

EURISCO update and prospects for Phase XI

17th meeting of the ECPGR Steering Committee,
30 May – 1 June 2023, Oeiras, Portugal

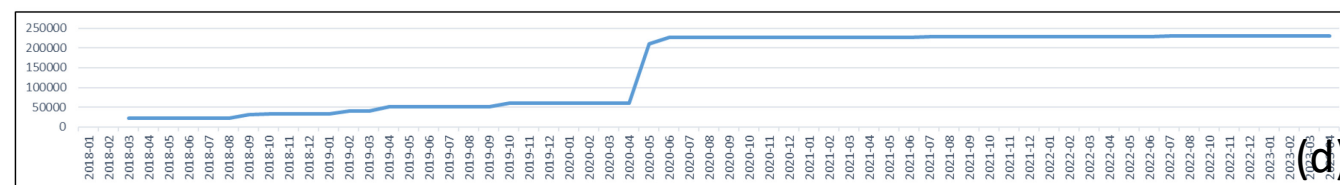
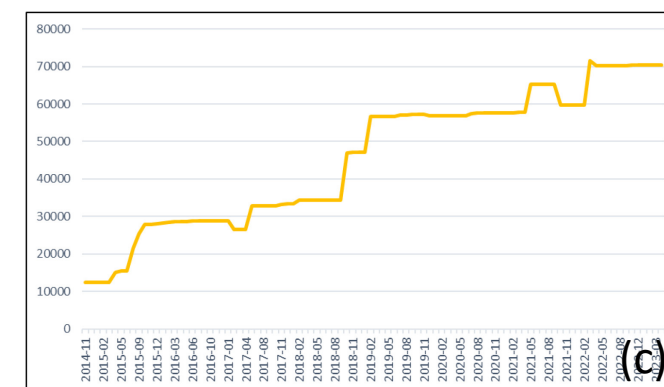
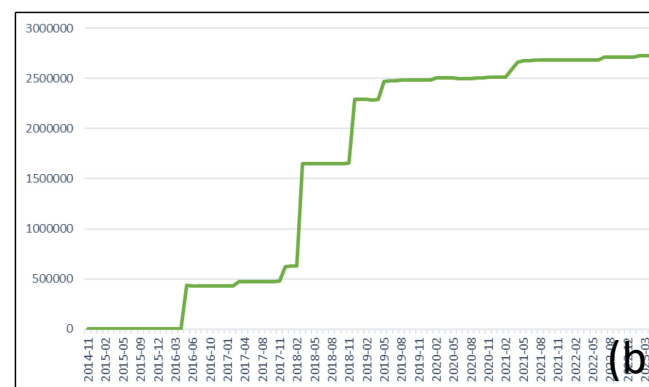
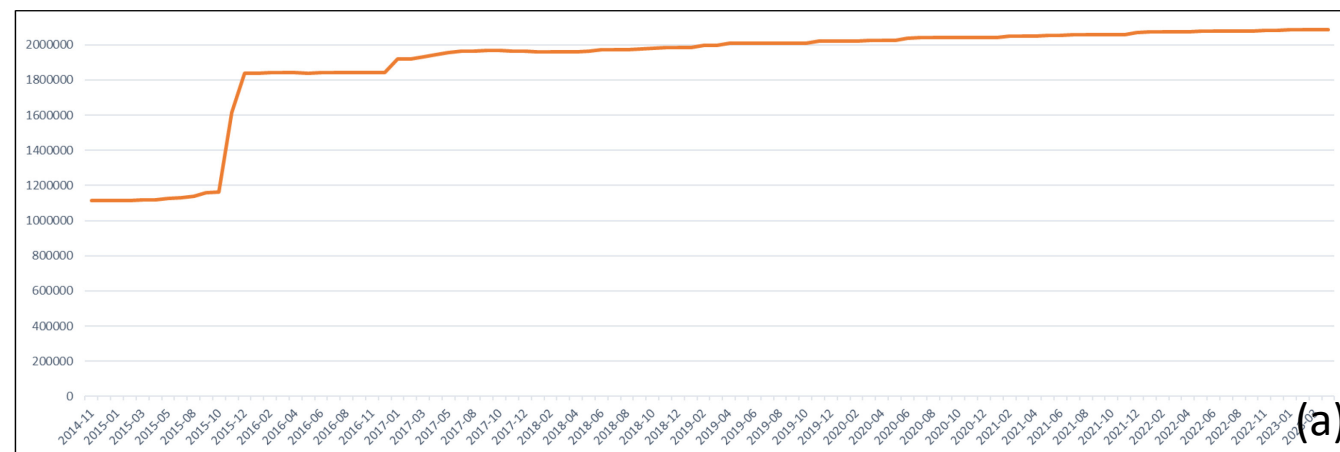


Key facts

Contents of EURISCO

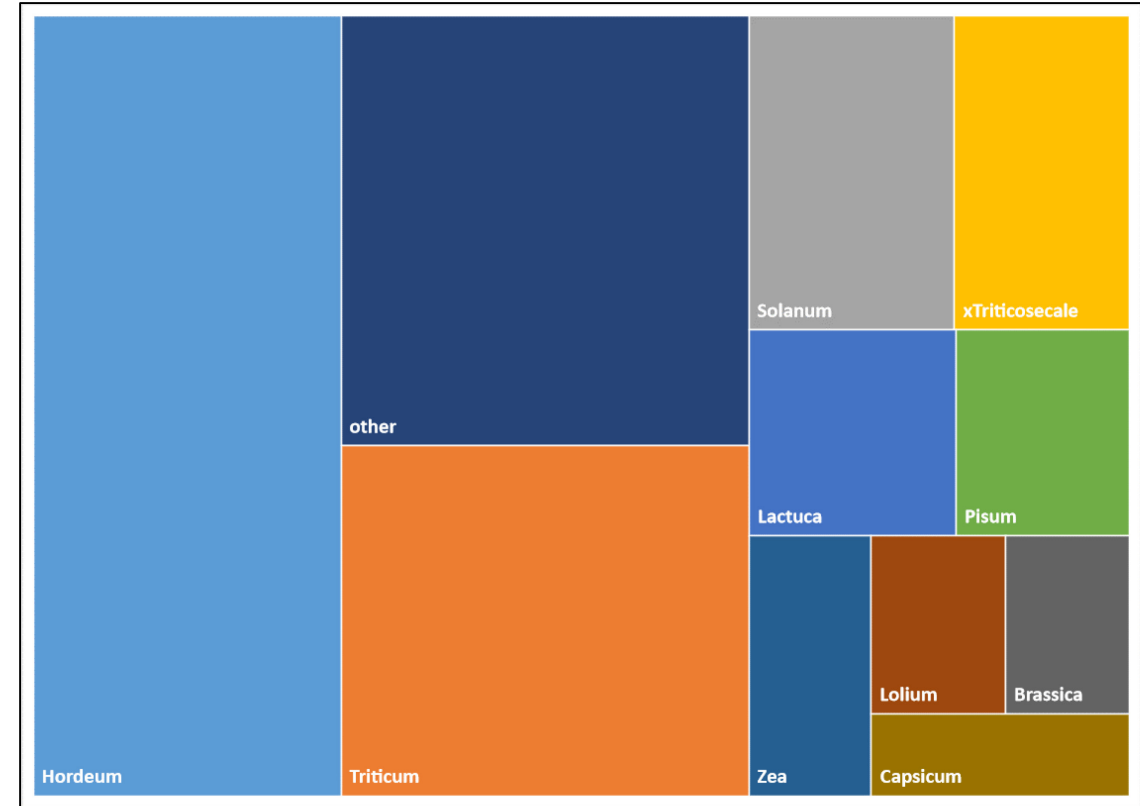
- 2,085,425 accessions (a)
- 2,728,850 phenotypic data records (b)
- 6,731 genera
- 45,189 species
- 429,355 MLS accessions
- 70,426 AEGIS accessions (c)
- 230,645 PUIDs/DOIs (d)

as of 2023-05-02



Phenotypic data

- Extension available since 2016
- Currently, 2,728,850 records of data from 21 countries
- 73 phenotypic datasets with 3,919 experiments
- 91,383 accs. with phenotypic data

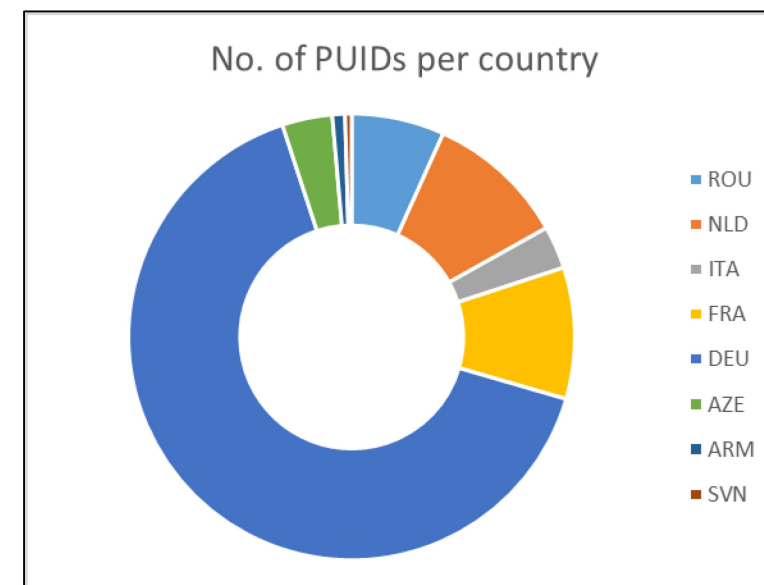


as of 2023-05-02

PUIDs/DOIs

- 230,645 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 2023-05-02



Data quality

	2018 (last SC meeting)	2023	Increase
Accs. with collecting information	796,298	862,437	8.31%
No. of different collecting sites	106,301	112,929	6.24%
Accs. with geographic coordinates	166,984	266,476	59.58%
Accs. with donor information	1,178,522	1,200,514	1.87%
Accs. with country of origin	1,075,327	1,164,578	8.30%
Accs. with AEGIS flag	47,049	70,426	49.69%
Accs. with PUID	32,651	230,645	706.39%

Passport data updates (publicly visible)

Year	No. of updates	Accs. total
2014	1	1,114,995
2015	28	1,837,368
2016	25	1,842,539
2017	55*	1,964,062
2018	36	1,976,608
2019	40	2,019,414
2020	38	2,043,282
2021	49	2,071,881
2022	22	2,082,075
2023 (as of 2023-05-03)	9	2,085,425

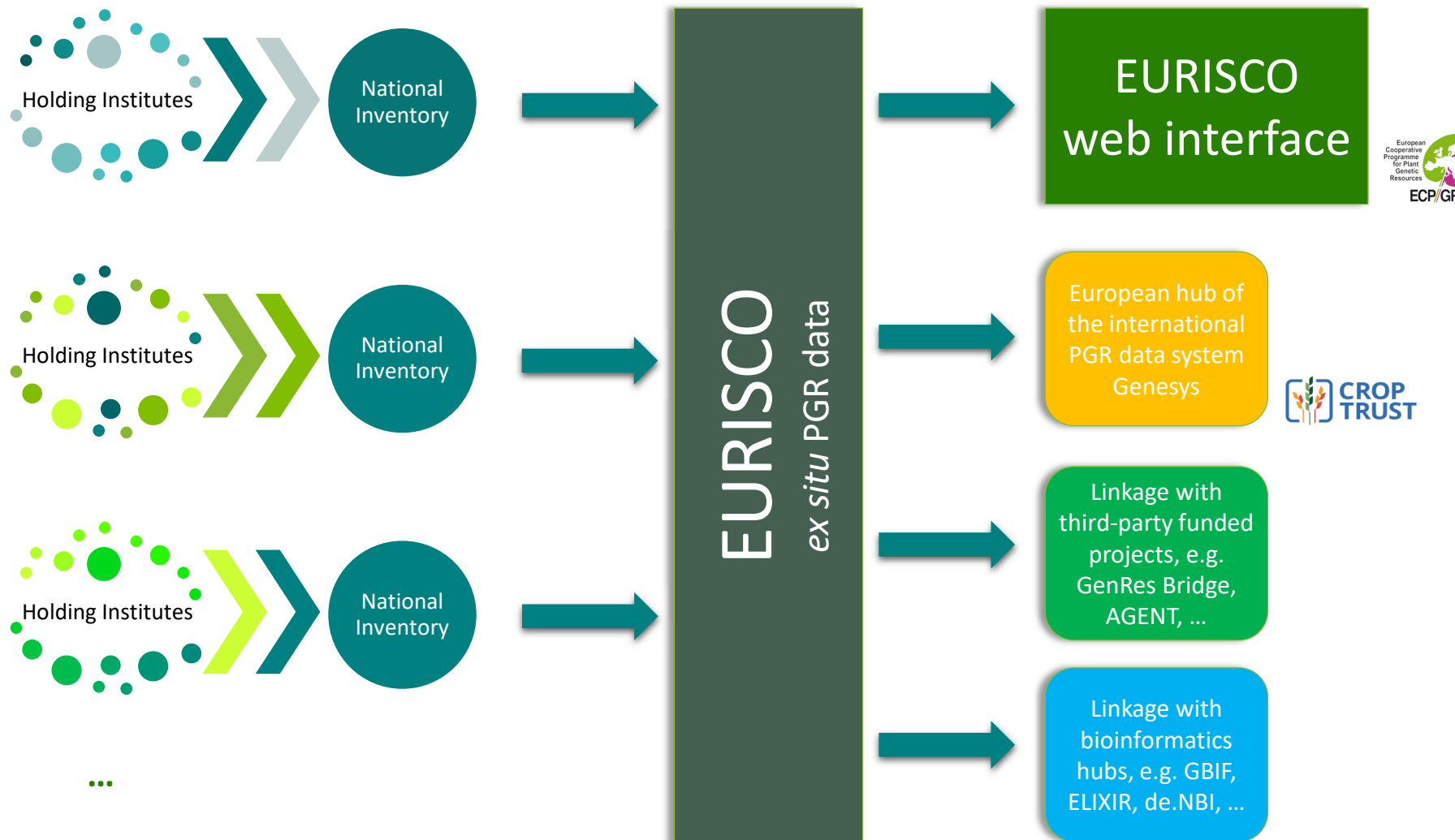
* Additional updates after FAO-WIEWS informed that instead of an annual report, the update of the datasets in EURISCO will also be taken into account.

Phenotypic data updates (publicly visible)

Year	No. of updates	No. of records total
2016	2	427,602
2017	9	624,963
2018	3	2,293,141
2019	5	2,482,274
2020	6	2,513,267
2021	14	2,683,302
2022	2*	2,716,599
2023 (as of 2023-05-03)	1	2,728,850

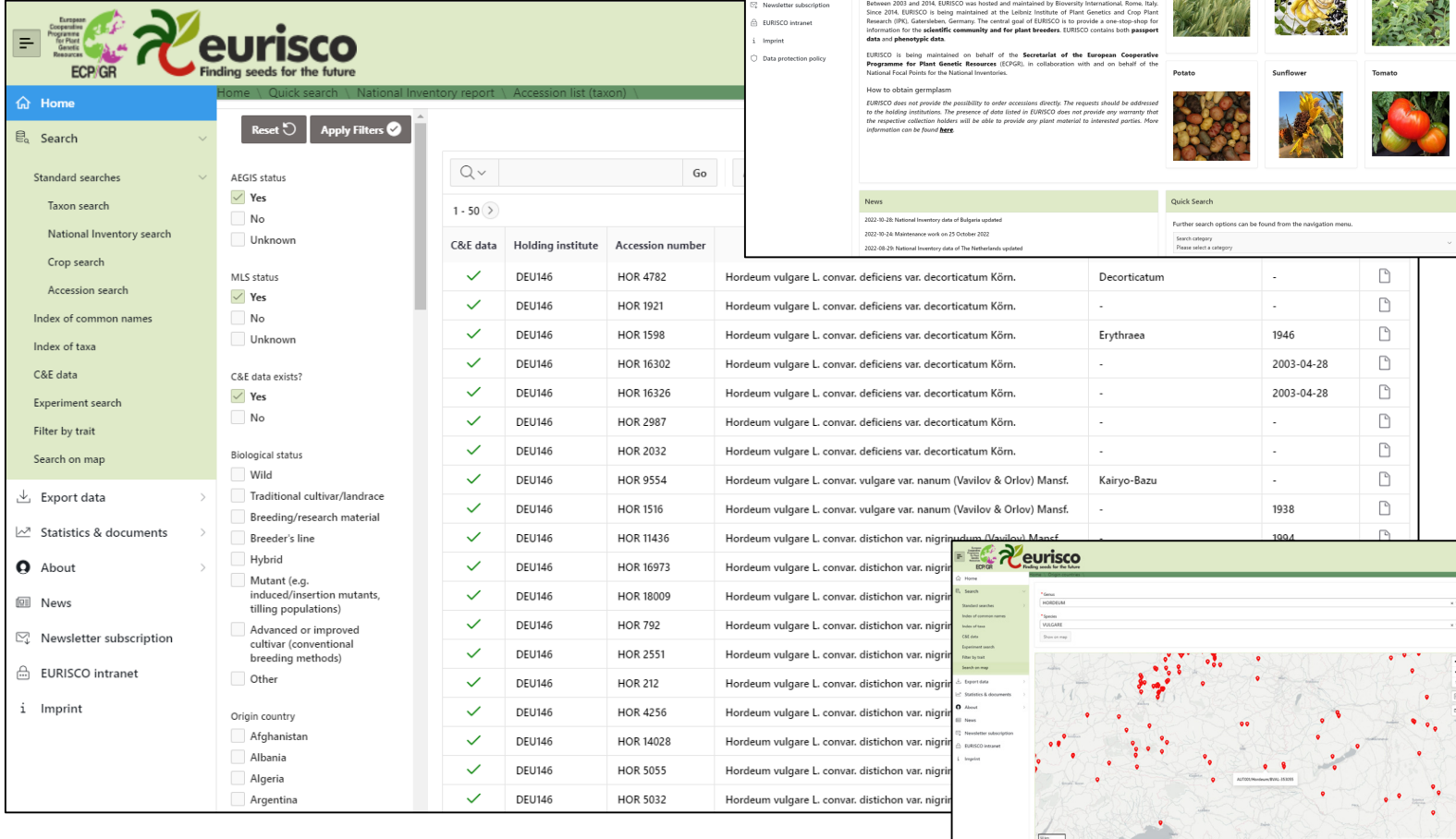
* This is phenotypic data from collaborative projects involving different countries and holding institutes. The execution of such updates is very time-consuming and requires a lot of communication with the partners involved.

Core features



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, a navigation menu includes options like 'Home', 'Search', 'Standard searches', 'Export data', and 'Statistics & documents'. The main content area shows a search results table with columns for 'C&E data', 'Holding institute', 'Accession number', and 'Accession name'. A filter panel on the right allows users to refine results based on AEGIS status, MLS status, C&E data existence, biological status, and origin country.

C&E data	Holding institute	Accession number	Accession name	Accession name	Accession name	Accession name
✓	DEU146	HOR 4782	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	Decorticutatum	-	
✓	DEU146	HOR 1921	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	-	
✓	DEU146	HOR 1598	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	Erythraea	1946	
✓	DEU146	HOR 16302	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	2003-04-28	
✓	DEU146	HOR 16326	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	2003-04-28	
✓	DEU146	HOR 2987	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	-	
✓	DEU146	HOR 2032	Hordeum vulgare L. convar. deficiens var. decorticutatum Köm.	-	-	
✓	DEU146	HOR 9554	Hordeum vulgare L. convar. vulgare var. nanum (Vavilov & Orlov) Mansf.	Kairyo-Bazu	-	
✓	DEU146	HOR 1516	Hordeum vulgare L. convar. vulgare var. nanum (Vavilov & Orlov) Mansf.	-	1938	
✓	DEU146	HOR 11436	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	1904	
✓	DEU146	HOR 16973	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 18009	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 792	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 2551	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 212	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 4256	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 14028	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 5055	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	
✓	DEU146	HOR 5032	Hordeum vulgare L. convar. distichon var. nigricans (Vavilov & Orlov) Mansf.	-	-	

Below the table, a map-based search interface is shown, featuring a map of Europe with red markers indicating the locations of various accessions. The map interface includes a search bar, a dropdown menu for 'Species', and a 'Map on map' button.

Phenotypic data search in EURISCO

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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Experiment description

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

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.

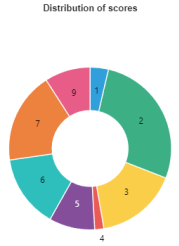
1 - 10 of 84

Trait Remark = 'Aegilops L.'

1 - 16

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=blue, dense waxy bloom), 7=light violet (sparse bloom), 9=very high (resistant-immune))
Plant - tuft shape (at tillering)	Aegilops L.	Rating score (1=very erect < 25°, 3=semi-erect 25°- 45°)

Trait details



Distribution of scores

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

Descriptive statistics

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

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

Wizard-based searches for

- Species and trait
- Experiment
- Trait

Refine result

- Sort
- Filter
- Download
- Chart

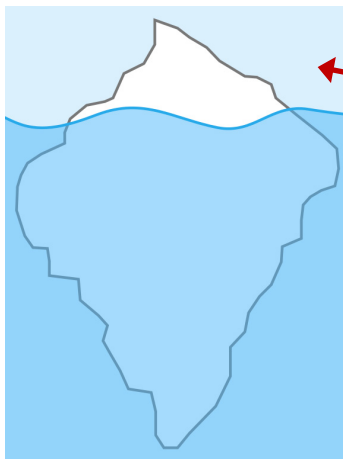
Behind the scenes: database architecture features

- 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 2023-05-03

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>.

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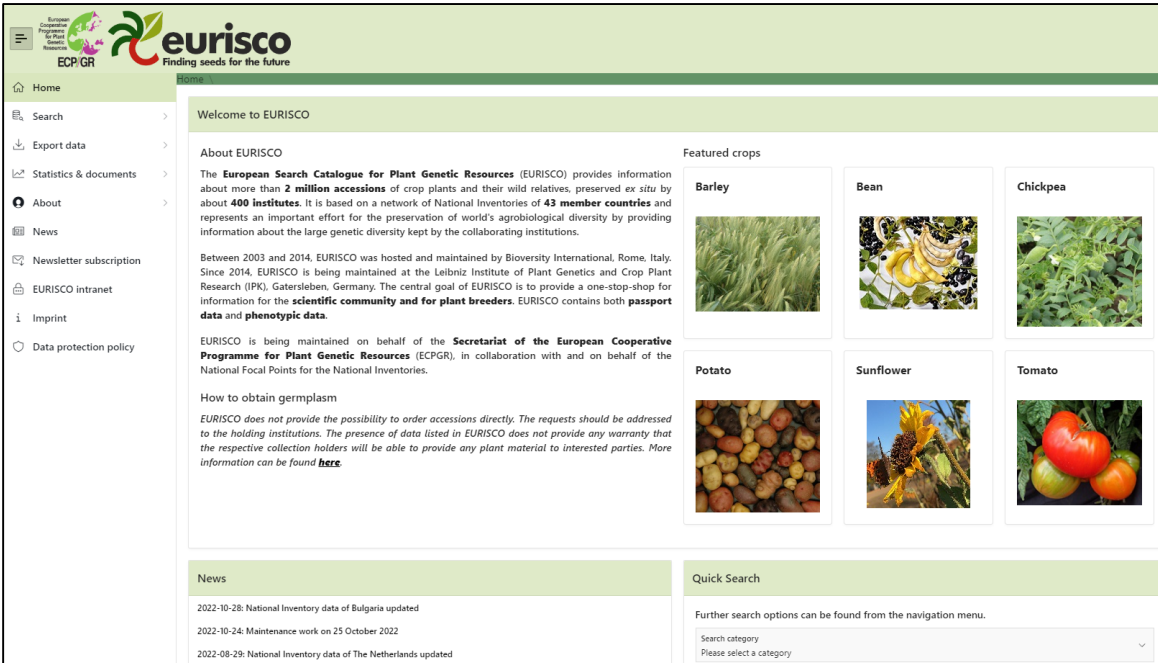
More metrics information

ALTMETRIC

54

Email alerts

Article activity alert
Advance article alerts
New issue alert



The screenshot shows the EURISCO website homepage. 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' grid with images of Barley, Bean, Chickpea, Potato, Sunflower, and Tomato. A 'News' section at the bottom lists recent updates, such as 'National Inventory data of Bulgaria updated' and 'Maintenance work on 25 October 2022'. A 'Quick Search' section is also visible at the bottom right.

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.

DOIs for genebank accessions

- Genebanks have been existing for many decades
 - Description and use of plant genetic resources change continuously
 - May result in different accession identifiers over the time
 - Exchange between genebanks and provision of material to researchers and breeders
 - *Use of local identifiers is limited (chains of identifiers over time)*
 - *Difficult to trace transferred material*

- Aggregating information systems, e.g. EURISCO, Genesys, WIEWS
 - Challenges with identical/changing identifiers
 - Use of MCPD standard (FAO) so far: Combination of FAO-WIEWS-CODE, GENUS, and ACCESSION NUMBER
 - *Items are subject to changes*
 - *Need for widely accepted, unique and stable identifiers for genebank accessions*

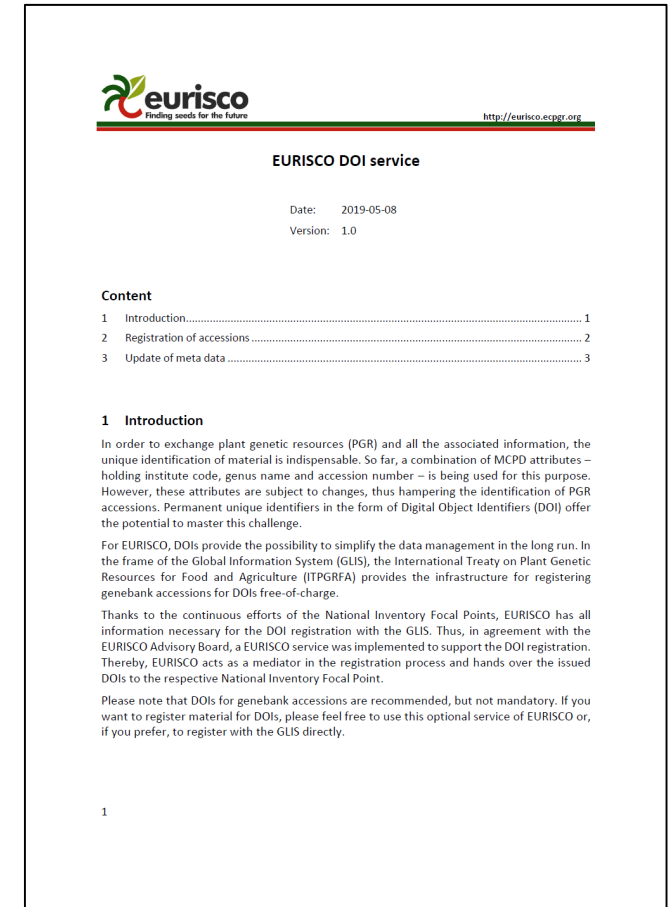


Current number:
PIS 972

Previous numbers:
882/51, 2229/52,
6307/53, 8019/54,
1033/55, 9002/60,
1/61, 6001/62,
8004/62

Assignment of DOIs via EURISCO

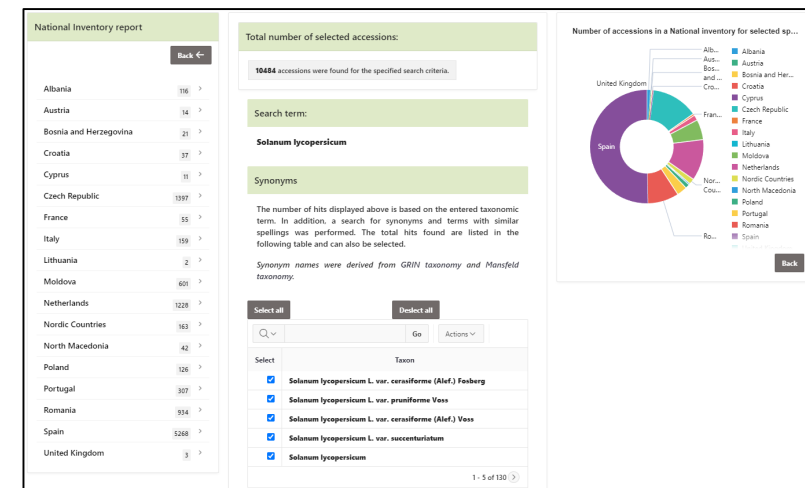
- Through cooperation ITPGRFA/EURISCO
- EURISCO can register PGR material with the GLIS-DOI portal at the request of an NFP
- Prerequisite: Accession listed in EURISCO
- This is done on behalf of the responsible genebank
- Landing pages are created by the Treaty
- DOI metadata does not need to be maintained by the genebank
- Changes to the passport data are automatically transferred to the GLIS-DOI portal as DOI metadata



Developments

Outcomes 2019

- EURISCO intranet
 - Extension for crop-specific passport data to handle additional information not included in MCPD
 - Frequently requested by various ECPGR Crop WGs
 - Simple and general extension following EAV approach → first used in 2022 only
 - Implementation of DOI registration service in close collaboration with ITPGRFA
- Public EURISCO application
 - Implementation of general improvements
 - API for linking to EURISCO passport data from external information systems (e.g. Commonwealth Potato Collection, JHI)
 - Improved taxonomy feature for advanced search (synonyms, typos, fuzzy search)
 - Thorough performance tuning for phenotypic data searches
 - Implementation of download option for complete phenotypic experiments in MS Excel format
 - Crop portal for forages in the frame of the ECPGR Grant Scheme Activity “ImprovLoliumCol” (extended in 2022)



National inventory report

Country	Accessions
Albania	116
Austria	14
Bosnia and Herzegovina	21
Croatia	37
Cyprus	11
Czech Republic	1397
France	35
Italy	159
Lithuania	2
Moldova	601
Netherlands	1228
Nordic Countries	163
North Macedonia	42
Poland	126
Portugal	307
Romania	934
Spain	5268
United Kingdom	3

Total number of selected accessions: 10484 accessions were found for the specified search criteria.

Search term: Solanum lycopersicum

Synonyms:

- Solanum lycopersicum L. var. cerasiforme (Alef.) Feuberg
- Solanum lycopersicum L. var. gruniflorum Voss
- Solanum lycopersicum L. var. cerasiforme (Alef.) Voss
- Solanum lycopersicum L. var. succenturiatum
- Solanum lycopersicum

Number of accessions in a National inventory for selected sp...

Pie chart showing the distribution of accessions by country: Spain (largest), Czech Republic, Netherlands, Romania, Italy, Poland, Austria, France, Croatia, North Macedonia, Nordic Countries, Lithuania, Cyprus, Albania, Bosnia and Herzegovina, Portugal, and United Kingdom.

Taxonomy feature: Screenshot from new web interface as of 2022

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ISSN 1479-2621

Plant Genetic Resources Characterization and Utilization (2019) 47(6): 136-161
doi:10.1017/S1479262119000139

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 – First published online 11 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/non-accepted taxonomic names, and will successfully improve the quality of taxonomic information in EURISCO.

Keywords: data integration, EURISCO, genebank community, plant genetic resources, taxonomy


Introduction
Crop plants are a major source of human and animal nutrition. Concerning PGREFs around the world, of which 625 collections comprising more than two million accessions are maintained in Europe (Engels and Muggison, 2012).

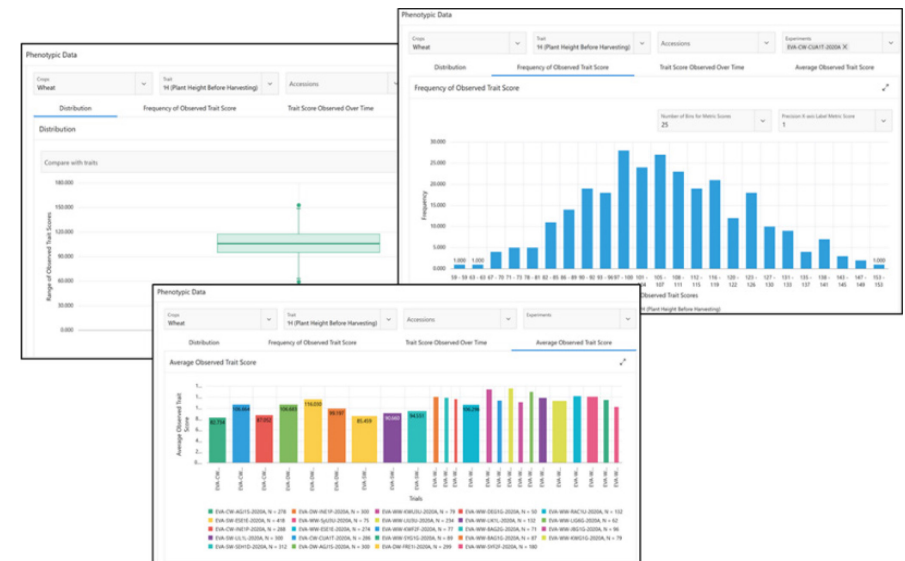
Outcomes 2020

- EURISCO developer position vacant between February and November
- EURISCO intranet
 - Rework of passport data update mechanism for National Focal Points started (native PL/SQL implementation)
- Public EURISCO application
 - Synchronisation mechanism with AEGIS website updated
 - Reengineering of the web interface started
- ECPGR-EVA
 - Development of two exchange formats for phenotypic data (robust/fine-grained)
 - Recording of basic database requirements of the EVA infrastructure

Outcomes 2021

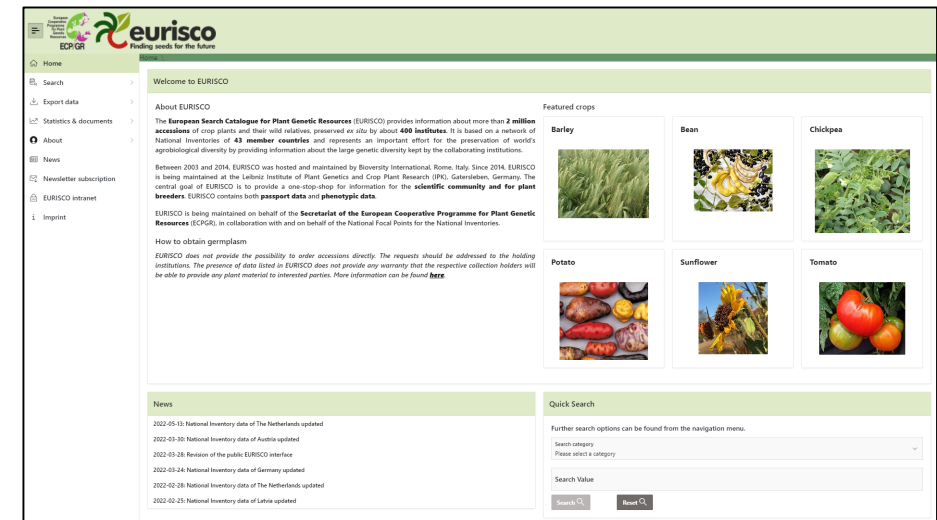
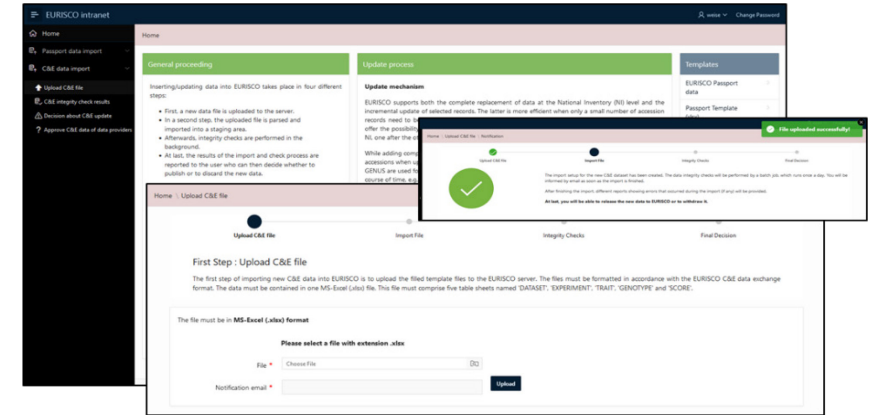
- EURISCO intranet
 - Final tests of reworked passport data update mechanism for National Focal Points
 - Implementation of new intranet interface
- Public EURISCO application
 - Full reengineering of the web interface
 - Regular technical revision
 - Responsive design with clearer layout
 - Critical review of functionalities
 - Introduction of new functionalities
 - RESTful services as additional means of access to EURISCO data
- ECPGR-EVA
 - Specification document compiled
 - EVA database infrastructure designed + implemented
 - Web interface developed → prototype in autumn 2021
 - Import of production data started in December 2021

General proceeding	Update process	Templates
<p>Inserting/updating data into EURISCO takes place in four different steps:</p> <ul style="list-style-type: none"> • First, a new data file is uploaded to the server. • In a second step, the uploaded file is parsed and imported into a staging area. • Afterwards, integrity checks are performed in the background. • At last, the results of the import and check process are reported to the user who can then decide whether to publish or to discard the new data. 	<p>Update mechanism</p> <p>EURISCO supports both the complete replacement of data at the National Inventory (NI) level and the incremental update of selected records. The latter is more efficient when only a small number of accession records need to be updated while the other data remains unchanged. In addition, incremental updates offer the possibility to update data from different collections (e.g. genebanks) all belonging to the same NI, one after the other. Nevertheless, full replacements are also supported.</p> <p>While adding completely new entries is not critical, it is indispensable to uniquely identify the relevant accessions when updating existing entries. The mandatory descriptors INSTCODE, ACCENUMB and GENUS are used for this purpose. Unfortunately, these descriptors may be subject to changes in the course of time, e.g. a change in the accession number or a taxonomic redefinition. It is therefore strongly recommended that a permanent unique identifier in the form of a DOI is additionally assigned to accessions.</p> <p>Deletion of accessions</p> <p>As a consequence of the incremental update mechanism described above, National Focal Points explicitly have to name accessions to be deleted. Therefore, please use a simplified EURISCO format, which only comprises the three descriptors NICODE, INSTCODE and GENUS.</p> <p>In order to support this process, during the data integrity checks a new dataset of a National Inventory is automatically compared with the existing dataset of this NI. The system will then provide a report containing the identifiers of accessions, which no longer exist in the new dataset, grouped by holding institution. However, this list can only be a hint, which accessions could be candidates for deletion from EURISCO, and needs to be checked by the user.</p> <p>Please send the checked list to weise@ipk-gatersleben.de.</p>	<ul style="list-style-type: none"> EURISCO Passport data Passport Template (xls) EURISCO C&E Data C&E Templates(xls) <ul style="list-style-type: none"> User guides Passport data upload C&E data upload Additional procedure



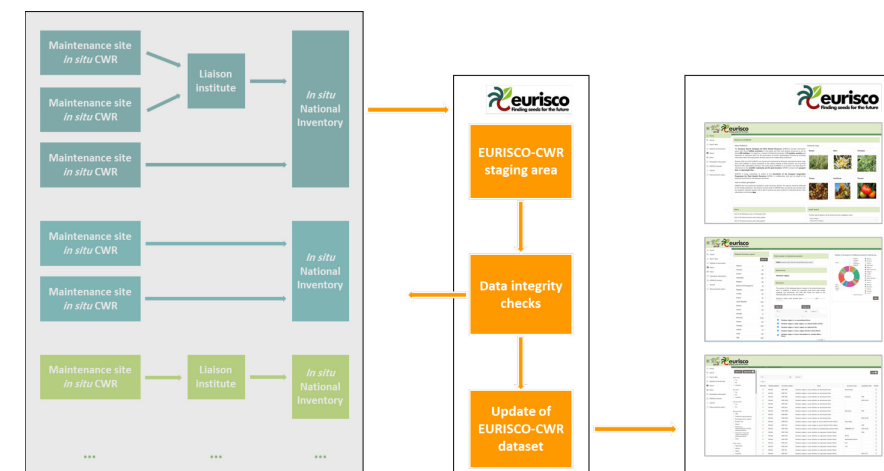
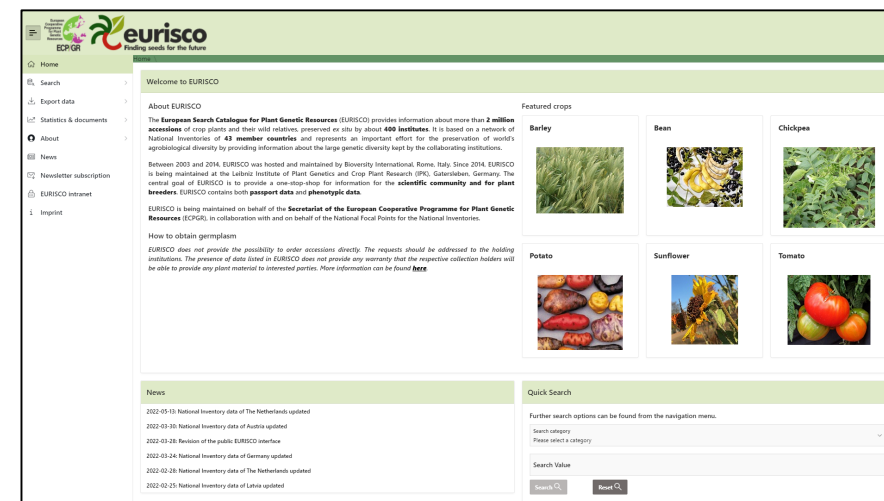
Outcomes 2022

- ECPGR-EVA
 - Continuous improvements
 - Templates extended + data imports (ongoing)
- EURISCO intranet
 - Rework of EURISCO update mechanism for phenotypic data (analogous to the passport data)
 - Extension of intranet interface
- Public EURISCO application
 - Implementation of additional features based on feedback of powerusers
 - Bugfixing
 - Comprehensive performance tuning
 - Release of new version in March 2022
- *In situ* CWR data
 - Extension of EURISCO backend started (data standard, upload mechanism)



Outcomes 2023 (ongoing)

- ECPGR-EVA
 - Continued support
- Public EURISCO application
 - Continuous development, new release under preparation
 - Improvement of reports
 - Additional export mechanism
 - Improvement of phenotypic data search
 - Improvement of passport data search
 - DOI search
- *In situ* CWR data
 - Integrity checks
 - Update procedures
 - *Extension of the web frontend in the course of the year*



EURISCO coordination

Network maintenance + development

- Contact with EURISCO stakeholders
- Definition of new services, e.g. with regard to DOIs
- Advancement/review 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 activities behind the scenes (should not be underestimated ;-)**)

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
- AGENT (Horizon 2020), (2020–2025)
- PRO-GRACE (Horizon Europe), (2023–2025)
- Further project participations in preparation



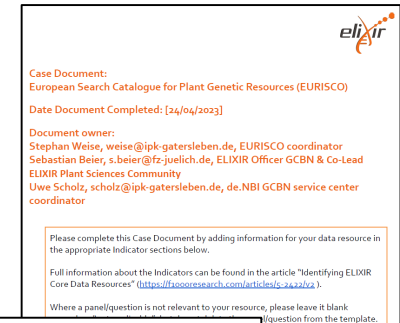
Dissemination in ECPGR context

- 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



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

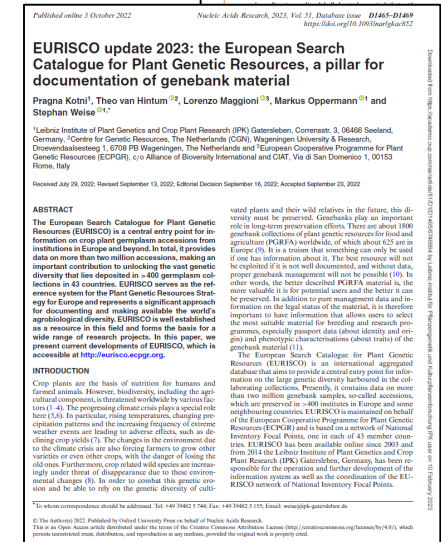
Date Document Completed: [24/04/2023]

Document owner:
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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://spacemagazine.com/articles/5-242202-1>).

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



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

Pragna Kotni¹, Theo van Hintum^{2*}, Lorenzo Maggioni^{3*}, Markus Oppermann^{3*} and Stephan Weise^{3,4*}

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 Resource 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, 2). 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 (3). 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 (4). 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 (PGRFA) worldwide, of which about 623 are in Europe (5). 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 (6). In other words, the better described PGRFA 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 2014 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.

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

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

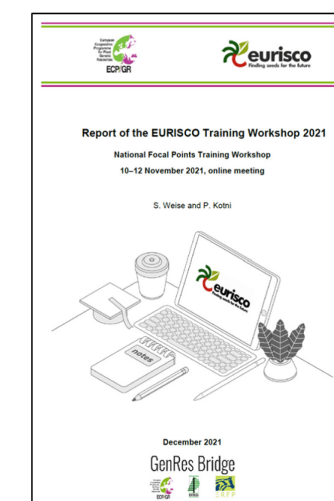
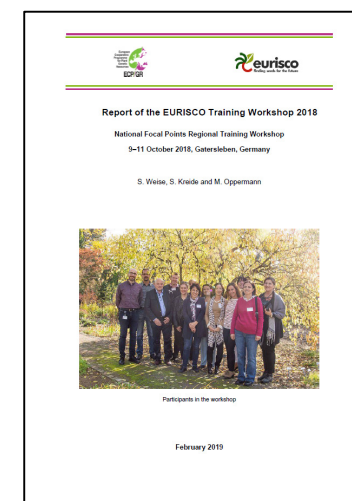
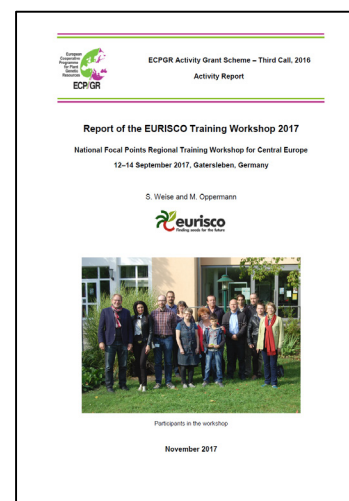
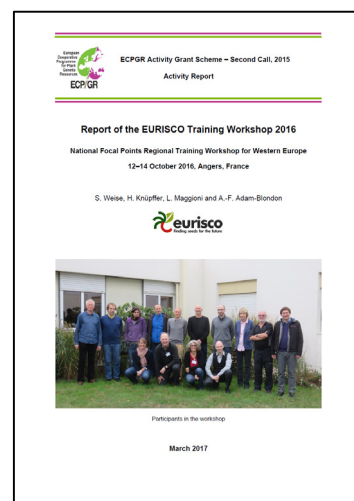
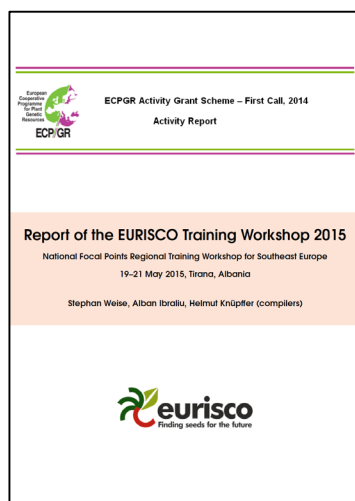


The International Treaty
ON PLANT GENETIC RESOURCES
FOR FOOD AND AGRICULTURE



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
- Next training scheduled for September 2023 in Plovdiv, Bulgaria
- Additional online training on specific topics on request



Future

- 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



M. Grau / IPK

Thank you for your attention