National PGRFA Inventory
Serbia

EURISCO Workshop
9-11 October 2018
Gatersleben, Germany
Current situation

- ECPGR member from 1980
- Eurisco DSA signed 1st October 2018
- National Gene Bank officially started in 2015
- National collection 5000 acc
- National Inventory 5000 acc
- Institutes and universities are main collection-holders (over 20,000 acc)
- National legislation prepared, ready for adoption
- Subsidies for PGR conservation, sustainable use and National Inventory from 2013
PGR status

- Genetic erosion of PGRFA is evident, due to:
  - Mono-cropping (maize, wheat)
  - Domination of foreign varieties and hybrids
  - Globalization of agriculture and market
- National collection is temporary stored at +4C for 15 years+
- Regeneration and multiplication of accessions from National collection started in cooperation with institutes
- Facilities for Gene bank provided: mid term +4C and long term -20C
- Incomplete Inventory, documentation, characterization and evaluation data
- National Gene bank is a part of National Complex of Reference Laboratories – under the Ministry of Agriculture, Forestry and Water Management
International Legal Framework

- A number of international conventions related to PGR signed and ratified
  - CBD signed (1992), ratified (2001)
  - ITPGRFA signed (2001), ratified (2013)
  - Nagoya Protocol signed (2011)
- Serbia follows the EU PGR legislation, as a candidate for EU member state
- Harmonization with EU PGR directives
National Legal Framework

- Strategy for Agriculture and Rural Development adopted 2014-2021
- National Biodiversity Strategy 2017-2022
- National PGRFA Committee established in 2015
- Law on PGRFA Management prepared, final draft to be adopted by the Parliament
- National Programme for PGRFA Conservation and Sustainable Use, prepared with the support of FAO TCP Project, waiting for adoption by the Government
Plant Gene Bank

• Gene Bank equipment purchased within two international projects:

  • SEEDNET (South East European Development Network for Plant Genetic Resources) 2004-2011

  • FAO TCP (“Support to the National PGRFA Programme”) 2011-2013
National PGRFA Collection

- Transferred to the National Plant Gene Bank - April 2015
- Mid-term conservation on +4C
- Facilities for long–term on -20C
- 4238 accessions from 249 species:
  - Cereals 2983 acc. (7 species)
  - Industrial Crops 367 acc. (6 species)
  - Vegetables 214 acc. (11 species)
  - Fodder Crops 285 acc. (9 species)
  - Medicinal and Aromatic Plants 389 acc. (216 species)
Institutions collection-holders

Responsible for: *ex-situ* and *in-situ* conservation, regeneration, multiplication, inventory, documentation

- Institute for field crops and vegetables, Novi Sad (cereals, maize, vegetables, industrial plants, fodder crops, MAP)
- Maize research institute Zemun Polje, (maize, sorghum)
- Institute for vine production and viticulture Niš
- Institute for fruits production Čačak
- Institute for fodder crops Kruševac
- Institute for vegetable crops, Smederevska Palanka
- Faculty of Agriculture, Belgrade (fruits and vitis)
- Faculty of Agriculture, Novi Sad (fruit and vitis)
- Faculty of Agriculture, Kragujevac, Čačak
- Institute for medicinal plants research, Belgrad
- Institute for small grain cereals, Kragujevac
- Institute for biological research, Belgrade (in vitro collections)
- Center for agriculture and technological research Zaječar (cereals, maize, fodder crops, industrial crops)
- Center for potato research, Guča (duplicates from National collection)
- Center for Sugar Beet, Aleksinac
- Center for Tobbaco, Niš
- Ministry for Agriculture, Forestry and Water Management-Plant Gene Bank
Maize Gene Bank
Institute for Maize Zemun Polje

• 2,238 local varieties
• 1081 introduced varieties
• 23 introduced composites
• 237 introduced synthetics
• 2,287 introduced and domestic inbred lines

• Total 5866 accessions
Fruit and Vitis collections

- Institute for Fruit Production Čačak
  (1223 genotypes)
- Faculty of Agriculture Beograd –
  Radmilovac (425 landraces of fruits
  and 550 Vitis genotypes)
- Faculty of Agriculture Novi Sad –Rimski
  Šančevi (1250 genotypes of fruits)
- Faculty of Agriculture Novi Sad -
  Sremski Karlovci (210 Vitis genotypes)
- Center for Vine production and
  Viticulture Niš (195 Vitis genotypes)
Wild Sunflower collection
Novi Sad > 5000 acc on farm

photo: Milena Savic Ivanov
The National Inventory Focal Point - responsible for the compilation of data and management of the National PGRFA Inventory

Other data sources are known and data have to be obtained from PGRFA holding institutions (mostly held in books, excel sheets, access)- subject to the future Law on PGRFA management

Official agreements between National Inventory Focal Point and holding institutions are to be made

Contact persons for PGR documentation from each institution to be appointed

IPGRI/FAO MCPDL are the basis for the data structure

Mode and period of sending data is to be agreed accordingly

New data have to be compiled and transferred in relevant structure, step by step

The National Inventory is supposed to cover important national ex situ collections as well as working collections from institutes

Information and documentation unit in the Gene Bank – needs:
- Server
- Data base management software
- IT person
Documentation

Example: Maize collection

Documentation in the Maize Gene Bank is made as a set of information about each genotype.

Germplasm characterization in Maize Gene Bank is made on basis of minimum MCPDL descriptors (IPGRI/FAO), based on botanical characterization of populations (Anderson and Cutter) and also on breeder’s needs.
EURISCO

- Data for all accessions from National Gene Bank Collection sent to EURISCO (about 5000 entries)
- EURISCO National Focal Point from 2009
- EURISCO Data Sharing Agreement signed on 01 October 2018
- Last data entry to EURISCO: Phaseolus collection from IFVC Novi Sad 45 acc September 2018
ECDB Maize

• Serbia is the holder of European Crop Data Base for Maize

• Responsible person: Data Base Manager

Dr Violeta Andjelkovic,
Head of Maize Gene Bank
National focal point for the WG Maize
Institute for Maize “Zemun Polje”- Belgrade
THANK YOU!