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National PGRFA Inventory of Serbia

Ministry of Agriculture and Environmental protection
Directorate for National Reference Laboratories
Plant Gene Bank

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EURISCO meeting
Tirana, Albania 19-21 may 2015



Current situation

- National Gene Bank activated in 2015
- Institutes and universities are main collection-holders (over 20.000 acc)
- National legislation is under preparation
- Subsidies for PGR conservation and sustainable use under the Ministry for Agriculture and Environmental Protection (Law on subsidies in Agriculture and Rural Development)

PGR status

- Genetic erosion of PGRFA is evident, due to:
 - Monocropping (maize, wheat)
 - Domination of foreign varieties and hybrids
 - Globalization of agriculture and market
- National collection is temporary stored at +4C
- Accessions in National collection are in urgent need for regeneration and multiplication after 15 years
- Facilities for Gene bank provided: mid term +4C and long term -20C
- Equipment purchased
- Incomplete Inventory, documentation, characterization and evaluation
- National Gene bank is a part of National Complex of Reference Laboratories – Ministry of Agriculture and Environmental Protection



International Legal Framework

- Serbia has ratified a number of international conventions that related to PGR
- As a candidate for EU member state, follows the EU legislation on PGR,
- In the phase of harmonization with EU PGR directives
- CBD ratified (2001)
- ITPGRFA signed (2001), ratified (2013)
- Nagoya Protocol signed (2011)

National Legal Framework

- New Strategy for Agriculture and Rural Development adopted in 2014
- National Programme for conservation and Sustainable Use of PGRFA in Serbia has been prepared with the support of FAO TCP Project (ready for adoption by the Government in 2015)
- Draft Law on PGRFA Management prepared, (to be adopted by the Parliament until the end of 2015)
- National PGRFA Committee established

Plant Gene Bank

- Gene Bank equipment purchased with a help of two international projects:
- SEEDNET (South East European Development Network for Plant Genetic Resources)
- FAO TCP ("Support to the National PGRFA Programme")



National PGRFA Collection

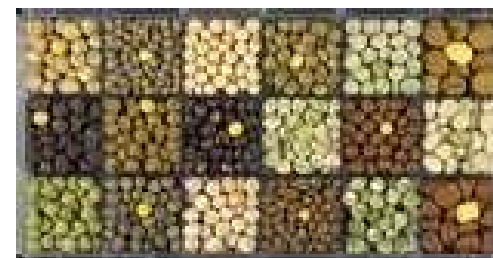
- Transferred to the National Plant Gene Bank - April 2015
- Mid-term conservation on +4C
- Facilities for long-term on -20C in place
- 4238 accessions from 249 species:
 - Cereals 2983 acc. (7 species)
 - Industrial Crops 367 acc. (6 species)
 - Vegetables 214 acc. (11 species)
 - Fodder Crops 285 acc. (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, Beograd
- 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 Tobacco, Niš
- Ministry for Agriculture and Environmental Protection-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



NATIONAL INVENTORY

- The National Inventory Focal Point is responsible for the compilation of data and management of the National Inventory of PGRFA
- Other data sources are known and data have to be obtained from PGRFA holding institutions (mostly held in books, excel sheets, access)
- Official agreements between National Inventory Focal Point and holding institutions are made
- Contact persons for PGR documentation are recently appointed by each institution
- IPGRI/FAO MCPDL are the basis for the data structure
- Mode and period of sending data is to be agreed
- New data have to be compiled and transferred in relevant structure, step by step
- The National Inventory will cover important national *ex situ* collections and working collections



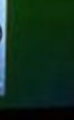

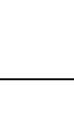

- Information and documentation unit in the Gene Bank - needs:
 - Server
 - Data base management software
 - IT person

Documentation

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.

Selected Passport Data Stored in Database

Accession Number	Donor name	Acquisition date	Number of regenerations	Photo
1	Moravici Makani	10 December 1962	7	
2	Petrovic Vlado	10 December 1962	5	
2a	Pavlovic Djergan	10 December 1962	5	
2b	Pavlovic Djergan	10 December 1962	5	
4	Corasovic Savo	10 December 1962	5	
8	Grigorovic Markan	10 December 1962	7	
7	Bilobovic Radica	10 December 1962	7	
16		10 January 1963	5	
1811	Harford Jurez	29 March 1977	2	
2217	Petrovic Stjepan	11 December 1969	2	
2287	Petro Stanka	20 January 1962		

EURISCO

- All accessions from National Gene Bank Collection are already sent to EURISCO (near to 5000 entries)
- EURISCO National Focal Point from 2009
- EURISCO Data Sharing Agreement is sent in procedure for signature

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
Institute for Maize "Zemun Polje"- Belgrade

THANK YOU!

