

THE BULGARIAN NATIONAL INVENTORY OF PLANT GENETIC RESOURCES IN EURISCO

EXPERIENCE WITH THE NEW UPLOADING SYSTEM

Dr. Nikolaya Velcheva

EURISCO National Focal Point

Institute of Plant Genetic Resources "K. Malkov" –
Sadovo, **BULGARIA**

E-mail: *nikolaya_velcheva@abv.bg*



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Bulgarian National Inventory overview

- The Bulgarian National ex situ collection is part of the European Search Catalogue for Plant Genetic Resources – EURISCO (<http://eurisco.ecpgr.org>).
- According to EURISCO (September, 2017), the Bulgarian National Inventory of PGR consists of 65,877 accessions, documented by 36 descriptors.
- The Bulgarian *ex situ* plant germplasm collection is the seventh-largest National Inventory in Europe, comprising 3,35 % of the whole European PGR collections.
- The associated dataset comprises information about holding genebank, genus, species, country of origin, status of the sample, source of the material, date of collection, type of storage, whether the genotype has safety duplication in other genebanks etc.,
Multi-Crop Passport Descriptors (FAO/Bioversity, 2015).

Holding Institutes

- There are three Bulgarian collections documented as holding institutes in EURISCO.
- Holding institutions of the Bulgarian National Inventory are coded by [*FAO institution codes*](#), available from the FAO WIEWS website (www.fao.org/wiews/).

Table 1. Holding institutes of the Bulgarian National Inventory

FAO Institution Code	Holding Institution	Number of accessions	With Bulgarian origin
<u>BGR001</u>	Institute for Plant Genetic Resources, Sadovo	61,456	13,407
<u>BGR005</u>	Institute of Rose and Essential-oil Plants, Kazanlak	564	4
<u>BGR029</u>	Dobrudja Agricultural Institute, General Toshevo	3,857	1,829
	Total number	65,877	19,236

Taxonomic composition

- The scientific names of crops of the Bulgarian National Inventory are checked using the taxonomic system of GRIN (USDA Genetic Resources Information Network – Taxonomy for Plants).
- With respect to the taxonomic composition, the Bulgarian National Inventory consists of accessions belonging to 520 genera and 1,903 species.
- The material of Bulgarian origin belongs to 204 genera and 401 species.
- The genera of germplasm with more than 1000 accessions are presented in Table 2.
- The species with more than 1,000 accessions are shown in Table 3.

Taxonomic composition

Table 2. Genera from NI with more than 1,000 accessions

GENUS	CROP NAME	NUMBER OF ACCESSIONS	WITH BULGARIAN ORIGIN
<i>TRITICUM</i>	WHEAT	16,054	4,022
<i>HORDEUM</i>	BARLEY	6,241	291
<i>ZEA</i>	MAIZE	4,773	1,892
<i>PHASEOLUS</i>	GARDEN BEAN	3,507	1,461
<i>AVENA</i>	OAT	2,640	147
<i>VICIA</i>	FABA BEAN, VETCHES	2,150	573
<i>PISUM</i>	PEA	1,633	244
<i>LINUM</i>	LINSEED, FLAX	1,461	78
× <i>TRITICOSECALE</i>	TRITICALE	1,459	533
<i>CUCUMIS</i>	CUCUMBER, MELON	1,411	211
<i>ARACHIS</i>	GROUNDNUT	1,325	428
<i>BRASSICA</i>	CABBAGE	1,320	53
<i>CAPSICUM</i>	VEGETABLE PEPPER	1,319	815
<i>SECALE</i>	RYE	1,283	810
<i>LYCOPERSICON</i>	TOMATO	1,270	370
<i>SORGHUM</i>	SORGHUM	1,032	21

Taxonomic composition

Table 3. Species from NI with more than 1,000 accessions

SPECIES	CROP NAME	NUMBER OF ACCESSIONS	WITH BULGARIAN ORIGIN
<i>TRITICUM AESTIVUM</i>	COMMON WHEAT	12,886	2,784
<i>HORDEUM VULGARE</i>	BARLEY	6,205	287
<i>ZEA MAYS</i>	MAIZE	4,770	1,892
<i>PHASEOLUS VULGARIS</i>	GARDEN BEAN	3,135	1,345
<i>AVENA SATIVA</i>	OAT	2,452	142
<i>TRITICUM DURUM</i>	DURUM WHEAT	2,367	1,193
<i>PISUM SATIVUM</i>	PEA	1,628	240
× <i>TRITICOSECALE</i>	TRITICALE	1,459	533
<i>LINUM USITATISSIMUM</i>	LINSEED, FLAX	1,442	77
<i>ARACHIS HYPOGAEA</i>	GROUNDNUT	1,325	428
<i>CAPSICUM ANNUUM</i>	VEGETABLE PEPPER	1,286	815
<i>SECALE CEREALE</i>	RYE	1,258	808
<i>LYCOPERSICON ESCULENTUM</i>	TOMATO	1,168	336
<i>CUCUMIS SATIVUS</i>	CUCUMBER	1,011	75

Country of origin

- The Bulgarian National Inventory consists of PGR of different geographical origin.
- There are 19,236 accessions of Bulgarian origin (29.2 % of the National collection).
- Besides Bulgaria, the material comes from 115 different countries, including:
 - USA (2,609 accessions)
 - Russian Federation (2,553 accessions)
 - Germany (1,770 accessions)
 - France (1,253 accessions)
 - Ethiopia (1,035 accessions)
 - Hungary (981 accessions)
 - Japan (853 accessions)
- The country of origin of 29,593 accessions is unknown.

Status of the samples

- According to the sample status, the germplasm from Bulgaria can be divided into various categories, including wild, weedy forms, landraces, advanced cultivars, and others.
- The largest proportion of the genotypes belongs to traditional local cultivars and landraces, followed by breeding or research material with several subcategories.
- A large number of accessions have not yet been classified according to sample status.

Table 4. Bulgarian National Inventory, classified by sample status

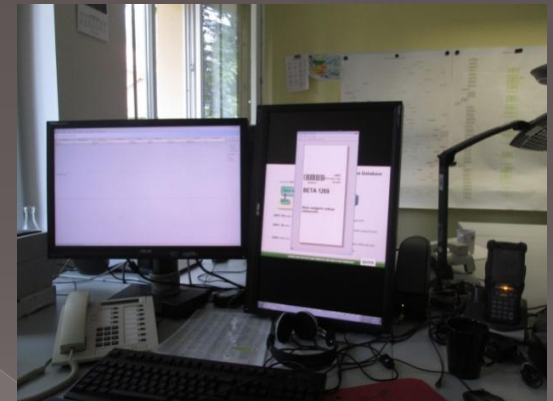
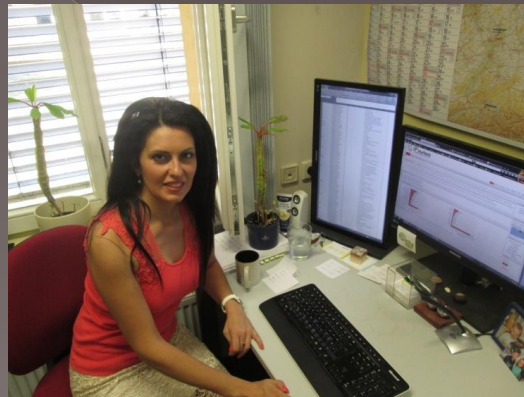
STATUS OF SAMPLE	NUMBER OF ACCESSIONS	WITH BULGARIAN ORIGIN
100 – WILD	1,832	1,230
200 – WEEDY	4	3
300 – TRADITIONAL CULTIVAR/LANDRACE	6,266	6,017
400 – BREEDING/RESEARCH MATERIAL	3,100	2,534
410 – BREEDERS' LINE	1,574	1,201
411 – SYNTHETIC POPULATION	22	22
412 – HYBRID	189	48
420 – GENETIC STOCK	212	212
500 – ADVANCED OR IMPROVED CULTIVAR	2,707	600
UNKNOWN	49,971	3,373

Experience with the new EURISCO uploading system

- Electronic portal of EURISCO eliminates the restrictions associated with distant locations of genebanks and as a result, improve coordination between organizations and researchers in the area of plant genetic resources and have an active impact on preservation of natural ecosystems.
- The Bulgaria National Inventory is not yet completely included in EURISCO.
- 3,450 accessions are still need to be transformed into Multi-Crop Passport format and uploaded in EURISCO.
- There is a best collaboration between the National Focal Point and the EURISCO Coordinator - Dr. Stephan Weise.
- The ability to send Excel files and to complement the information makes enriching the National Inventory Database in EURISCO easier and flexible.
- As a result, less errors are made and their checks are more effective.

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Genebank Department
IPK Gatersleben



Thank you for your kind
attention!