eastern parts of Russia (18). Wild hops show genetic, chemical and phenotypic variability. It is necessary to bring wild hops from habitats into field conditions to find out if demanded features are based genetically and not just influenced by environment. Assessment is carried out at least for five years and each genotype is planted there in three replicates, which are evaluated individually. All the characteristics are transferred into the information system with the help of our classifier.

Since July 2015, Hop Research Institute has been operating the National documentation system on PGR GRIN Czech (currently in English only). This new system, adapted to the Czech Republic from a globally recognized system of documentation of genetic resources GRIN Global, was provided to CRI by the workplace USDA / Agricultural Research Service (National Germplasm Resources Laboratory, Database Management Unit, Beltsville). GRIN Global was developed from the original documentation system GRIN in cooperation with USDA Agricultural Research Service, Biodiversity International and the Global Crop Diversity Trust.

Documentation of PGR, which leads in accordance with § 17 of Decree No. 458/2003 Coll. person in charge of the National Programme, consists of:
a) passport data – the general characteristics of plant genetic resources which are common to all PGR. Currently, the applicable standard is the document Multi-Crop Passport Descriptors (MCPD).

b) characterized and evaluation data – assessment of morphological, biological, and biochemical characteristics in the form of descriptors, which are genus or species-specific and are evaluated according to the specific descriptors list (classifier) indicating the method of evaluation of expression of each character.

c) storage data –basic storage information is provided for all samples of genetic resources (number of items, date of harvest, date of start of preservation, date of recovery, conservation method and others). Data are also recorded about provided samples to users.

The first collection is utilized within our breeding process as well as for research and study works and each item is available for every Czech and foreign workplace in all the forms (plants, dry cones, leaves, DNA). Ministry of Agriculture supports genetic resources in the form of grant called "National Program of Conservation and Utilization of Genetic Resources in Plants and Biodiversity". The second collection is utilized just by Hop Research Institute for breeding purposes because the Institute has invested into the expeditions from its own sources and therefore these items are not at disposal.

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