

Stephan Weise



EURISCO – The European Search Catalogue for Plant Genetic Resources

EURISCO training workshop 2023
12–14 September 2023, Plovdiv, Bulgaria



Collections of plant genetic resources

- Approx. 1,800 PGR collections around the world
- Approx. 600 PGR collections in Europe
- 5.8 million *ex situ* accessions globally

European approach: EURISCO



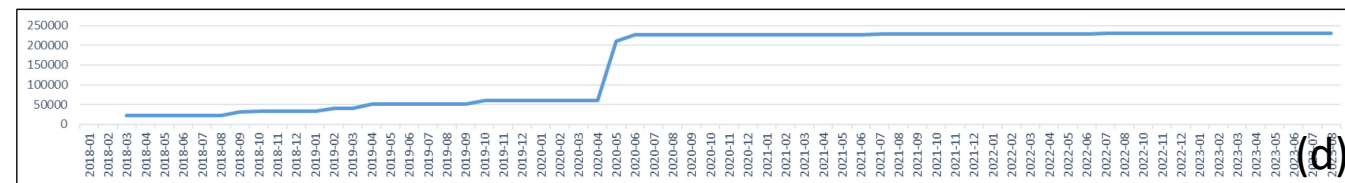
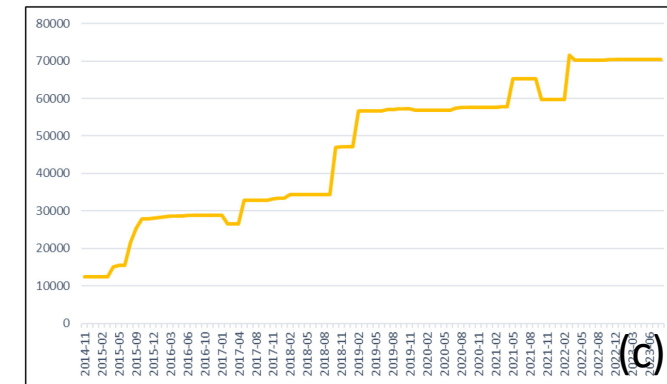
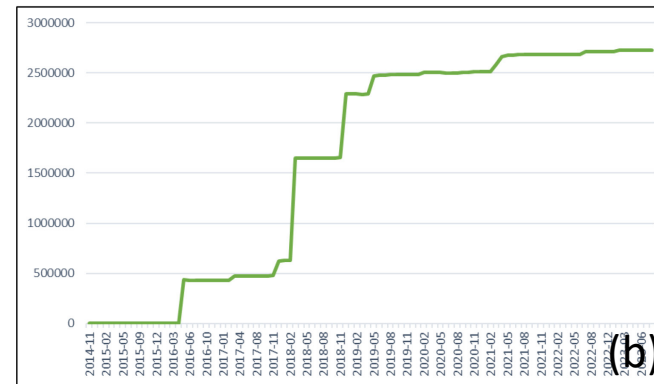
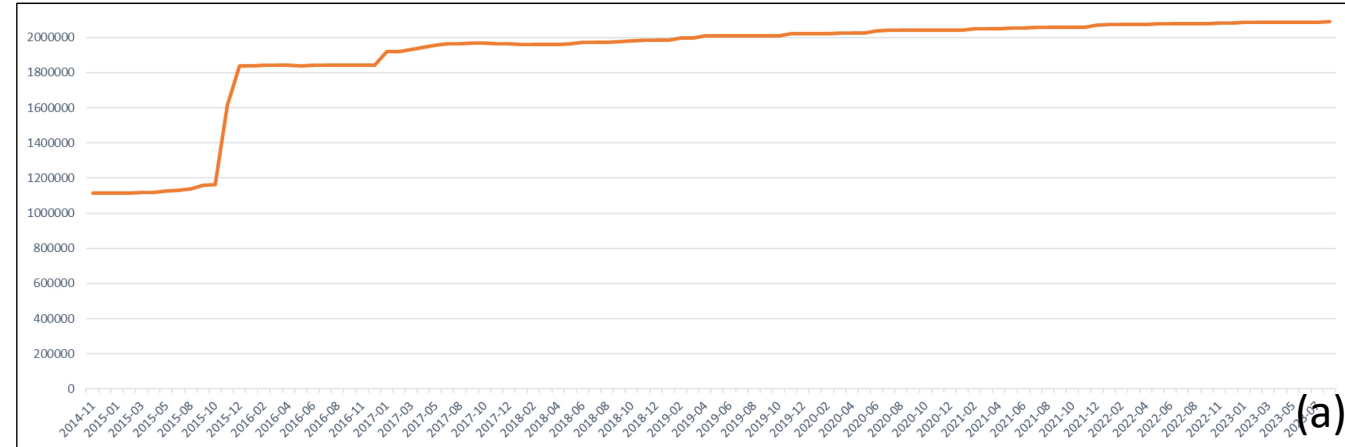
- What is EURISCO?
 - European information system for plant genetic resources
 - Search catalogue for *ex situ* collections
 - Accession-level information system
- Purpose
 - Provides passport data and phenotypic data about plant germplasm accessions maintained in Europe
 - Assists in meeting national 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)



Key facts

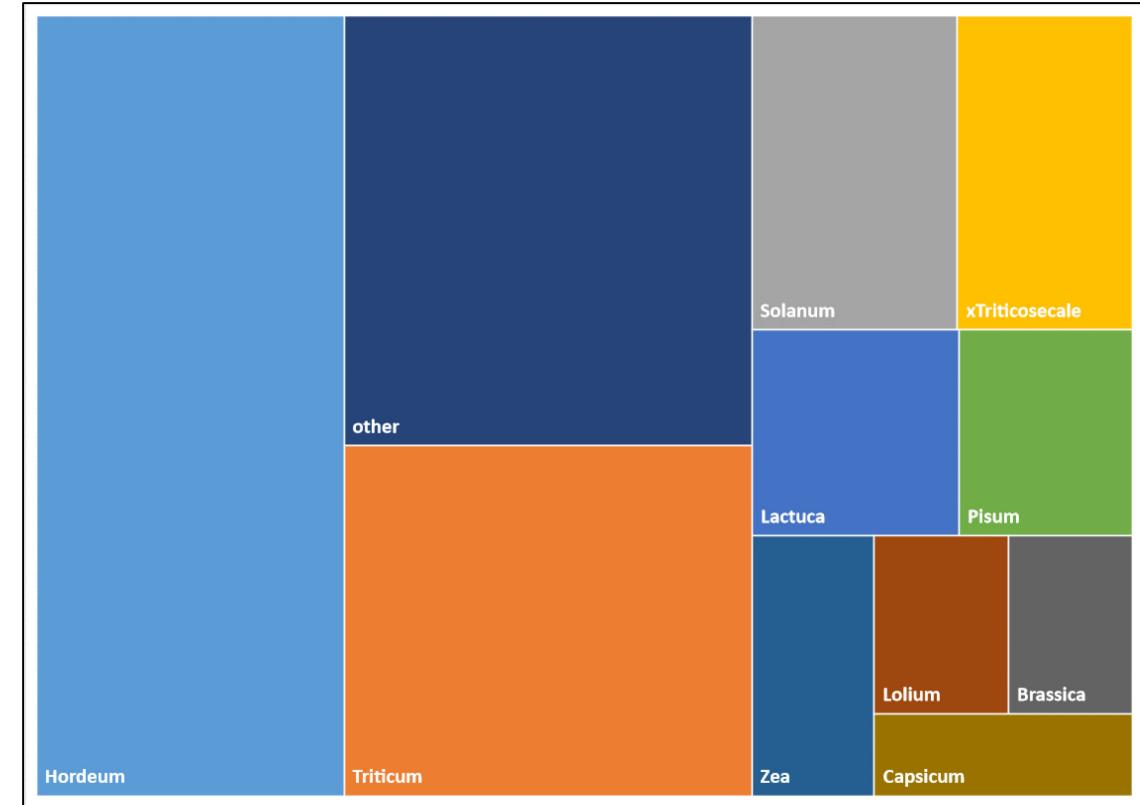
- 2,088,704 accessions (a)
- 2,726,998 phenotypic data records (b)
- 6,731 genera
- 45,115 species
- 430,317 MLS accessions
- 70,427 AEGIS accessions (c)
- 230,758 PUIDs/DOIs (d)

as of 2023-08-29



Phenotypic data

- Extension available since 2016
- Currently, 2,726,998 records of data from 21 countries
- 73 phenotypic datasets with 3,919 experiments
- 91,366 accs. with phenotypic data

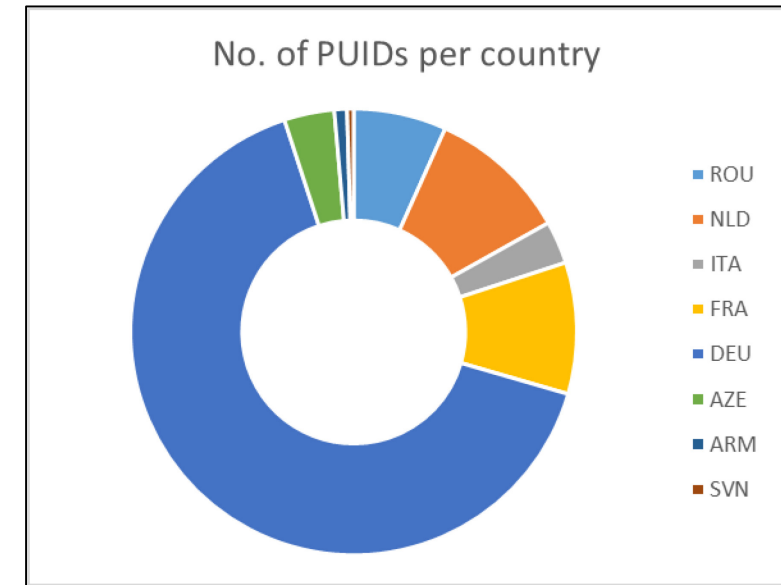


as of 2023-08-29

PUIDs/DOIs

- 230,758 PUIDs
 - DOI assignment is a time consuming process
 - 23 institutes from 8 countries
 - Most of them DOIs (all except Italy)
- Own assignment of DOIs
 - France, Germany
- Use of the Treaty infrastructure
 - Netherlands
- Use of the EURISCO DOI service
 - Armenia, Azerbaijan, Romania, Slovenia
- Other type of PUIDs
 - Italy → about to switch to DOIs

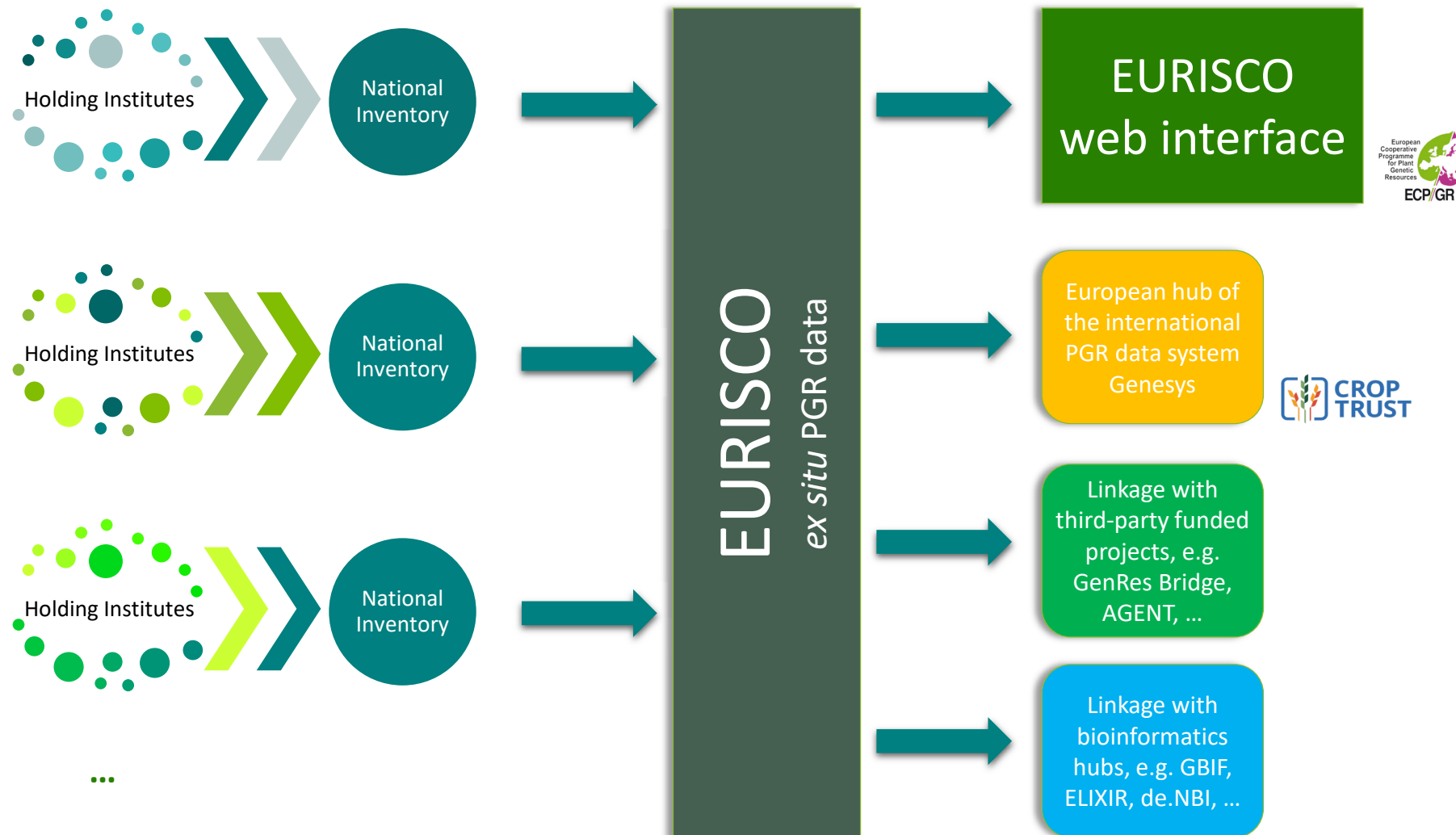
as of 2023-08-29



EURISCO development

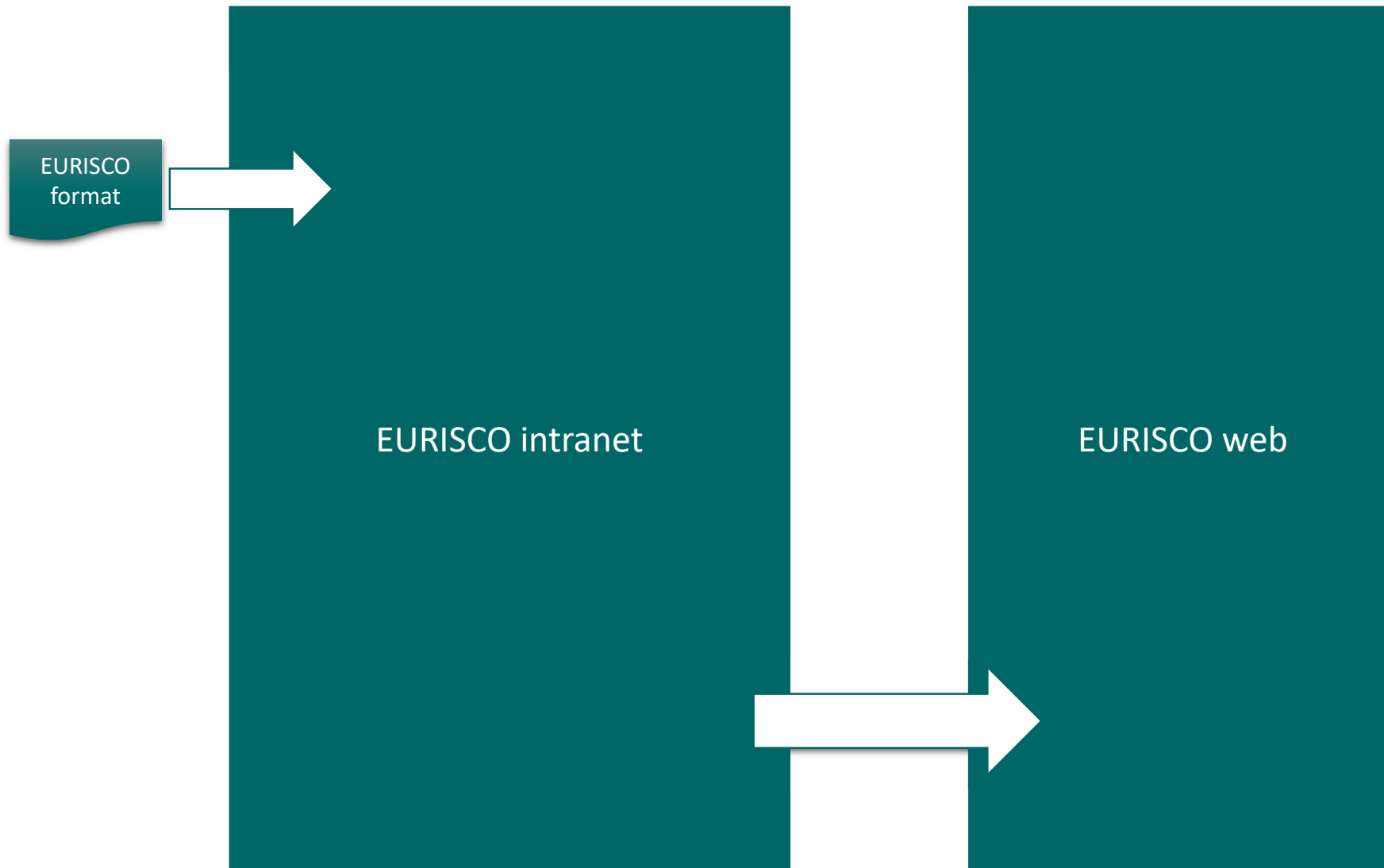
- Started in 1999 (EU project EPGRIS)
- 43 countries involved
(Nordic Countries → NordGen)
- National collections represented by
National Inventories (NIs)
- Network of National Focal Points (NFPs)
links NIs ↔ EURISCO





EURISCO hosting

- On behalf of the European Cooperative Programme for Plant Genetic Resources (ECPGR)
 - Available online since 2003
 - Bioversity International, Rome, Italy
 - Since April 2014:
 - EURISCO hosted by IPK Gatersleben, Germany
 - New development from scratch
 - So far, two 5-year phases (until the end of 2023); further extension endorsed by ECPGR Steering Committee



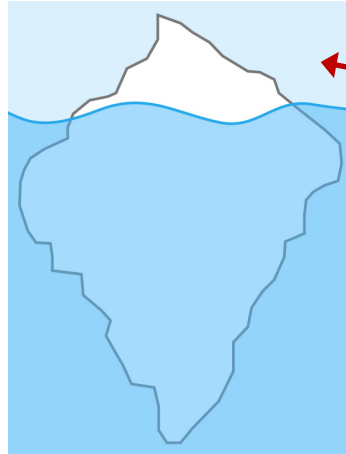
Behind the scenes: database architecture features

- EURISCO intranet
 - 64 tables
 - 511 indexes
 - 117 triggers
 - 16 PL/SQL packages
 - 202 functions and procedures
 - data upload and import
 - integrity checks
 - updates (passport and phenotypic)
 - taxonomy support
 - 60 sequences
 - 30 Java classes
- EURISCO web
 - 56 tables
 - 39 materialised views
 - 771 indexes
 - 11 PL/SQL packages
 - 56 functions and procedures
 - download
 - newsletter
 - statistics
 - phenotypic data visualisation
 - AEGIS status auditing
 - taxonomy support
 - In-memory features
 - 9 Java classes

The figures do not include the objects of the *in situ* CWR extension, as it is still under development.

as of 2023-08-29

Web interface



JOURNAL ARTICLE

EURISCO update 2023: the European Search Catalogue for Plant Genetic Resources, a pillar for documentation of genebank material

Pragna Kotni, Theo van Hintum, Lorenzo Maggioni, Markus Oppermann, Stephan Weise

Nucleic Acids Research, gkac852, <https://doi.org/10.1093/nar/gkac852>
Published: 03 October 2022 Article history

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Abstract

The European Search Catalogue for Plant Genetic Resources (EURISCO) is a central entry point for information on crop plant germplasm accessions from institutions in Europe and beyond. In total, it provides data on more than two million accessions, making an important contribution to unlocking the vast genetic diversity that lies deposited in >400 germplasm collections in 43 countries. EURISCO serves as the reference system for the Plant Genetic Resources Strategy for Europe and represents a significant approach for documenting and making available the world's agrobiological diversity. EURISCO is well established as a resource in this field and forms the basis for a wide range of research projects. In this paper, we present current developments of EURISCO, which is accessible at <http://eurisco.ecpgr.org>.

Nucleic Acids Research

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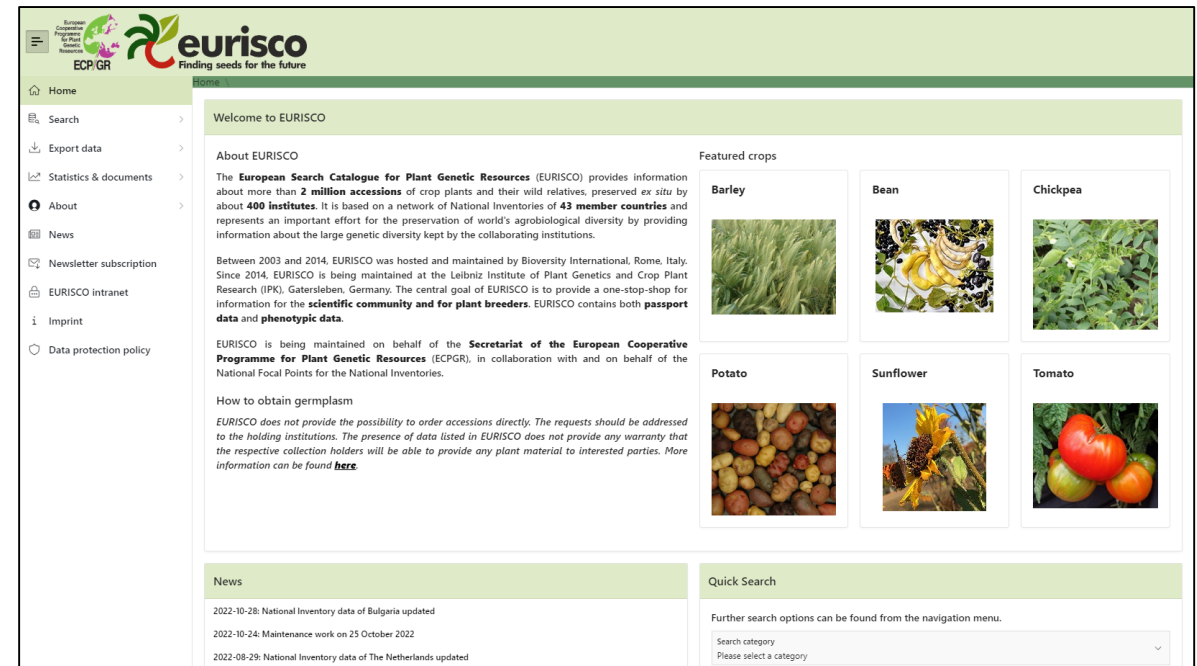
OXFORD
Advertisement

Views: 686 | Altmetric: 54

More metrics information

Email alerts

- Article activity alert
- Advance article alerts
- New issue alert



The screenshot shows the EURISCO website interface. At the top, there is a navigation menu with options like Home, Search, Export data, Statistics & documents, About, News, Newsletter subscription, EURISCO intranet, Imprint, and Data protection policy. The main content area features a 'Welcome to EURISCO' message, an 'About EURISCO' section, and a 'Featured crops' section with images of Barley, Bean, Chickpea, Potato, Sunflower, and Tomato. There is also a 'News' section with recent updates and a 'Quick Search' section.

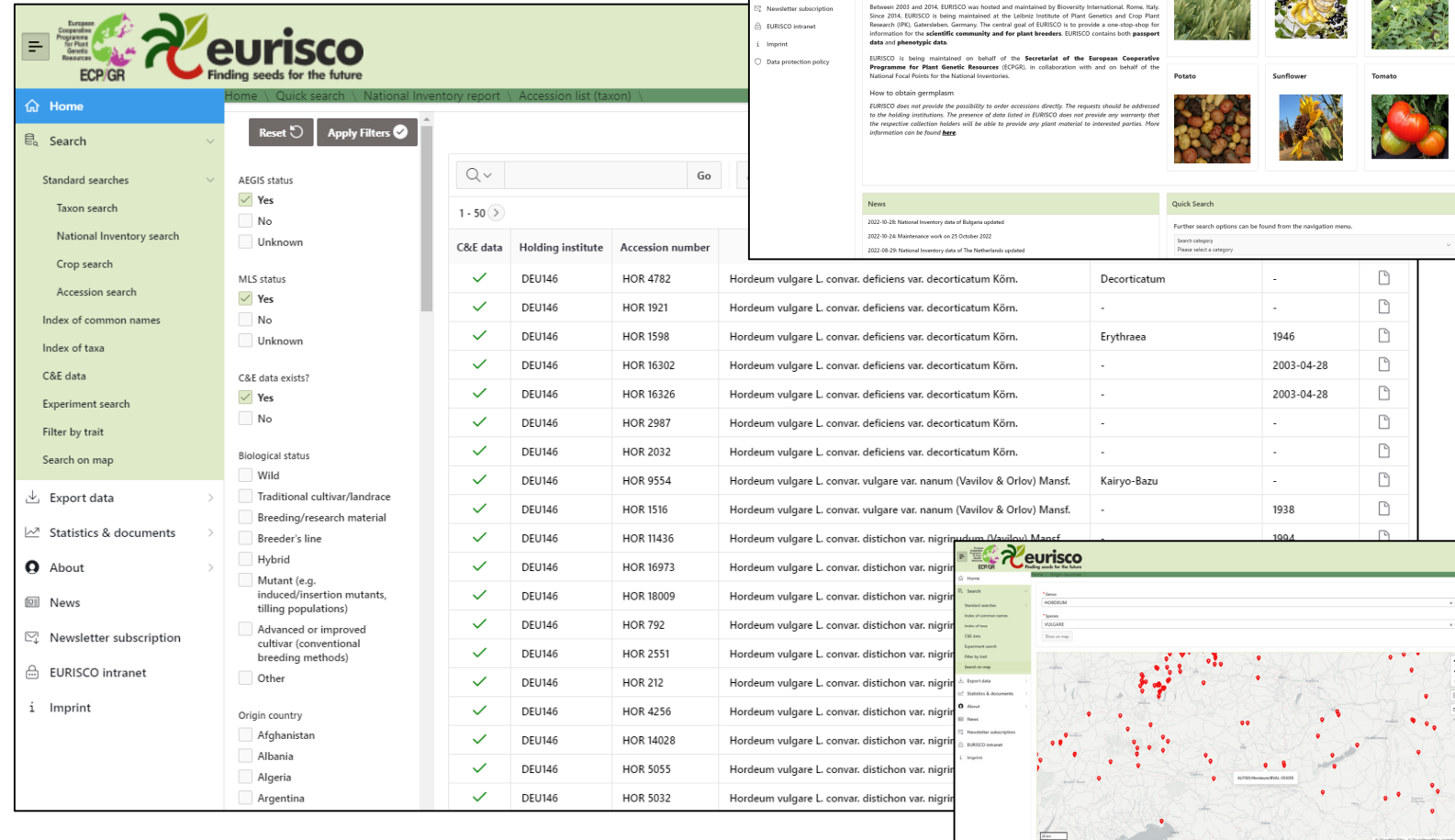
Version history of the public interface

v1.0.0	v1.1.0	v1.2.0	v1.3.0	v1.4.0	v1.5.0	v2.0.0	v2.1.0
<ul style="list-style-type: none"> • Oct. 2014 • First public version • v1.0.1 – v1.0.6 continuous improvements 	<ul style="list-style-type: none"> • Nov. 2014 • New export functionality + download of full dump • v1.1.1 – v1.1.17 (2015 – 2016) continuous improvements 	<ul style="list-style-type: none"> • Jun. 2016 • C&E data extension; new export functionalities; new advanced search; lots of small improvements • v1.2.1 – v1.2.7 (2016 – 2017) continuous improvements 	<ul style="list-style-type: none"> • Dec. 2017 • Migration to MCPD2; increased usability; lots of small improvements • v1.3.1 – v1.3.5 (2018) continuous improvements 	<ul style="list-style-type: none"> • Jun. 2018 • Taxonomy search simple completely reworked • v1.4.1 – v1.4.9 (2018 – 2019) continuous improvements 	<ul style="list-style-type: none"> • Sep. 2019 • Taxonomy search advanced completely reworked • v1.5.1 – v1.5.4 (2019 – 2020) continuous improvements 	<ul style="list-style-type: none"> • Mar. 2022 • Fully reengineered web interface (new technological basis, additional functionalities) • v2.0.1 – v2.0.8 (2022) continuous improvements 	<ul style="list-style-type: none"> • <i>Under preparation</i> • <i>Improvement of reports & export mechanism; improvement of passport/phenotypic searches; DOI search</i>

A total of 70 versions and sub-versions of the public EURISCO web interface have been completed since 2014, 26 of which since 2019.

Passport data search in EURISCO

- Four standard searches:
 - Taxon search (incl. synonyms)
 - National Inventory search
 - Crop search
 - Accession search
- Index of common names
- Index of taxa
- Map-based search
- Various data export features



The screenshot displays the EURISCO website interface. On the left, there is a navigation menu with options like 'Home', 'Search', 'Export data', 'Statistics & documents', 'About', 'News', 'Newsletter subscription', 'EURISCO intranet', and 'Imprint'. The main content area shows search filters for AEGIS status, MLS status, C&E data exists?, Biological status, and Origin country. A table of search results is visible, listing accession numbers and their corresponding taxonomic information.

C&E data	Holding institute	Accession number	Scientific name	Common name	Year	Actions
✓	DEU146	HOR 4782	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	Decorticutatum	-	[Icon]
✓	DEU146	HOR 1921	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	-	[Icon]
✓	DEU146	HOR 1598	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	Erythraea	1946	[Icon]
✓	DEU146	HOR 16302	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	2003-04-28	[Icon]
✓	DEU146	HOR 16326	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	2003-04-28	[Icon]
✓	DEU146	HOR 2987	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	-	[Icon]
✓	DEU146	HOR 2032	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	-	[Icon]
✓	DEU146	HOR 9554	Hordeum vulgare L. convar. vulgare var. nanum (Vavilov & Orlov) Mansf.	Kairyo-Bazu	-	[Icon]
✓	DEU146	HOR 1516	Hordeum vulgare L. convar. vulgare var. nanum (Vavilov & Orlov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 11436	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	1994	[Icon]
✓	DEU146	HOR 16973	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 18009	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 792	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 2551	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 212	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 4256	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 14028	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 5055	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]
✓	DEU146	HOR 5032	Hordeum vulgare L. convar. distichon var. nigricaudum (Vavilov) Mansf.	-	-	[Icon]

Phenotypic data search in EURISCO

Wizard-based searches for

- Species and trait
- Experiment
- Trait

Filter C&E data by species and traits

* Genus: HORDEUM

* Species: VULGARE L., SPONTANEUM KOCH

* Traits: 1000 kernel weight (g)[...], Annuality ((1=winter type, 5=Interme[...])

Submit Reset

National Inventory: GERMANY

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Show All Scores for selected taxon Experiments with selected species and traits

Experiment description	Trait name	Trait method	NICODE	INSTCODE
Elicitation of character[...]	1000 kernel weight	[g]	AZE	AZE01
Elicitation of character[...]	1000 kernel weight	[g]	AZE	AZE01
Elicitation of character[...]	1000 kernel weight	[g]	AZE	AZE01
Elicitation of character[...]	1000 kernel weight	[g]	AZE	AZE01
Elicitation of character[...]	1000 kernel weight	[g]	AZE	AZE01

Experiment description

Scoring of barley accessions 1991 - 1992.

experiment name: LOL_ESP99_EVA2004.Elicitation of evaluation data.

experiment name: LOL_HRV96-97_pr-eva2003.Elicitation of evaluation data.

experiment name: LOL_IRL2002_EVA2008.Elicitation of evaluation data.

experiment name: LOL_BGR98_pr-eva2002.Elicitation of evaluation data.

C-Daten POA Vor-Projekt_SZS

C-Daten POA Vor-Projekt_NPZ

Scoring of barley accessions 1945 - 1946.

Scoring of barley accessions 1946 - 1947.

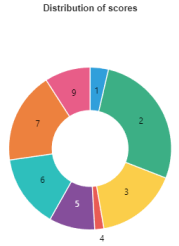
Scoring of barley accessions 1947 - 1948.

1 - 10 of 84

Trait Remark = 'Aegilops L.'

Trait Name	Trait Remark	Trait Method
Brown rust - resistance	Aegilops L.	Rating score (1=very low (very sensitive), 2=very resistant), 5=medium (medium resistant), 6=medium very high (resistant-immune), 9=very high (resistant-immune)
Spike - position (at full ripeness)	Aegilops L.	Rating score (1=erect < 15°, 3=semi-erect 15°- 45°)
Winter hardiness (field - survive)	Aegilops L.	Rating score (1=very low < 20%, 2=very low - low high 21-40%, 3=high 41-60%, 4=high - very high > 60%)
Spike - length	Aegilops L.	Rating score (1=very short < 3,0 cm, 2=very short 3,0-4,5 cm, 3=short 4,6- 6,0 cm, 4=short - medium 6,1- 7,5 cm, 5=medium 7,6- 9,0 cm, 6=medium - long 9,1-10,5 cm, 7=long 10,6-12,0 cm, 8=long - very long 12,1-13,5 cm, 9=very long > 13,5 cm)
Stripe rust - resistance	Aegilops L.	Rating score (1=very low (very sensitive), 2=very resistant), 5=medium (medium resistant), 6=medium very high (resistant-immune), 9=very high (resistant-immune)
Spike - colour of the awns	Aegilops L.	Rating score (1=same as spike, 9=different black)
Stem rust - resistance	Aegilops L.	Rating score (1=very low (very sensitive), 2=very resistant), 5=medium (medium resistant), 6=medium very high (resistant-immune), 9=very high (resistant-immune)
Stem - colour of the upper internode (at the heading)	Aegilops L.	Rating score (3=slight green, 5=green, 7=violet)
Powdery mildew - plant - resistance	Aegilops L.	Rating score (1=very low (very sensitive), 2=very resistant), 5=medium (medium resistant), 6=medium very high (resistant-immune), 9=very high (resistant-immune)
Spike - colour after heading	Aegilops L.	Rating score (1=yellow-green, 2=light green, 3=green, 4=dark green, 5=blue, 6=dark blue, 7=light violet (sparse awns), 8=dark violet (dense awns))
Plant - tuft shape (at tillering)	Aegilops L.	Rating score (1=very erect < 25°, 3=semi-erect 25°- 45°)

Trait details



Descriptive statistics

Trait name	Minimum	Maximum	Average	Stddev	Variance	First quartile	Median	Third quartile
Spike - length	1	9	4.56	2.44	5.95	2	5	7

Experiment description: Praha Ruzyně

Trait name: Spike - length

Trait method: Rating score (1=very short < 3,0 cm, 2=very short - short 3,0- 4,5 cm, 3=short 4,6- 6,0 cm, 4=short - medium 6,1- 7,5 cm, 5=medium 7,6- 9,0 cm, 6=medium - long 9,1-10,5 cm, 7=long 10,6-12,0 cm, 8=long - very long 12,1-13,5 cm, 9=very long > 13,5 cm)

Additional filters: Genus: All species of selected trait; Origin country: All origin countries of selected trait

NICODE	INSTCODE	Taxon	ACCNUMB	Score	Score link	Origin country	Biological status	Details
CZE	CZE122	Aegilops geniculata Roth	01C2109049	2	https://grinczech.vurcz.cz/gringlobal/AccessionObservation.aspx?id=17594	France	Wild	Accession details
CZE	CZE122	Aegilops geniculata Roth	01C2109054	1	https://grinczech.vurcz.cz/gringlobal/AccessionObservation.aspx?id=17599		Wild	Accession details
CZE	CZE122	Aegilops ventricosa Tausch	01C2100513	6	https://grinczech.vurcz.cz/gringlobal/AccessionObservation.aspx?id=16551		Wild	Accession details

Refine result

- Sort
- Filter
- Download
- Chart

AEGIS

- AEGIS - A European Genebank Integrated System
- ECPGR initiative for improving the coordination of
 - Conservation and management of PGRFA
 - Access to PGRFA
- Aims:
 - Conservation of genetically unique and important accessions
 - Making materials available for breeding and research
 - Safe long-term conservation (with common agreed standards)
 - Reduction of redundancy
 - Clarification of responsibilities for conservation



AEGIS data in EURISCO

- No physical collection → “virtual” genebank
- AEGIS accessions labelled in EURISCO
 - Including tracking of AEGIS status
- 70,427 AEGIS accessions
- 35 member countries

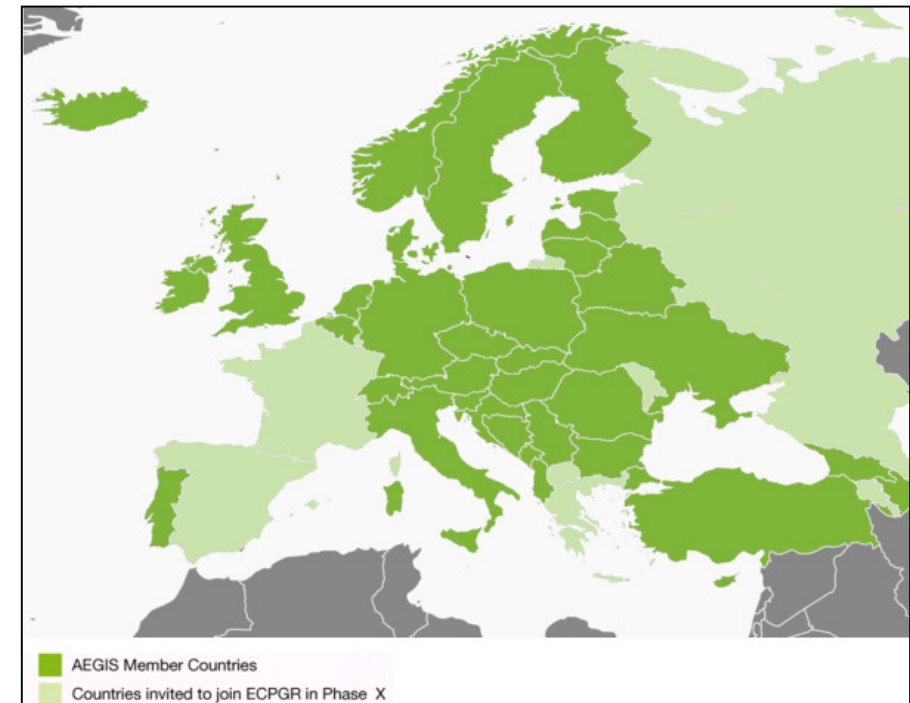
AEGIS status auditing

Q Go Actions

1 - 15 >

NICCODE	INSTCODE	AEGISSTAT old	AEGISSTAT current	Change timestamp ↓	DIML operation	No. of accessions
ITA	ITA380	1		2023-06-05	Existing AEGIS accession completely removed from EURISCO	44 (click for details)
ITA	ITA380		1	2023-06-05	Existing EURISCO accession labelled as part of AEGIS	44 (click for details)
CZE	CZE050		1	2023-01-04	Existing EURISCO accession labelled as part of AEGIS	1 (click for details)
CZE	CZE122		1	2023-01-04	Existing EURISCO accession labelled as part of AEGIS	12 (click for details)
ITA	ITA380	0	1	2022-11-25	Existing EURISCO accession labelled as part of AEGIS	34 (click for details)
ITA	ITA380	1	0	2022-11-25	Existing AEGIS accession de-flagged	4 (click for details)
ITA	ITA380	1		2022-11-25	Existing AEGIS accession completely removed from EURISCO	5 (click for details)
ITA	ITA381	0	1	2022-11-25	Existing EURISCO accession labelled as part of AEGIS	1 (click for details)
ITA	ITA381	1	0	2022-11-25	Existing AEGIS accession de-flagged	1 (click for details)
ITA	ITA378	1		2022-11-18	Existing AEGIS accession completely removed from EURISCO	1 (click for details)
ITA	ITA380	0	1	2022-11-18	Existing EURISCO accession labelled as part of AEGIS	33 (click for details)
ITA	ITA380	1	0	2022-11-18	Existing AEGIS accession de-flagged	2 (click for details)
ITA	ITA380	1		2022-11-18	Existing AEGIS accession completely removed from EURISCO	2 (click for details)
ITA	ITA380		1	2022-11-18	Existing EURISCO accession labelled as part of AEGIS	6 (click for details)
ITA	ITA381	0	1	2022-11-18	Existing EURISCO accession labelled as part of AEGIS	1 (click for details)

1 - 15 >



as of 2023-08-29

International integration and data provision of EURISCO



- Genesys (Global Crop Diversity Trust)
- FAO-WIEWS
- Germinate (JHI)
- Vital part of the global information system (GLIS)
- Data provider for ECPGR crop working groups
- *EURISCO is used as a data provider for various projects*



Food and Agriculture
Organization of the
United Nations



The International Treaty
ON PLANT GENETIC RESOURCES
FOR FOOD AND AGRICULTURE



The James
Hutton
Institute



European
Cooperative
Programme
for Plant
Genetic
Resources

ECP/GR

Example of data provision

Reset Apply Filters

Storage Type
 Seed collection
 Long term

Age/s Status
 Yes
 No
 Unknown

MLS Status
 Yes
 No
 Unknown

C&E Data exists
 Yes
 No

Biological Status
 Breeder's line
 Wild
 Breeding/research material
 Advanced or improved cultivar (conventional breeding methods)
 Other
 Mutant (e.g. induced/insertion mutants, killing populations)
 Traditional cultivar/landrace
 Hybrid

Origin Country
 Germany

C&E Data	Holding Institute	Accession Number	Taxon	Accession Name	Acquisition Date	Earliest Acc. Id.
✓	DEU146	HOR 1254	Hordeum vulgare L. convar. vulgare var. hybernum Viborg	-	1942	
✓	DEU146	HOR 3904	Hordeum vulgare L. convar. intermedium var. transiens Körn.	-	-	
✓	DEU146	HOR 10951	Hordeum vulgare L.	-	1989	
✓	DEU146	HOR 11153	Hordeum vulgare L. convar. vulgare var. parallelum Körn.	-	1986	
✓	DEU146	HOR 11172	Hordeum vulgare L. convar. vulgare var. hybernum Viborg	-	1992	
✓	DEU146	HOR 12710	Hordeum vulgare L.	-	1994	
✓	DEU146	HOR 13491	Hordeum vulgare L. convar. vulgare var. parallelum Körn.	-	1998	
✓	DEU146	HOR 13712	Hordeum vulgare L. convar. vulgare var. subviolaceum Körn.	-	2003-01-20	
✓	DEU146	HOR 13713	Hordeum vulgare L. convar. deficiens var. steudleri Körn.	-	2003-01-20	
✓	DEU146	HOR 13715	Hordeum vulgare L. convar. vulgare var. hybernum Viborg	-	2003-01-20	
✓	DEU146	HOR 13721	Hordeum vulgare L. convar. vulgare var. hybernum Viborg	-	2003-01-20	
✓	DEU146	HOR 13723	Hordeum vulgare L. convar. deficiens (Steud.) Mansf.	-	2003-01-20	
✓	DEU146	HOR 13725	Hordeum vulgare L. convar. vulgare var. hybernum Viborg	-	2003-01-20	
✓	DEU146	HOR 13729	Hordeum vulgare L.	-	2003-01-20	
✓	DEU146	HOR 13730	Hordeum vulgare L.	-	2003-01-20	
✓	DEU146	HOR 13732	Hordeum vulgare L.	-	2003-01-20	
✓	DEU146	HOR 13734	Hordeum vulgare L. convar. deficiens (Steud.) Mansf.	-	2003-01-20	

Genus selection

Festuca

Q Go Actions

Y Holding institute = 'DEU271'

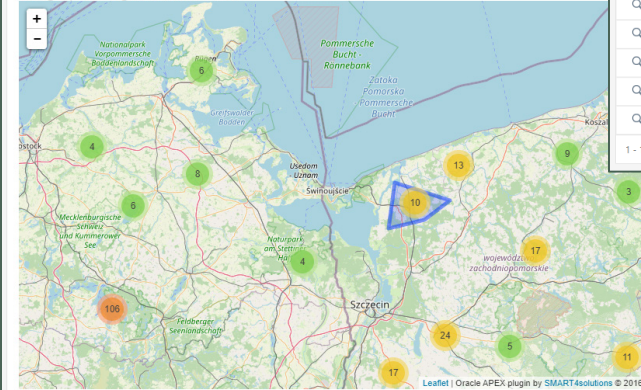
Details	Holding institute	Genus	Species	Species authority	Accession number	Acquisition date	Origin country	Biological status	AGIS status	MLS status	C&E data
Q	DEU271	Festuca	rubra	L.	GR 6112	19950830	DEU	130	1	1	✗
Q	DEU271	Festuca	rubra	L.	GR 5024	1993----	POL	-	0	1	✗
Q	DEU271	Festuca	rubra	L.	GR 8290	20030602	DEU	500	1	1	✗
Q	DEU271	Festuca	rubra	L.	GR 2173	19900102	NLD	500	0	1	✗
Q	DEU271	Festuca	rubra	L.	GR 2286	19861111	CSK	500	0	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 10149	20031209	DEU	100	1	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 10064	20031208	DEU	100	1	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 10046	20031204	DEU	500	1	1	✗
Q	DEU271	Festuca	arundinacea	SCHREB.	GR 1430	19890103	-	-	0	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 1943	19900529	BEL	500	0	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 9963	20031202	-	100	1	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 1864	19700901	DDR	-	1	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 5177	19800904	DEU	100	1	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 9885	20031201	DEU	100	1	1	✗
Q	DEU271	Festuca	pratensis	HUDES.	GR 10185	20031210	DEU	100	1	1	✗

1 - 15 of 2,207

Genus selection

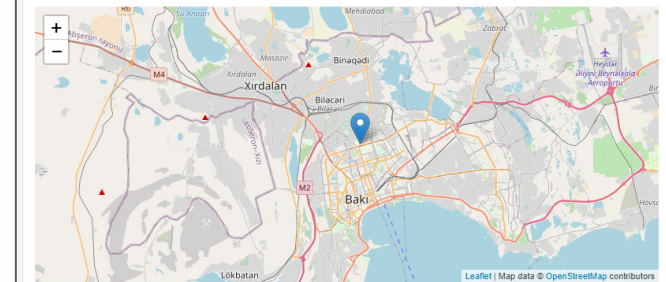
Lolium

Geographic origins of accessions

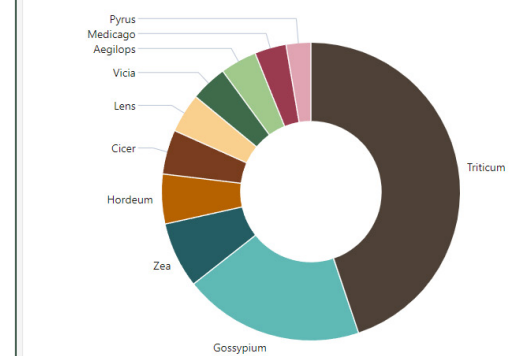


Institute details

National Inventory AZE (Azerbaijan)
 FAO-WIEWS code AZE015
 Institute name Genetic Resources Institute, Baku, Azerbaijan
 Institute type Governmental
 FAO-WIEWS entry [Details on FAO-WIEWS website](#)
 Accessions total 10,672



10 most frequent genera

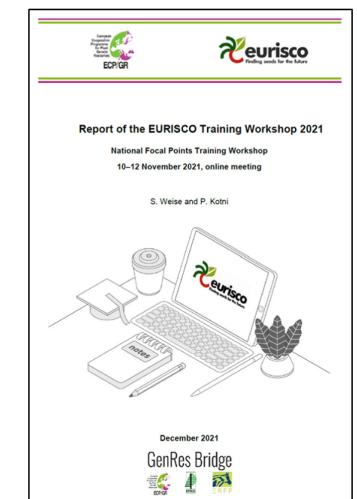
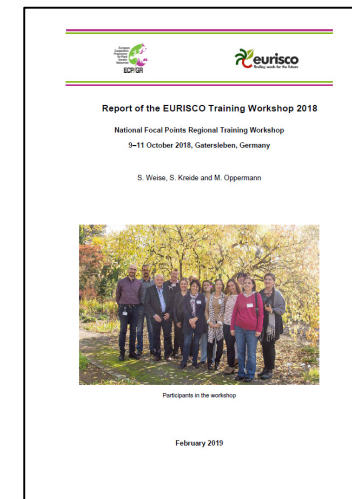
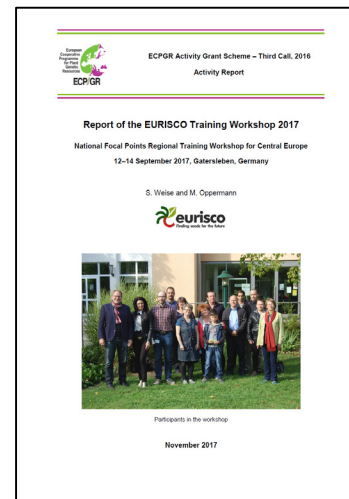
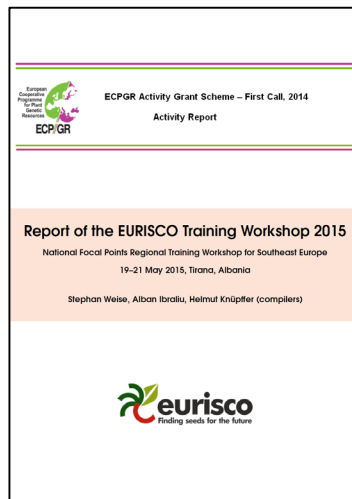


Network maintenance + development

- Contact with EURISCO stakeholders
- Definition of new services, e.g. with regard to DOIs
- Advancement of current and definition of new standards, e.g. with regards to phenotypic data
- Coordination with initiatives such as Genesys and GLIS
- Bilateral communication with regard to the coverage of EURISCO
- Cooperation with ECPGR Working Groups
- Preparation of work plans and reports
- Helpdesk behind the scenes (should not be underestimated ;-)

EURISCO training workshops

- Indispensable
 - Refreshing knowledge on data preparation and provision
 - Stay in touch with data providers
 - Discussion of changes and extensions
 - Continuous increase of data quality
- Switch to biennial trainings in 2018
- Additional online training on specific topics on request



Dissemination in ECPGR context



- Regularly short information in ECPGR bulletin
- EURISCO newsletter
- Various reports
- Presentations on several ECPGR workshops
- ECPGR Grant Scheme activities



Dissemination beyond ECPGR



- Journal articles
- EURISCO talks and posters on several conferences
- Involvement in various committees
- Application as ELIXIR Core Data Resource

eliXIR

Case Document:
European Search Catalogue for Plant Genetic Resources (EURISCO)

Date Document Completed: [24/04/2023]

Document owner:
Stephan Weise, weise@ipk-gatersleben.de, EURISCO coordinator
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ELIXIR Plant Sciences Community
Uwe Scholz, scholz@ipk-gatersleben.de, de.NBI GCBN service center coordinator

Please complete this Case Document by adding information for your data resource in the appropriate Indicator sections below.

Full information about the Indicators can be found in the article "Identifying ELIXIR Core Data Resources" (<https://spoonsearch.com/articles/5-242202/>).

Where a panel/question is not relevant to your resource, please leave it blank.

Question from the template.

Published online 3 October 2022

Nucleic Acid Research, 2022, Vol. 51, Database issue: **D1465-D1469**
<https://doi.org/10.1093/nar/gkac512>

EURISCO update 2023: the European Search Catalogue for Plant Genetic Resources, a pillar for documentation of genebank material

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ABSTRACT
The European Search Catalogue for Plant Genetic Resources (EURISCO) is a central entry point for information on crop plant germplasm accessions from institutions in Europe and beyond. In total, it provides data on more than two million accessions, making an important contribution to unlocking the vast genetic diversity that lies deposited in >400 genebank collections in 43 countries. EURISCO serves as the reference system for the Plant Genetic Resources Strategy for Europe and represents a significant approach for documenting and making available the world's agrobiological diversity. EURISCO is well established as a resource in this field and forms the basis for a wide range of research projects. In this paper, we present current developments of EURISCO, which is accessible at <http://eurisco.ecpgr.org>.

INTRODUCTION
Crop plants are the basis of nutrition for humans and farmed animals. However, biodiversity, including the agricultural component, is threatened worldwide by various factors (1). In particular, rising temperatures, changing precipitation patterns and the increasing frequency of extreme weather events are leading to adverse effects, such as declining crop yields (2). The changes in the environment due to the climate crisis are also forcing farmers to grow other varieties or even other crops, with the danger of losing the old ones. Furthermore, crop-related wild species are increasingly under threat of disappearance due to these environmental changes (3). In order to combat this genetic erosion and be able to rely on the genetic diversity of cultivated plants and their wild relatives in the future, this diversity must be preserved. Genebanks play an important role in long-term preservation efforts. There are about 1800 genebank collections of plant genetic resources for food and agriculture (PGFRA) worldwide, of which about 623 are in Europe (4). It is a truism that something can only be used if one has information about it. The best resource will not be exploited if it is not well documented, and without data, proper genebank management will not be possible (5). In other words, the better described PGFRA material is, the more valuable it is for potential users and the better it can be preserved. In addition to pure management data and information on the legal status of the material, it is therefore important to have information that allows users to select the most suitable material for breeding and research programmes, especially passport data (about identity and origin) and phenotypic characterisation (about traits) of the genebank material (1).

The European Search Catalogue for Plant Genetic Resources (EURISCO) is an international aggregated database that aims to provide a central entry point for information on the large genetic diversity harboured in the collaborating collections. Presently, it contains data on more than two million genebank samples, so-called accessions, which are preserved in >400 institutions in Europe and some neighbouring countries. EURISCO is maintained on behalf of the European Cooperative Programme for Plant Genetic Resources (ECPGR) and is based on a network of National Inventory Focal Points, one in each of 43 member countries. EURISCO has been available online since 2003 and from 2016 the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) Gatersleben, Germany, has been responsible for the operation and further development of the information system as well as the coordination of the EURISCO network of National Inventory Focal Points.

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It is useful.	
Source:	
International use of the	YES/NO
Function)	YES/NO

Access statistics

Year	Unique users	# of hits	# of pages	# of accesses
2019	18,461	49,789	910,173	1,190,423
2020	18,045	59,882	1,315,558	1,579,331
2021	23,787	93,223	1,175,809	1,461,246
2022	31,809	168,541	4,441,965	4,809,474
	92,102	371,435	7,843,505	9,040,474

- **Unique users:**
Number of distinct IP addresses (=physical users)
- **# of hits:**
Every new user who accessed a page and did not access any page of the website within the last 60 minutes
- **# of pages:**
Total number of accessed pages (sum of all accesses of all users; HTML pages only)
- **# of accesses:**
Total number of all shown content (HTML pages, images, files, ...)

Participation in project consortia

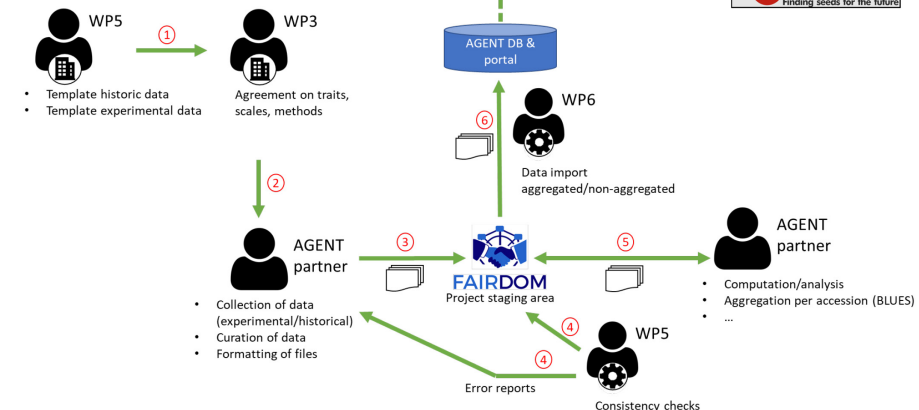
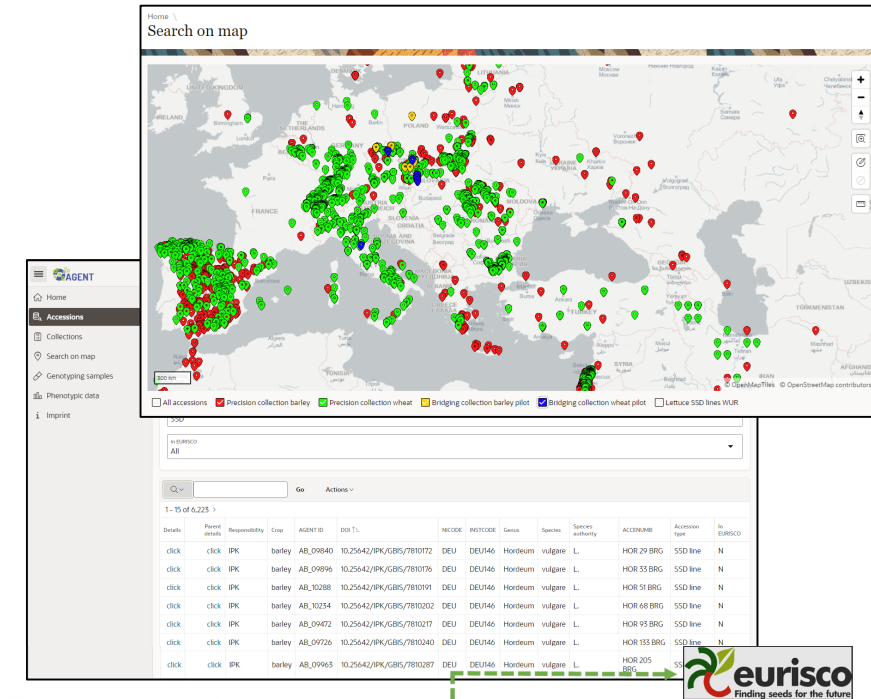
- Various ECPGR Grant Scheme Activities
- EUCLEG (Horizon 2020), 2017–2021
- Farmer's Pride (Horizon 2020), 2018–2021
- GenRes Bridge (Horizon 2020), (2019–2021)
- ECPGR European Evaluation Network (initial funding BLE), 2019–2022



Current project focus – AGENT



- Activated GEnebank NeTwork (AGENT)
 - 2020 – 2025, funding: Horizon 2020 (Sustainable Food Security – Genetic resources and pre-breeding communities, H2020-SFS-2019-2)
 - Involvement in various work packages
 - Proposal of bridging collections
 - Guidelines for project data flow
 - Data exchange formats allowing MIAPPE compliance
 - Data management infrastructure and tools for discovery and visualisation
 - Responsibility for PGR data management



Current project focus –



- Promoting a Plant Genetic Resource Community for Europe (PRO-GRACE)
 - 2023 – 2025, funding: Horizon Europe (Research infrastructure concept development, HORIZON-INFRA-2022-DEV-01-01)
 - Lead of WP1 – Inventory and information system

- PRO-GRACE aims at developing
 - the concept,
 - regulatory framework and
 - governance

for a functional and efficient European Research Infrastructure for plant genetic resources

Current/planned developments

- ECPGR phase XI (2024–2028)
 - Continuous improvement of functions and services
 - Specific focus on:
 - *In situ* CWR data
 - Extension of EURISCO started in Autumn 2022
 - Phenotypic data
 - Extend for more fine-grained metadata
 - Take up the idea of datasets (additionally)
 - Strengthen role as repository
 - Data quality (e.g. completeness, reliability) → continuous task
 - Further hosting of EVA
 - Participation in project consortia related to EURISCO (AGENT, PRO-GRACE, ...)
- All further development in close collaboration with ECPGR bodies