

## **Report of the EURISCO Training Workshop 2018**

**National Focal Points Regional Training Workshop**

**9–11 October 2018, Gatersleben, Germany**

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Participants in the workshop

**February 2019**

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## National Focal Points Regional Training Workshop

9-19 October 2018, Gatersleben, Germany

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### INTRODUCTION

The EURISCO Training Workshop 2018, a workshop of the Documentation and Information Working Group (Doc&Info WG), was held 9–11 October 2018 in Gatersleben, Germany. Its purpose was to continue the series of regional training workshops of the European Search Catalogue Plant Genetic Resources (or European Internet Search Catalogue, EURISCO), which was revived in 2015 by means of the first workshop in Tirana, Albania, and was continued by the second workshop in Angers, France, in 2016, and a third workshop in Gatersleben, Germany, in 2017.

The workshop, organized in collaboration with the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), brought together 13 participants. The focus of this workshop was, besides providing the basic training elements, on increasing the volume of characterization and evaluation (C&E) data records in EURISCO as well as on data quality and completeness. The participants mainly comprised newly appointed National Focal Points (NFPs) who did not participate in a EURISCO workshop before, and NFPs who had C&E data to contribute.

Stephan Weise opened the workshop and welcomed the participants on behalf of the local host, IPK. Thanks were expressed to the ECPGR for funding the workshop and to the ECPGR Secretariat for their assistance in the logistics of the workshop. The meeting would be structured in plenary sessions and hands-on sessions, in which the involvement of participants was expected.

All participants were asked for a short self-introduction. Stephan Weise then introduced the agenda of the meeting as well as the expectations from the organizers' point of view, and asked for the expectations of the participants. The expectations can be summarized as follows:

- Provision of training for the EURISCO system for importing both passport data and C&E data
- Obtaining feedback from the users (new system, desirable support, additional use-cases, feature requests)
- Discussion about strategies for increasing update frequency and data completeness/correctness
- Strengthening of cooperation through personal interactions.

### PLENARY PRESENTATIONS

The following presentations were given during the workshop. The main points addressed are listed below each title. The presentations are available on the workshop webpage. [\[link\]](#)

#### **Development and status of the National Inventories of the participating countries**

All National Focal Points attending the workshop had been asked in advance to prepare some slides for a short overview about their respective National Inventories:

- Austria: Austrian Agency for Health and Food Safety, by Paul Freudenthaler
- Croatia: National Inventory of Plant Genetic Resources in Croatia, by Ivana Rukavina
- Greece: Hellenic Agricultural Organization-DIMITRA's Inventories of Plant Genetic Resources for Food and Agriculture - Development and status, by Parthenopi Ralli
- Ireland: Status of Irish Plant Genetic Resources for Food and Agriculture, by Cara Mac Aodháin

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- Portugal: Portugal National Inventory 2018 – development and status, by Madalena Vaz
- Serbia: National PGRFA Inventory Serbia, by Milena Savić Ivanov
- Slovenia: Plant Genetic Resources in Slovenia, by Jelka Šuštar Vozlič & Joži Jerman Cvelbar
- Spain: Status of the Spanish Inventory of PGR, by Lucía De la Rosa Fernandez
- Turkey: The Turkey National Inventory and Plant Genetic Resources Activities of AARI, by Lerzan Gül Aykas

The comprehensive overview of these presentations was highly appreciated.

### **EURISCO, the European Search Portal for Plant Genetic Resources – Status quo & planned developments**

*by Stephan Weise*

- Background information about EURISCO
- Overview about data volume and taxonomic composition
- Architecture of the new EURISCO infrastructure
- Search possibilities
- Results from the EURISCO taxonomy project
- Extension for C&E data
- Challenges and future developments

Due to time constraints, this presentation was skipped in favour of a live demonstration of the EURISCO web interface. During this demonstration, special emphasis was put on the recently finished taxonomy extension which allows to enrich searches for scientific names by synonym names from multiple taxonomic repositories. The new extension, which dramatically improves the searches, was greatly appreciated by the participants.

### **Passport data updates – Presentation & discussion**

*by Stephan Weise*

- Procedure for updating passport data in EURISCO
- See hands-on sessions

### **C&E data templates – Presentation & discussion**

*by Stephan Weise*

- Procedure for updating C&E data in EURISCO
- See hands-on sessions

### **Improvement of data quality**

*by Markus Oppermann*

- Challenges of passport data regarding correctness, completeness and reliability.
- See hands-on sessions

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### **HANDS-ON SESSIONS**

During the workshop, two hands-on sessions for preparing and uploading data to EURISCO were performed. Therefore, a training room was prepared, enabling the participants to work with the EURISCO software in parallel. The aim of the hands-on sessions was to train the National Focal Points for:

- uploading National Inventory datasets (passport data, C&E data),
- running integrity checks, and
- interpreting the results.

In preparation for the workshop, the participants had been asked to bring some data of their National Inventory datasets in order to practice the upload and to apply the EURISCO data integrity checks onto these data. In addition, some test data were provided.

User guides for uploading passport data as well as characterization and evaluation data to EURISCO were prepared beforehand and were provided to the participants. These guides are also available from the EURISCO intranet.

In parallel to the hands-on session on passport data, a session dedicated to the improvement of the quality of accession-related data took place and was chaired by Markus Oppermann. Stefanie Kreide was available as additional trainer for the hands-on sessions for passport data and C&E data.

### **Passport data**

The hands-on session started with a presentation about the EURISCO intranet. The procedure for updating National Inventory passport data was explained step by step. Special emphasis was put on the Java-based import tool, thus allowing to directly upload data from MS Excel™ files. It was demonstrated how data integrity checks are performed and how their results should be interpreted. In addition, details were given about the harmonization of the EURISCO data exchange format with the latest version of the Multi-crop passport descriptors (MCPD 2.1), which took place end of 2017, as well as about automatic checks of the AEGIS status of EURISCO accessions. The participants were informed about the DOI service, which is under development and which will enable data providers to obtain unique accession identifiers.

Over the course of the session, passport datasets of several participants were used for demonstrating EURISCO updates. The participants received assistance in correctly formatting data files as well as in interpreting integrity errors. Once again, it was pointed out that the EURISCO intranet supports incremental updates, as a complementary way to upload data when it is not necessary to modify all information contained in the National Inventory.

### **Characterization and Evaluation (C&E) data**

In a presentation, the participants were provided with background information about the development of the C&E data exchange format. The data model as well as detailed information about the fields of each of the five sub-templates (GENOTYPE, DATASET, EXPERIMENT, TRAIT AND SCORE) and their usage were explained. The procedure for uploading C&E data to EURISCO was demonstrated by successively showing the individual steps of importing and checking data, followed by the interpretation of the check results.

Afterwards, the workshop participants actively made use of the possibility of uploading C&E datasets. Occurring errors (syntactic and semantic) were explained; solutions were proposed.



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### Improvement of data quality

Markus Oppermann focussed on different aspects of data quality and introduced tools for checking geographic coordinates of accession passport data. In this context, a discussion about the distinction between country of origin and country of provenance was started.

For visualizing and consolidating georeferenced objects like accessions, geographic information systems (GIS) are useful tools. The free and open-source software QGIS is one of the most powerful tools for such purposes. In a presentation with original data from EURISCO, an introduction to different ways of creating representative maps was given. It was also explained how to use QGIS for data cleansing by extracting possibly wrong coordinates.

### DISCUSSIONS AND CONCLUSIONS

All participants engaged in vivid discussions, which are summarized below, grouped by topic.

#### Phenotypic data

The participants discussed about how to increase the volume of C&E data. An important component would be to make the use of this data more attractive. Currently, EURISCO is becoming more and more accepted as a central repository for C&E data of European genebanks, which is in itself an important achievement. However, this needs to be developed further with the next step aiming at the harmonization of traits and methods.

EURISCO currently contains lots of different trait names and method descriptions, thus hampering the comparability of data that was collected at various locations. At the 2014 meeting of the Doc&Info WG it was decided not to standardize trait definitions, methods and scales at the beginning. Instead, all available data should be accepted as is until a critical mass is reached, which will allow demonstrating to users the benefits of the C&E data extension of EURISCO. Afterwards, a standardization discussion should be initiated. This critical mass was achieved with currently more than 1.6 million C&E data records. While a full standardization of traits and methods used so far does not seem to be realistic due to the large number of data providers to EURISCO, it should at least be possible to work towards harmonization in the near future. Therefore, the mapping onto ontology terms is a promising approach. Since reaching this goal requires expert knowledge, the ECPGR Crop Working Groups need to be involved. It was suggested to start with the *Beta* WG and the Leafy Vegetables WG as pilot groups and to train them for ontologies.

#### Passport data

It was discussed how the frequency of updates of passport data could be increased. The participants suggested reminding National Focal Points twice a year, e.g. May and December.

Possible extensions of descriptors were also discussed, in particular the country of origin of accessions. The challenge with this descriptor is that it is used for different purposes, e.g. to indicate the country where an accession was collected, the country where it was bred or even the country where a donor institute is located. While this is well known among the genebank community, it often leads to users' uncertainty about plant genetic resources data. Pros and cons were discussed and it was decided to pick up this point during the meeting of the EURISCO Advisory Committee taking place after the training workshop.<sup>1</sup>

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<sup>1</sup> The Minutes of the Advisory Committee meeting are available online ([here](#)).

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### Public web interface

It was suggested to move the information about further identifiers (MCPD field OTHERNUMB) to the top of the accession details page, near the DOI and accession number.

It was asked whether the accession details could be enriched by additional information about crop wild relatives. While information about the biological status of accessions is already contained in the MCPDs, additional information could be integrated in principle. The prerequisite is the availability of suitable data.

### Miscellaneous

It was asked if it would be possible to organize country-specific workshops to train data providers, which will not only comprise NFPs. It is unclear if such workshops could be funded by ECPGR. However, if separate funds could be provided by the host country this would be feasible.

It was noted that larger workshops for the promotion of EURISCO would be desirable in order to increase the awareness of the user groups, including breeders. It was asked whether public awareness slides could be prepared, and this was confirmed to be feasible. In this context it was agreed that the EURISCO fact sheets would be updated. The participants offered help with the translation into different languages.

In addition, it was asked to provide user guides in different languages in order to increase the use of EURISCO, especially at national level. It was suggested to produce a user guide in English language and to send it to interested NFPs for translation.

A question was raised regarding the synchronization of EURISCO with other information systems. It was explained that there is a regular exchange of passport data with Genesys. It would also be important to synchronize with GBIF, but a regular data exchange was not implemented yet due to time constraints.

The issue of the relationship of EURISCO and European Central Crop Databases (CCDBs) was addressed. It was explained that the ECPGR supports the idea of crop portals, which are provided with data from EURISCO. An example, which might act as a blueprint for other portals, is the European *Poa* Database of the ECPGR Forages WG. Both passport data and C&E data are provided automatically by EURISCO.

It was discussed how genebanks working with GRIN-Global could be supported for the data exchange with EURISCO. This question had already been raised during the 2017 GRIN-Global training workshop in Prague, Czech Republic. It was agreed that the EURISCO coordinator get in contact with the GRIN-Global developers to ask for the implementation of reports providing passport and C&E data in the EURISCO exchange formats.

### Workshop feedback

In order to improve the training for future workshops, the participants were asked for feedback. The workshop was considered very interesting and helpful. It was stated that it is quite easy to upload data to EURISCO.

The participants expressed appreciation of the good organization. With help of the hosts IT department, additional training infrastructure could be provided, thus enabling the participants to upload test data simultaneously. Moreover, with Markus Oppermann and Stefanie Kreide, two additional trainers were also available. It was asked to schedule an additional time slot for the C&E data hands-on session for the next workshop.

The participants enjoyed the vivid discussions during the course of the workshop.

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### Acronyms and abbreviations

C&E	Characterization and evaluation
CCDB	Central Crop Database
ECPGR	European Cooperative Programme for Plant Genetic Resources
EURISCO	European Internet Search Catalogue
GRIN	Genetic Resources Information Network ( <i>of the United States Department of Agriculture – Agricultural Research Service, USDA-ARS</i> )
IPK	Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben, Germany
MCPD	Multi-crop passport descriptors
MLS	Multi-lateral system
NC	National Coordinator
NFP	National Focal Point
NI	National Inventory
PGR	Plant genetic resources
WG	Working Group

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### Agenda

<b>DAY 1 (9 OCTOBER 2018) – VENUE: BIOINFORMATICS CENTRE, IPK GATERSLEBEN</b>		
12.30	Transfer from the hotel to IPK Gatersleben	
13.00 – 13.30	Registration of participants	
13.30 – 14.00	Welcome and introduction	S. Weise
14.00 – 14.15	Self-introduction of the participants	All participants
14.15 – 14.30	Introduction of the agenda and expectations	S. Weise
14.30 – 15.15	Country National Inventory development and status	NFPs (~10 min. each)
<b>15.15 – 15.45</b>	<b>Tea/coffee break</b>	
15.45 – 16.30	EURISCO catalogue (Status quo + planned developments)	S. Weise
16.30 – 16.45	Demonstration of the EURISCO web information system	S. Weise
16.45 – 17.15	Discussion and wrap up	All participants
17.30	Transfer to Quedlinburg (hotel)	
	Dinner on your own	

<b>DAY 2 (10 OCTOBER 2018) – VENUE: BIOINFORMATICS CENTRE, IPK GATERSLEBEN</b>		
08.30	Transfer from the hotel to IPK Gatersleben	
Two parallel sessions 09:00 – 10:30		
09.00 – 10.30	Improvement of data quality (group 1) <ul style="list-style-type: none"> <li>• Scientific plant names</li> <li>• Geographical data</li> <li>• Tools + test datasets</li> </ul>	M. Oppermann & NFPs (Seminar room of IPK communication centre)
<b>Or</b>		
09.00 – 10.30	Hands-on session passport data (bring your own data) (group 2) <ul style="list-style-type: none"> <li>• Upload of NI datasets (test environment)</li> <li>• Run integrity checks</li> <li>• Interpret results</li> <li>• Discuss improvements</li> </ul>	S. Weise & NFPs
<b>10.30 – 11.00</b>	<b>Tea/coffee break</b>	
Two parallel sessions 11:00 – 12:30		
11.00 – 12.30	Improvement of data quality (group 2)	M. Oppermann & NFPs (Seminar room of IPK communication centre)
<b>or</b>		
11.00 – 12.30	Hands-on session passport data (group 1)	S. Weise & NFPs
<b>12.30 – 13.30</b>	<b>Lunch</b>	

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<b>13.30</b>	<b>Workshop photo</b>	
13.35 – 14.00	C&E data in EURISCO <ul style="list-style-type: none"> <li>• Templates</li> <li>• Implementation</li> <li>• Data uploads</li> </ul>	S. Weise
14.00 – 15.00	Hands-on session C&E data (bring your own data)	S. Weise, M. Oppermann & NFPs
<b>15.00 – 15.30</b>	<b>Tea/coffee break</b>	
15.45 – 17.00	Guided tour IPK herbarium and genebank	U. Lohwasser
17:00	Transfer to Quedlinburg (hotel)	
18.00 – 19.00	Guided tour through the UN world heritage city of Quedlinburg	
19.00 – 22.00	Workshop dinner	

<b>DAY 3 (11 OCTOBER 2018) – VENUE: BIOINFORMATICS CENTRE, IPK GATERSLEBEN</b>		
08.30	Transfer from the hotel to IPK Gatersleben	
09.00 – 11.00	General discussion & conclusion <ul style="list-style-type: none"> <li>• Additional use-cases for EURISCO</li> <li>• Strategies for increasing the update frequency</li> <li>• Increasing the coverage of EURISCO</li> <li>• Strengthening the network</li> <li>• Extension of EURISCO descriptors</li> <li>• Further expectations</li> <li>• Workshop feedback</li> </ul>	All participants
<b>10.30 – 11.00</b>	<b>Tea/coffee (during session)</b>	
11.00 – 12.00	Guided tour IPK Lemnatec plant	U. Lohwasser
<b>12.30 – 13.30</b>	<b>Lunch</b>	
End of workshop		
14.00	Transfer to Quedlinburg (hotel)	

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### List of participants

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