

## **COLLECTION AND CONSERVATION OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE IN ESTONIA**

**Küllli Annamaa<sup>1</sup>, Katrin Kotkas<sup>2</sup>, Vahur Kukk<sup>1</sup>**

*<sup>1</sup>Jõgeva Plant Breeding Institute, <sup>2</sup> Department of Plant Biotechnology EVIKA, Estonian Research Institute of Agriculture*

### **Introduction**

Plant genetic resources for food and agriculture mean any genetic material of plant origin of actual or potential value for food and agriculture. They include commercial plant varieties (both currently available and those developed in the past) as well as traditional local plant varieties, landraces, wild material and breeding lines. Preservation of plant genetic resources is an essential tool for securing them for further utilisation in the future.

Systematic approach towards the *ex situ* preservation of plant genetic resources for food and agriculture in Estonia was undertaken in the frame of collaborative Nordic-Baltic project in 1994-1999. This conceptual model was initiated by the Nordic Gene Bank. The Nordic-Baltic initiatives created prerequisites for establishment of a well-structured national network of collections of seeds, fruit trees and berries, expansion of *in vitro* preservation and active involvement of botanical gardens into preservation of plant genetic resources in Estonia.

### **Methods**

Preservation activities in Estonia are defined in a National Programme „Collection and Conservation of Plant Genetic Resources for Food and Agriculture 2007-2013“. Overall coordination of the programme is co-ordinated by the Ministry of Agriculture of Estonia.

Main objectives of the programme are:

- Collection, conservation and sustainable use of plant genetic resources of Estonian origin.
- Characterization, evaluation and documentation of accessions.
- Regional and international cooperation.

The following institutions are involved to the preservation of plant genetic resources for food and agriculture:

- Genebank of Jõgeva Plant Breeding Institute - Long-term seed preservation of cereals, vegetables, forage grasses and legumes.
- Department of Plant Biotechnology EVIKA of Estonian Research Institute of Agriculture - *In vitro* preservation of agricultural and horticultural crops.
- Polli Horticultural Research Centre of Estonian University of Life Sciences - Preservation of fruit trees and berry plants.
- The Botanical Garden of the University of Tartu - Preservation of medicinal and aromatic plant species and ornamentals in *ex situ* field collection. Coordination of activities of private collectors and breeders.
- Institute of Gene Technology of Tallinn University of Technology - Monosomic aneuploid analysis and molecular-genetic techniques in characterization of preserved disease resistant wheat genotypes

### **Results and discussion**

Information on plant genetic resources is maintained in common on-line database SESTO, which is supported by the Nordic Genetic Resource Centre. Participation in the Nordic-Baltic cooperation ensures preservation and utilisation of plant genetic resources on the regional level. Purposeful and beneficial cooperation has been with the Latvian and Lithuanian genebanks.

The most important activities for Estonia on the international level have been designated by participation in the European Cooperative Programme for Plant Genetic Resources and implementation of An European Genebank Integrated System.

Küllli Annamaa, *Head of the Genebank, Jõgeva Plant Breeding Institute. Tel: +372 7768372, fax: +372 7766902. Address: Aamisepa 1, 48309, Jõgeva. E-mail: kylli.annamaa@jpbi.ee*