

Documentation of European Plant Genetic Resources

The EURISCO information system

First Meeting of the ECPGR Maize Working Group,
2nd to 3rd December 2019, Belgrade, Serbia

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2 December 2019



INTRODUCTION AND BACKGROUND

Background

- What is EURISCO?
 - European information system for plant genetic resources
 - Search catalogue for *ex situ* collections
 - Accession-level information system
- Purpose
 - Provides passport data and phenotypic data about plant germplasm accessions maintained in Europe
 - Assists in meeting national obligations
 - Food and Agriculture Organization of the United Nations (FAO)
 - Convention on Biological Diversity (CBD)
 - International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)



https://upload.wikimedia.org/wikipedia/commons/8/81/Europe_countries_map_2.png

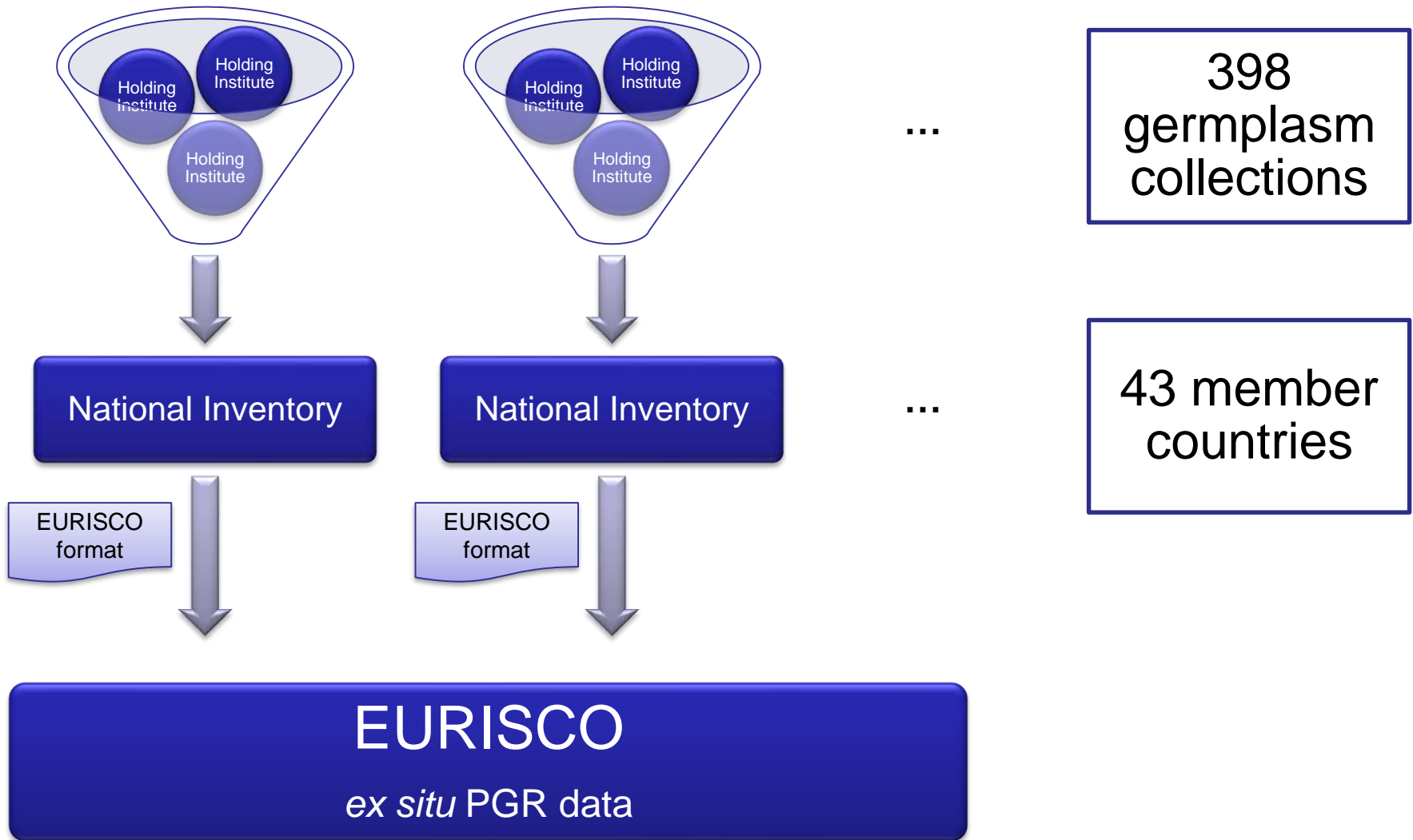
Development

- Started in 1999 (EU project EPGRIS)
- 43 countries involved
(Nordic Countries → NordGen)
- National collections represented by
National Inventories (NIs)
- Network of National Focal Points (NFPs)
links NIs ↔ EURISCO



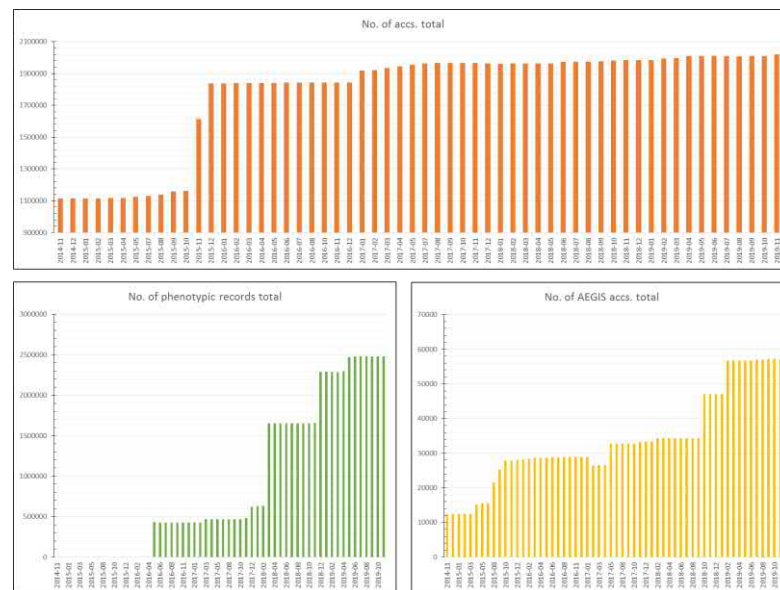
https://upload.wikimedia.org/wikipedia/commons/8/81/Europe_countries_map_2.png

Data flow



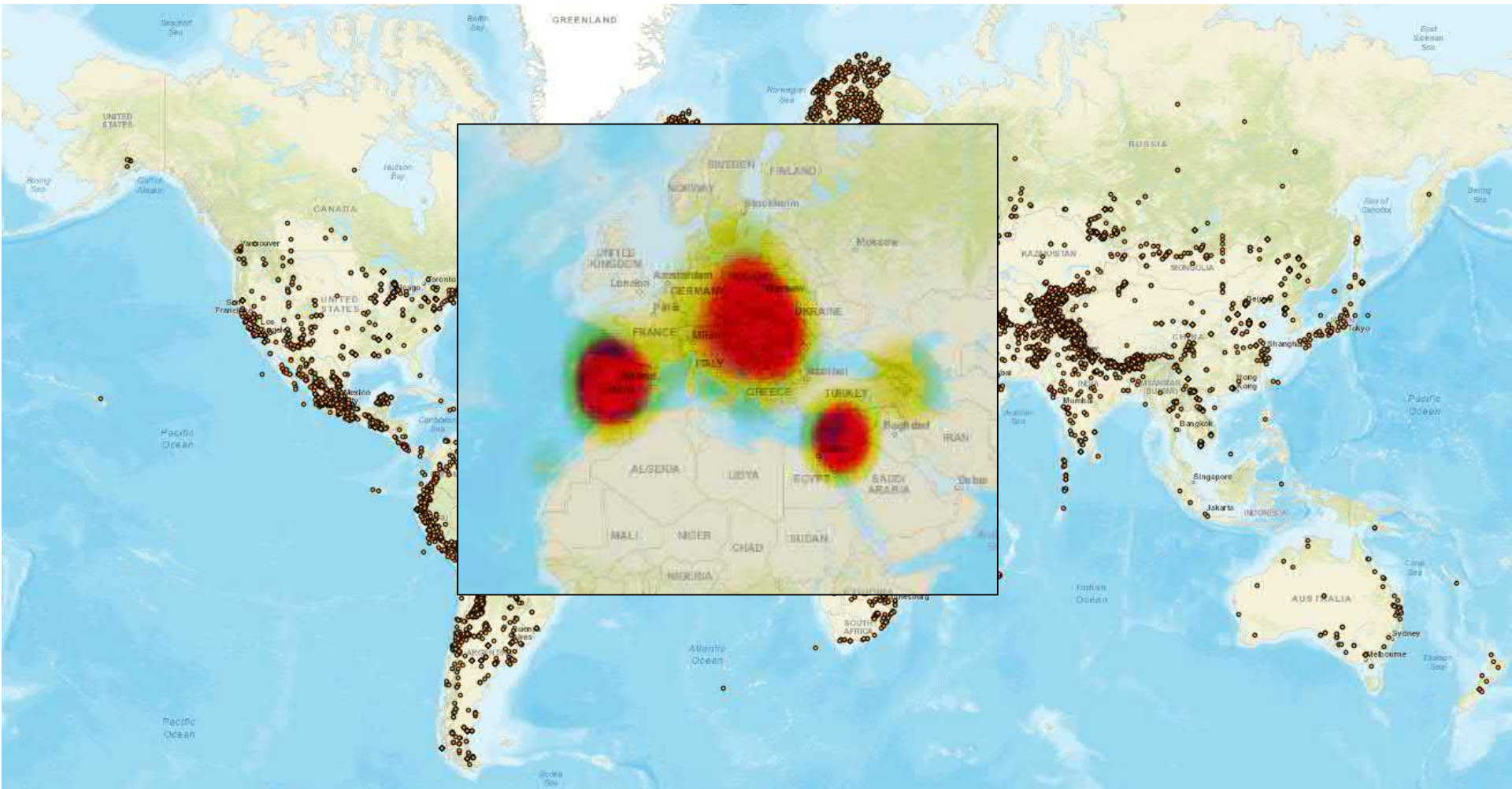
Contents of EURISCO

- 2,019,404 accessions
- 6,392 genera
(including synonyms, spelling variants)
- 43,223 species names
- 444,086 MLS accessions
- 57,294 AEGIS accessions
- 60,490 DOIs



as of 2019-11-25

Collecting sites



as of 2017-05-31

Taxonomic composition

Genus	Species	No. accs.	Total
<i>Arabidopsis</i>	<i>thaliana</i>	684,964	685,188
	others	224	
<i>Triticum</i> (wheat)	<i>aestivum</i>	140,133	196,495
	<i>durum</i>	16,857	
	<i>turgidum</i>	14,860	
	<i>monococcum</i>	1,986	
	<i>spelta</i>	3,260	
	others	19,399	
<i>Hordeum</i> (barley)	<i>vulgare</i>	113,649	123,121
	<i>spontaneum</i>	6,164	
	others	3,308	
<i>Zea</i> (maize)	<i>mays</i>	65,560	65,686
	others	126	
<i>Phaseolus</i> (garden bean)	<i>vulgaris</i>	47,283	53,133
	<i>coccineus</i>	3,177	
	others	2,673	

Genus	Species	No. accs.	Total
<i>Solanum</i> (tomato, potato, eggplant, etc.)	<i>lycopersicum</i>	20,468	50,619
	<i>tuberosum</i>	14,912	
	<i>andigenum</i>	2,814	
	<i>melongena</i>	2,125	
	others	10,300	
<i>Vitis</i> (grape)	<i>vinifera</i>	35,335	41,902
	others	6,567	
<i>Avena</i> (oat)	<i>sativa</i>	33,561	41,774
	<i>sterilis</i>	2,203	
	<i>byzantina</i>	1,987	
	others	4,023	
<i>Pisum</i> (pea)	<i>sativum</i>	33,474	36,539
	others	3,065	
<i>Malus</i> (apple)	<i>domestica</i>	31,553	33,504
	others	1,951	
others			691,443
	Total		2,019,404

as of 2019-11-25

EURISCO WEB

Web interface



Published online 31 August 2016

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doi: 10.1093/nar/gkw755

EURISCO: The European search catalogue for plant genetic resources

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Received July 28, 2016; Revised August 19, 2016; Accepted August 21, 2016

ABSTRACT

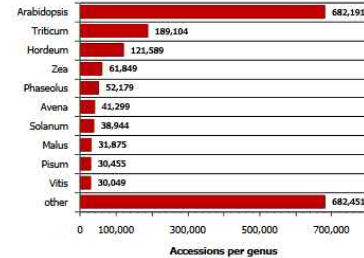
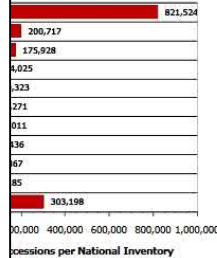
The European Search Catalogue for Plant Genetic Resources, EURISCO, provides information about 1.8 million crop plant accessions preserved by almost 400 institutes in Europe and beyond. EURISCO is being maintained on behalf of the European Cooperative Programme for Plant Genetic Resources. It is based on a network of National Inventories of 42

typic characterisation of genebank accessions, i.e. collecting information about traits such as disease resistance, drought tolerance and yield components. These data are usually generated on selected material, resulting in non-orthogonal, highly incomplete data sets. Nevertheless, the analysis of these data allows meaningful results, e.g. the identification of promising new alleles (5). Around the world, there are about 1800 genebank collections conserving PGRFA. Thereof, about 625 collections are maintained in Europe

data of The Netherlands updated

data of Montenegro updated - New AEGIS accessions

data of the Czech Republic updated - New C&E data



Statistical overview of the composition of the EURISCO data. More detailed information can be found at the [statistics section](#).

53 (sub)versions since 2014

Passport data search in EURISCO

- Four standard searches:
 - Taxonomy (incl. synonyms)
 - Accession
 - Biological status
 - Collecting site
- Advanced search
- Different user-specific export features

The screenshot displays the EURISCO web interface for a passport data search. The header includes the EURISCO logo and navigation links. The main content area is divided into several sections:

- National inventory:** Shows the holding institute as the Portuguese Bank of Plant Germplasm, Braga, Portugal, with the accessions code PRI001.
- Taxonomy:** Lists the genus *Brassica*, species *oleracea*, and the variety *var. capitata*.
- Acquisition/storage:** Provides collection details: Collecting Number 382014 A, Collecting Institute Code PRI001, Collecting Date 2014-03-29, Collecting Latitude 40.338611, Collecting Longitude -7.130556, and Collecting Elevation 872.
- Map:** A Google Map showing the collecting site in Portugal, Guarda.
- Donor, Breeder, and Other:** Sections for additional information, currently empty.

The right sidebar contains search options and a last update record of 2017-05-29.

Advanced search form

The screenshot shows the 'Advanced search' form on the eurisco website. The form is divided into several sections: Taxonomy, Accession, Status, and Site. Two red arrows point from the Taxonomy section to the 'Genus' and 'Biological Status' dropdown menus. The 'Genus' dropdown is set to 'TRITICUM' and the 'Biological Status' dropdown is set to '100 (Wild)'. The 'Accession' section includes fields for Origin Country, Holding Institute Code, Holding Institute Name, Crop Name, and Accession Name. The 'Status' section includes fields for Acquisition Source, Storage Type, Acquisition Date From/To, and MLS/ACRIS Status. The 'Site' section includes fields for Latitude From/To, Longitude From/To, Elevation From/To, and Collecting Date From/To. The 'Search' button is located at the bottom left of the form.

Taxonomy
If you want to perform a search by scientific name, both genus and species are mandatory fields.

Genus
TRITICUM

Species
MONOCOCCUM

Species Authority
-- No (default) --

100 (Wild)

Wild

- 110 (Natural)
- 120 (Semi-natural/wild)
- 130 (Semi-natural/sown)

Weedy



- 200 (Weedy)

Traditional cultivar/landrace

- 300 (Traditional cultivar/landrace)

Breeding/research material

User specific export – by species

EURISCO Intranet

Home About Search C&E data Statistics and documents Imprint / Data Protection Policy

Search
Advanced search
Export data by species
Export data by National Inventory

Home > Search > Download by species

Export EURISCO data by species

Hint: For performance reasons, the accessions from the Nottingham Arabidopsis Stock Centre (GBR140) are excluded from the dynamic export. However, these accessions are of course included in the full EURISCO dump.

Genus * x

Species * x

National Inventory

Download full dataset

Downloading the whole dataset of EURISCO causes a very long page loading time. Thus, for performance reasons data from only one genus can be downloaded at once. A precalculated dump of the whole dataset (in EURISCO format) can be downloaded here:

[EURISCO dump \(MS Access format\)](#)
238.46 MB
Created: 2019-11-21

Filtered values

Rows

1 - 5 >


NICODE	INSTCODE	ACCENUMB	GENUS	SPECIES	SPAUTHOR	SUBTAXA	SUBTAUTHOR	CROPNAME	ACCENAME	ACQDATE	ORIGCTY	SAMPSTAT	MLSSTAT	AEGISSTAT
BGR	BGR001	1983-TRT-DI-8	Triticum	dicoccooides	(Koern. ex Aschers. et Graebn.) Schweinf	var. pseudojordanicum	-	-	-	-	-	-	-	-
DEU	DEU146	TRI 18494	Triticum	dicoccooides	(Körn. ex Asch. & Graebn.) Schweinf.	convar. dicoccooides var. aaronsohnii	(Flaksb.) Percival	-	-	1999---	ISR	100	1	0
ARM	ARM035	1.AR.5	Triticum	araraticum	Jakubz.	-	-	wheat	-	1983---	ARM	-	-	-
ARM	ARM035	1AR50	Triticum	araraticum	Jakubz.	-	-	wheat	-	20110201	ARM	100	-	-
DEU	DEU146	TRI 18527	Triticum	dicoccooides	(Körn. ex Asch. & Graebn.) Schweinf.	convar. dicoccooides var. kotschyi	Jakubz.	-	-	1999---	ISR	100	1	0

1 - 5 >

0.60 s

release 1.5.3

User specific export – by NI

EURISCO Intranet

[Home](#) [About](#) [Search](#) [C&E data](#) [Statistics and documents](#) [Imprint / Data Protection Policy](#)

[Search](#) [Advanced search](#) [Export data by species](#) [Export data by National Inventory](#)

[Home](#) > [Search](#) > [Download by species](#) > [Download by National Inventory](#)

Export EURISCO data by National Inventory

Hint: For performance reasons, the accessions from the Nottingham Arabidopsis Stock Centre (GBR140) are excluded from the dynamic export. However, these accessions are of course included in the full EURISCO dump.

National Inventory *

Genus

Filtered values

Rows

1 - 5 >

NICODE	INSTCODE	ACCENUMB	GENUS	SPECIES	SPAUTHOR	SUBTAXA	SUBTAUTHOR	CROPNAME	ACCENAME	ACQDATE	ORIGCTY	SAMPSTAT	MLSSTAT	AEGISSTAT
FRA	FRA015	RA 1126	Juglans	regia	L.	-	-	english walnut	Early Ehrhardt	19900000	USA	400	0	-
FRA	FRA015	RA 1117	Juglans	regia	L.	-	-	english walnut	Kasni Rodni	19890000	SRB	400	0	-
FRA	FRA015	FRA0411186	Zea	mays	L.	-	-	maize	sfp.15	-	FRA	411	1	-
FRA	FRA015	FRA0410648	Zea	mays	L.	-	-	maize	Lucgarier 2	-	FRA	300	1	-
FRA	FRA015	FRA0410616	Zea	mays	L.	-	-	maize	Saint Parthem.A	-	FRA	300	1	-

1 - 5 >

0.13 s

release 1.5.3

Download full dataset

Downloading the whole dataset of EURISCO causes a very long page loading time. Thus, for performance reasons data from only one National Inventory can be downloaded at once. A precalculated dump of the whole dataset (in EURISCO format) can be downloaded here:

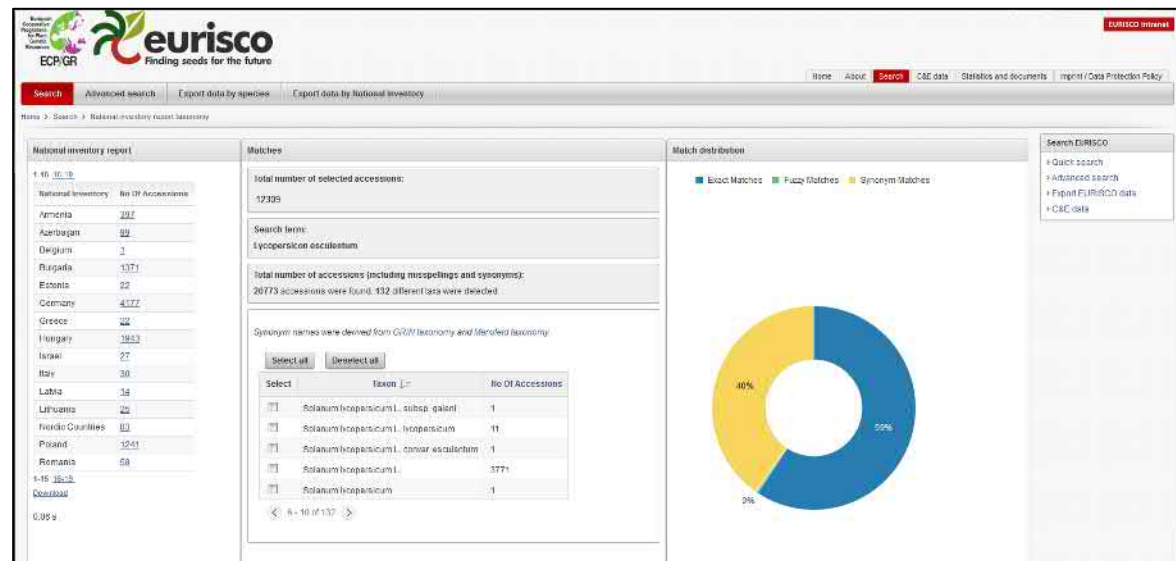
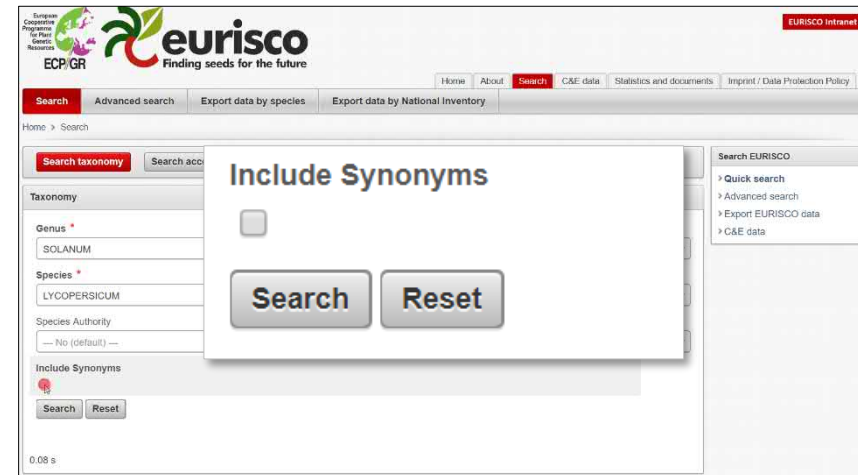
[EURISCO dump \(MS Access format\)](#)
238.46 MB
Created: 2019-11-21

Taxonomy search

- Challenges
 - Data from almost 400 institutes
 - Different taxonomic schools, opinions, traditions
 - No uniform scientific names, e.g. different author abbreviations
 - Misspellings
 - No curation in EURISCO (only by data provider) → DSA
 - Knowledge on data background needed for searches
- Improvement of taxonomic search
 - Identification of synonym candidates
 - GRIN, Mansfeld
 - + taxonomic terms accepted in EURISCO (based on user feedback)
 - Obtaining more complete search results
 - However, limited to available data!

Taxonomy search

- Rework of the search interface
 - Allows to include synonyms
 - Shows the distribution of matching types
 - Significant performance improvement



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Plant Genetic Resources: Characterization and Utilization 1-3
doi:10.1017/S1479262119000339

Short Communication

Advancement of taxonomic searches in the European search catalogue for plant genetic resources

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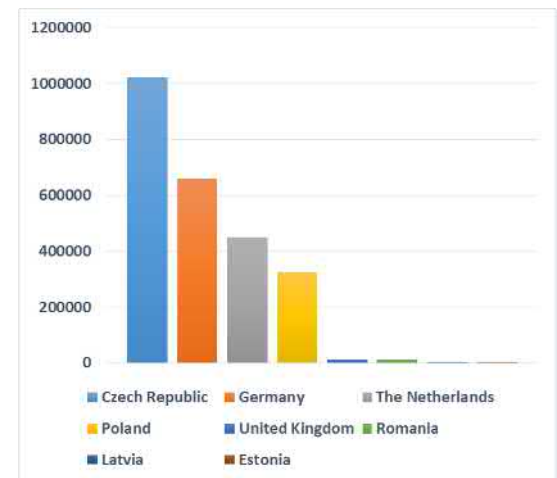
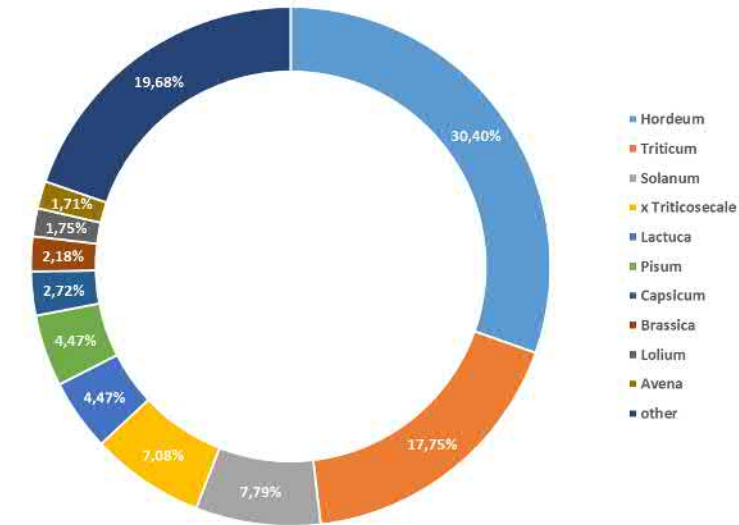
Received 6 September 2019; Accepted 4 October 2019

Abstract
Genebanks play an important role in the conservation of global plant biodiversity. The European Search Catalogue for Plant Genetic Resources (EURISCO) was created as a central entry point to provide information on these collections. However, a major challenge lies in the heterogeneity of scientific plant names. This makes the selection of suitable plant material, e.g. for research or breeding purposes, significantly more difficult. For this reason, the taxonomic backbone of EURISCO has been completely revised. Search terms entered by users are now automatically checked against taxonomic reference repositories, allowing a variety of synonyms to be identified. In addition, a fuzzy search has been implemented, which makes the search function tolerant of erroneous data (e.g. caused by typing errors). Besides improvements of the search interface, more support will be given to EURISCO's data providers. The new developments provide a tool that makes it easier to identify problem cases within the data, such as accepted but accepted taxonomic names, and

PHENOTYPIC DATA

Phenotypic data

- Extension available since 2016
- Currently, 2,482,274 records of data from eight countries
 - Czech Republic
 - Estonia
 - Germany
 - Latvia
 - The Netherlands
 - Poland
 - Romania
 - United Kingdom
- 84,433 accs. with phenotypic data



as of 2019-11-25

Phenotypic data search in EURISCO

Filter C&E data by genus

Genera *

- Brassica
- Capsicum
- Chondrilla
- Cicerbita
- Cucumis
- Eruca
- Ixeridium
- Linum
- Lupinus
- Mycelis

Apply Reset

Alium
Hordeum
Lactuca

Genus	Count
Lactuca	105,021
Solanum	77,663
Capsicum	50,736
Triticum	37,301
Hordeum	32,852
Brassica	27,355
Spinacia	17,913
Cucumis	17,460
Pisum	17,233
Linum	14,354
other	29,712

Wizard-based searches for

- Genus
- Species and trait
- Experiment
- Trait

Filter C&E data by species and traits

Genus * Lactuca

Species *

- Lactuca aculeata Boiss.
- Lactuca altaica Fish. & Mey.
- Lactuca biennis (Moench) Fern.
- Lactuca homblei De Wild.
- Lactuca raddeana Maxim
- Lactuca saligna L.
- Lactuca sativa L.
- Lactuca sativa x serriola
- Lactuca serriola L.
- Lactuca tatarica (L.) C. A. Mey.
- Lactuca canadensis L.
- Lactuca dregeana DC.
- Lactuca georgica L.
- Lactuca perennis L.
- Lactuca indica L.
- Lactuca quercina L.

Traits *

- Leaf color intensity ((3=light, 5=medium, 7=dar[...]))
- Leaf margin undulation (At harvest maturity[...])
- Leaf shape ((1=narrow elliptic, 2=el., [...]))
- Leaf shape ((1=round, 2=ovate, 3=obov[...]))
- Leaf vein prickles ((1=not present, 9=present[...]))
- Leaf vein prickles (-[...])
- Leaf venation (At harvest maturity (1 = n[...]))
- Nasonovia ribisnigri (Resistance to Nasonovia r[...])
- Nitrate content (Mean nitrate content of t[...])
- Pemphigus hirsarius ((1=very resistant, 2=resil[...]))

Apply Reset

Filter C&E data by experiment

The report below lists all experiments, which contain characterisation & evaluation (C&E) data. Please use the search bar below to define filters.

Experiment Start Year between 1967 and 2012

1 - 10 of 782

Experiment Description	Dataset Remark	Experiment Start Year	Experiment End Year	Details
Sowing date = February 2, Planting date = April 17, IVT glasshouse XII, heated, soil culture, 2 stems, 4 plants per field, collection no. 567-659, experimentalist H. Roelofsan and G. Pet, standard = Bruinsma Wonder	Test data CGN	1980	-	contained traits
Sowing date February 18, Planting date April 8, IVT glasshouse XII, heated, soil culture, 2 stems, 5 plants per field, collection no. 444-543, experimentalist L. de Groot and G. Pet, standard = Bruinsma Wonder				
Sowing date = March 15, Planting date = April 26, IVT glasshouse XII, heated, soil culture, 2 stems, 5 plants per field, collection no. 660-762, experimentalist L. de Groot and G. Pet, standard = Bruinsma Wonder				
Sowing date = February 28, Planting date = April 13, IVT glasshouse XII-IX, heated, soil culture, 2 stems, 5 plants per field, collection no. 763-869, experimentalists L. de Groot and G. Pet, standard = Bruinsma Wonder				
Sowing date = February 24, Planting date = April 18, IVT glasshouse no. XII, heated, soil culture, 2 stems, 5 plants per field, collection no. 871-934, experimentalists L. de Groot and G. Pet, standard = Bruinsma Wonder				
Sowing date = March 11, Planting date = April 26, IVT glasshouse XII, heated, soil culture, 2 stems, 5 plants per field, collection no. 935-981, experimentalist L. de Groot and G. Pet, standard = Bruinsma Wonder				
Sowing date = March 13, Planting date = May 1, IVT glasshouse II-I, heated, soil culture, 2 stems, 5 plants per field, collection no. 982-1021, experimentalist G. Pet, standard = Bruinsma Wonder				
Sowing date = March 20, Planting date = April 28, IVT glasshouse no. II-II, soil culture, 1 stem, 5 plants per field, collection no. 1476-1574, experimentalist G. Pet, standard = Sonatine				
Sowing date = January 31, Planting date = March 31, IVT Glasshouse no. 12-7, heated, soil culture, 2 stems, 5 plants per field, collection no. 33-65, experimentalist G. Pet, Standard = Claessee				
Sowing date = January 29, Planting date = March 28, IVT glasshouse no. 12-5, heated, soil culture, 2 stems, 5 plants per field, collection no. 1-111, experimentalist G. Pet, standard = Claessee	Test data CGN	1979	-	contained traits

1 - 10 of 782

Traits in selected experiment

1 - 10 of 26

Trait Name	Trait Remark	Trait Method	Details
Fruit corrugation	-	(0=smooth, 3=slightly corrugated, 5=medium, 7=corrugated, 9=very corrugated)	scores
Fruit attitude	-	Bruinsma Wonder=7 (1=very drooping, 3=drooping, 5=horizontal, 7=semi-erect, 9=erect)	scores
Flower attitude	-	Bruinsma Wonders=7 (1=very drooping, 3=drooping, 5=horizontal, 7=semi-erect, 9=erect)	scores
Mature fruit color	-	(A=dark red, B=light r, C=orange, D=salmon, E=canary, F=sulphur, G=green, I=brown, J=light orange, K=white, a-b=both in one fruit)	scores
Tobacco mosaic virus	-	determined at natural infection (0=no symptoms, +=symptoms present)	scores
Stem anthocyanin content	-	Bruinsma Wonder=3 (0=absent, 1=very little, 3=little, 5=medium, 7=much, 9=very much)	scores
Fruit ribbing	-	(0=absent, 1=very little, ..., 9=very high)	scores
Flower color	-	(A=white, B=filly-white, C=light green, D=light purple, E=dark purple, F=yellow, G=white/anthocyanin)	scores
Fruit outerwall thickness	-	Measurement, 9=9mm or more.	scores
Fruit cracking tendency	-	(1=none, 3=slight, 5=medium, 7=medium to severe, 9=severe)	scores

1 - 10 of 26

0.12 s

Example I – report of values

The screenshot displays the eurisco web application interface. The top navigation bar includes 'Home', 'About', 'Search', 'C&E data', 'Statistics and documents', and 'Imprint / Data Protection Policy'. The main content area is titled 'Filter C&E data by species and traits' and includes filters for Genus (TRITICUM), Species (DURUM DESF., SPAHANICUM HESLOT), and Traits (Plant - Height (cm) (average height)). A search bar is located in the top right corner.

The results are displayed in a table with the following columns: Experiment Description, Trait Name, GOE, INST, SPECIES, ACCNUMB (%), Score, Score Link, Origin Country, Biological Status, and Details. A red arrow points to the 'Download' button in the 'Actions' menu of the table.

Experiment Description	Trait Name	GOE	INST	SPECIES	ACCNUMB (%)	Score	Score Link	Origin Country	Biological Status	Details
Field characterization an[...]	Plant - Height (cm) average h	POL	POL003	Triticum durum Desf.	27009	86.75	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average h	POL	POL003	Triticum durum Desf.	27009	92.70	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average h	POL	POL003	Triticum durum Desf.	27009	97.00	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in centime[...]	POL	POL003	Triticum durum Desf.	27009	98.30	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in centime[...]	POL	POL003	Triticum durum Desf.	27019	104.30	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in centime[...]	POL	POL003	Triticum durum Desf.	27019	107.00	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in centime[...]	POL	POL003	Triticum durum Desf.	27019	112.70	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in centime[...]	POL	POL003	Triticum durum Desf.	27019	98.30	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in centime[...]	POL	POL003	Triticum durum Desf.	27021	107.00	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in centime[...]	POL	POL003	Triticum durum Desf.	27021	112.30	-	-	Traditional cultivar/landrace	Accession details

- Refine result
- Sort
 - Filter
 - Download

Example I – report of experiments

- Refine result
- Sort
 - Filter
 - Download

EURISCO Finding seeds for the future

Filter by species and traits

Genus * TRITICUM

Species * DURUM DESP. ISPAHANCUM HESLOT

Traits * Plant - height (cm) (average height in centimet...)

Apply Reset

Experiments with selected species and traits

Go Rows 10 Actions

Select Columns

Filter

Rows Per Page

Format

Flashback

Reset

Help

Download

Filter

Filter Type @ Column

Column

Experiment Start Year

EURISCO Finding seeds for the future

Filter by species and traits

Genus * TRITICUM

Species * DURUM DESP. ISPAHANCUM HESLOT

Traits * Plant - height (cm) (average height in centimet...)

Apply Reset

Experiments with selected species and traits

Experiment Start Year between 1977 and 1980

Experiment Description	Dataset Remark	Experiment Start Year	Experiment End Year	Details
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1977	1977	contained traits
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1979	1979	contained traits
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1979	1979	contained traits
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1980	1980	contained traits

Example I – scores

The screenshot shows the EURISCO intranet interface. At the top, there is a navigation bar with 'Home', 'About', 'Search', 'C&E data', 'Statistics and documents', and 'Imprint / Data Protection Policy'. Below this, there are filter options: 'Filter by species and traits', 'Filter by genus', 'Filter by experiment', and 'Filter by trait'. The main content area is titled 'Trait details' and includes a 'Distribution of scores' donut chart, 'Descriptive statistics' table, and 'Additional filters' section.

Descriptive statistics table:

Trait Name	Minimum	Maximum	Average	Stddev	Variance	First Quartile	Median	Third Quartile
Plant-Height (cm)	53.3	134	105.99	14.39	207.15	97.95	107.15	116.525

Additional filters:

- Species: -- All species of selected trait --
- Origin Country: -- All origin countries of selected trait --

Accession scores for selected trait:

NICCODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Origin Country	Biological Status	Details
POL	POL003	Triticum durum Desf.	27521	104.6	--	Portugal	Breeder's line	Accession details
POL	POL003	Triticum durum Desf.	27292	108.3	--	Spain	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27284	122.9	--	Poland	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27308	106.3	--	Spain	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27002	70.3	--	Italy	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27332	102	--	Portugal	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27019	104.3	--	--	Traditional cultivar/landrace	Accession details
POL	POL003	Triticum durum Desf.	27018	99.8	--	Italy	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27023	105	--	Tunisia	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27025	109.3	--	Portugal	Breeder's line	Accession details

Descriptive statistics

This image shows a close-up of the 'Origin Country' filter dropdown menu. The menu is open, showing a search bar 'Filter...' and a list of countries: Argentina, Austria, Bulgaria, Canada, and Chile. A red arrow points from the 'Origin Country' dropdown in the main screenshot to this close-up.

Additional filters, e.g. origin country

Example I – scores

Group values

Accession scores for selected trait

Q Go Rows 10 Actions

Origin Country

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Origin Country : Algeria							
NICODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Biological Status	Details
POL	POL003	Triticum durum Desf.	27515	114.6	-	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27430	98.1	-	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27325	106.6	-	Advanced or improved cultivar (conventional breeding methods)	Accession details
Origin Country : Argentina							
NICODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Biological Status	Details
POL	POL003	Triticum durum Desf.	27141	116.3	-	Advanced or improved cultivar (conventional breeding methods)	Accession details
Origin Country : Austria							
NICODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Biological Status	Details
POL	POL003	Triticum durum DESF.	27234	126.3	-	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum DESF.	27153	83.3	-	Advanced or improved cultivar (conventional breeding methods)	Accession details
Origin Country : Bulgaria							
NICODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Biological Status	Details
POL	POL003	Triticum durum Desf.	27237	110.6	-	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum durum Desf.	27085	134	-	Traditional cultivar/landrace	Accession details
POL	POL003	Triticum durum Desf.	27026	116.6	-	Traditional cultivar/landrace	Accession details
Origin Country : Canada							
NICODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Biological Status	Details
POL	POL003	Triticum durum Desf.	27243	117	-	Breeder's line	Accession details

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0.03 s

Example II – trait selection

Search for trait of interest

lodging resistance

Go Rows 10 Actions

All Columns

Trait Name

Trait Remark

Trait Method

Trait Group

Details

Trait Remark

Trait Method

µmol/100 g dry weight in s

µmol/100 g dry weight in m

EURISCO Intranet

Home About Search C&E data Statistics and documents Imprint / Data Protection Policy

Filter by species and traits Filter by genus Filter by experiment **Filter by trait**

Home > C&E data > Search by trait > Experiments using trait

Experiments using selected trait

1 - 10 of 38

Experiment Description	Dataset Remark	Experiment Start Year	Experiment End Year	Details
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1977	1977	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1978	1978	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1979	1979	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1980	1980	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1981	1981	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1982	1982	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1983	1983	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1984	1984	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1985	1985	scores
Field characterization and evaluation of Triticum durum collection	This dataset contains Characterization and evaluation data of Triticum durum	1986	1986	scores

1 - 10 of 38

0.76 s

release 1.4.3

Search EURISCO

- Quick search
- Advanced search
- Export EURISCO data
- C&E data

Filter experiments containing the selected trait

Example II – scores

eurisco Finding seeds for the future

Home About Search C&E data Statistics and documents Imprint / Data Protection Policy

Filter by species and traits Filter by genus **Filter by experiment** Filter by trait

Home > C&E data > Traits in experiment > Trait details

Trait details

Distribution of scores

Descriptive statistics

Trait Name	Minimum	Maximum	Average	Stddev	Variance	First Quartile	Median	Third Quartile
Lodging resistance	1	9	5.08	2.24	5	3	5	7

Experiment description: Field characterization and evaluation of Triticum durum collection

Trait name: Lodging resistance

Trait method: Rating score from 1 (very sensitive) to 9 (very resistant)

Additional filters

Genus: -- All genera of selected trait --

Origin Country: -- All origin countries of selected trait --

Create charts

Accession scores for selected trait

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NICODE	INSTCODE	GENUS	ACCENUMB	Score	Score Link	Origin	Biological Status	Details
POL	POL003	Triticum	27223	9	-	France	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum	27221	3	-	Spain	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum	27219	8	-	Turkey	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum	27220	5	-	-	Breeder's line	Accession details
POL	POL003	Triticum	27218	4	-	Union of Soviet Socialist Republics	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum	27216	2	-	Union of Soviet Socialist Republics	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum	27217	5	-	Greece	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum	27215	4	-	Austria	Advanced or improved cultivar (conventional breeding methods)	Accession details
POL	POL003	Triticum	27213	2	-	-	Breeder's line	Accession details
POL	POL003	Triticum	27214	5	-	United States	Advanced or improved cultivar (conventional breeding methods)	Accession details

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0.13 s

release 1.4.3

Accession scores for selected trait



1 - 10 of 320

Go Rows 10 Actions

- Select Columns
- Filter
- Rows Per Page
- Format**
- Flashback
- Reset
- Help
- Download
- Chart
- Group By
- Sort
- Control Break
- Highlight
- Compute
- Aggregate
- Pivot

Example II – scores

Chart [x]

Chart Type:    

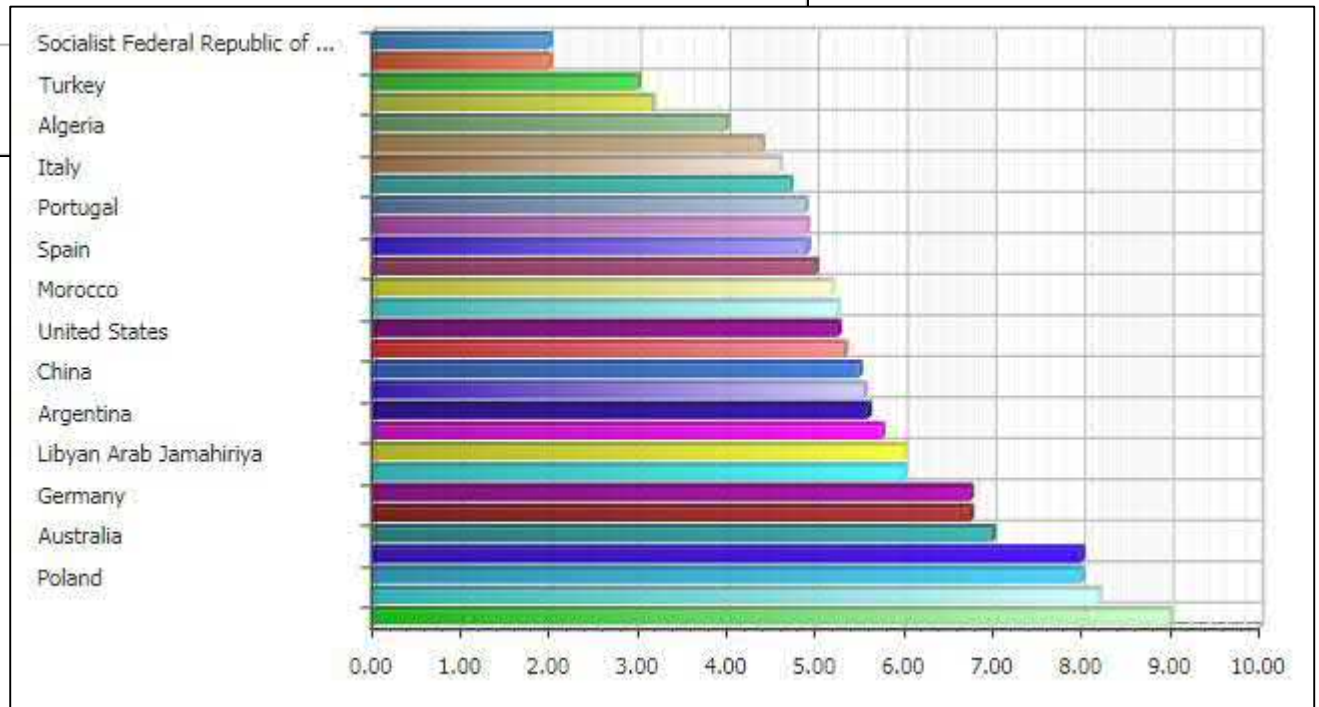
Label: Axis Title for Label:

Value: Axis Title for Value:

Function:

Sort:

Chart settings



Phenotypic data search in EURISCO

Download experiments

The report below provides the possibility to download whole experiments as MS Excel files, which contain the experiment description, the trait definitions as well as the phenotypic scores. Please use the search bar below to define filters.

Dataset = 'Characterisation data (1946 - 2012) of barley accessions from DEU146'

1 - 10 of 65

Dataset	Experiment	Start year ↑	End year	File created	Filesize (KB)	
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1945 - 1946.	1945	1946	2019-11-20	152.51	download
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1946 - 1947.	1946	1947	2019-11-20	64.22	download
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1947 - 1948.	1947	1948	2019-11-20	302.51	download
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1948 - 1949.	1948	1949	2019-11-20		
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1949 - 1950.	1949	1950	2019-11-20		
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1950 - 1951.	1950	1951	2019-11-20		
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1951 - 1952.	1951	1952	2019-11-20		
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1952 - 1953.	1952	1953	2019-11-20		
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1953 - 1954.	1953	1954	2019-11-20		
Characterisation data (1946 - 2012) of barley accessions from DEU146	Scoring of barley accessions 1954 - 1955.	1954	1955	2019-11-20		

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0.02 s

Download of full experiments

- Experiment description
- Trait definition
- Scores

EXPERIMENT_DESCRIPTION	START_YEAR	END_YEAR	LONGITUDE	LATITUDE	EXPERIMENT_REPORT
Scoring of barley accessions 1947 - 1948.	1947	1948	11,27855	51,82573	https://doi.org/10.1038/sdata.2018.278

The challenge: Diversity of data

Lots of “standards” to express traits

- Different trait names/synonyms
- Different rating scales (nominal, ordinal, metric)

Different amounts of meta information

- When, where, how, by whom?
- Experiment set-up, treatment etc.

Different means of data management

- DBMS, flat files, mainly Excel files

Current approach

- Data standardisation
 - No standardisation of trait, scale or experimental design
 - Pragmatic approach: Import of existing data as-is to reach critical mass
 - Data exchange
 - Only standardisation of exchange format
 - As simple as possible
 - As few fields as possible
 - “minimum consensus”
 - Data management
 - Highly abstracted, following the single-observation concept (van Hintum et al. 1992)
 - Omitting fine-grained metadata
- **Input of crop WGs needed**



COLLABORATION

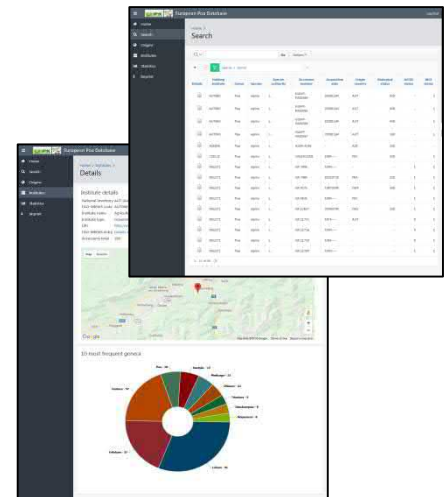
Participation in project consortia

- Various ECPGR Grant Scheme Activities
- EUCLEG (Horizon 2020), 2017–2021
 - Coordination: INRA, France
 - Aim: reduction of protein import dependencies of both European and Chinese partners
 - Leader of work package for data management
 - Find data gaps in EURISCO (and try to close them)
 - Manage project data (passport, phenotypic, genetic)
- Farmer's Pride (Horizon 2020), 2018–2020
 - Coordination: University of Birmingham, U.K.
 - Aim: Development of network of *in situ* sites and stakeholders
 - Task leader: Preparation of a concept to extend EURISCO for *in situ* data
- GenRes Bridge (Horizon 2020), (2019–2021)
 - Coordination: European Forest Institute
 - Aim: Join forces of plant, forest and animal genetic resources
 - User training + information system linking
- ECPGR European Evaluation Network (initial funding BLE), 2019–2022
 - Coordination: ECPGR
 - Aim: Implementation of the evaluation network on wheat/barley and vegetable crops
 - Development of infrastructure



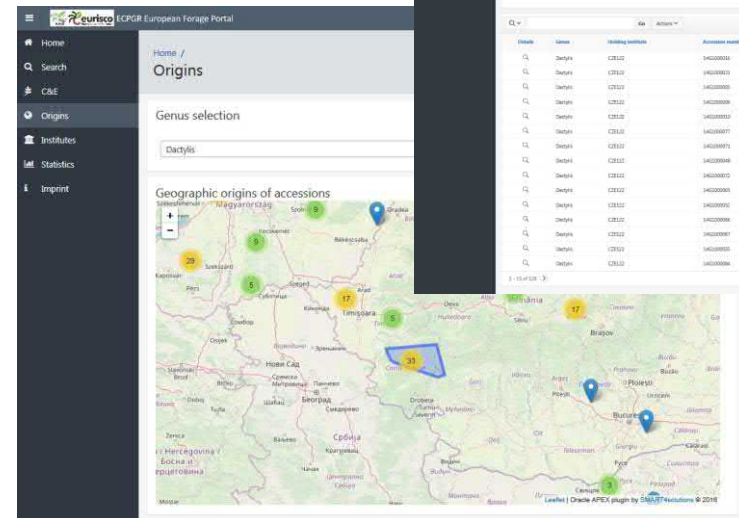
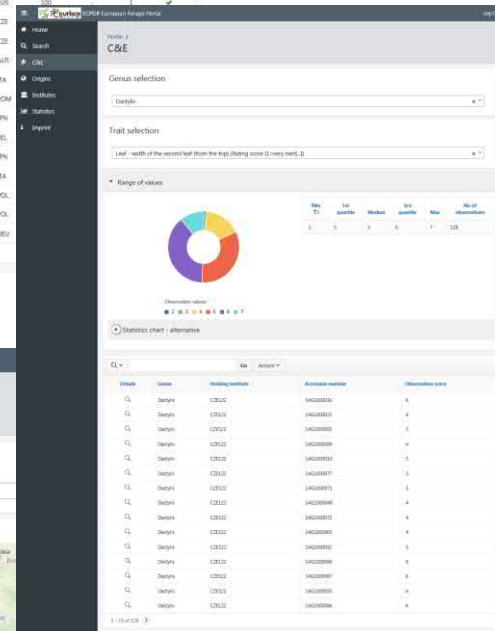
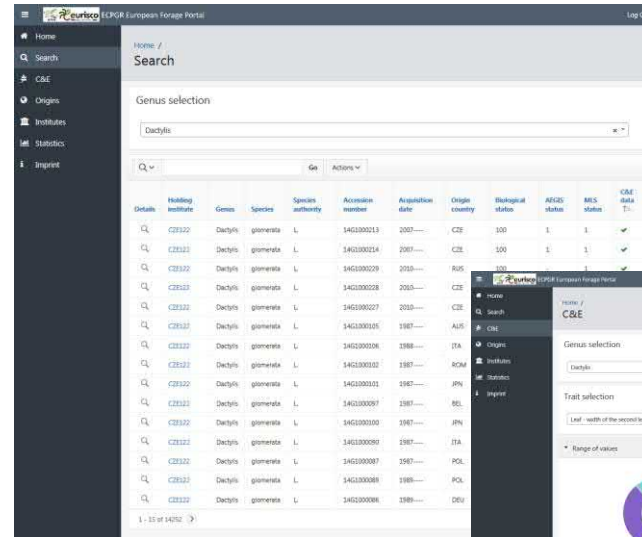
Collaborations

- Genesys (Crop Trust)
 - Synchronisation of passport data
 - European hub for Genesys
- FAO-WIEWS
 - Synchronisation of passport data (non-regular)
- Germinate (JHI)
 - Close interlinking
- GLIS (ITPGRFA)
 - EURISCO provides a service for registering accessions for DOIs
- ECPGR crop working groups
 - Backend support for crop portals



Support of ECPGR Central Crop Databases

- Cooperation with various crop WGs
- Example: European Forage Portal (Forage WG)
 - Browse
 - Passport data
 - Phenotypic data
 - Selection via map
 - Statistics
- Automatically updated from EURISCO
- Blueprint for other crop portals





M. Grau / IPK

THANK YOU FOR YOUR ATTENTION