MAPs Genetic Resources

Short report from the Czech Republic

Kateřina Směkalová
Plant Genetic Resources in the Czech Republic

Existing:
- conservation of Czech PGR is supported by the Ministry of Agriculture via the National Programme on Conservation and Utilization of Plant Genetic Resources and Agrobiodiversity (since 1953)
- coordinating representative and Gene Bank: Crop Research Institute (Prague)
- the related institutions (private agriculture companies, university etc.) cooperate in the areas of collection, documentation, characterization, evaluation, conservation and utilization of individual plant genetic resources for food and agriculture

New:
- MAPs – Crop Research Institute, Genetic Resources of Vegetables and Specialty Crops (Olomouc)

www.vurv.cz
Plant Genetic Resources in Olomouc

- New building, equipment, facilities …

Centre of the Region Haná
for Biotechnological and Agricultural Research
Plant Genetic Resources in Olomouc

- Curator
  - Previous: Karel Dušek, Elena Dušková - retired
  - Current: Katarína Kaffková, Kateřina Smékalová

- Sharing of species in the isolation cage

- Bee pollination

- Isolation cages

- Perennials *ex situ*
Documentation system

- previous: EVIGEZ
  - Czech made
  - old-fashioned (MS-DOS)
  - actualization too expensive

- current: GRIN Czech
  - variation of an American GRIN-Global

Passport data
Evaluation and characterization data
Photos
Ordering
<table>
<thead>
<tr>
<th>Group By:</th>
<th>Plant ID</th>
<th>Plant Name</th>
<th>Taxonomy</th>
<th>Origin</th>
<th>Material</th>
<th>Maintained By</th>
<th>availability</th>
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</tbody>
</table>
Ocimum basilicum L.

'Litra'

Origin from: Czechoslovakia
Maintained by: Crop Research Institute, Prague, Gene Bank
Received:
PI assigned:
Growth class: spring
Backup location: Research Institute of Plant Production
Life form: Annual
Pedigree:
Improvement status: Advanced/improved cultivar
Reproductive uniformity:
Form received: Seed

Accession names and identifiers

Litra
Type: Cultivar name
L11.10
Type: Developer identifier
bazalka prava
Type: National name
Ocimum basilicum L.
Type: Full taxon

Intellectual Property Rights

MLS
Comment: Multi-Lateral System FAO item
Date issued: FAO Standard Material Transfer Agreement
Date issued: View NTA disclaimer

Narrative

Curator: Kateřina SMEKALOVÁ, CRI - Genetic Resources of Vegetables and Special Crops (CZEBI) smekalova@gensanka.cz

Observations

Click link below to see detailed observation data:
Detailed Accession Observation Page

Characterization and Evaluation Data:

<table>
<thead>
<tr>
<th>Category</th>
<th>CHEMICAL</th>
<th>GROWTH</th>
<th>MORPHOLOGY</th>
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</thead>
<tbody>
<tr>
<td>Describer</td>
<td>001 Essential Oil (mg d.m.)</td>
<td>002 Plant habit (cm)</td>
<td>003 Plant height of the first branching (cm)</td>
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<tr>
<td>Value</td>
<td>3 - low</td>
<td>1 - erioc</td>
<td>7 - high</td>
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</table>

Study/Environment

2018 Genebank Department RCP Prague Vegetable Section Olomouc (4)
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Actions
- Curator change: 19-Jan-2017. Previous: Karol DUŠEK, Current: Kateřina SMEKALOVÁ.
- Enter EON into system: 22-Dec-1990.
MAPs Genetic Resources in the Czech Republic

Structure of collection: Total = 1198 accession

(up to 31.12.2016) | Accessions | %
--- | --- | ---
**Origin**
Czech / Czechoslovakia | 661 | 55.2
Foreign | 537 | 44.8

**Conservation**
ex-situ seed bank | 927 | 77.4
ex-situ field | 271 | 22.6

**Evaluation and characterization**
Morphological | 488 | 40.7
Chemical | 323 | 27.0
Molecular | 0 | 0.0

**Documentation data in database**
Passport | 1198 | 100
In Eurisco | 1154 | 96.3
Evaluation | 168 | 14.0

**Distribution of accessions (2009-2016)**
Domestic | 227 | 18.9
Abroad | 167 | 13.9

<table>
<thead>
<tr>
<th>Species</th>
<th>Accessions</th>
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<td>Achillea L.</td>
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<td>Salvia L.</td>
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<td>Plantago L.</td>
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<td>Origanum L.</td>
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<td>Hypericum L.</td>
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<td>8</td>
<td>Calendula L.</td>
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<td>Armoracia Gaertn., Meyer et Scherb.</td>
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<tr>
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<td>Coriandrum L.</td>
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<tr>
<td>11</td>
<td>other Lamiaceae</td>
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<tr>
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<td>other Apiaceae</td>
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<td>other Asteraceae</td>
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<td>Other MAPs</td>
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</tbody>
</table>

TOTAL accessions of MAPs | 1198
Research projects – national grant agencies

- a part of the institutional research plan MZE RO0414: Sustainable Systems and Technologies for agricultural crops to improve the production and quality of food, feed and raw materials in a changing climate (2017)
- **E10: Biodiversity of genetic resources of selected vegetable species and special crops**
- **QJ1510160** New technologies of the gaining of bioactive compounds from medicinal and aromatic plants as a sources of active substances of botanical pesticides and food supplements (2015 - 2018)
  - application of elicitors on Mentha x piperita, Foeniculum vulgare ’Moravský’ and Thymus vulgaris ´Varico 3´
  - development of new herbal sweets
- **TH01030748** Support of bumblebees in landscape (2015 - 2018)
  - study of food preference of bumblebees
  - development of human and bumblebee attractive seed mixtures

- **TA04010331** Characterization and selection of Cannabis sativa for food and non-food use by means of biotechnological processes and high-performance methods (2014 – 2017)
  - testing of some varieties in Czech growing conditions
  - study of content of canabinoids (CBD, CBDA, CBGA, CBN)
  - cannabis oil as a food, raw material for cosmetics products
- **QJ1510047** The use of synergic effects of cannabis, honey and propolis for supportive treatment of the mammary gland infection (2015 – 2018)
  - Honey and propolis from cannabis field and its healing effects on mastitis
Public events – popularization of work with plant genetic resources

- Open door days
- Exhibitions
Public events – popularization of work with plant genetic resources

Natural dying - medicinal plants as a source of pigments

Apiculture - medicinal plants as a source of nectar and pollen

Volume 2 – Medicinal plants and special crops – in process (2017)