



NATIONAL AGRICULTURAL
AND FOOD CENTRE

RESEARCH INSTITUTE OF
PLANT PRODUCTION

Introduction to the project: Training on Identification of Botanical Varieties in *Triticum* Species

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ECPGR Activity Grant Scheme, Sixth Call
Training on identification of botanical varieties in *Triticum* species
17–19 September 2019, Piešťany, Slovakia



Activity Coordinator

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Activity Partners

Name and Surname	Institute	Country
Heinrich Grausgruber	BOKU – University of Natural Resources and Life Sciences	Austria
Iryna Markewich	Research and Practical Center of the National Academy of Sciences of Belarus for Arable Farming	Belarus
Emmanuelle Escarnot	Centre Wallon de Recherches Agronomiques	Belgium
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Miroslav Švec	Comenius University Bratislava, Faculty of Natural Sciences	Slovak Republic
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Mehraj Abbasov	Genetic Resources Institute ANAS	Azerbaijan
Stephan Weise	Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben	Germany
Katarína Matušková	NPPC - Research Institute of Plant Production	Slovak Republic

Species of Triticum:

- largest part of accessions maintained in European gene banks
- EURISCO - passport data is 195 027 accessions - 9.63 %
- Diversity of Triticum samples
- represented by more than 90 species with genus-species combinations including synonyms and spelling variants from 36 countries
- around 51 000 accessions lack intraspecific information
- quality of processed passport data and is related to the use of botanical nomenclature
- taxonomy plays an essential role in genebanks documentation
- taxonomic nomenclature = standardization and low quality of data, become apparent

Classification *Triticum*

- few different systems:
 - Dorofeev et al., 1979, Gandilyan 1980, Löve 1984
 - Kimber & Sears 1987, Kimber & Feldman 1987
 - Mac Key 1988, van Slageren 1994

Curators of wheat:

- ✓ constant updating on botanical classification of wheats and CWR
- ✓ by training on the botanical classification of species and their CWR species
- ✓ WWG members must be maintained and trained for their role
- ✓ WWG members they own one of the largest collections: it's their product because they are responsible for the quality of the content
- ✓ ECPGR and curators of wheats are only intermediaries

Justification

Activity:

- ☐ 1.1.2: Establishment of proper documentation of AEGIS
- ☐ 1.2.2: Verification of the proposed AEGIS accessions
- ☐ 2.1.1: Identification of National Inventory all public ex situ plant genetic resources for food and agriculture collections to be included in EURISCO
- ☐ 5.2.1: Effective services to users are established
- ☐ 5.4.1: Research partnerships established between genebanks and researchers, including through EU projects



Justification

The training on identification of botanical varieties in *Triticum* species will contribute and fulfil the ECPGR's long-term goal.

Outcomes:

- ☐ 1: AEGIS is operational. Accessions in AEGIS are characterized and evaluated
- ☐ 1.1: Membership agreements signed
- ☐ 1.1.2: Establishment of proper documentation of AEGIS accessions
- ☐ 1.2: AEGIS collections established
- ☐ 1.5: Other capacity building schemes for Associate Members operational
- ☐ 2: Quantity and quality of data in EURISCO, including in situ and on-farm data, have been increased
- ☐ 2.1: All National Focal Points (NFPs) update national inventories effectively and timely
- ☐ 5: Relations with users of germplasm are strengthened.
- ☐ 5.2: Expectations of users regarding genebank services known and answered
- ☐ 5.4: Improved collaboration with users in public and private sector

Description of biological and genetic material

Triticum aestivum: *aureum*, *delfii*,
erythroleucum, *erythrosperrum*,
ferrugineum, *hostianum*,
lutescens, *pseudohostianum*,
turicum

T. aethiopicum: *arraseita*

T. araraticum

T. carthlicum: *schwarzer*

T. compactum

T. dicoccoides: *spontaneo-villosum*

T. dicoccon: *rufum*

T. durum: *leucomelan*, *leucurum*,
reichenbachii, *valenciae*

T. flaksbergeri

T. ispahanicum

T. militinae: *albomilitinae*

T. monococcum: *flavescens*,
ohensteinii, *sinskajae*

T. petropavlovskyi

T. polonicum: *chrysospermum*,
submuticum

T. spelta: *schenkii*

T. sphaerococcum

T. timopheevii

T. turanicum

T. turgidum: *jodurum*, *plinianum*,
carthlicum, *dicoccon*

T. urartu

T. zhukovskyi

Description of biological and genetic material

Aegilotriticum

***Aegilops*:**

***bicornis, biuncialis,
columnaris, comosa,
crassa, geniculata,
juvenalis, kotschy,
longissima,
markgrafii, neglecta,
peregrina, searsii,
speltoides,
triuncialis,
umbellulata,
ventricosa***

Amblyopyrum muticum

Crossing:

ISP – *T. ispahanicum*

TRN – *T. turanicum*

PLN – *T. polonicum*

DCS – *T. dicoccoides*

DUR – *T. durum*

T. durum x (ISPxTRN)

T. durum x (PLNxISP)

T. durum x (DCSxISP)

T. durum x (PLNxTRN)

T. durum x (PLNxTRN)

T. durum x (TRGxDUR)



Expected impact

Proposal of practical proposals:

- ✓ the use of correct and accepted botanical names of many GB in Europe
- ✓ the improving the quality of passport data in EURISCO.
- ✓ practical manual for information systems on plants genetic resources.
- ✓ preparation of manual botanical classification

Expected impacts :

- ✓ better and increased knowledge of *Triticum* species among gene bank curators
- ✓ better documentation of plant genetic of wheats
- ✓ improvement of characterization and evaluation data



Expected products

- Task1** Experimental nursery of various kinds wheat species (diploid, tetraploid and hexaploid)
- Task 2** Leaflets and brochures with botanical characteristics and pictorial attachment of various species of breeders
- Task 3** Ability to distinguish types of breeders according to morphological features
- Ability to include the plant in the classification system
 - Practical course of project partners
- Task 4.** Certificate of graduation from training botanical course
- Workshop report





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THANK YOU FOR YOUR ATTENTION



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