

# EURISCO as central information system for data sharing

EVA Workshop, 27–28 November 2018, Berlin

Stephan Weise



# Background

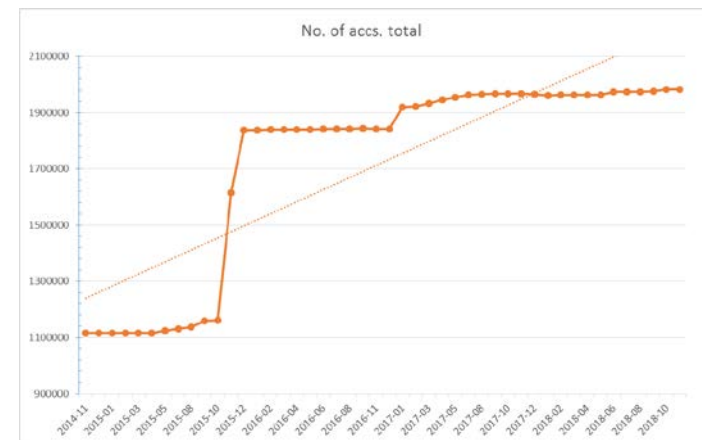
- What is EURISCO?
  - European information system for plant genetic resources
  - Search catalogue for *ex situ* collections
  - Accession-level information system
- Purpose
  - Provides passport data and phenotypic data about plant germplasm accessions maintained in Europe
  - Assists in meeting national 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](https://upload.wikimedia.org/wikipedia/commons/8/81/Europe_countries_map_2.png)

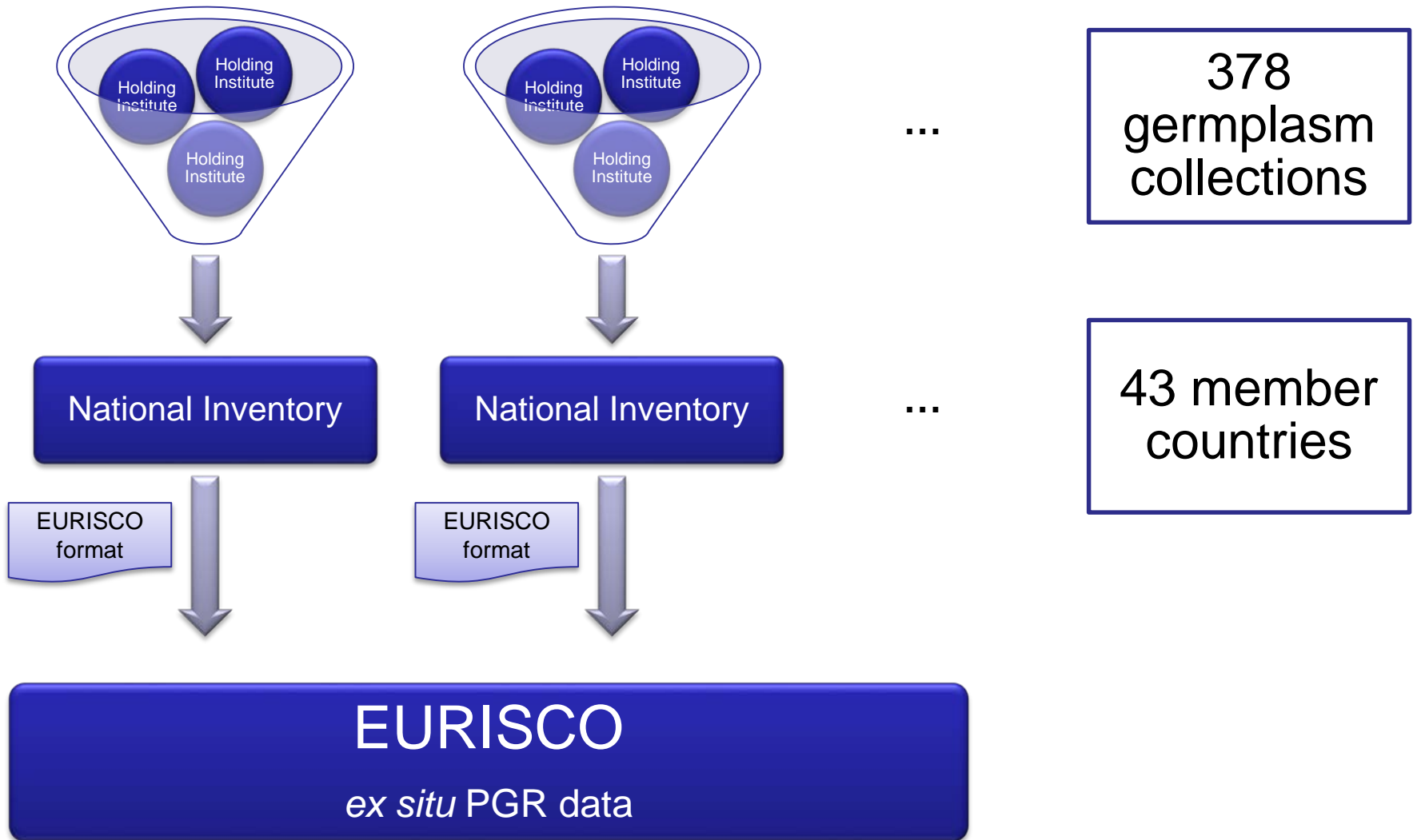
# Development

- 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
- 1,983,372 accessions
- 6,392 genera
- 43,445 species names
- 437,953 MLS accessions
- 47,049 AEGIS accessions
- 32,647 DOIs



as of 2018-11-19

# Data flow



# Passport data in EURISCO

- Four standard searches:
  - Taxonomy
  - Accession
  - Biological status
  - Collecting site
- Advanced search
- Different user-specific export features

The screenshot displays the EURISCO website interface. At the top, the EURISCO logo is visible with the tagline "Finding seeds for the future". The navigation bar includes links for Home, About, Search, CSE data, Statistics and documents, and Inprint / Data Protection Policy. The main content area is titled "Passport data" and shows a detailed record for an accession. The record includes the following information:

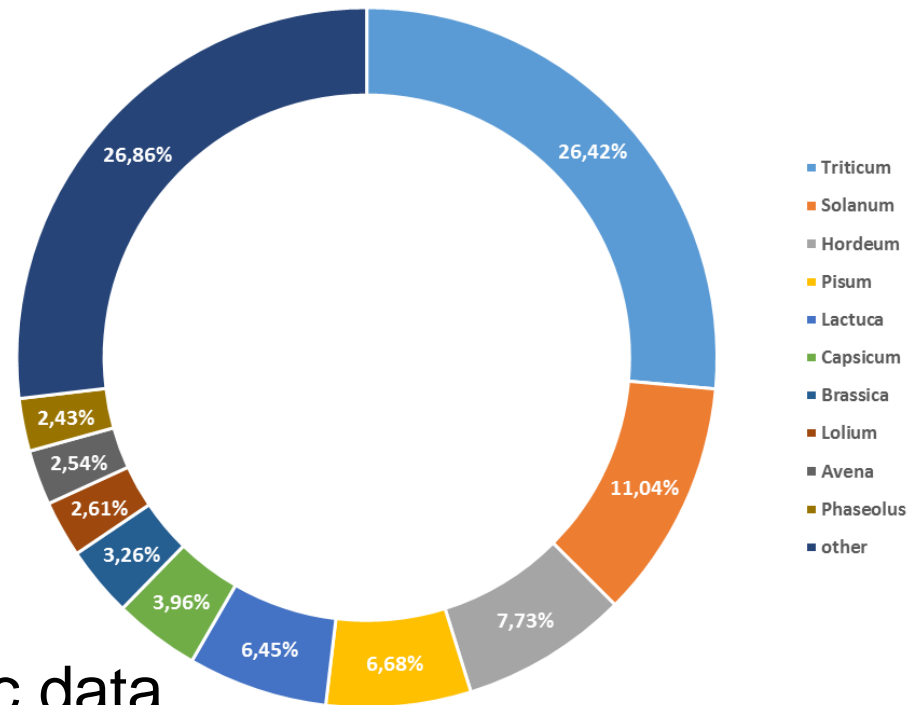
- National inventory:** Holding institute (Portuguese Bank of Plant Germplasm, Braga, Portugal), Institute Code (PRT001), and Institute Name (Portuguese Bank of Plant Germplasm, Braga, Portugal).
- Accession:** Collecting Number (38/2014 A), Collecting Institute Code (PRT001), Collecting Date (2014-03-25), Collecting Latitude (40.338611), Collecting Longitude (-7.130556), Collecting Elevation (872), and Collecting Site (Portugal, Guarda).
- Taxonomy:** Genus (*Brassica*), Species (*oleracea*), Species Authority (L.), Subtaxa (*var. acephala*), and Subtaxa Authority (DC).

A map of the collecting site in Portugal, Guarda, is shown below the taxonomy information. The map includes a red pin indicating the location and a scale bar. The bottom of the page shows the version number "release 1.2.6".

Weise et al. (2017) *Nucleic Acids Research*, 45(D1):D1003-D1008.

# Phenotypic data in EURISCO

- Extension available since summer 2016
- Currently, 1,660,474 records of data from seven countries
  - Czech Republic
  - Germany
  - Latvia
  - The Netherlands
  - Poland
  - Romania
  - United Kingdom
- 68,926 accs. with phenotypic data



as of 2018-11-19

# Search for phenotypic data

Filter C&E data by genus

Genera \*  
 Brassica  
 Capsicum  
 Chondrilla  
 Cicorbita  
 Cucumis  
 Eruca  
 Ixeridium  
 Linum  
 Lupinus  
 Mycelis

Apply Reset

Allium  
 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[...])  
 Pemphinius 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.

Go Rows 10 Actions

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

Go Rows 10 Actions

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 – material selection

Select genus, species and traits of interest

European Cooperative Programme for Plant Genetic Resources  
ECP GR eurisco Finding seeds for the future

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 species and trait

Filter C&E data by species and traits

Genus \*

Species \*

Traits \*

Apply Reset

Search EURISCO

- > Quick search
- > Advanced search
- > Export EURISCO data

release 1.4.3

European Cooperative Programme for Plant Genetic Resources  
ECP GR eurisco Finding seeds for the future

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 species and trait

Filter C&E data by species and traits

Genus \*

Species \*

Traits \*

Apply Reset

Search EURISCO

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

release 1.4.3

European Cooperative Programme for Plant Genetic Resources  
ECP GR eurisco Finding seeds for the future

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 species and trait

Filter C&E data by species and traits

Genus \*

Species \*

Traits \*

Apply Reset

Search EURISCO

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

release 1.4.3



# Example I – report of values

The screenshot displays the eurisco web application interface, which is used for searching and reporting CAE (Crop Attribute Evaluation) data. The interface is divided into several sections:

- Header:** Includes the eurisco logo and navigation links like Home, About, Search, CAE data, Statistics and documents, and Imprint / Data Protection Policy.
- Filtering Section:** Allows users to filter data by species and traits. The current search is for Genus: TRITICUM, Species: DURUM DESF. and IBPAHANCIUM HESLOT, and Trait: Plant - Height (cm) (average height in certime). Buttons for 'Apply' and 'Reset' are present.
- Search Results:** A table of results is displayed, showing columns for Experiment Description, Trait Name, Species, ACCENUMB [%], Score, Score Link, Origin Country, Biological Status, and Details. A red arrow points to the 'Download' button in the 'Actions' column of the first row.
- Table Data:**

Experiment Description	Trait Name	Species	ACCENUMB [%]	Score	Score Link	Origin Country	Biological Status	Details
Field characterization an[...]	Plant - Height (cm) average h[...]	POL003 Triticum durum Desf.	27009	96.70	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average h[...]	POL003 Triticum durum Desf.	27009	92.70	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average h[...]	POL003 Triticum durum Desf.	27009	97.00	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in certime[...]	POL003 Triticum durum Desf.	27009	99.30	-	Morocco	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in certime[...]	POL003 Triticum durum Desf.	27019	104.30	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in certime[...]	POL003 Triticum durum Desf.	27019	107.00	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in certime[...]	POL003 Triticum durum Desf.	27019	112.70	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in certime[...]	POL003 Triticum durum Desf.	27019	96.30	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in certime[...]	POL003 Triticum durum Desf.	27021	107.00	-	-	Traditional cultivar/landrace	Accession details
Field characterization an[...]	Plant - Height (cm) average height in certime[...]	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 logo: Finding seeds for the future

Filter C&E data by species and traits

Genus: TRITICUM

Species: DURUM DESP. / SPANANCIUM HESLOT

Traits: Plant - Height (cm) (average height in centim...)

Actions: Go, Rows: 10, Actions

Select Columns

Filter

Rows Per Page

Format

Flashback

Reset

Help

Download

Filter

Filter Type: Column

Column: Experiment Start Year

EURISCO logo: Finding seeds for the future

Filter C&E data by species and traits

Genus: TRITICUM

Species: DURUM DESP. / SPANANCIUM HESLOT

Traits: Plant - Height (cm) (average height in centim...)

Actions: Go, Rows: 10, Actions

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	1978	1978	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 website 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 tabs: 'Filter by species and traits', 'Filter by genus', 'Filter by experiment', and 'Filter by trait'. The main content area is divided into two sections. The top section, 'Trait details', includes a 'Distribution of scores' donut chart and 'Descriptive statistics' for 'Plant - Height (cm)'. The statistics table is as follows:

Trait Name	Minimum	Maximum	Average	Stddev	Variance	First Quartile	Median	Third Quartile
Plant - Height (cm)	53.3	134	105.99	14.39	207.15	97.35	107.15	116.525

The bottom section, 'Accession scores for selected trait', features a search bar and a table with 10 rows of data. The table columns are: NICODE, INSTCODE, Species, ACCENUMB, Score, Score Link, Origin Country, Biological Status, and Details. A red arrow points from the 'Origin Country' column header to a dropdown menu on the right.

NICODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Origin Country	Biological Status	Details
POL	POL003	Triticum durum Desf.	27521	104.6	-	Portugal	Breeder's line	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27292	109.3	-	Spain	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27294	122.8	-	Poland	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27308	106.3	-	Spain	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27002	78.3	-	Italy	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27332	102	-	Portugal	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27019	104.3	-	-	Traditional cultivar/landrace	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27018	99.6	-	Italy	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27023	105	-	Tunisia	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27025	109.3	-	Portugal	Breeder's line	<a href="#">Accession details</a>

Descriptive statistics

Additional filters, e.g. origin country

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' column header in the table above to the top of this dropdown menu.

# Example I – scores

Group values

Accession scores for selected trait

Go Rows 10 Actions

Origin Country

1 - 10 of 166

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)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27430	98.1	-	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27325	106.6	-	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
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)	<a href="#">Accession details</a>
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)	<a href="#">Accession details</a>
POL	POL003	Triticum durum DESF.	27153	83.3	-	Advanced or improved cultivar (conventional breeding methods)	<a href="#">Accession details</a>
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)	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27085	134	-	Traditional cultivar/landrace	<a href="#">Accession details</a>
POL	POL003	Triticum durum Desf.	27026	116.6	-	Traditional cultivar/landrace	<a href="#">Accession details</a>
Origin Country : Canada							
NICODE	INSTCODE	Species	ACCENUMB	Score	Score Link	Biological Status	Details
POL	POL003	Triticum durum Desf.	27243	117	-	Breeder's line	<a href="#">Accession details</a>

1 - 10 of 166

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**

Search: [Q] Go Rows: 10 Actions

1 - 10 of 320

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

1 - 10 of 320

0.13 s

release 1.4.3

**Accession scores for selected trait**

Search: [Q] Go Rows: 10 Actions

1 - 10 of 320





0.13 s

**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:    

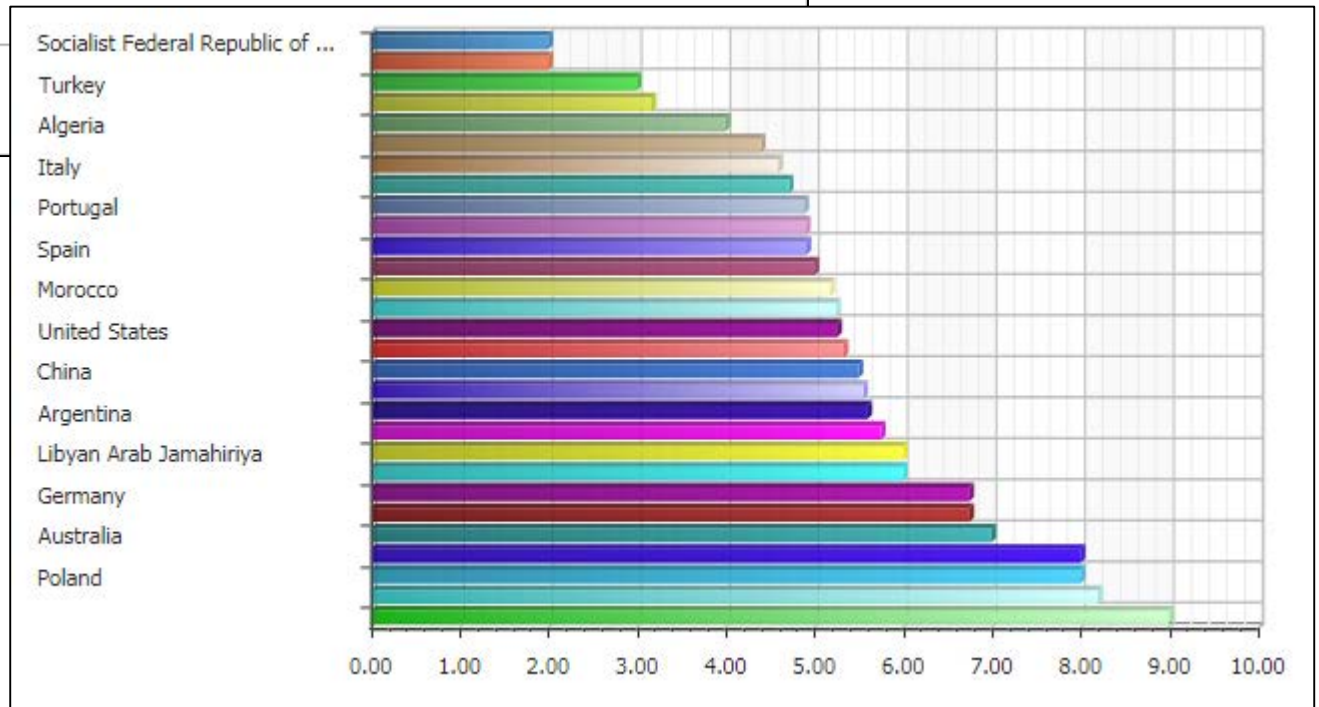
Label:  Axis Title for Label:

Value:  Axis Title for Value:

Function:

Sort:

Chart settings



# 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



# Challenges for EURISCO

- Use of phenotypic traits
  - Lots of different traits, methods, scales
  - About 600 germplasm collections in Europe, around 400 in EURISCO

→ ***Unlikely to get to a standardisation***
- Information technology diversity
  - Different data management systems (DBMS, flat files, Excel)
  - Different level of IT support
  - Varying IT affinity
    - problem of acceptance of sophisticated solutions

→ But needed: one-size-fits-all method

#### 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



# Data upload in three steps

File parsing and upload via Java tool

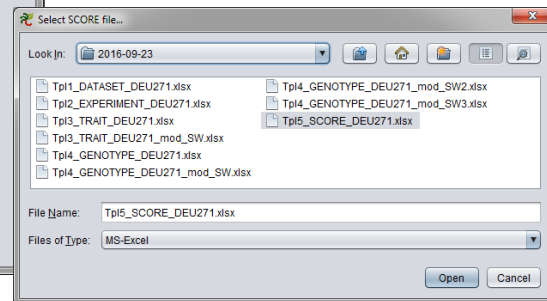
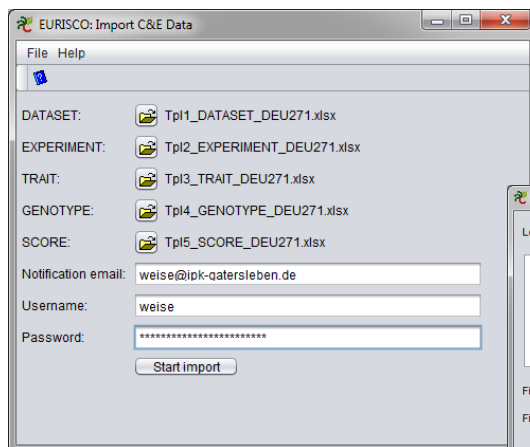
- data owner

Data integrity checks

- EURISCO management

Approval / withdrawal of data for publishing on the EURISCO website

- *data owner/NFP*



# Current limitations

- Only non-confidential phenotypic data
- Only data of accessions listed in EURISCO
- NFPs must approve data before publication
- No embargo periods
- Limited comparability

# What could be improved?

- Through an EVA project, it could be possible to support:
  - Data harmonisation
    - Harmonisation of experiment set-up, treatment etc.
      - Start with minimum approach
        - » E.g. MIAPPE (Krajewski et al. 2015)
        - » Better description
      - Desirable: harmonised protocols
  - Better structuring of traits/methods/scales
    - Support for crop experts (ECPGR crop working groups)
      - Focus on most active groups at the beginning
      - Improve comparability
        - » Mapping onto ontology terms
        - » E.g. Crop Ontology (Arnaud et al. 2012)
    - Support the mapping process by tools, e.g. suggestion of ontology terms

# What could be improved?

- Through an EVA project, it could be possible to:
  - Provide an intranet platform for project partners
    - Use existing infrastructure for project-specific phenotypic data (in a separate intranet)
      - Exchange format
      - Upload and check tools
    - Provide features for searching/filtering/downloading data
      - Based on users' requirements
    - Extension for privileged access (data embargo period)
      - Data could be published automatically after expiration
    - Also non-EURISCO material could be managed
      - Handling this data after embargo period needs to be discussed
  - Ensure a supportive documentation unit (providing templates, standards, facilitating data flow)



M. Grau / IPK

# THANK YOU FOR YOUR ATTENTION