National programme for conservation and use of PGR and agrobiodiversity
Genebank, Crop Reseach Institute

Národní program
pro genofondy rostlin

CWR TO EURISCO IN THE CZECH REPUBLIC

VOJTĚCH HOLUBEC

Ad hoc Crop Wild Relatives Working Group Meeting , 13–15 December 2022, Thessaloniki, Greece

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Objectives

- Diversity in CZE
- Collecting activity within NP
- Monitoring of selected rare CWR
- In situ CWR to GRIN Czech and EURISCO
- Partners
- Collaboration with ENVI

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Diversity of species within the CZE and Czech NP

- CZE: 965 genera, 3713 spp and subspp.
- Ex situ: NP maintains 1392 spp. belonging to 463 genera
- Rare, protected and threatened: 137 spp.
- Another 182 species we keep solely in working collections, as a service for ENVI institutions.

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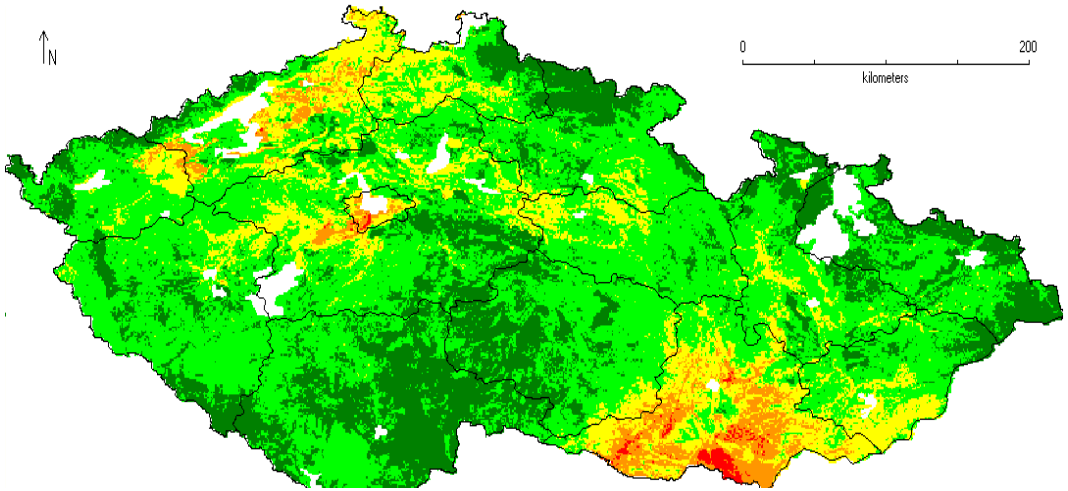
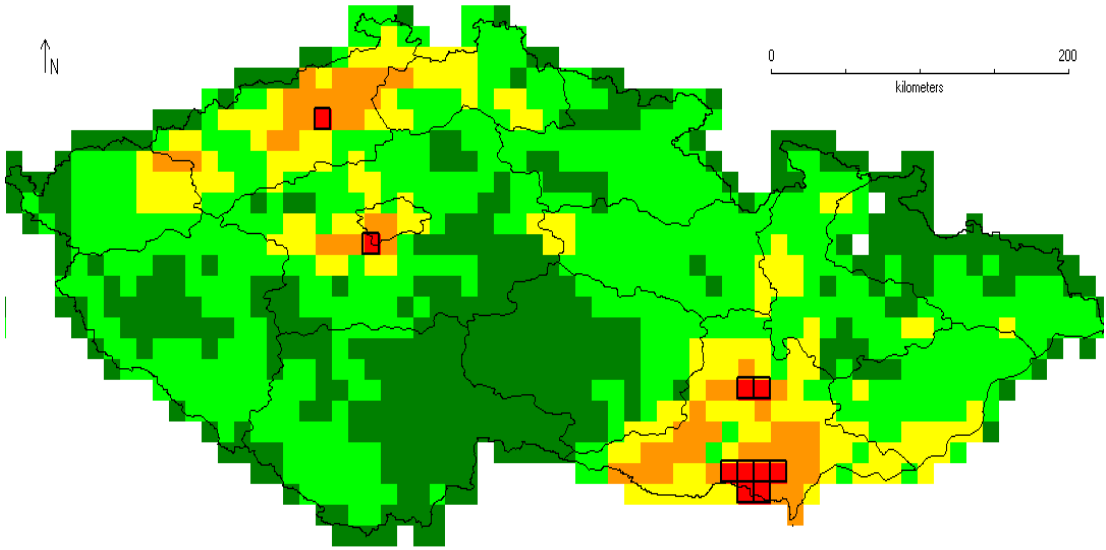
CWR diversity, hot spots in CZE

- CWR of food, fodder and forage plants
- occurrence of prioritized CWR was ploted in CR
- Hot spots /with higher density of CWR are marked
- (Taylor et al, 2017)





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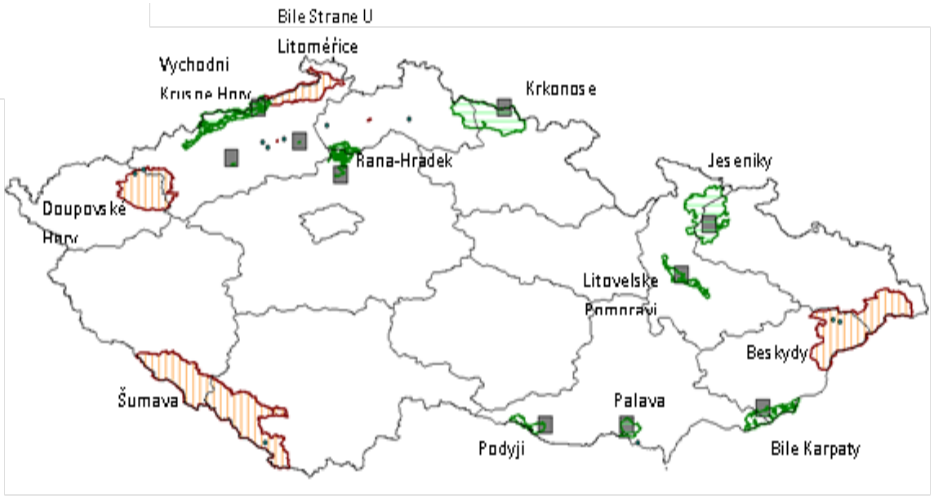
CWR strategy for CZE(Taylor et al, 2017)

- CWR check list 3456 taxa
- Prioritisation of CWR inventory
- Food 1269 and fodder 124 species
- Threat assessment
- Gap analysis
- 207 priority species selected



- in situ conservation plan for CWR taxa in the Czech Republic
- Red, Green: current NP and PLA
- Grey: the most important grid cells based on complementarity analysis

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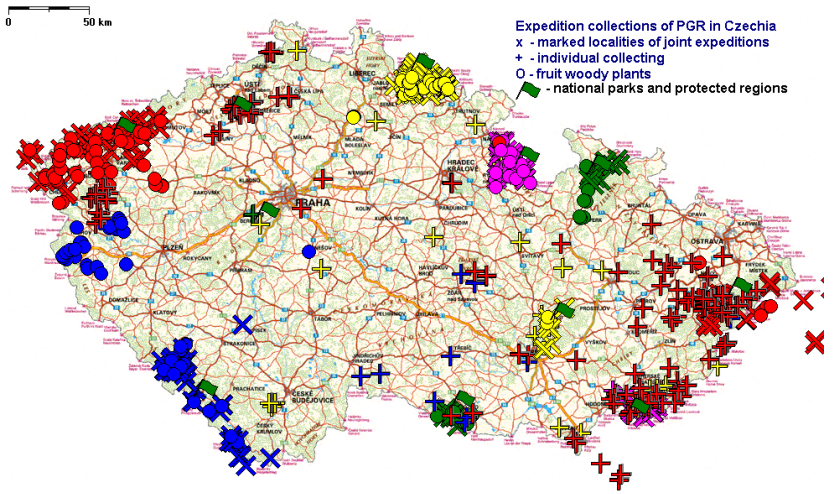
Biodiversity collecting in CZE

- Collection programme since 1990
- Aim: to get LR and CWR to GB

Region	LR	Grasses	Fabaceae	Meadow dicots	Fruit	Rare, Protected	other	summ
Bílé Karpaty-90	73	12	7	0	10	0	1	103
Bílé Karpaty-93	6	53	54	85	8	3	41	250
Šumava-94	7	238	142	47	53	0	0	487
Krkonoše-95	2	202	54	49	38	33	0	378
Orlické hory-96	2	131	69	53	8	4	2	269
Podyjí-97	0	106	64	48	10	0	0	228
Krušné hory-98	2	151	149	6	6	0	74	388
Beskydy-99	16	258	158	128	0	0	90	650
Jeseníky-00	0	158	61	18	0	4	43	284
M. Kras -01	41	178	126	61	1	0	112	519
Pálava - 03	0	85	39	35	0	33	47	239
Č.Středohoří-04	0	32	48	54	0	11	11	156
Křivoklátsko	0	49	35	54	1	0	12	151
Novohradské	0	38	25	13	0	0	7	83
Mor. Panonie	3	33	62	47	1	9	8	163
Č-MVrchovina	2	46	41	42	0	0	6	137
Bílé Karpaty -09	76	9	32	11	4	0	8	140
Český les-10	0	50	17	38	0	1	12	118
Polabí -11	2	25	21	31	0	0	2	81
Doupovské hory-12	3	16	60	27	0	0	2	108
Summ	235	1870	1264	847	140	98	478	4932



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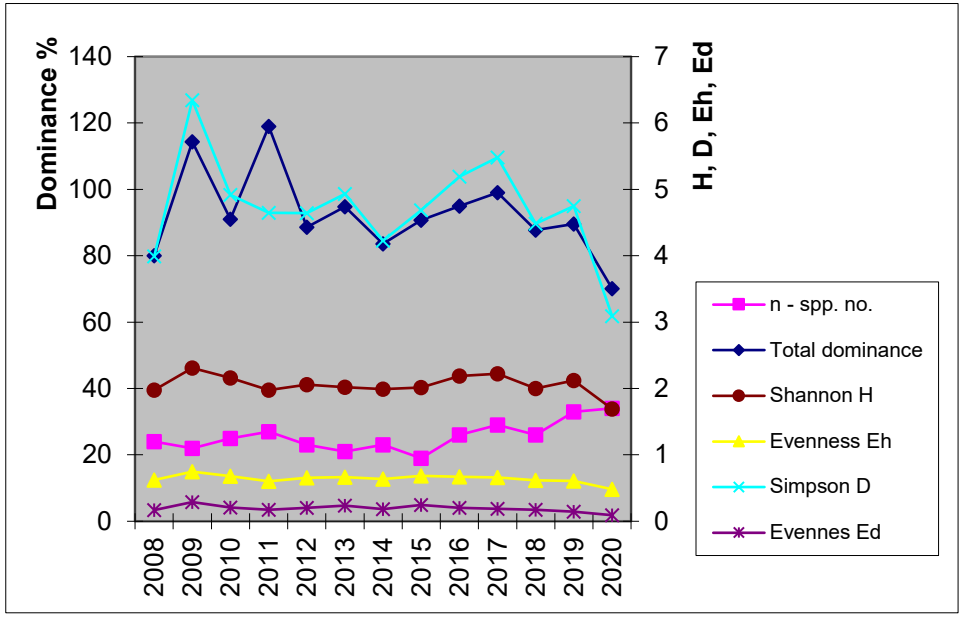
In situ monitoring

Allium schoenoprasum* ssp. *schoenoprasum

- **Threatened distribution along rivers**
- **Locality Zbraslav, Děčín**
- **Flooding in 2002, 2006**
- **Status: no**



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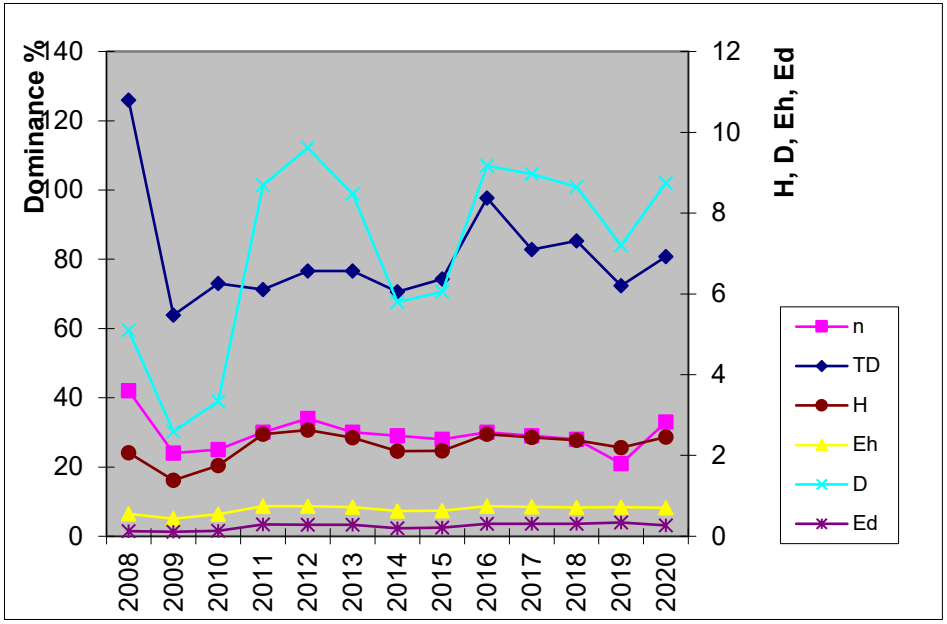
In situ monitoring

Hierochloe odorata

- Sandy deposits in Elbe river basin
- Grado, Václavka
- Status: no/National reserve



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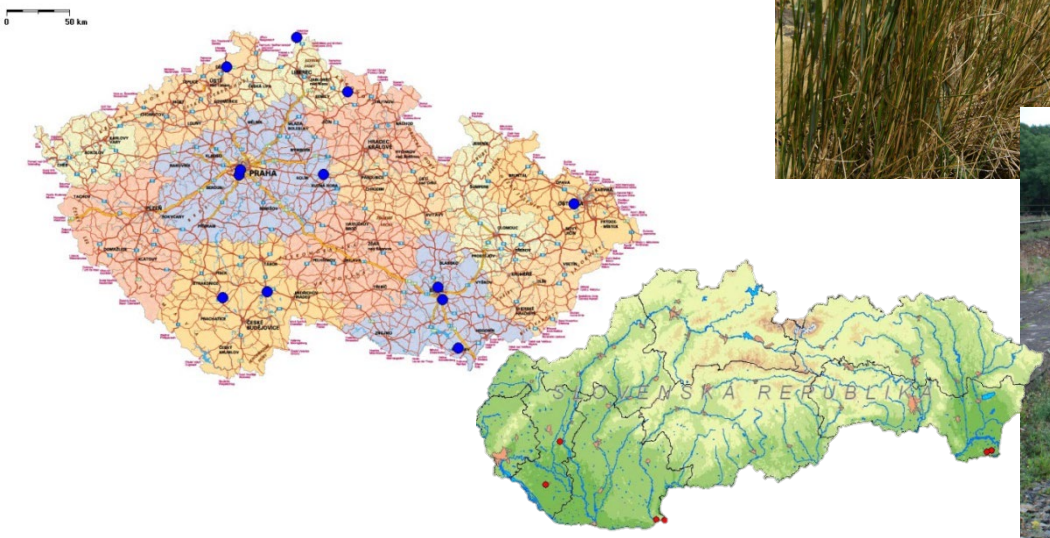
In situ monitoring

- ***Triticeae*:**
- *Ae. cylindica* in CSK – SVK
- *Agropyron pectinatum* (C1)
- Status: no/NR



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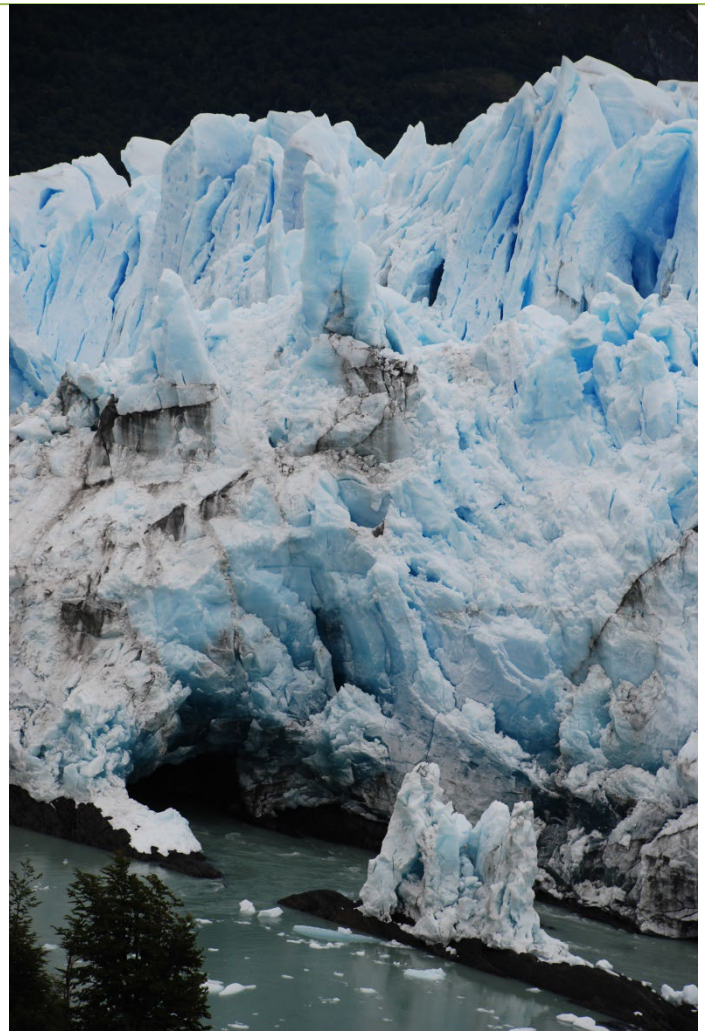
In situ partners

AGRI community - NP partners

- **Tomáš Vymyslický** – RI for Fodder Crops
- **Simona Raab** - OSEVA PRO, Grass Exp. Station
- **Vladimír Nesvadba**, Hop Institute Žatec
- **Pavel Kopecký** – CRI, Dept for Vegetables Olomouc

ENVI community – Agency for Nature and Landscape Conservation, Ministry of Environment (AOPK)

- **Ivana Jongepierová**, AOPK Headquarters, former White Carpathians PAL Ranger
- **Klára Čámská** - AOPK Headquarters



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In situ Candidate populations

- **Endemic rare spp**?
- *Poa riphaea*
- C1 - 1 site, 6m^2
- Access and direct Collecting impossible
- Backup available, regenerated materiál
- not suitable

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In situ Candidate populations

- **Historically planted, naturalized**
- *Glycyrrhiza glabra,*
- *Cerasus* x *eminens natural hybrid of C. fruticosa*
- Responsible: **Tomáš Vymyslický**
- Pouzdřany Steppe, NR
- Status: NR Pouzdřanská step
- *Nigela sativa* - probably historically introduced
- n

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In situ Candidate populations

Grasses – rare spp.

OSEVA PRO, Grass Exp. Station Zubří

- Responsible: **Simona Raab-**
- *Stipa capilata*, Popice
- *Festuca gigantea*, Popuvky
- *Poa badensis*, Pálava
- *Stipa* spp. NR Wind-blown sands
- *Stipa* spp. NR Soutok/River Merg

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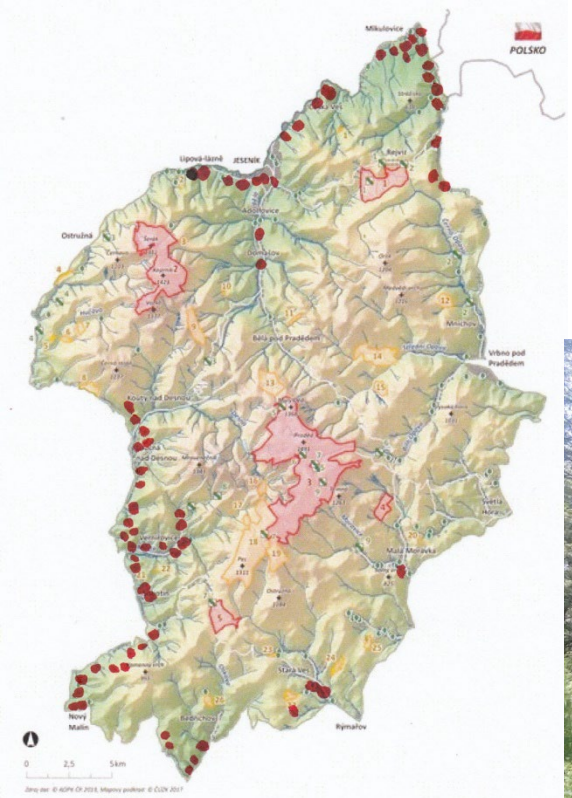
In situ Candidate populations

- **Wild hops - *Humulus lupulus***
- Responsible: **V. Nesvadba**, Hop Institute Žatec
- Jeseníky Mts.
- Status: inside and outside of PLA Jeseníky
- Private owners do not want to sign agreement



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In situ Candidate populations

AOPK – Donnor plots for regional grassing mixtures on the borders of PLA, Nat. parks

- Under auspices of AOPK
- Located nearby National Reserves
- Duration is guaranteed for at least 5-10 years
- It is possible to collect samples

PLA - Medlánky	PLA - Čertoryje
Achillea millefolium agg.	*Agrimonia eupatoria*
Allium oleraceum	*Agrostis capillaris*
Avenula pratensis ssp. hirtifolia	*Astragalus danicus*
Allium carinatum	*Avenula pubescens*
Anthoxanthum odoratum	*Betonica officinalis*
Anthyllis vulneraria	*Briza media*
Coronilla varia	*Bromus erectus*
Dactylis glomerata agg.	*Festuca rupicola*
Elymus hispidus	*Genista tinctoria*
Festuca rupicola	*Koeleria pyramidata*
Festuca valesiaca	*Lathyrus latifolius*
Hypericum perforatum	*Lathyrus niger*
Koeleria macrantha	*Lathyrus pratensis*
Lotus corniculatus	*Medicago falcata*
Medicago falcata	*Medicago lupulina*
Plantago lanceolata	*Molinia arundinacea*
Plantago media	*Ononis spinosa*
Poa pratensis	*Phleum phleoides*
Coronilla varia	*Plantago lanceolata*
Dactylis glomerata	*Plantago media*
Deschampsia cespitosa	*Salvia pratensis*
Dorycnium herbaceum	*Tetragonolobus maritimus*
Elymus hispidus	*Trifolium alpestre*
Festuca pratensis	*Trifolium campestre*
Thymus praecox	*Trifolium dubium*
Trifolium alpestre	*Trifolium medium*
Trifolium arvense	*Trifolium montanum*
Trifolium campestre	*Trifolium ochroleucon*
Trifolium dubium	*Trifolium rubens*
Trifolium montanum	*Trisetum flavescens*
Holcus lanatus	*Vicia angustifolia*
Hypericum perforatum	*Vicia cracca*
Verbascum austriacum	*Vicia hirsuta*
Vicia angustifolia	*Vicia tenuifolia*

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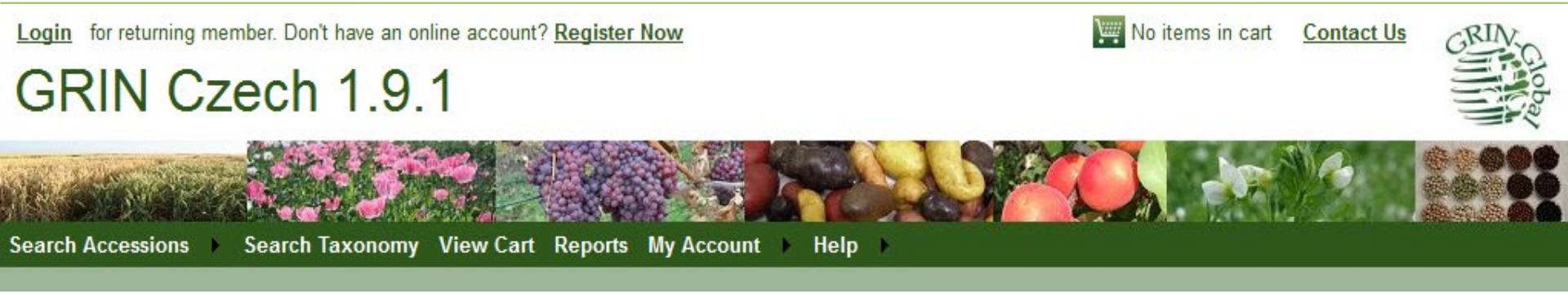
Documentation of in situ PGR



- Documentation system GRIN Czech was adjusted to accept *in situ* data
- Minimum *in situ* descriptors are included
- *Thormann I, Alercia A, Dulloo ME. 2013. Core descriptors for in situ conservation of crop wild relatives v.1. Bioversity International, Rome, Italy

Site protection (SITEPROT)

Indicate whether the site is protected under any legal or official protection

0: not protected

1: strict nature reserve

2: wilderness area;

3: national park

4: natural monument or feature

5: habitat/species management area

6: protected landscape/seascape

7: protected area with sustainable use of natural resources.

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Collected material in use

- Project: Grassing of tram lines 2020-2023
- Use of genetypes from ecologically extreme sites
  - Hot and sunny
  - Semi-shaded

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Thank to supporting colleagues and you for attention