

Current state of Allium collection in Czech Republic



Genetic Resources for Vegetables, Medicinal and Special Plants

genetic resources of MAP (medicinal, aromatic and culinary plants) and vegetables species are typical for region of Central Europe. The genetic resources have very long and rich tradition in Olomouc, since 1951.

10 283 accessions (acc.) -9 257 acc. of vegetables acc. and 1 026 acc. of MAP.

It is 20 % of all PGR in the Czech Republic.

New accessions are obtaining from the seeds companies and the collection missions.



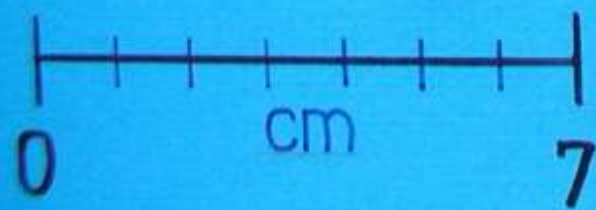
Garlic collection

628 accessions

30 countries of origin

The important parts of the collection:

- landraces from the Bile Karpaty Mountains**
- landrace from the Southern Moravia**
- advanced Czech varieties**
- wild species and primitive form of garlic from Central Asia and West Siberia**



09H0100235
1095



Collection of the garlic

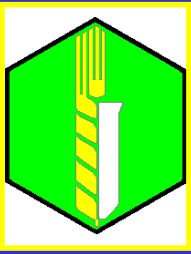
The collection is divided to three parts according to ability to produce scape:

Group of bolting garlic – 327 accessions

Group of non bolting garlic – 203 accessions

Group of semi bolting garlic (plants have the top set (bulbils) in the different part of pseudostem) – 98 accessions



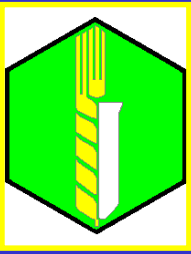


Collection maintenance

Garlic - is maintained as the field collection.

23 accessions (virus -free) state are grown in the technical isolation (cages) in the field conditions





Shallot collection

132 accessions

17 countries of origin

The important parts of the collection:

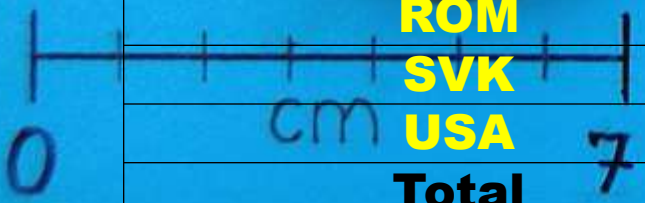
- landraces from Finland**
- landrace from Czech Republic**
- landrace from Norway**



Shallot collection

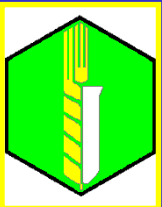


Country of origin	Number of accessions
FIN	33
CZE	31
NOR	16
IND	12
SUN	11
DEU	7
HUN	4
AUT	4
FRA	4
CHN	2
NLD	2
GBR	1
HRV	1
POL	1
ROM	1
SVK	1
USA	1
Total	132



09H0200017
3000





Shallot

is maintained as the field collection in special isolation cages.





Generatively propagated *Allium*



Onion (*A. cepa* L.):– 28 acc (27 CZE, 1POL) – the old Czech varieties to sent by CGN, IPK, IHR
Leek (*A. ampeloprasum* L.)- 9 acc. (only CZE)
Chives (*A. schoenoprasum* L.)- 4 acc. (only CZE)
Bunching onion (*A. fistulosum* L.)- 16 acc.

Generatively propagated *Allium* are regenerated in the isolation cages





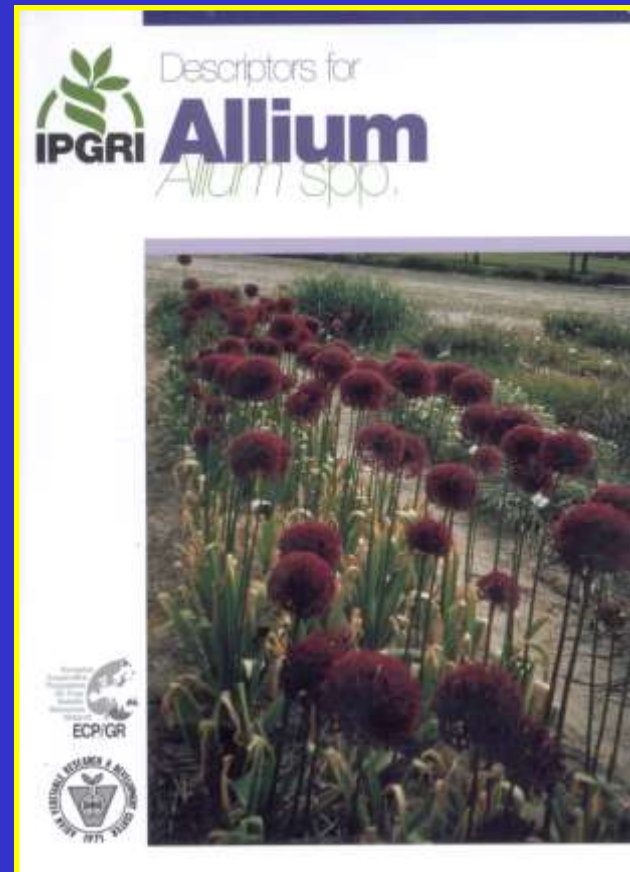
Description status

From 2002 all collections have been described according Descriptors for Allium Allium spp.(IPGRI, 2001).

Garlic – 22 characters

Shallot – 17 characters

Onion - 12 characters



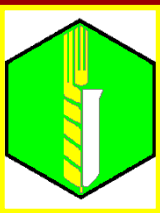


Photo - documentation



Chemical analyses (acc.)

garlic (<i>Allium sativum</i> L).	potato onion (<i>Allium cepa</i> L. Aggregatum group)	onion (<i>A. cepa</i> L.)
132 - (DW), DADS (diallyldisulphide) a PDS (propyldisulphide)	89 - (DW, QDG - quercetin diglucoside, QMG -quercetin monoglucoside,sucrose, glucose, fructose	28 (DW)



Availability of accessions

90% accessions are available for the distribution (on dependence on the health of materials and multiplication state)

Documentation of collection

Passport data of all collections are completely processed and computerised, to put to national database of Czech plant genetic resources

<https://grinczech.vurv.cz/gringlobal/search.aspx>



The passport data are put in the international database. ECPGR Allium Database

http://wls.ipk-gatersleben.de/EALLDB/faces/home.jspx?_adf.ctrl-state=19qoy8z70h_3



Safe duplication

**very important in vegetatively propagated species (garlic, shallot)
for example the flooding, frost etc. have very bad influence
on plants.**





Safe duplication

Garlic

Shallot

to Germany IPK	71 acc.	to Germany IPK	20 acc.
to Slovakia RICP	53 acc.	to NGB	17 + 25 acc.
from Portugal	21 acc.		
from Poland	25 acc.		
from Bulgaria	65 acc.		

Others activities with GR

preparing open days,
presentation of GR in the media,
participated on book about GR - Inventory and description of
cultivars of agricultural crops since the beginning of Czechoslovak
and Czech breeding to the year 2000,
Seed and fruits of selected of vegetables, medicinal plants and
special crops,
Plant Genetic Resources and Healthy Diet

Vojtěch Holubec

Přehled a popis
odřů zemědělských plodin
od počátku československého a českého
šlechtění do roku 2000
I. Polní a zahradní plodiny

Inventory and description of
cultivars of agricultural crops
since the beginning of Czechoslovak and
Czech breeding to the year 2000
I. Field and horticulture crops



Průběžná ID	České označení	ČSN kód
1000000000	allium cepa L. var. capitatum Kun.	0000000000
Průběžná ID	allium cepa L. var. capitatum Kun.	0000000000
Průběžná ID	allium cepa L. var. capitatum Kun.	0000000000



Průběžná ID: 1000000000

SEMENA A PLODY

SEEDS AND FRUITS OF SELECTED SPECIES OF VEGETABLES, HERBACEOUS PLANTS AND SPECIAL CROPS

VYBRANÝCH DRUHŮ ZELENIN, LÉČIVÝCH ROSTLIN
A SPECIÁLNÍCH PLODIN

1. ČÁST - ZELENINY
POMIDORY - PEPIŠKAČKY



Průběžná ID: 1000000000
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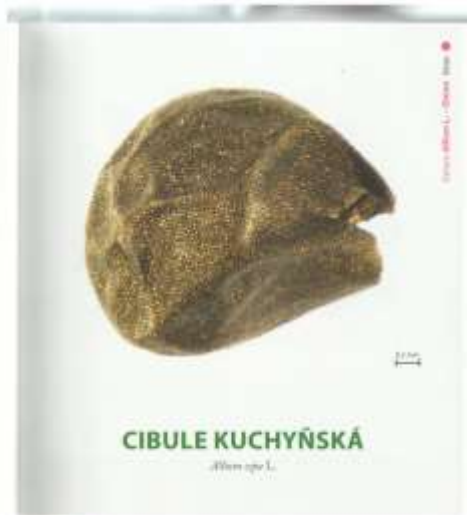


1:100

ONION
BULB ONION, COMMON ONION
Allium cepa L.



Seeds black, rarely brown, triangular shape, 3-4 mm long and 1-2 mm wide, solid testa, wrinkled surface.



Průběžná ID: 1000000000

1:1

CIBULE KUCHYŇSKÁ
Allium cepa L.



Seeds brown or reddish-brown, triangular, 3-4 mm length and 1-2 mm width, solid testa, wrinkled surface.

Commercial production

Species	garlic (<i>A. sativum</i> L).	potato onion (<i>A. cepa</i> L. Aggregatum group)	onion (<i>A. cepa</i> L.)
number of national varieties	24	-	29
harvest area (ha)	428	not statistically monitored	2 025
production (t)	1 769	not statistically monitored	51 049
import (t)	6 440	451	76 386
home-garden scale	yes, not statistically monitored	yes, not statistically monitored	yes, not statistically monitored
current projects	two are projects submitted to the competition, Contract research	QJ1630301Development of the new biotechnological systems for maintenance and improvement of agriculture crop and forest tree biodiversity - national	

Species	leek (<i>A.ampeloprasum</i> L.)	chives (<i>A. schoenoprasum</i> L.)	bunching onion (<i>A. fistulosum</i> L.)
number of national varieties	9	6	5
harvest area (ha)	17	not statistically monitored	not statistically monitored
production (t)	290	not statistically monitored	not statistically monitored
import (t)	9 822	not statistically monitored	not statistically monitored
home-garden scale	yes, not statistically monitored	yes, not statistically monitored	yes, not statistically monitored
Current projects		Contract research	



Thank you very much for your attention