

Conservation of Genetic Resources of Horticultural Plants in the Field Collections of the National Institute of Horticultural Research in Skierniewice, Poland

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The building where my office is located



Main square in Skierniewice

SOME HISTORY

The systematic collection, evaluation, and conservation of fruit plant cultivars was initiated in Poland in 1921, when the Department of Fruit Growing at the Agricultural University of Warsaw was established in Skierniewice.

In the years 1926-1928, as part of the Department of Fruit Growing, the first Pomological Orchard was established, where the cultivars of fruit plants were assessed under field conditions.



Pear trees (*Pyrus caucasica* Fedorov.) planted in 1926 - a remnant of the first Pomological Orchard

SOME HISTORY

In the 1950s, trees of more than 500 apple cultivars were already growing in the Pomological Orchard in Skierniewice, and the cultivars of other fruit tree species (pear, plum, sour cherry and sweet cherry) were also collected and tested.



'Kosztela' apple trees - an example of an old orchard from the 1950s, and old sour cherry orchard

SOME HISTORY

Collections of vegetable plants has been founded in 1979 at the Institute of Vegetable Crops in Skierniewice (Since 2011, the Institutes of Vegetable and Pomology and Floriculture have been merged into one organism – Research Institute of Horticulture).

Since 1981 seeds more than 10 000 accessions of 50 species of vegetable plants have been collected and deposited in long-term storage laboratory at the National Centre for Plant Genetic Resources in Radzików.



Currently, conservation and maintenance of *ex situ* collections of horticultural plants at the National Institute of Horticultural Research in Skierniewice and cooperating institutions is possible thanks to the funding of the Ministry of Agriculture and Rural Development as a part of the project:

„Conservation of Genetic Resources of Horticultural Plants”.

In addition to preserving biodiversity for future generations, maintaining the collection has three main goals



- scientific



- in breeding of new varieties



- educational

Identification, characterization and evaluation of materials collected during the expedition



Apple genotypes brought from the expedition for identification Jabłonie z ekspedycji (fot. G. Hodun)



Charlamowska



Christkindler



Claudiusz Herpstapel



Cox Pomona



Fettapfel



Grüner Fürstenapfel



Krötenapfel



Kuhländer Gulderling

CROP CATEGORIES/GROUPS OF PLANTS IN COLLECTIONS

Fruit trees

Fruit bushes and berry plants

Vegetable plants

Ornamental plants

Melliferous plants

Depending on the species/group of plants, 26-32 partial collections can be distinguished.

FIELD COLLECTIONS OF FRUIT TREES (InHort)

Species	No. of accessions
apple	1 362
pear	359
plum	330
sour cherry	212
sweet cherry	335
peach	136
apricot	100
hazelnut	77
walnut	67
pome rootstocks	168
stone rootstocks	30
wild species	264
apples from expeditions	660
pears from expeditions	255
total	4 355

FIELD COLLECTIONS OF FRUIT BUSHES AND BERRY PLANTS (InHort)

Species	No. of accessions
strawberry	251
raspberry	98
blackberry	43
currants	152
gooseberry	41
highbush blueberry	80
cranberries	49
grapevine	360
others	74
total	1 148

FIELD COLLECTIONS OF VARIOUS SPECIES OF FRUIT PLANTS (InHort)



FIELD COLLECTIONS OF VEGETABLE PLANTS (InHort)

Species	No. of accessions
garlic	635
shallot	281
wild <i>Allium</i>	104
total	1 020



CRYOPRESERVATION OF GARLIC (RIH)



Cryopreservation of 237 accessions of garlic

FIELD COLLECTIONS OF ORNAMENTAL PLANTS (InHort)

Species	No. of accessions
lily	222
narcissus	147
tulip	522
gladiolus	61
rose	258
total	1 210



FIELD COLLECTION OF MELLIFEROUS PLANTS (InHort)

The collection of melliferous plants was established in 1964 in Apiculture Division in Puławy

Species group	No. of accessions
annuals	31
biennial	17
perennials	103
dwarf shrubs	9
shrubs	41
trees	38
total	239



PROPAGATION OF GENOTYPES IN ORDER TO SUPPLEMENT/REPLACE DYING/SICK PLANTS AND MAINTAIN COLLECTIONS (InHort)

Each year, a number of actions must be taken to maintain the collected objects.

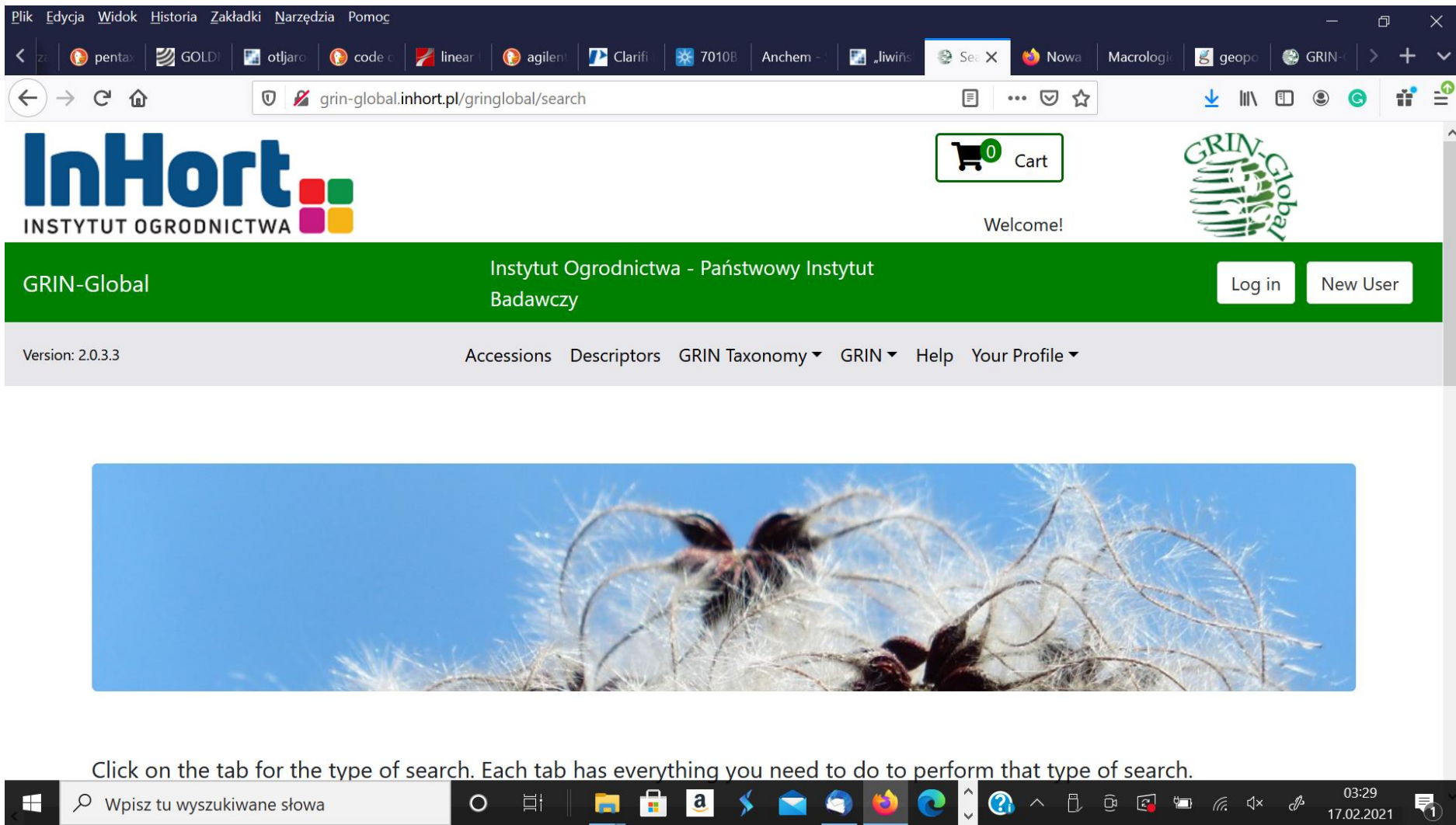


Several hundred objects of fruit plants are reproduced every year.
In the case of bulb plants, all genotypes are covered by reproduction.

GRIN-Global INHORT genetic resources documentation system

- GRIN - Global jako system zarządzania zasobami genowymi w bankach genów
- GRIN - Global as a system for managing gene resources in gene banks – Curator Tool
- Transferring data to the national database on crop plant genetic resources and to the European EURISCO database - MCPD v. 2.1 data format
- Providing materials and data on the genetic resources of horticultural plants via the INHORT website

On the website <http://grin-global.inhort.pl/gringlobal/search>



The screenshot shows a web browser window displaying the GRIN-Global website. The browser's address bar shows the URL grin-global.inhort.pl/gringlobal/search. The website header features the InHort logo (Instytut Ogrodnictwa) on the left, a shopping cart icon with '0' items and the text 'Cart' on the right, and a 'Welcome!' message. Below the header is a green navigation bar with 'GRIN-Global' on the left, 'Instytut Ogrodnictwa - Państwowy Instytut Badawczy' in the center, and 'Log in' and 'New User' buttons on the right. A grey navigation bar below contains the text 'Version: 2.0.3.3' and a menu with 'Accessions', 'Descriptors', 'GRIN Taxonomy', 'GRIN', 'Help', and 'Your Profile'. The main content area is a large blue banner image of a plant with white, feathery seed heads against a clear blue sky. At the bottom of the browser window, a Windows taskbar is visible with the search bar containing the text 'Wpisz tu wyszukiwane słowa' and various application icons. The system tray shows the time as 03:29 and the date as 17.02.2021.

Click on the tab for the type of search. Each tab has everything you need to do to perform that type of search.

GRIN-Global INHORT genetic resources documentation system

Plik Edycja Widok Historia Zakładki Narzędzia Pomoc

grin-global.inhort.pl/gringlobal/search

Click on the tab for the type of search. Each tab has everything you need to do to perform that type of search.

Return up to

[Simple Search](#) [List Search](#) [Advanced Search](#) [Results](#)

Available

All - Including historic (not in the NPGS collections, information only)

Limit accessions displayed to only those:

With genomic data With NCBI link

InHort
INSTYTUT OGRODNICTWA

Wpisz tu wyszukiwane słowa

03:38
17.02.2021

GRIN-Global INHORT genetic resources documentation system

The screenshot displays a web browser window with the URL `grin-global.inhort.pl/gringlobal/search`. The browser's address bar and tabs are visible at the top. The main content area shows a search interface with several tabs: "Basic Info", "Source Info", "Show all columns", "Show/hide columns", "Show 10 rows", and "Excel". A search input field is located on the right side of the interface.

Below the tabs, the text "Showing 1 to 10 of 701 entries" is displayed. A table of genetic resources is shown with the following columns: "ACCESSION", "NAME", "TAXONOMY", "ORIGIN", "REPOSITORY", and "AVAILABILITY". Each row includes a checkbox on the left and a shopping cart icon on the right.

<input type="checkbox"/>	ACCESSION	NAME	TAXONOMY	ORIGIN	REPOSITORY	AVAILABILITY
<input type="checkbox"/>	INHORT 10001 MAL	Abbondanza	<i>Malus domestica</i> (Suckow) Borkh.		SDD	
<input type="checkbox"/>	INHORT 10002 MAL	Abrahamy	<i>Malus domestica</i> (Suckow) Borkh.		SDD	
<input type="checkbox"/>	INHORT 10003 MAL	Adam Mickiewicz	<i>Malus domestica</i> (Suckow) Borkh.		SDD	
<input type="checkbox"/>	INHORT 10004 MAL	Adam's Pearmain	<i>Malus domestica</i> (Suckow) Borkh.		SDD	
<input type="checkbox"/>	INHORT 10005 MAL	Antej	<i>Malus domestica</i> (Suckow) Borkh.		SDD	
<input type="checkbox"/>	INHORT 10006 MAL	Akane	<i>Malus domestica</i> (Suckow) Borkh.		SDD	
<input type="checkbox"/>	INHORT 10007 MAL	Alfa 68	<i>Malus domestica</i> (Suckow) Borkh.		SDD	

The Windows taskbar at the bottom shows the system clock as 03:40 on 17.02.2021, along with various application icons and a search bar containing the text "Wpisz tu wyszukiwane słowa".

GRIN-Global INHORT genetic resources documentation system

Plik Edycja Widok Historia Zakładki Narzędzia Pomoc

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grin-global.inhort.pl/gringlobal/accessiondetail?id=29

Show/hide columns Show all rows Excel

Showing 1 to 14 of 14 entries Search:

Category	Descriptor	Description	Value	Study	Inventory
Charakterystyka	Początek kwitnienia	Początek kwitnienia	3 - wczesny		
Charakterystyka	Termin dojrzałości zbiorczej	Termin dojrzałości zbiorczej	5 - średni		
Charakterystyka	Termin dojrzałości konsumpcyjnej	Termin dojrzałości konsumpcyjnej	5 - średni		
Charakterystyka	Plenność	Plenność	7 - duża		
Charakterystyka	Regularność owocowania	Regularność owocowania	1 - przemienne		
Charakterystyka	Typ owocowania	Typ owocowania	2 - w całej koronie		
Drzewo	Drzewo: siła wzrostu	Drzewo: siła wzrostu	7 - duża		
Drzewo	Drzewo: pokrój korony	Drzewo: pokrój korony	7 - kulisty		
Drzewo	Drzewo: ogałacanie konarów	Drzewo: ogałacanie konarów	3 - nie występuje		
Owoc	Owoc: wielkość	Owoc: wielkość	5 - średni		
Owoc	Owoc: kształt	Owoc: kształt	11 - owalny		
Owoc	Owoc: kształt	Owoc: kształt	5 - kulisto-splaszczony		

Wpisz tu wyszukiwane słowa

03:51 17.02.2021

GRIN-Global INHORT genetic resources documentation system

Plik Edycja Widok Historia Zakładki Narzędzia Pomoc

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grin-global.inhort.pl/gringlobal/ImgDisplay?id=29

INHORT 10021 MAL
Malus domestica (Suckow) Borkh.
Antonówka Zwykła
Click image(s) to enlarge.

1 cm 1 mm

03:52 17.02.2021

Wpisz tu wyszukiwane słowa

THE FUTURE OF HUMANITY DEPENDS ON THE CONSERVATION OF BIODIVERSITY



I would like to thank all my colleagues who have made it possible to carry out the tasks related to the conservation of genetic resources of horticultural plants

www.inhort.pl



**THANK YOU
FOR ATTENTION!**