



**EURISCO external evaluation/assessment:
Needs and recommendations
for setting a road map**

by

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Report
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1. Executive summary

This report was commissioned by Bioversity International, through its F07-Biodiversity Informatics Project, Understanding and Managing Biodiversity Programme (UMBP).

The main goal of the consultancy was to carry out an external evaluation/assessment of the EURISCO Catalogue, looking at the strengths, weakness of the Catalogue and envisioning further developments for the next 5 years. It provides a contribution to the development of EURISCO work plans, a process that involves the EURISCO Advisory Group provided by the ECPGR Documentation and Information Network as well as Bioversity.

The EURISCO Catalogue is an important source of information on European *ex situ* plant genetic resources germplasm collections, providing users with access to over 1.1 million accessions. It represents one of the largest online searchable multi-crop databases in existence. The significance of the EURISCO Catalogue will grow considerably in the near future with implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the project “A Strategic Framework for the Implementation of a European Genebank Integrated System (AEGIS).

The external EURISCO evaluation/assessment was carried out during the first four months of 2008. The main purpose of the evaluation was to develop a proposal for improving EURISCO by assessing its functionalities from users’ perspectives, after five years of operation. The evaluation report highlights the strengths and weaknesses of the Catalogue and summarizes recommendations for further developments in the next phase of activities. The report consists of description of the current status of EURISCO, an analysis of survey results, a set of recommendations and annexes.

In order to collate opinions, views and recommendations from users, two sets of detailed questionnaires were prepared: one addressed to the National Focal Points (NFPs) and the second addressed to the Central Crop Database Managers (CCDB Managers). A third limited set of questions regarding the utilization of EURISCO was posed to the participants of the Cereals Network Group meeting held at Foça, Turkey, 22-24 April 2008.

The assessment also includes ideas obtained from discussions held during the joint meeting of the EURISCO Advisory Group (EAG) and EPGRIS 3 initiative, which took place at the German Federal Agency for Agriculture and Food (BLE) in Bonn, Germany, 12-14 March 2008. An early version of the new EURISCO website was presented during the meeting and preliminary comments on the site are included in this report.

The evaluation shows that skilled users (NFPs and CCDB Managers) reported very positive experiences with the current EURISCO platform and functionalities. The views of common users represented by the Cereal Network Group members were also important in the evaluation.

The NFPs expressed the need for capacity building and all users stressed the necessity of raising awareness of the EURISCO Catalogue. The importance of the Catalogue was acknowledged and a strong willingness to participate in data quality improvement and to support further development of EURISCO was communicated by all respondents.

2. Introduction

The report is divided into nine chapters describing the current status of EURISCO, survey results and recommendations, personal experiences and a proposal for activities in the next five years.

The External evaluation/assessment was carried out from 27 December 2007 to 30 April 2008 under the Terms of Reference described in Annex 1. Biodata of consultant are given in Annex 2.

The online surveys of NFPs and CCDB Managers were focused on: local conditions and contributors; relations between National Inventories and EURISCO; data upload to EURISCO; utilization of EURISCO; and the future of the Catalogue. The survey results are summarized in [Annex 6](#) (NFPs) and [Annex 7](#) (CCDB Managers). The additional brief questionnaire directed to common users was also circulated to participants at the Cereals Network Group meeting in Foça, Turkey 22-24 April 2008 (see results in [Annex 8](#)).

3. EURISCO - background

The European Plant Genetic Resources (PGR) Catalogue - EURISCO has arisen as the main output of the 'European Plant Genetic Resources Information Infra-Structure (EPGRIS)' project coordinated by the CGN Wageningen and funded under the EU 5th Framework Programme; it entered into operation in September 2003. Its main objective was to create an entry point for the information on National Inventories (NI) of European *ex situ* PGR collections, forming a regional counterpart to important PGR information systems like USDA-GRIN or CGIAR-SINGER.

The Catalogue consists of standardized passport information on accessions maintained *ex situ* in European PGR germplasm collections. Data for the EURISCO Catalogue were collected via network of National Focal Points (NFPs), nominated as central data sources from each European country.

Since December 2003, the end of the EPGRIS project, Bioversity International (formerly the International Plant Genetic Resources Institute [IPGRI]) and the European Cooperative Programme for Plant Genetic Resources (ECPGR), have been responsible for the continuation, maintenance and further development of EURISCO. In September 2003, the EURISCO web application included 882,037 passport records provided by 25 NIs. The entire network is composed of 41 countries that have signed a Memorandum of Understanding (MoU) valid from December 2003 until December 31, 2009, which clearly states the roles and responsibilities of the NIs and Bioversity on behalf of ECPGR.

Two attempts to secure financial support for further development of EURISCO were undertaken under the coordination of IGER Aberystwyth. The first proposal was submitted to the European Commission (EC Regulation no. 870/2004) in October 2005 and the second in June 2006 with an acronym EPGRIS 2. Unfortunately, neither of these proposals was funded by the EC.

Based on these proposals, five EURISCO-related priority areas were formulated: Vision and scope, Data quality and quantity, Uploading mechanism, User interfaces and NFP network

and a self funded initiative was created - EPGRIS 3, aiming at providing a platform for collaboration.

The importance of the EURISCO Catalogue is also underscored in the report of the Centre-Commissioned External Review (CCER) of Bioversity's Understanding and Managing Biodiversity Programme (UMB) carried out in January 2007. The review panel recommended that EURISCO, as a strategic product (along with SINGER), should receive increased attention in order to effectively contribute to the development of a user-friendly global accession-level information system. As a result of the CCER recommendation, the further development of EURISCO was noted as a topic in the Bioversity's new F-series of projects (Medium-Term Plan 2008-2010) within the F07 Biodiversity Informatics project. The Europe Regional office and its partners will continue to support the EURISCO portion of this system, within the limits of available funding.

4. EURISCO – current status and data analysis

Data have been provided to EURISCO by 31 NFPs (see Table 1), originating in 35 European countries (the regional collection of NordGen represents five countries: Sweden, Norway, Finland, Denmark and Iceland). Six countries have nominated NFPs but have not yet provided data (see Table 2), and three other countries (Belarus, Bosnia and Herzegovina, and Montenegro) have not yet nominated a NFP. Frequency of updates is dependent on NFPs, although the MoU states that it should be done at least once a year. The content of NIs provided to EURISCO is the responsibility of the respective NFP, and it is dependent on the national policies of each country.

4.1 Data quantity

As of early April 2008, the EURISCO Catalogue held passport information on 1,091,328 genetic resource accessions, which is approximately 55% of the estimated 2 million accessions held *ex situ* in Europe (estimation by FAO, 1996). The highly presumable estimation of the total sum of PGR accessions in Europe made according to current information from NIs (Table 1) does not exceed 1.6 million. In this case, the current proportion of accessions reached through EURISCO 68%.

A detailed overview of the current status and estimation is given in Tables 1 and 2.

Table 1: EURISCO and National Inventories (NI) – status as of 2 April 2008

Country	NICODE	record/accession number		
		EURISCO	NI on-line available from original source	declared NI total
Armenia	ARM	4 151		4 200
Austria	AUT	10 950	11 230	11 230
Azerbaijan	AZE	7 171		7 200
Bulgaria	BGR	56 078	20 161	88 317
Cyprus	CYP	468		500
Czech Republic	CZE	49 464	49 464	49 464
Estonia	EST	480	653	1 500
France	FRA	3 019		60 000
Georgia	GEO	440		450
Germany	DEU	153 796	153 796	155 000
Greece	GRC	6 084		6 100
Hungary	HUN	45 321		45 321

Ireland	IRL	314		314
Israel	ISR	3 127		50 000
Italy	ITA	20 954		21 000
Latvia	LVA	967	967	1 000
Lithuania	LTU	1 681	1 681	3 500
Macedonia	MKD	887		1 000
Netherlands	NLD	23 823	23 823	25 000
Nordic Countries	NGB	19 590	19 590	30 000
Poland	POL	58 410		60 000
Portugal	PRT	2 580		3 100
Romania	ROM	43 080		43 080
Russian Federation	RUS	217 206	217 206	320 000
Serbia	SRB	5 475		5 500
Slovakia	SVK	16 822		16 822
Slovenia	SVN	1 776		3 100
Spain	ESP	17 531	57 776	71 330
Switzerland	CHE	23 978		23 978
Ukraine	UKR	62 257		62 257
United Kingdom	GBR	233 421	135 000	233 421
total		1 091 301	691 347	1 403 684
Proportion of on-line NI to EURISCO			63%	

Approximately 37% of all EURISCO passport data is accessible only via EURISCO, since the NIs providing these data are not available online. The recently declared estimated total of accessions in NIs included in EURISCO is calculated at 1,403,684.

Table 2: National Inventories (NIs) missing from EURISCO

Albania	ALB
Belgium	BEL
Croatia	HRV
Malta	MTA
Moldova	MDA
Turkey	TUR
estimated missing total accessions	200 000

It is estimated that about 200,000 accessions could be held in the missing NIs, therefore a more realistic assessment is 1.6 million total accessions in Europe. EURISCO currently includes passport data on 68% of European total.

4.2 Data quality

Because high data quality is appreciated and expected by users, efforts of data providers should be targeted at high data completeness, accuracy and frequent updates. EURISCO as a centralized database operates at a high level of standardization. Data dictionaries and standards should be clearly specified. The EURISCO descriptor list – the FAO/IPGRI Multi-crop Passport Descriptors (MCPD) enlarged with six additional descriptors – provides a high level of standardization.

A basic data-quality check is made automatically before data entry by the EURISCO upload mechanism, which does not allow input of records with errors into mandatory fields (such records are excluded). It also checks coded fields against validated data dictionaries (ORIGCTY, DONORCODE, BREDCODE, DUPLSITE, etc.) and validates allowed formats (geographic coordinates, dates). Much attention is given in the EURISCO upload mechanism to geographic coordinates. The automatic procedure tests the correctness of hexadecimal format in degrees, minutes and seconds regarding to GIS display on maps. Error reports produced by the upload mechanism contribute to data-quality improvement before entry of records into EURISCO. In spite of these checks however, uploaded data sets often include a number of errors, which are analyzed below.

The first step in the online EURISCO data quality check is an analysis of descriptor completeness (examples in Tables 3 and 9) and the second step is verification of data content, where possible (example in Tables 4-8b).

Testing completeness of fields is a raw evaluation method, which can be applied to only a few descriptors in addition to the four mandatory fields, including: species, country of origin, status of sample, acquisition date, common crop name, type of storage and URL. Several fields are designated for special type of accession only (accession name, set of collecting information, ancestor information, breeding institute, etc.) and cannot be filled in for all records. Other fields are not available in the existing online search form and were therefore not checked (common crop name, type of storage, URL, etc).

Table 3: Completeness of selected fields (as of 29 February 2008)

descriptor	total	% total
NICODE	1 091 201	100,00
INSTCODE	1 091 201	100,00
ACCENUMB	1 091 201	100,00
GENUS	1 091 201	100,00
SPECIES	808 704	74,11
SAMPSTAT	620 239	56,84
ORIGCTY	735 675	67,42
DONORINST	310 922	28,49
ACQDATA	590 781	54,14

The first four fields are mandatory; therefore 100% are completed. Any combination of those fields is a unique identifier, which is automatically tested during data upload. The fields NICODE and INSTCODE are checked against validated lists (ISO-3166 extended list of countries and FAO WIEWS INSTCODE for institutions); ACCENUMB is tested for its uniqueness within NI. GENUS is the only mandatory field that is not exactly specified and data are accepted as provided without any check of correctness. There is only a recommended check – comparison to the GRIN system (Taxcheck). A standard list of genera is missing and therefore it is possible to register spelling mistakes or incorrect taxa in the mandatory field.

4.2.1 Quality of mandatory field GENUS

Tables 4 to 8b indicate the results of the incidental and incomplete analysis of the field GENUS. Besides taxonomical synonymy, which is not checked, the basic errors include spelling mistakes causing record multiplications (Table 4) and invalid data format/content

(Tables 5, 6). Often, the field GENUS contains name of author, species (Table 5) or even “unknown” characters from another character set (Table 6), and eventually a combination of error categories (Tables 7, 8a, 8b).

Table 4: Examples of spelling errors in the field GENUS

Correct field content	records	Incorrect field content	records
<i>Agrimonia</i>	40	Agrimone	1
<i>Albizia</i>	1	Albizzia	1
<i>Anthyllis</i>	134	Anthylis	2
<i>Anthoxanthum</i>	57	Antoxanthum	1
<i>Armoracia</i>	29	Armoracie	1
<i>Asperula</i>	9	Asperuga	1
<i>Arnica</i>	46	Arnika	1
<i>Agropyron</i>	356	Agropyrum	6
<i>Beckmannia</i>	10	Beckmania	1
<i>Belamcanda</i>	3	Bellamcanda	2
<i>Boehmeria</i>	2	Boechmeria	1
<i>Canavalia</i>	11	Canavallia	2
<i>Dimorphotheca</i>	20	Dimorphoteca	1
<i>Eleusine</i>	53	Elevsina	1
<i>Echinochloa</i>	51	Ehcinochloa	5
<i>Eremopyrum</i>	35	Eremopurum	2
<i>Glycyrrhiza</i>	65	Glycirrhiza	11
<i>Ipomoea</i>	13	Ipomace	1
<i>Ipomoea</i>		Ipomosa	1
<i>Onopordum</i>	6	Onopordon	1
<i>Origanum</i>	173	Origonum	1
<i>Phaseolus</i>	37020	Phaselous	54
<i>Polygonum</i>	25	Polygonium	1
<i>Primula</i>	162	Primulla	1
<i>Pastinaca</i>	165	Pastiniaca	16
<i>Lepidium</i>	478	Lepidum	1
<i>Leucanthemum</i>	22	Leuchanтемum	6
<i>Libanotis</i>	3	Libanosis	1
<i>Linum</i>	18950	Linium	1
<i>Lycopersicon</i>	11413	Lycopersicum	16
<i>Rauvolfia</i>	4	Rauwolfia	1
<i>Muhlenbergia</i>	2	Muehlenbergia	3
<i>Physochlaina</i>	2	Physochloina	1
<i>Rhynchosia</i>	3	Rhyncosia	1
<i>Scandix</i>	6	Scandx	1
<i>Solanum</i>	25403	Solannum	212
<i>Silybum</i>	45	Silybun	1
<i>Sorghum</i>	6636	SORGUM	2
<i>Spiraea</i>	4	Spireae	1
<i>Stellaria</i>	3	Stelaria	1
<i>Symphytum</i>	30	Synphytum	1
<i>Tropaeolum</i>	29	Tropeolum	2
<i>x Aegilotriticum</i>	2	Aegilotriticum	2
<i>Ziziphus</i>	8	Zizyphus	17
		affected records total	387

Table 4 contains 44 incorrect (duplicated) genera.

Table 5: Examples of incorrect field content

field content	records
Unknown	2
Crataegomespilus+dardarii	1
Daucus ?	1
Agopyrum	1
Glycine max	5
Portenschlagie*	1
Spinacia L.	218
Trichosanthes L.	15
Prangos Lindl.	1
Sorbus hybrida	4
VerbenaGlandularia	23
Poncirus trifoliata x C. aurantium	1
Poncirus trifoliata x C. limon	1
Poncirus trifoliata x C. paradisi	2
Poncirus trifoliata x C. sinensis	6
x Cerapadus ssp. Cerasus fruticosa x maackii x vulgaris	4
Prunus x cistena	1
Papaver rhoeas	2
affected records total	287

Table 5 contains 18 incorrect entries in the GENUS field; in two records, the field GENUS contains the word “unknown”.

Table 6: Examples of incorrect character set

field content	records
Âñía õ 644	1
Âñía õ Êðñíäÿ	5
Âñía õ ìè-óðèiéà	1
Âñía õ R.gallica	1
Âñía x Êðñíäÿ Êðñíäÿ	1
Âñía x R. gallica	1
Ðääóää õ Í-1050	1
Ðääóää õ Ôñòèääëüíäÿ	2
Êñíäðòíðèà õ Ðääóää	3
Ðääóää õ Í-1050	1
Ðääóää õ Ôñòèääëüíäÿ	2
ì ñáíá.ñüë.Êaçáíëüñêé	1
ì ñáíá.ñüë.R.damascena	1
ì ñáíáíáí.ñüëáí. Ðääóää	2
ì ñáíáíáí.ñüëáí.Ðääóää	1
Ýèèíñ Êàíääñêé	1
affected records total	25

Table 6 contains 17 completely unidentified genera.

Note: Surprisingly, the EURISCO search gives the resulting records.

Table 7: Combination of incorrect field content + spelling error

field content	records
R. alba x $\grave{\text{e}}\grave{\text{o}}\grave{\text{d}}\grave{\text{e}}\grave{\text{i}}\grave{\text{e}}\grave{\text{a}}$	1
R.alba x $\grave{\text{e}}\grave{\text{o}}\grave{\text{d}}\grave{\text{e}}\grave{\text{i}}\grave{\text{e}}\grave{\text{a}}$	2
Vitis vinifera L. $\grave{\text{o}}$ Vitis riparia Michx.	1
Vitis vinifera L. x Vitis labrusca L.	10
Papaver roheas	1
affected records total	16

Table 7 contains five incorrect rows.

Table 8a: Combination of spelling error + synonym – genus “*x Triticosecale*”

field content	records
<i>x Triticosecale</i> (correct)	2312
<i>xTriticale</i>	765
<i>Triticosecale</i>	1806
<i>Triticosecale</i> Wittmack.	63
Xtriticosecale	612
affected records total	3246

Table 8a contains four incorrect/redundant rows

Table 8b: Combination of spelling error + synonym – genus “*Alcea*”

field content	records
<i>Alcea</i> (correct)	47
<i>Althaea</i>	51
Alceae	2
Althae	11
affected records total	64

Table 8b contains three incorrect/redundant rows

From Tables 4-8b analysis, there were 89 incorrect/redundant records of 1,375 genera – 6.5% error rate. The total number of affected records in the test set is 4,027 out of 1,091,301 (0.4%), but the total number of all incorrect inputs in the column GENUS is higher, as the presented search for mistakes is not complete. Particularly the final number of synonyms and misspellings will be relatively high reaching by estimation almost 1% of all records. Taking into account, that the field GENUS is a part of the unique identifier, the existence of such error rate is undesirable.

4.2.2 Geo-reference data completeness

Geographic coordinates are related to plant material acquired from collecting missions. Not all expeditions are fully documented and because several data providers consider geo-reference data as strategic information, they do not want to make them publicly available. Old historical records do not contain any geo-reference data, but they could be completed if the locality is sufficiently well described. It might be expected that all accessions with status ‘wild’ (100), ‘weedy’ (200) and part of traditional cultivars/landraces (300) should be geo-referenced. Unfortunately, only about 57% of all data have the status of accession recorded

(see Table 3). Therefore, it is not possible to assess what 100% completeness of geographic coordinates means. Table 9 on completeness of recorded EURISCO geo-references (Table 9) shows that in many cases, only one coordinate is entered, and therefore the resulting position of the locality is unknown.

Table 9: Completeness of geo-references

descriptor	Total records>0	proportion
LATITUDE	89 773	100%
LONGITUDE	86 670	96.54%
LATITUDE+LONGITUDE	86 635	96.50%

“Completeness” does not necessarily imply real data correctness, which is needed in the case of coordinates. A secondary data quality check was completed by the EURISCO Coordinator in 2006 and in the summer of 2007 by comparing country of collecting and relevant coordinates, and distributing the data quality reports to NFPs for further checking and correction at the data-provider level.

4.2.3 Summary of data quality analysis

There are several categories of errors:

- A) Automatically traceable errors – by comparison to standard (validated) data dictionaries
- B) Non-traceable but correctable due to:
 - a. Missing standards/data dictionaries (genus, species, sub-taxa, crop name)
 - b. Data invisibility in the EURISCO application (URL, collnumb, and the rest of the 34 EURISCO descriptors, as the web application consists of 19)
 - c. Misunderstanding of terms by NFPs and data-processors (examples: incorrect content in the field GENUS (Table 4-8b); donor country recorded instead of country of origin; Donorcode+Donordescr – both fields filled in at the same time; geo-reference filled in erroneously for holding institute instead of geo-reference for collecting material only; etc.)
 - d. Insufficient engagement of NFPs and/or data processors (empty fields and missing descriptors from variable reasons, spelling mistakes in non-standard fields, etc.)

5. EURISCO - Survey description

Three surveys were prepared separately for: NFPs; CCDB Managers and; common users. The first two questionnaires were designed on using the Survey Monkey application; both were filled in online and analyzed automatically by the application. The third survey was more limited and was made available in hard copy to be filled in by participants of the Cereal Network Group at the meeting in Foça, Turkey, 21-24 April 2008; it was and analyzed and summarized manually.

The first version of the survey for NFPs (1-NFP) contained 58 questions clustered into seven thematic areas (the list of questions is in [Annex 3](#) and [summary results of 1-NFP-Q1-58 in Annex 6](#)):

1. NFP info (4 questions, Q1-4)

2. Local conditions and contributors (3 questions, Q5-7)
3. National Inventory (12 questions, Q8-19)
4. National Inventory/EURISCO relations (4 questions, Q20-23)
5. Data upload to EURISCO (9 questions, Q24-32)
6. Utilization of EURISCO (9 questions, Q33-43)
7. EURISCO's future (11 questions, Q44-58)

All 39 nominated NFPs representing 41 countries were contacted on 19 February 2008. The EURISCO mailing list was used for distribution to Albania, Armenia, Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Georgia, Germany, Greece, Hungary, Ireland, Israel, Italy, Latvia, Lithuania, Macedonia (FYR), Malta, Moldova, The Netherlands, NordGen, Norway, Poland, Portugal, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Switzerland, Turkey, Ukraine, United Kingdom. NFPs were asked to fill in and return the survey no later than 3 March 2008. On 29 February, a reminder message was forwarded to all who had not responded. A total of 27 participants answered before the deadline; therefore the survey's effectiveness was 69%.

The second version of the survey for CCDB managers (2-CCDBM) consisted of 52 questions, which were grouped into five thematic areas (the list of questions is in [Annex 4](#) and [summary results of 2-CCDBM in Annex 7](#)):

1. CCDB Manager info (6 questions, Q1-5)
2. CCDB conditions and contributors (18 questions, Q6-23)
3. CCDB/EURISCO relation (6 questions, Q24-32)
4. EURISCO utilization (9 questions, Q33-43)
5. EURISCO future (9 questions, Q44-52)

A total of 45 CCDB Managers responsible for 57 databases (three of them multi-genera databases) were identified; several CCDB Managers are responsible for more than one database. In this case, the ECPGR mailing list was used for distribution. The CCDB Managers were asked to fill in the questionnaire on 19 February 2008 with the same deadline as NFPs on 3 March 2008; before the deadline they also received a reminder.

The effectiveness of the CCDB Managers' survey was rated at 56%, as 25 responses were received.

The sections of the questionnaire referring to utilization and EURISCO future (sections 4 and 5) were common to both versions of the survey and they were, therefore, evaluated together (20 questions). Several database managers serve concurrently as NFPs; in these cases, sections 4 and 5 were completed only once.

The third, a limited version dedicated to common users (3-CU) and consisting of 11 basic questions was aimed at EURISCO utilization and recommendations for improvements ([see Annex 5](#)). Altogether, 19 answers (33% from 57 distributed questionnaires) were completed and processed (survey results [see Annex 8](#)).



6. EURISCO – Survey analysis

Detailed results of all three versions of the survey (1-NFP, 2-CCBDM, 3-CU) can be found in Annexes 6-8. The common part of versions 1- NFP and 2-CCBDM (20 questions in the Utilization and Future sections) have a very similar proportion of responses. Although they

were evaluated together, in several cases, CCDB Managers were slightly more critical in their views than NFPs. Neither group was found to represent the common user community, as they are experienced and focused in their demands. Conventional users (represented by participants of Cereal Network Group) should be taken into account, particularly in proposed innovations of the EURISCO user-interface. Nevertheless, high user-friendliness of the application is very important for all user groups.

From the analysis of the NFP part of the survey (1-NFP-Q-1-4), it is understood that 67% of NFPs have been involved in EURISCO since 2001, 18% since 2003 and 15% are new NFPs. Documentation as the first specialization is indicated by 38% of NFPs, 27% are genebank research staff, 11% are working in managing positions, 8% are collection curators and 4% breeders. Two thirds of NFPs process NI data personally and about 62% are genebank staff. All of them indicated an existing (69%) or developing (31%) National Inventory (1-NFP-Q-7). EURISCO was designated as the driving force for NI development in 40% cases (1-NFP-Q-9).

Figure 1: Survey 1-NFP-Q-9 result – EURISCO as a driving force for NI development

9. Was EURISCO the driving force for the development of your NI?			Response Percent	Response Count
Yes			40.0%	10
No			60.0%	15
			<i>answered question</i>	25
			<i>skipped question</i>	2

The following points summarize the responses obtained in from all three questionnaires and the consultant’s opinions. The survey version is indicated as 1-NFP-, 2-CCBDM-, 3-CU- and followed by the question number Q-.

6.1. EURISCO outreach

EURISCO currently consists of passport data from European germplasm collections maintained *ex situ*, covering 35 countries from 31 data providers.

1) Other countries:

Priority for including data in EURISCO should be given to the six countries that have nominated NFPs but have not yet provided data (Albania, Belgium, Croatia, Moldova, Malta and Turkey). Implementation in the three other countries (Bosnia and Herzegovina, Belarus and Montenegro) should follow as well. Their involvement is not clear at the moment, as they are not yet participating in the European Cooperative Programme for Plant Genetic Resources (ECPGR).

2) Other data types:

EURISCO was designed and established for *ex-situ* PGR collections – the data module for *in situ* and on-farm collections should be developed separately and linked to EURISCO. Specific descriptors also need to be developed for *in situ*/on-farm purposes; only some existing EURISCO descriptors would be applicable without any change.

Survey results 1-NFP-Q-44 and 2-CCDBM-Q-44:

The importance of EURISCO for expansion to include by *in situ*/on-farm data was stressed by 47% of the NFPs and 6% of the CCDB Managers.

Survey results 1-NFP-Q-46 and 2-CCDBM-Q-45:

The differing opinion was expressed regarding the possibility of linking *in situ* data to EURISCO: 33% of the NFPs and 7% of the CCDB Managers would like to link EURISCO to *in situ*/on-farm information.

3) Botanic Gardens do not maintain collections of genetic resources, particularly in terms of their length of preservation and specimen viability. In Botanic Gardens, the emphasis is placed to herbaria. The collections in Botanic Gardens have a different mission and their network has its own documentation system, the International Plant Exchange Network (IPEN), which operates under Botanic Gardens Conservation International (BGCI) standards.

6.2 Data quantity and quality

In EURISCO, data quantity and quality tasks are interconnected and are related to the other responsibilities of NFPs, especially the frequency and accuracy of updates.

6.2.1 Data quantity in survey

6.2.1.1 Data quantity (general)

In reply to question 1-NFP-Q-6, 42% of the respondents identified their PGR documentation as partial only, while the rest (58%) indicated that it is fully documented. There are some accessions from institutions that do not participate in NIs and are therefore not included (1-NFP-Q-11): approximately 12% estimate that the proportion of accessions not included is 3/4 or more; 20% estimate 3/4-1/2 are not included; 20% to 1/2-1/4; and 48% include nearly all accessions in NIs. The survey also showed the difference between the number of declared accessions in the NIs and the number of records in EURISCO (1-NFP-Q-22). Approximately 26% of data providers indicate that these two figures are totally different (see Figure 2).

Figure 2: Survey 1-NFP-Q-22, Comparison of accession numbers in NIs and EURISCO

22. Is the current number of accessions in your NI the same as in EURISCO?			
		Response Percent	Response Count
Yes, exactly		21.7%	5
More or less (slight difference)		52.2%	12
Totally different numbers		26.1%	6
Please comment, if necessary:			4
<i>answered question</i>			23
<i>skipped question</i>			4

Depending on the estimated total number of accessions maintained in *ex situ* collections in Europe, the actual percentage included in EURISCO is 55-68% (see Table 1).

Frequency of update should be seen as an indicator of both data quantity and quality. Of all respondents, 20% specified their updates as frequent (more than five times a year); 16% perform updates 2-5 times a year; 44% once a year; and in 20% of cases, the original data set has not been updated since the first upload (1-NFP-Q-17).

6.2.1.2 Data quantity provided

As mentioned in section 6.2, there are still data that could be provided by engaging more institutions into the NIs (1-NFP-Q-11, Figure 3) and by processing all available collected data (1-NFP-Q-6, Figure 4). However, problems could arise from the national definition of PGR collections (as in case of France, where only 3,500 records are included in the NI out of an estimated 60,000 accessions in the country's germplasm collections). Frequent updates are also an important way of ensuring the completeness of data and number of accessions included.

Figure 3: Survey 1-NFP-Q-11, Proportion of the National PGR collections contributing to the National Inventory

11. What is the estimated percentage of the total accessions (in all PGRFA collections) kept in your country contributing to the NI?			
		Response Percent	Response Count
<25%		12.0%	3
25-50%		20.0%	5
51-75%		20.0%	5
76-100%		48.0%	12
<i>answered question</i>			25
<i>skipped question</i>			2

Figure 4: Survey 1-NFP-Q-6, Porportion of processed accession data

6. Is your PGRFA documentation computerized?			Response Percent	Response Count
Yes, fully			57.7%	15
Yes, partly			42.3%	11
Not yet			0.0%	0
<i>answered question</i>				26
<i>skipped question</i>				1

6.2.2 Data quality in survey

6.2.2.1 Data quality (general)

In the self-assessment of data quality and completeness, about 37% of the respondents evaluate quality data as high, 58% of the NFPs consider their data as somewhat reliable and 4% are very critical of their own data quality (1-NFP-Q-18). On the other hand, 68% of responses indicate the existence of available sources for data quality improvement (e.g. unused background papers, literature, manuscripts) (1-NFP-Q-19). The survey also shows the personal willingness of NFPs to keep their data updated (1-NFP-Q-54): 36% NFPs indicated their readiness to make frequent updates and 41% promised to do their best. The rest – about 23% – are ready to make updates, but describe current obstacles (need of skilled human sources, lack of time, etc.).

Characterization and evaluation data

Characterization and evaluation (C&E) data are not included in EURISCO yet. The importance of C&E data in EURISCO was evaluated by both NFPs and CCDB Managers (1-NFP-Q-44,46 and 2-CCDBM-Q-44,45).

A Considerable number of the NFPs (approximately 53%) expect to see characterization data (and in parallel, only 47% NFPs expect evaluation data and 32% molecular data) included in EURISCO (1-NFP-Q-44). On the other hand, 61% of the NFPs would appreciate a link to European Central Crop Databases (ECCDBs), and additionally 61% of them link to characterization, 56% link to evaluation and 33% link to molecular data from other information sources (1-NFP-Q-46).

The answers by CCDB Managers reflect their „defensive position“ in relation to EURISCO: less than 13% of CCDB Managers would like to include characterization data (no evaluation, no molecular data!) into EURISCO (2-CCDBM-Q-44). Surprisingly, only 14% of CCDB Managers consider linking characterization (no evaluation, no molecular) data to other existing information sources (2-CCDBM-Q-46).

Integration of C&E data into EURISCO was considered contradictory to the existence of parallel ECCDBs, and linking existing C&E data to ECCBDs was suggested. However, several respondents insisted on a completed EURISCO content as the source of all available information (including first of all C&E). Practical aspects should be taken into account as the

NFPs, to provide C&E data will need extended training, in addition to the training needs to overcoming the difficulties with the passport data.

URL links from EURISCO could be established to the C&E records kept in CCDBs similarly to the existing URL links to original NI passport records.

6.2.2.2 Data quality (in detail)

a) Revision of MCPD list

The need to revise the existing EURISCO passport descriptor list, based on MCPD, is obvious from 1-NFP-Q-23. Altogether 30% of respondents are missing some important descriptor, and about 41% of CCDB Managers are missing at least one descriptor (2-CCDBM-Q-12). There was also a suggestion to include a flag for the Multilateral System of the ITPGRFA (Annex 1 crops) for most-appropriate accession, availability or ploidy level.

Note: The eventual inclusion of *in situ*/on-farm data into EURISCO, would require the addition of a larger set of relevant descriptors.

In order to expand to incorporate C&E data, it would be necessary to include standard descriptors for this information. This would be need to be discussed by a wide group of people with technical and scientific backgrounds.

b) Taxonomic backbone

Taxonomy standards are missing in EURISCO and there is no way to elaborate the specific taxonomical system used for EURISCO' purposes. From the example in section 4.2.1, it is clear that to establish at least a standard list of genera is inevitable. Of course, the list of standard genera would not be sufficient without species, subtaxa and authors. Existing systems should be used as the standard, with the possibility of converting taxonomical synonyms into valid taxa. The GRIN taxonomy is recommended but has not yet been fully applied to EURISCO.

The data quality reports indicating invalid taxa distributed by the EURISCO Coordinator in 2007 were positively evaluated by data providers. Almost 71% of the NFPs corrected their incorrect taxonomical data (1-NFP-Q-32) after receiving the data-quality reports.

c) Location data quality

Geographic coordinates are important for accessions acquired from collecting expeditions. The total amount of expected georeferenced records is not given, as the status in 57% of the total records were "not known". Several NIs considered geographical coordinates as strategic information and therefore do not want to make these data publicly available on the Internet.

In some cases, coordinates for data-providing institution were given erroneously. This will be corrected through better instruction to NFPs, especially those newly nominated. The possibility of inputting data optionally in decimal besides hexadecimal values would also be appreciated by collectors using GPS systems, and would reduce errors.

The data-quality reports generated and distributed to NFPs in 2007 were appreciated by respondents, who reiterated that they are an important step towards geo-data quality

improvement. Almost 77% of NFPs indicated that as a result of the error reports they received, geo-references were corrected in their data sets (1-NFP-Q-31).

d) LSID

Life Sciences Identifiers (LSID) are globally unique identifiers designed for working with biological objects. LSIDs provide a naming standard supporting interoperability and a mechanism to identify and access data objects from different sources on the Internet regardless their means of storage. LSID character strings are permanent, globally unique, associated with one unchanging data object and location independent. This issue of automatically searchable LSID has not received much attention in the PGR community, although LSIDs are already used routinely in herbaria collections, nature museums and animal documentation systems. It is expected that LSID will play a role in documentation of the Svalbard Seed Vault repository and the Global Conservation Strategies of the Global Crop Diversity Trust. Information on Taxonomic Database Working Group (TDWG) activities would be useful for NFPs in this regard. Design of the unique model for LSID in European PGR collections should be task of ECPGR (Documentation & Information Network) and the EURISCO team.

6.3 Upload mechanism

Automated procedures for data upload to the central EURISCO database need to follow requested data standards exactly, and conversion of original data set before upload is necessary. NFPs experiences with the upload mechanism are shown by their responses to questions 1-NFP-Q-24-32.

The existing upload mechanism was evaluated by the NFPs as operating well; only slight improvements were suggested. Almost 43% of the NFPs use a combination of converting programme and manual work, and 5% pure manual work, to prepare their original data to for upload to EURISCO (1-NFP-Q-24). About 33% do not require the conversion because their data sets follow EURISCO standards exactly, and 19% of the NFPs apply fully automatic converting programmes. Approximately 24% of the NFPs indicated that work with tab-delimited text file was difficult or inconvenient (1-NFP-Q-25).

A need for assistance with EURISCO was reported by 42% of the respondents (1-NFP-Q-27), and the assistance that was given was evaluated as very good and highly satisfactory by all respondents (1-NFP-Q-28). Data-quality improvement via upload error messages was also appreciated by the NFPs. Several comments also were made regarding the processing of tab-delimited files but in general, the tab-delimited text file is accepted.

6.4 Web-services and user interface

User interface was evaluated in questions 1-NFP-Q-35-39 and 2-CCDBM-Q-35-39.

The user-friendliness of the search form was assessed by 57% of NFPs and by 65% of CCDB Managers as 'acceptable'; by 18-19% as 'easy'; by 24% of NFPs and by 18% of CCDB Managers as 'difficult'. The values 'excellent' or 'inapplicable' were not used by any respondents. Similarly, the display of results was evaluated positively: by 62% NFPs and by about 59% CCDB Managers as 'medium, acceptable'; by 24% NFPs and by 29% CCDB Managers as 'good'; and only by 14 or 12% of respondents as 'bad'. The comments mention users' frustration at the structure, limited search and reporting functionalities and difficult navigation. The display was evaluated as 'monothematic', using one field with no available combination of all passport fields in the search or display of results. Speed of display of

results was assessed as ‘good’ by 58% of respondents; as excellent by about 10%; as ‘acceptable’ by 20% and as bad by about 8% of respondents (1-NFP-Q-37 and 2-CCDBM-Q-37).

Insufficient download functionalities and need for EURISCO staff assistance were particularly noted by CCDB Managers, with 14% evaluating the download function as ‘bad’ and 7% as ‘inapplicable’ (2-CCDBM-Q-38, Figure 5a), on the other hand altogether 71% rated its from “good or medium, acceptable” while 7% rated as excellent. Almost 24% of the NFPs also rated the download function as ‘bad’ and other 76% as “good or medium” (1-NFP-Q-38, Figure 5b). The most critical of the Catalogue’s display and download functions was the group of common users (3-CU-Q-4 and Q-5): 36% indicated that the display was ‘difficult’ to use and, 14% evaluated download as ‘difficult’ while 21% described it as ‘inapplicable’.

Figure 5a: Survey 2-CCDBM-Q-38, Evaluation of download format by CCDB managers


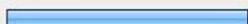

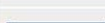






38. How do you find the download format of results from EURISCO? (score 1-5)			Response Percent	Response Count
1- excellent			7.1%	1
2- good			35.7%	5
3- medium, acceptable			35.7%	5
4- bad			14.3%	2
5- inapplicable			7.1%	1
Please, comment:  view				6
<i>answered question</i>				14
<i>skipped question</i>				11

Figure 5b: Survey 1-NFP-Q-38, Evaluation of download format by NFPs

38. How do you find the download format of results from EURISCO?			Response Percent	Response Count
1 - excellent			0.0%	0
2 - good			42.9%	9
3 - medium, acceptable			33.3%	7
4 - bad			23.8%	5
5 - inapplicable			0.0%	0
Please comment:  view				1

Download of search results by NFPs in the password-protected registration was rated as efficient, flexible in options and useful, but the download facility available for common non-

registered users was described as more difficult to use and limited in function. The resulting tab-delimited passport text file had no column headings; it appears that this type of downloaded file has a very low value to users.

The EURISCO web site was not evaluated separately from the web interface. The regular update of NFP contacts and NI URLs is required as several existing links are no longer valid anymore (example: link to the French, Polish and Slovenian NIs are missing).

The look of the new EURISCO web site has improved significantly. Options are user-friendly and clear, web navigation is easier and the content has been enlarged with respect to the previous version.

6.5 Network National Focal Points

About 5 % of the NFPs expressed an urgent need for EURISCO training, while 38% expressed the need for it in the short term (next 1-2 years) and 24% saw the need for training in the next 3-5 years (1-NFP-Q-53, Figure 6). About 15 % of NFPs took over this role only within the past year (1-NFP-Q-1). In fact, the NFPs’ lack of training was identified as the main source of errors regarding data quality (the incorrect understanding of data content, etc). It is, therefore urgent that NFPs receive proper training on issues regarding NI organization and upload into EURISCO. The network of NFPs – important data providers – should be continuously supported.

Figure 6: Survey 1-NFP-Q-53, Need for NFP training

53. Do you, NFP (or your colleagues), need some training on EURISCO?			Response Percent	Response Count
Yes, urgently			4.8%	1
Yes, in short term (during 1-2 years)			38.1%	8
Yes, perspectivevely (during 3-5 years)			23.8%	5
No			33.3%	7
Please, comment:				3
				answered question
				21
				skipped question
				6

6.6 Promoting the use of EURISCO

In general, high user-friendliness, intuitiveness of search functionalities, display of results and easy accessibility, downloads, together with the data quality and completeness, are the most attractive elements of EURISCO. It was surprising that the most frequent users of EURISCO include 23% of NFPs and 21% of CCDB Managers, while 68% NFPs and 53% of CCDB Managers are irregular users. The most surprising finding was that 9% of NFPs and 26% of CCDB Managers do not use EURISCO at all (1-NFP-Q-33 and 2-CCDBM-Q-33, Figures 7a, 7b). The common users’ survey indicated that 39 % are irregular users of the Catalogue while 61% do not use EURISCO as an information source (3-CU-Q-1).

Figure 7a: Survey 1-NFP-Q-33, Frequency of EURISCO use by NFPs

33. Do you use EURISCO catalogue to obtain information?			Response Percent	Response Count
Yes, frequently			22.7%	5
Yes, from time to time			68.2%	15
No			9.1%	2
If no, what is the reason:				2
			answered question	22
			skipped question	5

Figure 7b: Survey 2-CCDBM-Q-33, Frequency of EURISCO use by CCDB Managers

33. Do you use EURISCO Catalogue to obtain information?			Response Percent	Response Count
Yes, frequently			21.1%	4
Yes, from time to time			52.6%	10
No			26.3%	5
Please, comment:				3
			answered question	19
			skipped question	6

About 57% of NFPs and 56 % of CCDB Managers consider EURISCO’s data content as somewhat reliable; 38% of the NFPs and 31% of the CCDB Managers evaluate the data quality as good; and 5% of the NFPs and 12% of the CCDB Managers reported that EURISCO’s data quality is bad (1-NFP-Q-34 and 2-CCDBM-Q-34). Comments touched on the importance of quality and completeness of data, and political influence of the NFPs. Reliability was rated by 21% of common users as good and by 29 % as medium (3-CU-Q-2).

The analysis of the survey (1-NFP-Q-40 and 2-CCDBM-Q-40) showed that nearly 45% of NFPs and 50% of CCDB Managers are convinced that EURISCO is not known as an important information source. Among common users, 27% believe that the Catalogue is known to users, while 13% reported the opposite (3-CU-Q-6).

The use and impact of the fact sheets was assessed by questions 1-NFP-Q-42,43 and 2-CCDBM-Q-42,43. More than 65% of CCDB Managers and several NFPs were not aware of and had not used the fact sheets. Almost one third of the NFPs expressed no need to translate the original fact sheets into their national languages and considered the English version to be sufficient. The fact sheets were unknown to 56% of common users’ (3CU-Q-7). Implementation of an online sample ordering kit was positively received by 37% of the NFPs (1-NFP-Q-44) and by 31% of the CCDB Managers (2-CCDBM-Q-44).

Dissemination of EURISCO was commented on by all three groups of respondents (1-NFP-Q-52, 2-CCDBM-Q-49 and 3-CU-Q-8). From the comments, it is obvious that the visibility and dissemination of EURISCO would be substantially increased by improvements in data

quality and by user-friendliness of the web interface, more intuitive search functions, an easier-to-use display and better download capacity.

6.7 EURISCO in the Global System

As a unified European PGR Catalogue, EURISCO will be contributing to the Global Accession-Level Information System (“ALIS”) in development by Bioversity International’s, Biodiversity Informatics project and EURISCO is one of the primary data sources identified for the system. The fact that EURISCO is a data provider to the Global Biodiversity Information Facility (GBIF) also contributes to PGR data distribution on a global scale.

Activities aimed at helping countries to meet their obligations under the ITPGRFA have been developed in the context of EURISCO’s mission as the pan-European PGR information source. The importance of an online sMTA reporting mechanism in line with the ITPGRFA was confirmed by 63% of NFPs (1-NFP-Q-44) and 12% of CCDB Managers (2-CCDBM-Q-44).

6.8 Summary – EURISCO strengths and weaknesses

EURISCO Strengths:

- One entry point for Europe – high tool potential, approved internal mechanism and technology.
- Standardization of NIs, acceleration of their compilation, digitization and publication on the Internet (in 40% of the countries, EURISCO was the driving force behind NI compilation and data standardization).
- For 37% of the European accessions: EURISCO is the unique online Internet source.
- Improvement of data quality – localization of errors and feedback to NFPs (automatically by upload mechanism, by enlargement of standards and by error-report feedback).
- Relatively frequent update by most data providers (frequency of update is dependent on NFPs.)
- Low-cost operation for startup and the first period of operation,
- Bringing together and enabling cooperation among documentation specialists.
- Implementation of EURISCO as data provider to GBIF.
- Helpdesk support constant, support provided by request (e.g. upload, standards, codes, etc).
- Wider dissemination of the model and potential use demonstrated in other continents (AMERISCO and AFRISCO).

EURISCO Weaknesses:

- Low representation – 55-68% of all European accessions included.
- Low reliability – data incompleteness, low quality, missing taxonomy standard.
- Low user-friendliness – difficult navigation through the search function (missing fields), low search speed.
- Unsatisfactory download results, data sets not easy to understand (incomplete descriptor sets, missing column headings beyond the password-registration section).
- Statistics more than information at accession level.
- Updates by several NFPs made infrequently.

- Low public awareness
- User interface needs to be completely redesigned.
- No formal training has been supplied to NFPs since 2003; new NFPs especially need to be trained.

7. EURISCO Future and Recommendations

The following recommendations were made from this evaluation, findings of the Documentation & Information Network meeting and the personal opinions of the consultant.

7.1. EURISCO outreach – recommendations

The EURISCO should heighten its role as the frequently-updated European *ex situ* collections Catalogue with respect to implementing the ITPGRFA (including an MLS flag and sMTA reporting tool) and AEGIS (European virtual genebank accession flag). Acquisition of accessions from the six countries with nominated NFPs that are not yet included (Albania, Belgium, Croatia, Moldova, Malta, Turkey) should be the first priority, and NFPs should be nominated for Bosnia and Herzegovina, Belarus and Montenegro as well.

In the future, C&E data will be included in EURISCO. At the moment, this is not the optimal situation as C&E data standards are missing and data flow is not specified, and therefore attention should be given to this.

An *in situ*/on-farm data catalogue should be developed and linked to EURISCO where possible. The EURISCO unique identifiers (NICODE + INSTCODE + GENUS + ACCENUMB) should also be followed for the *in situ*/on-farm catalogue because the *ex situ* accessions could be kept under *in situ*/on-farm conditions.

If *in situ*/on-farm collections are included in EURISCO, a set of standard *in situ*/on-farm descriptors should be added, including a flag for collection type.

Botanic gardens information systems are developed separately and are intended for different purposes. Therefore, it is not necessary to include them in EURISCO. The EURISCO web page could be enlarged, however, by adding links to botanic gardens databases.

7.2 Data quantity and quality – recommendations

7.2.1 Data quantity - recommendations

Data quantity is determined by a combination of several factors, including national PGR policies, personal responsibility and facilities, and could be improved with more networking and other efforts by EURISCO staff (further stimulate personal involvement and enable contacts and sharing experience between NFPs; see also chapter 7.6 - Promoting the use of EURISCO). Inclusion of data from NIs not currently included in EURISCO and acceleration of the digitization process in several countries should be stressed.

A new and more accurate estimation of the total accessions maintained in European collections should be made; the FAO Report “Second State of the World’s PGRFA“ can be used as a basis for this new assessment.

Note: Frequent updates should also be a source of data quality and quantity improvement. Data quality should be prioritized over data quantity.

7.2.2 Data quality - recommendations

a) Revision of the EURISCO/MCPD list

Addition of the new standard passport fields:

NFPs and CCDB M recommended new descriptors identifying:

- MLS flag – implementation of the Treaty’s Multilateral System (MLS)
- AEGIS status
- Availability level of the sample
- LSID

(Eventually a Svalbard Seed Vault storage flag).

Note: Eventual inclusion of *in situ*/on-farm data into EURISCO would require addition of a new descriptor set.

Addition of the new parallel fields:

Additional fields allowing parallel data input for both preferred standard and non-standard original data were recommended for those fields related to taxonomy and crop name (similarly to the existing DONORCODE-DONORDESCR, BREDCODE-BREDESCR, etc.):

- Five Taxon-related parallel fields (GENUS_O, SPECIES_O, SPAUTHOR_O, SUBTAXA_O, SUBTAUTH_O) for non-standard taxa; the additional new fields related to taxon are described in the section “Taxonomic backbone”.
- CROPNAME_O assigned for non standard crop name

Note: The fields GENUS, SPECIES, SPAUTHOR, SUBTAXA, SUBTAUTHOR and CROPNAME will be designated for the standard content, which could be verified before upload to EURISCO, and therefore their present content should be revised.

It was recommended that a standard crop reference table be added for the field CROPNAME in English, which should be gradually enlarged according to needs of data providers.

It was also recommended that a correctness check be incorporated into the uploading mechanism for the field CROPNAME. Non-standard crop name expressions (in colloquial language) should be entered into the additional new field CROPNAME_O. Parallel recording in both fields CROPNAME and CROPNAME_O should be possible.

2) Taxonomic backbone

GENUS as the mandatory field along with species and subtaxa + authors require establishment of the EURISCO standard.

Recommendation:

- Establish one taxonomic standard table indicating the preferred taxon. Utilization of the GRIN taxonomy scheme is recommended and the TaxCheck application for pre-

checking by NFPs is also available. There should be ample opportunity to implement missing preferred taxa into the GRIN standard. It is expected that Bioversity staff working with GRIN would be able to manage this.

- Determine preferred standard for mandatory field GENUS.
- Add parallel field GENUS_O for original GENUS data in non-standard form and allow for the possibility of parallel recording in both relevant fields (GENUS, GENUS_O, etc.). Implement the taxonomy standard check into the upload mechanism; compare to the current GRIN list of taxa for the mandatory field GENUS.
- Determine preferred standard fields for SPECIES, SPAUTHOR, SUBTAXA and SUBTAUTHOR, and add parallel (additional) fields for original data in non-standard form: SPECIES_O, SPAUTHOR_O, SUBTAXA_O, SUBTAUTH_O.
- Allow for the possibility for parallel recording in both relevant fields (SPECIES, SPECIES_O, etc.).

Note: The field SPECIES should not be empty in any circumstance. If the species is not known, the abbreviation “sp.” should be used.

- Implement the taxonomy-standard check into the upload mechanism – compare to the current GRIN list of taxa.

Established and applied taxonomical standards will contribute considerably to data quality improvement.

3) Location data quality

Source of errors and mistakes in geo-reference could be the result of confusion of different data formats in decimal/hexadecimal standard.

An optional input could be proposed to assist collectors using GPS system.

The geo-reference quality should be checked for its formal correctness during data upload already to avoid additional data check. The procedures used for generating the data quality report could be used for the upload.

4) LSID

It is expected that LSID will be part of the standard EURISCO data set soon, despite the fact that it is not under discussion at the moment. Importance of LSID is a machine traceability of the ID worldwide and permanent link to the original accession/specimen. The Documentation & Information Network should propose the rules for unique LSID construction and its utilization in European PGR collections. The information and closer contacts with TDWG (Biodiversity Information Standards) activities would be beneficial for both sides, as the PGR information is not linked yet. Data characters in PGR collections and other biological collections are similar in many aspects and they could share the same standards.

5) Characterization and evaluation data

EURISCO will keep the general role for frequently updated passport data and functions connected to the ITPGRFA. Inclusion C&E data into EURISCO is expected.

Implementation of C&E data into EURISCO is not solved yet and it should be done in a broad agreement.

Prerequisites for C&E data inclusion into EURISCO:

- Design of a standard data format (C&E standard descriptors format).

- Crop/taxon specific problems should be solved by inclusion number of relevant descriptor lists.

One opinion supposes parallel EURISCO and CCDBs co-existence and their functional complementarity in future with a set of clearly defined roles, objectives, responsibilities and data flow mechanisms.

Recommendation for this case:

EURISCO will keep firstly the characterization/evaluation data for which CCDBs are not either on-line or available, nor for those crops for which no CCDBs exists; and secondly include links to C&E data in existing on-line CCDBs.

The dataflow mechanism is necessary to be clearly described and roles and responsibilities well understood and defined.

The CCDBs crop specific on-line available will be oriented as crop portals, and CCDBs will hold passport data including historical reports (i.e. also those not included in EURISCO) and all relevant characterization/evaluation data.

The links among updated passport EURISCO records should be created to the relevant data in CCDBs. The links could be made via URL to the CCDB records (similarly as original NI passport data are already linked to EURISCO records). For this purpose an additional EURISCO descriptor (e.g. CCDB_URL) should be added. CCDB managers should provide the URL links to the EURISCO NFPs and EURISCO staff should implement the links into database by developing the relevant application.

7.3 Upload mechanism – recommendations

The upload mechanism was rated by the NFPs as efficient and operating well. Its checking mechanism contributes to data quality improvement. Inclusion of accession numbers into error messages generated by the upload mechanism would be appreciated in order to more easily identify the wrong record.

Data quality check should be made during the upload procedure from all possible aspects before input to EURISCO to avoid additional data checks during the operation (e.g. geo-reference as mentioned in section 7.2 Data quality and quantity - recommendations).

Despite the fact that the majority of the NFPs were satisfied with the existing upload mechanism, the uploading mechanism exploiting the web services potential would be useful. The current situation of the existing user interface upgrade should be the right moment for change.

Among users' recommendations was mentioned utilization of BioCASE or the new PyWrapper3/TAPIR data sharing protocol which becomes a wide standard for PGR data exchange on a global level. It is more technical issue connected to internal facilities in EURISCO team.

7.4 Web-services and user interface – recommendations

All respondents agree that high user-friendliness of the new application is one of the crucial prerequisites to promote EURISCO utilization and dissemination. Users' views should be

taken into account in the design of web services. The user is not interested in the technological background; he needs easy navigation and safe function. The application should be intuitive, quick and not too complicated avoiding long explanation texts before use.

Recommendations:

Search form:

It is advisable to implement two basic search options:

- Single search - allowing input of search criteria by text string in one field (providing text search within all data fields)
- Advanced search - allowing input of search criteria by free combination of all descriptors in one form (if possible on one screen)

The existing search could be used for general statistics and overviews, which are also very important for policy makers' type of users, etc.

Display of results:

Data should be displayed as

- Full data set - including all descriptors
- Map display (GIS data), including better navigation in maps
- Data statistics option - overviews and tables on selected fields (similarly as it works in the old application)

Download of results:

The application should allow:

- Download of data set in optional format (tab delimited, xls, html, etc.) - inclusion of column headers is necessary
- Possibility to download whole displayed data sets, data sets with predefined set of descriptors or full data sets

Enlargement of EURISCO application by sample exchange information, on-line sample ordering mechanism and sMTA reporting tool, will considerably contribute to promote utilization and visibility of the Catalogue.

EURISCO website

The new version of the web site is highly regarded, particularly for its layout and functionalities. The new version contains more information and is better structured for easier searches. The continuous update of all links and contacts is important. A site map for easy navigation could be eventually included in the main menu.

7.5 Network National Focal Points (NFPs) – recommendations

NFPs are important data providers to the EURISCO Catalogue and their intensive collaboration within the Documentation & Information Network would be highly appreciated. For almost five years, there have been from this group, no activities aimed at NFPs and consequently, not all frequently update the NIs. Compared to participants in other ECPGR networks who held regular meetings, NFPs have little opportunity to meet. A proposal to establish an NFP Working Group should be taken into account and presented to the Steering Committee in September 2008. Financial support for NFPs meeting within the D&I Network should also be discussed and included in the ECPGR plan for Phase VIII.

The newly nominated NFPs and representatives of the six countries not yet contributing data constitute a priority group for training as soon as possible. More than half of NFPs expressed the need for training need within the next few years. Common meetings of NFPs and CCDB Managers should be scheduled.

Detailed guidelines describing data compilation and conversion into EURISCO standard format should be available to data providers in order to avoid misunderstanding of terms and incorrect field contents.

Improved information flow between NFPs and CCDB Managers at the country level should be stressed by ECPGR, the Documentation & Information Network and National Coordinators.

7.6 Promoting the use of EURISCO – recommendations

The main aspects affecting utilization of the catalogue are specified at two levels:

Internal part:

- Importance of data standards and understandability setting
- Make easier upload of the data
- The user's feedback should be taken into account as much as possible according to its technical feasibility - during development of the new EURISCO web page
- Involvement of data contributors (NFP) – personal motivation regarding data quality and frequency of update, further involvement in raising of public awareness and further promote means to facilitating contacts between NFPs

External part:

- Data reliability – dependent on its completeness, quality and frequent updates.
- User-friendliness of the interface – interactive criteria entry, speed and suitable format of results.
- Visibility – implementation (links) to other global systems; establishment of links to the original NI records (URL), to other data sources, CCDBs, etc.

The best ways to increase awareness and use of EURISCO are to improve user-friendliness, intuitiveness of the search form, display of results, accessibility of downloads and data quality and completeness; links should be made to and from other documentation systems. Furthermore increase EURISCO visibility through representation and promotion in ECPGR and in other national and international meetings/events/conferences.

7.7 EURISCO in the Global System – recommendations

Creating global data portals should enable access to different information sources. Such links help to increase utilization of existing data sources. EURISCO's participation as a data provider to the Global Accession-Level Information System ("ALIS") and GBIF are therefore highly desirable.

EURISCO as the comprehensive data source for Europe could be used as the tool for implementation of the ITPGRFA aspects. It was suggested and agreed by the EAG meeting that EURISCO will be used as the sMTA reporting mechanism and as the registering mechanism of the MLS of the Treaty; both these mechanisms will increase the value of the Catalogue.

8. Road map proposal

From the summary of survey responses and comments, the following conclusions can be drawn from this evaluation:

- Data quality and quantity, user-friendliness of the website and the nomination of new data providers (NFPs) are the main bottlenecks, which should be stressed as challenges to be tackled in the near future.
- General trends and legal issues should be addressed by the new MoU.
- The essential task for EURISCO's future is the continuous search for additional financial resources – this could include partial projects, Global Crop Diversity Trust activities and EPGRIS3 activities. In-kind contributions by all participants are also expected.

General issues

- 2009: Define the relationship between *ex situ* and *in situ*/on-farm collected data.
- 2009-2010: Determine the relationship between EURISCO/CCDBs (particularly regarding C&E data).
- 2010-2013: Implement of URL links from EURISCO to CCDB records (for C&E data).

Data quality and quantity

- 2008-2013: Improve data quality and quantity and update frequently (continuous task for NFPs and the EURISCO staff).
- 2008-2009: Enlarge the standard EURISCO descriptor list, define the new descriptors and distribute the document to all NFPs.(EPGRIS3, D&I Network, EURISCO staff).
- 2008-2009: Develop a standard crop reference table for the field CROPNAME in English (EURISCO staff).
- 2008-2009: Implement the new descriptors (EURISCO staff).
- 2008-2009: Standardize the mandatory field GENUS (EPGRIS3, D&I Network, EURISCO staff).
- 2008-2009: Update the field GENUS (NFPs and EURISCO staff).
- 2008-2009: Standardize other fields of the taxon group (EPGRIS3, D&I Network+ EURISCO staff).
- 2009: Implement the automatic GENUS check into data-upload mechanism (EURISCO staff).
- 2009: Implement the automatic taxon check into data-upload mechanism (EURISCO staff)
- 2009: LSID design ready (EPGRIS3, D&I Network+ EURISCO staff).

2010-2013: Expand the automatic data check before data upload to all possible fields in order to avoid additional tests in the future, including data-quality reports for taxa and geo-references.

Web site (EURISCO staff)

2008-2013: Update links, contacts and new documents (continuous task).

2008: Publish of the new web page as soon as possible.

2008-2009: Post EURISCO user guide on the Internet.

2009- 2010: Establish and implement MLS registration mechanism;

2009-2010: Establish and implement sMTA reporting mechanism.

NFP Network

2008: Propose the NFP Working Group establishment to the ECPGR-SC.

2008: Encourage inactive NFPs to update their data sets (EURISCO staff).

2008: Encourage NFPs from Albania, Belgium, Croatia, Malta Moldova and Turkey to deliver their data to EURISCO (EURISCO staff).

2008: Nominate of NFPs for Bosnia and Herzegovina, and Montenegro). NFP nomination for Belarus is questionable for political reasons, but should be discussed (ECPGR Secretariat).

2009: Distribute NFP guide for data provision (EURISCO staff).

NFP Training:

2008-2009: Train NFPs from the the six non-contributing countries and new NFPs.

2009: Meeting of all NFPs (in accordance to Phase VIII plan).

2010-2012: Meetings of smaller NFPs groups (3-5 participants each).

2013: Meeting of all NFPs and CCDB Managers (in accordance to Phase VIII plan).

MoU

2008-2009: Re-formulate the MoU to include implementation of the MLS registration and sMTA reporting mechanism (EURISCO staff).

2009: Sign MoU to take effect by January 2010 (all NFPs, EURISCO staff).

8.1 Road map priorities

Year	Activity	Priority level
2008	· Publish the new EURISCO web site	H
	· Propose the NFP Working Group establishment	H
	· Propose enlarged standard EURISCO descriptor list (including additional fields)	H
	· Agree on new standards for fields GENUS and CROPNAME	H
	· Provide training for the most urgent NFP group	H
	· Develop new standards for the fields SPECIES, SPAUTHOR, SUBTAXA and SUBTAUTH	M
	· LSID design ready	M
	· Encourage to NFPs from Albania, Belgium, Croatia, Malta, Moldova and Turkey for data delivery to EURISCO	M
	· Nominate NFPs from Bosnia and Herzegovina, and Montenegro	M
2009	· Formulate the new MoU	H
	· Signed MoU by January 2010	H
	· Agree on new standard EURISCO descriptor list	H
	· Implement new standard descriptors (integrating automatic taxon check into data-upload mechanism)	H
	· Update data in the field GENUS according to standard	H
	· Meeting of all NFPs	H
	· Implement new additional fields	M
	· Define relationship between <i>ex situ</i> and <i>in situ</i> /on-farm collection data	M
	· Make EURISCO user guide available on the Internet	M
· Make EURISCO NFP guide for data provision available	M	
2010	· Determine relationship between EURISCO and CCDBs (C&E)	H
	· Establish and implement MLS registration mechanism	H
	· Establish and implement sMTA-reporting mechanism	H
2011	· Establish URL links from EURISCO to CCDB records	H
2012	· Expand the pre-upload automatic data check to all possible fields	H
	· Training small NFP groups	H
2013	· Meeting of all NFPs and CCDB Managers	H

Annexes 1- 9

TERMS OF REFERENCE

EURISCO external evaluation/assessment – needs and recommendations for setting a road map

Description

The main goal of the consultancy is to carry out an external evaluation/assessment of the EURISCO Catalogue. At the end of this consultancy a report should be produced with the analysis of the strengths, weakness of the Catalogue and envisioning the recommended further developments for the next 5 years, covering not only but also the technical and scientific ongoing developments taking into account the topics refereed below as well as beyond it.

The Consultant will liaise with the Bioversity, EURISCO Coordinator, Ms. Sónia Dias for any decisions and technical inquiries on any content related and/or technical matter of clarification that cannot be resolved.

Objective of the consultancy

To develop a strategic document evaluating the strengths and weaknesses of the Catalogue and envisioning the recommended further developments for the next 5 years taking into account the topics refereed below as well as beyond it.

The topics to be taken into consideration for the full analysis should be the following:

EURISCO reach out

- what other types of data should cover
- what other countries should represent

EURISCO in the Global System

- EURISCO as the European entry in the Global System
- EURISCO to serve as the reporting aspects of the International Treaty (ITPGRFA) in Europe
- SMTA reporting by EURISCO, its role and recommendation for implementation

Promoting the use of EURISCO

- Ideas/suggestions for further promotion, actions and recommendations

EURISCO Data quality and quantity

- **Taxonomic backbone**
 - Ideas and practical solutions how this can be tackled and implemented
 - Recommendations
- **Data Quantity provided**
 - Further activities needed to increase the ‘completeness’.
 - Recommendations
- **Location data quality**
 - Further activities needed to increase quality of location data.
 - Recommendations

- **LSID**
 - Applicability and recommendation on possible way forward

Characterization and evaluation data

- Methodologies for exchanging data, applicability and recommendations
- Links and mechanisms for data sharing with European Central Crop Databases (ECCDBs), needs for implementation and recommendations

Uploading mechanism

- EURISCO uploading with tab delimited files vs EURISCO uploading with web services
- Needs and mechanism for adoption of web services, recommendations

Revision MCPD list

- Recommendations

Web-services

- Implementation of web services needs and recommendations
- Passport ontology needs and recommendations

Inclusion of in situ, on farm, botanical gardens information in EURISCO

- Identify the pros and cons
- recommendations

User interfaces EURISCO website

- EURISCO website structure and content – ideas and recommendations
- Functionalities and recommendations

Network National Focal Points

- Training and networking - recommendations
- Needs, activities and recommendations

Expected immediate outputs/milestones

- By April 2008, a document is produced providing and in-depth analysis of the strengths, weakness, envisaged/necessary developments, and the needs and recommendations for setting a five years road map are clearly identified

Deliverables

- By March 2008, the informal consultation with all NFPs and other users and contributors to the Catalogue is undertaken.
- By April 2008, the report is available with analysis and recommendations to the EURISCO Coordinator.

Supervision of Contract: Sónia Dias, EURISCO Coordinator, Bioversity Headquarters, Rome, e-mail: s.dias@cgiar.org

Time Period: From the period 27 December 2007 to 30 April 2008.

Annex 2 - Consultant Biodata

Mgr. Iva Faberová (EURISCO consultant)

Iva Faberova works in the Crop Research Institute Prague (CRI, formerly RICP, the Research Institute of Crop Production) in the Gene Bank department since 1989. She is currently documentation officer responsible for the central documentation of PGRFA collections in the Czech Republic. She co-ordinates activities regarding documentation within the network of twelve institutions involved in the National Programme for Conservation and Utilisation of Plant Genetic Resources and Agro-biodiversity (including national PGRFA information system EVIGEZ, gene bank storage documentation, development of national crop descriptor lists and general methodology).

She takes part in network activities managed by the European Cooperative Programme for Plant Genetic Resources. During 1998 -2005, Iva Faberova was appointed co-chair of the ECPGR Wheat Working Group (sharing responsibility with Ms Annick Le Blanc, GEVES, France) and since 2005, she continues as a vice chair of the group. She manages the European Wheat Database (EWDB) since 2001. She is involved in the ECPGR Cereal Network Co-ordinating Group, Information and Documentation Network Co-ordinating Group and EURISCO Advisory Group.

She took part in the European 5th FP project EPGRIS (2000-2003) as one of seven partners (covering the Central and Eastern Europe region) and following commitment as a Czech National Focal Point for data delivery to PGRFA catalogue EURISCO.

Iva Faberova was involved in collaborating with FAO WIEWS during 2002-2003 in the pilot project GPA implementation monitoring in the Czech Republic and consequently, she was appointed as a FAO consultant for establishment of the National Information-Sharing Mechanism on GPA in Uzbekistan in 2004.

She participated in the project UNEP- Biodiversity Enabling Activity „Assessment of Capacity-building Needs: Access to Genetic Resources and Benefit-sharing, Conservation and Sustainable Use of Biodiversity Important for Agriculture, Forestry and Research – Czech Republic“ during 2004-2005. She is a member of EUCARPIA Genetic Resources Section.

She was appointed in 2006 as a Strategy Advisory Group member of the Global Conservation Strategy for Wheat, Rye and Triticale supported by the Global Diversity Trust. She participated as an external panel member in the Centre-Commissioned External Review of the Bioversity Programme Understanding and Managing Biodiversity in January 2007.

Iva Faberova graduated at the Charles University in Prague, Faculty of Natural Sciences from botany, taxonomy of higher plants in 1973.

NFP 2008

1. NFP info

Dear EURISCO National Focal Person,

Please, be so kind and spend a few minutes by filling in this questionnaire about EURISCO.

The main goal of this survey is to carry out an evaluation of the EURISCO Catalogue with the analysis of the strengths, weaknesses and envisioning the recommended further developments. The summary of results will be used as a base for the external evaluation report.

Questions are clustered into seven information areas:

1. NFP (4 questions)
2. Local conditions and contributors (3 questions)
3. National Inventory (12 questions)
4. National Inventory-EURISCO relation (4 questions)
5. Data upload to EURISCO (9 questions)
6. Utilization of EURISCO (11 questions)
7. EURISCO future (15 questions)

Please, pay special attention to parts 6 (Utilization) and 7 (Recommendations for future).

1. How long are you an EPGRIS/EURISCO NFP? ←

- since beginning 2001
- since September 2003
- one year
- less than one year

2. Please, specify your main current professional position/specialization?

- Documentation
- Research - collection curator
- Research - gene bank
- Research (other than both previous)
- Breeding
- Education
- Management
- Policy
- Other, please specify in comment

Comment:

3. Are you the person processing data for EURISCO?

- Yes
- No

4. Are you an employee of the (national) genebank?

- Yes
- No

If no, please specify:

2. Local conditions and contributors

1. Do you have in your country a National Programme for PGRFA conservation and utilization? ←

- Yes
- No

Please specify, if necessary:

2. Is your PGRFA documentation computerized?

- Yes, fully
- Yes, partly
- Not yet

3. Is the documentation on ex situ PGRFA collections in your country compiled in the National Inventory (NI)?

- Yes
- NI documentation is in process
- No

3. National Inventory info

1. How many partners (institutes, data providers besides your institution) contribute to the National Inventory (NI)? ←

- No other partners yet, my institution only
- 1-10

- 11-20
- 21-30
- 31-50
- >50

2. Was EURISCO the driving force for the development of your NI?

- Yes
- No

3. What is the number of accessions documented in your National Inventory?

Accession
number:

4. What is the estimated percentage of the total accessions (in all PGRFA collections) kept in your country contributing to the NI?

- <25%
- 25-50%
- 51-75%
- 76-100%

5. Which type of structure do you use for the NI documentation?

- advanced structure - database (related tables, SQL)
- simple structure - flat table (xls, etc.)
- unstructured - text file, narrative, (doc, txt, etc.)

Please, specify the used software platform:

6. Do you use EURISCO descriptors and data formats for the NI passport information?

- Yes, without any changes
- Yes, with some adjustments or additional descriptors
- No

Please specify, if necessary:

7. Is your National Inventory available on-line?

- Yes
- No (if no, skip to the question 10 on this page)

8. ...if yes, please provide the URL:

9. Is your NI web application:

- Dynamic (on-line searchable, SQL)
- Static (text, simple table form, html)
- Downloadable

10. How frequently do you update the NI database?

- > 5 times a year
- 2- 5 times a year
- Once a year
- Not updated yet

11. Do you assess' quality and completeness in your own NI data as:

- high
- medium
- low (lot of errors/missing data)

Please comment, if necessary:

12. Are there any available information sources for improvement current data quality? (unused background papers, literature, manuscripts, etc.)

- Yes
- No
- I don't know

Please comment:

4. NI -EURISCO relation

1. Does your country provide NI data to EURISCO? ←

- Yes
- No

If no, please specify the main obstacle:

2. How frequent is your NI update to EURISCO?

- > 5 times a year
- 2- 5 times a year
- Once a year
- Not updated yet

3. Is the current number of accessions in your NI the same as in EURISCO?

- Yes, exactly
- More or less (slight difference)
- Totally different numbers

Please comment, if necessary:

4. Are all NI descriptors included in EURISCO or you are missing some important passport descriptor/s?

- Yes, all are included
- No, I am missing important descriptor/s

If no, please specify in comment:

5. Upload to EURISCO

1. Conversion your NI data format into EURISCO descriptors is: ←

- Not necessary (the NI data structure follows EURISCO exactly)
- Fully automatic (special programme for data conversion available)
- Combination programme + manual work
- Pure manual work

2. Do you find the work with resulting txt and gzip file inconvenient or difficult?

- Yes
- No

Please, comment:

3. Speed of data upload to Bioversity server is:

- Speed of data upload to Bioversity server is: high
- sufficient
- low

4. Resulting text/gzip file was uploaded to EURISCO in all cases fully automatic (without special assistance of Bioversity IT staff)?

- Yes, in all cases (if yes, skip to the question 6 on this page)
- Sometimes yes, sometimes no
- No, never

Please, comment:

5. Was the reaction from Bioversity IT staff satisfactory?

- Yes
- No

6. Did the EURISCO uploading report contribute to improve your original NI data quality?

- Yes, I corrected original NI data
- No, I didn't correct the original NI data

Please, comment if necessary:

7. Did you receive the data quality reports announcing errors in your existing EURISCO data set during last Summer?

- Yes
- No

8. How did you use the data quality report identifying wrong geographic coordinates non corresponding to the country of origin/collecting ?

- by correcting wrong information (improvement of information)
- by deleting wrong values (loss of information)

no update (no change)

Please, comment:

9. How did you use the data quality report identifying invalid taxonomic data in your NI set?

- by correcting wrong information (improvement of information)
- no update (no change)

Please, comment:

6. EURISCO Utilization

1. Do you use EURISCO catalogue to obtain information?



- Yes, frequently
- Yes, from time to time
- No

If no, what is the reason:

**2. Generally, is the EURISCO data content reliable and complete?
(quality score 1-5)**

- 1 - excellent
- 2 - good quality
- 3 - medium, acceptable
- 4 - bad quality
- 5 - useless

**3. Is the EURISCO search form interactive and user friendly enough?
(score 1-5)**

- 1 - excellent
- 2 - easy
- 3 - acceptable
- 4 - difficult
- 5 - inapplicable

Please, comment:

**4. Do you find the display of EURISCO results suitable and functional?
(score 1-5)**

- 1 - excellent
- 2 - good
- 3 - medium, acceptable
- 4 - bad
- 5 - inapplicable

Please, comment:

**5. Is the display of EURISCO results quick enough (in comparison to similar applications)?
(score 1-5)**

- 1 - excellent
- 2 - good
- 3 - medium, acceptable
- 4 - bad
- 5 - inapplicable

6. How do you find the download format of results from EURISCO?

- 1 - excellent
- 2 - good
- 3 - medium, acceptable
- 4 - bad
- 5 - inapplicable

Pease comment:

7. Does the download of results contain all requested descriptors?

- Yes
- No

Please, comment:

8. Do you think that the EURISCO catalogue is known to wide users as an important information source?

- Yes
- No
- I don't know

9. Did you personally recommend the EURISCO catalogue to some prospective user?

- Yes, many times
- Yes, from time to time
- No

10. Is the EURISCO information fact sheet translated to your language?

- Yes
- No
- Not necessary, the English version is sufficient

11. Have you used the fact sheets (translated or not) to help disseminating EURISCO?

- Yes
- No

Please, comment:

7. EURISCO Future

1. Should the information in EURISCO be extended with the new content? (tick all matching)



- Additional passport descriptors
- Taxonomy standard
- Storage information
- Characterization data
- Evaluation data
- Molecular data
- On-line sample ordering tool kit
- Standard Material Transfer Agreement on-line

- In-situ collection data
- Other: specify in comment

Please, comment:

2. Would you be willing to deliver the above mentioned new data und update them regularly?

- Yes
- No

3. Should EURISCO be expanded by links to other data sources? (tick all matching)

- Taxonomy
- Characterization
- Evaluation
- Molecular data
- European Central Crop Databases
- Other International databases
- In situ documentation
- Publications
- Other: specify in comment

Other (please specify):

4. Do you think that EURISCO could act as future replacement of CCDBs in case of characterisation/evaluation data?

- Yes
- No
- I don't know

Please, comment:

5. If necessary, how could the existing upload to EURISCO be improved?

6. If necessary, how could the existing search form be improved?

7. If necessary, how could the existing display of results be improved?

8. If necessary, how could the existing download of results be improved?

9. How to improve EURISCO visibility and dissemination?

10. Do you, NFP (or your colleagues), need some training on EURISCO?

Yes, urgently

Yes, in short term (during 1-2 years)

Yes, perspectivevely (during 3-5 years)

No

Please, comment:

11. Are you personally willing and able to keep your data updated and with high quality?

Yes, I am

Yes, I will do my best

Yes, but at the moment there is need of skilled human sources

Yes, but at the moment there is shortage of money

Yes, but at the moment I don't have any time to do it

No, I am not

Other:

12. Is your country ready renew the Memorandum of Understanding for collaboration with the EURISCO catalogue (validity after 2009)?

Yes

No

I don't know

Please comment if necessary:

13. Do you think that EURISCO can play a role in the implementation of the ITPGRFA?

Yes

No

14. If yes, what role?

15. Do you have any other idea, comment or recommendation for EURISCO future?

8. Closing note

... and this was the last question!

Thank you very much for your kind contribution and patience.

I am sure, the results will help considerably to improve our common product - EURISCO Catalogue!

Iva Faberova
Crop Research Institute, Prague

ECCDBM 2008

1. CCDB Manager info

Dear Central Crop Database Manager,

Please, be so kind and spend a few minutes by filling in this questionnaire about EURISCO and its relation to ECPGR CCDB.

The main goal of the survey is to carry out an evaluation of the EURISCO Catalogue with the analysis of the strengths, weaknesses and envisioning the recommended further developments. The summary of results will be used as a base for the external evaluation report.

Questions are clustered into five information areas:

1. CCDB Manager (5 questions)
2. CCDB conditions and contributors (18 questions)
3. CCDB-EURISCO relation (9 questions)
4. EURISCO utilization (11 questions)
5. EURISCO future (9 questions)

Please, pay special attention to parts 4 (Utilization) and 5 (Recommendations for future).

1. How long are you a CCDB Manager?



- <1 year
- 1-2 years
- 3-5 years
- 6-10 years
- >10 years

2. Did you develop the structure of "your" CCDB?

- Yes, myself
- Yes, in collaboration
- No, I took over the responsibility from my predecessor/s

3. What is your main professional position/specialization?

- Documentation
- Research - collection curator
- Research - gene bank
- Research - other than both previous
- Breeding
- Education
- Management
- Policy

Other, please specify in comment

Other (please specify):

4. Are you an employee of the (national) genebank?

Yes

No

5. How many central crop databases are you responsible for?

1

2

>2

2. CCDB Conditions

1. Is your database European or International (=wider than European)? ←

European

International

2. How many countries are data contributors?

<10

10-20

21-30

>30

3. How many partners (institutes, data providers besides your institution) contribute to the CCDB?

<10

10-20

21-30

31-50

>50

4. What is the total number of accessions (passport records) in your database?

5. In case of wider International database, how many accessions (passport records) are kept on extra-European territories?

6. Do you use the EURISCO (enlarged MCPD) passport descriptors as a standard format for your database?

- Yes, standard descriptors only
- Yes, with slight modifications and additional descriptors
- No, completely different format

Please, comment:

7. Are you missing some passport descriptors (important for your mandate crop/s) in the EURISCO standard set?

- Yes
- No

If yes, please specify:

8. Do you use a standard taxonomy scheme for your database?

- Yes, the GRIN standard
- Yes, the ITIS standard
- Yes, the KEW standard
- Yes, the Mansfeld standard
- Yes, other common standard (specify in comment)
- Yes, the CCDB-specific "standard"
- No, data are in original form

Other common standard, please specify:

9. Do you also hold characterization/evaluation data in your database?

- Yes
- Not yet, the descriptor list is in development and data are expected (if not yet, skip to the no. 11 and than to the no.15 on this page)
- No (if no, skip to the question no.15 on this page)

**10. What is the total number of characterized/ evaluated accessions?
(meaning sets of characterization/evaluation data belonging to 1 accession, not single scoring values)**

11. Do you use the IBPGR/IPGRI/Bioversity descriptor list for characterization/evaluation?

- Yes, without additional descriptors
- Yes, with additional descriptors
- The IBPGR/IPGRI/Bioversity descriptor list was used as a guide only
- No, totally different descriptors and scoring

12. What is the full number of descriptors defined in your characterization/evaluation descriptor list?

- <10
- 10-30
- 31-50
- >50

13. What is the average number of characterization/evaluation descriptors filled in per one accession in your database?

- <10
- 10-30
- 31-50
- >50

14. Are characterization/evaluation data in your database resulting from separately funded project?

- Yes
- No

Other (please specify)

15. Is your CCDB available from the web?

- Yes
- No (if no, skip to the question no. 18 on this page)

16. If yes, please provide the URL:

17. Is your CCDB web application:

- Dynamic (on-line searchable, SQL)
- static (text, simple table form, html)

downloadable

18. How frequently do you update your database?

- Regularly, every year
- Irregularly, frequently (1-3 years)
- Irregularly, in longer periods (>3 years)
- Not at all

3. CCDB & EURISCO

1. Do you check the number of accessions belonging to your mandate crop/s in EURISCO? ←

- Yes, frequently
- Yes, from time to time
- No (if no, skip to the question no. 5 on this page)

2. Is the current number of accessions in your database the same as in EURISCO?

- Yes, exactly
- More or less (small difference)
- No, totally different numbers

3. ... if no, how is it?

- Lower (than EURISCO)
- Higher (than EURISCO)

Please, comment if necessary:

4. Did you download any records from EURISCO to enlarge your passport data set?

- Yes, many times
- Yes, once
- No

Please, comment if necessary:

5. Are you ready to link the characterization/evaluation data held in your CCDB to the related EURISCO passport records?

- Yes
- No
- I don't have characterization/evaluation data

6. Do you think that the role of CCDBc and EURISCO are complementary and is that complementarity beneficial to users?

- Yes
- No
- I don't know

Please, comment:

7. Are you also the EURISCO NFP?

- Yes (I filled in the questionnaire for NFP already)
- Yes (but I didn't fill in the questionnaire for NFP)
- No

8. If no, do you know your EURISCO country NFP?

- Yes
- No

9. Do you have contacts with your EURISCO country NFP for data exchange?

- Yes
- No

4. EURISCO Utilization

Please note:

The following information has no linkage to the CCDB management, it is intended purely for common EURISCO users.

1. Do you use EURISCO Catalogue to obtain information?

←

- Yes, frequently
- Yes, from time to time
- No

Please, comment:

**2. Generally, is the EURISCO data content reliable and complete?
(quality score 1-5)**

- 1-excellent
- 2-good quality
- 3-medium, acceptable
- 4- bad quality
- 5- useless

Please, comment if necessary:

**3. Is the EURISCO search form interactive and user friendly enough?
(score 1-5)**

- 1-excellent
- 2-easy
- 3-acceptable
- 4- difficult
- 5-inapplicable

Please, comment:

**4. Do you find the display of EURISCO results suitable and functional?
(score 1-5)**

- 1- excellent
- 2- good
- 3- medium, acceptable
- 4- bad
- 5- inapplicable

Please, comment:

**5. Is the display of EURISCO results quick enough (in comparison to similar applications)?
(score 1-5)**

- 1- excellent
- 2- good

- 3- medium, acceptable
- 4- bad
- 5- inapplicable

**6. How do you find the download format of results from EURISCO?
(score 1-5)**

- 1- excellent
- 2- good
- 3- medium, acceptable
- 4- bad
- 5- inapplicable

Please, comment:

7. Does the download of results contain all requested descriptors?

- Yes
- No

Please, comment:

8. Do you think that the EURISCO Catalogue is known to wide users as an important information source?

- Yes
- No
- I don't know

9. Did you personally recommend the EURISCO Catalogue to some prospective user?

- Yes, many times
- Yes, from time to time
- No

10. Do you know about the EURISCO fact sheet?

- Yes
- No

11. If yes, have you used the fact sheets to help disseminating EURISCO?

- Yes
- No

5. EURISCO Future

1. Should the information in EURISCO be extended with the new content?
(tick all matching) ←

- Additional passport descriptors
- Taxonomy standard
- Storage information
- Characterization data
- Evaluation data
- Molecular data
- On-line sample ordering tool kit
- Standard Material Transfer Agreement on-line
- In situ collection data
- Other: specify in comment

Comment:

2. Should EURISCO be expanded by links to other data sources?
(tick all matching)

- Taxonomy
- Characterization
- Evaluation
- Molecular data
- European Central Crop Databases
- Other International databases
- Publications
- In situ data
- Other: specify in comment

Comment:

3. If necessary, how the existing search form could be improved?

4. If necessary, how the existing display of results could be improved?

5. If necessary, how the existing download of results could be improved?

6. How to improve EURISCO visibility and dissemination?

7. Do you think that EURISCO can play a role in the implementation of the ITPGRFA?

Yes

No

8. If Yes, what role?

Please, specify:

9. Do you have any other idea, comment or recommendation for EURISCO future you would like to bring to our attention?

6. Closing note

..and this was the las question!

Thank you very much for your kind contribution and patience.

Iva Faberova
Crop Research Institute, Prague

Questionnaire 3

**"Common users" - designated for Cereals Network Meeting participants
(Izmir-Foça, Turkey 21-24 April 2008)**

1. Do you use the EURISCO catalogue to obtain information?

- Yes, frequently Yes, from time to time No

If no, what is the reason - please comment:

2. Generally, is the EURISCO data content reliable and complete? (score 1-5)

- 1-excellent,
 2-good quality,
 3-medium, acceptable,
 4- bad quality,
 5- useless
 I don't know

Please comment:

3. Is the EURISCO search form interactive and user friendly enough? (score 1-5)

- 1- excellent
 2- easy
 3- acceptable
 4- difficult
 5- inapplicable
 I don't know

Please comment - how the existing search form could be improved?

4. Do you find the display of results in EURISCO suitable and functional? (score 1-5)

- 1- excellent
 2- easy
 3- acceptable
 4- difficult
 5- inapplicable
 I don't know

Please comment - how the existing display of results could be improved?

5. How do you find the download of results from EURISCO? (score 1-5)

- 1- excellent
- 2- easy
- 3- acceptable
- 4- difficult
- 5- inapplicable
- I don't know

Please comment - how the existing download of results could be improved?

6. Do you think that the EURISCO catalogue is known to wide users as an important information source?

- Yes No I don't know

Please comment:

7. Do you know about the EURISCO web information fact sheet?

- Yes No

8. How to improve EURISCO visibility and dissemination?

Please comment:

9. Do you have any other idea, comment or recommendation to the improvement of EURISCO?

10. Do you use the ECPGR Central Crop Database (European Barley, Avena, Triticale, Wheat, Zea or other) to obtain information?

- Yes, frequently Yes, from time to time No

11. Please comment briefly your utilization of the EURISCO Catalogue in comparison to European Central Crop Databases (advantages/disadvantages):



Annex 6 – Summary results of 1-NFP-Q1-58



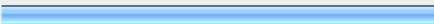

1. How long are you an EPGRIS/EURISCO NFP?		
	Response Percent	Response Count
since beginning 2001	66.7%	18
since September 2003	18.5%	5
one year	14.8%	4
less than one year	0.0%	0
<i>answered question</i>		27
<i>skipped question</i>		0

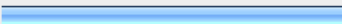

2. Please, specify your main current professional position/specialization?		
	Response Percent	Response Count
Documentation	38.5%	10
Research - collection curator	7.7%	2
Research - gene bank	26.9%	7
Research (other than both previous)	7.7%	2
Breeding	3.8%	1
Education	0.0%	0
Management	11.5%	3
Policy	0.0%	0
Other, please specify in comment	3.8%	1
Comment:		3
<i>answered question</i>		26
<i>skipped question</i>		1



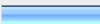



3. Are you the person processing data for EURISCO?		
	Response Percent	Response Count
Yes	66.7%	18
No	33.3%	9
<i>answered question</i>		27
<i>skipped question</i>		0

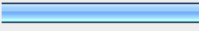
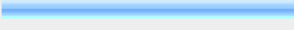
4. Are you an employee of the (national) genebank?		
	Response Percent	Response Count
Yes 	61.5%	16
No 	38.5%	10
If no, please specify:		9
answered question		26
skipped question		1

p

5. Do you have in your country a National Programme for PGRFA conservation and utilization?		
	Response Percent	Response Count
Yes 	88.5%	23
No 	11.5%	3
Please specify, if necessary:		5
answered question		26
skipped question		1


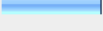
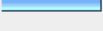
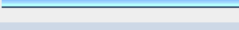
7. Is the documentation on ex situ PGRFA collections in your country compiled in the National Inventory (NI)?		
	Response Percent	Response Count
Yes 	69.2%	18
NI documentation is in process 	30.8%	8
No	0.0%	0
answered question		26
skipped question		1

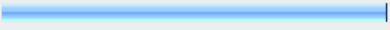
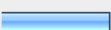
8. How many partners (institutes, data providers besides your institution) contribute to the National Inventory (NI)?		
	Response Percent	Response Count
No other partners yet, my institution only 	16.0%	4
1-10 	44.0%	11
11-20 	20.0%	5
21-30 	12.0%	3
31-50 	4.0%	1
>50 	4.0%	1
answered question		25
skipped question		2




9. Was EURISCO the driving force for the development of your NI?			
		Response Percent	Response Count
Yes		40.0%	10
No		60.0%	15
<i>answered question</i>			25
<i>skipped question</i>			2



P

10. What is the number of accessions documented in your National Inventory?			
	Response Average	Response Total	Response Count
Accession number:	39365.23	866035	22
<i>answered question</i>			22
<i>skipped question</i>			5



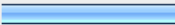
11. What is the estimated percentage of the total accessions (in all PGRFA collections) kept in your country contributing to the NI?			
		Response Percent	Response Count
<25%		12.0%	3
25-50%		20.0%	5
51-75%		20.0%	5
76-100%		48.0%	12
<i>answered question</i>			25
<i>skipped question</i>			2



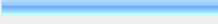
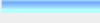
12. Which type of structure do you use for the NI documentation?			
		Response Percent	Response Count
advanced structure - database (related tables, SQL)		78.3%	18
simple structure - flat table (xls, etc.)		21.7%	5
unstructured - text file, narrative, (doc, txt, etc.)		0.0%	0
Please, specify the used software platform:			13
<i>answered question</i>			23
<i>skipped question</i>			4

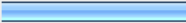


13. Do you use EURISCO descriptors and data formats for the NI passport information?		
	Response Percent	Response Count
Yes, without any changes 	24.0%	6
Yes, with some adjustments or additional descriptors 	72.0%	18
No 	4.0%	1
Please specify, if necessary:		2
<i>answered question</i>		25
<i>skipped question</i>		2




14. Is your National Inventory available on-line?		
	Response Percent	Response Count
Yes 	64.0%	16
No (if no, skip to the question 10 on this page) 	36.0%	9
<i>answered question</i>		25
<i>skipped question</i>		2

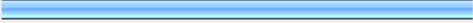

15. ...if yes, please provide the URL:		Response Count
		17
<i>answered question</i>		17
<i>skipped question</i>		10

16. Is your NI web application:		
	Response Percent	Response Count
Dynamic (on-line searchable, SQL) 	76.5%	13
Static (text, simple table form, html) 	17.6%	3
Downloadable 	35.3%	6
<i>answered question</i>		17
<i>skipped question</i>		10

17. How frequently do you update the NI database?		
	Response Percent	Response Count
> 5 times a year 	20.0%	5
2- 5 times a year 	16.0%	4
Once a year 	44.0%	11
Not updated yet 	20.0%	5
<i>answered question</i>		25
<i>skipped question</i>		2

18. Do you assess quality and completeness in your own NI data as:		
	Response Percent	Response Count
high 	37.5%	9
medium 	58.3%	14
low (lot of errors/missing data) 	4.2%	1
Please comment, if necessary:		3
<i>answered question</i>		24
<i>skipped question</i>		3

19. Are there any available information sources for improvement current data quality? (unused background papers, literature, manuscripts, etc.)		
	Response Percent	Response Count
Yes 	68.0%	17
No 	24.0%	6
I don't know 	8.0%	2
Please comment:		4
<i>answered question</i>		25
<i>skipped question</i>		2


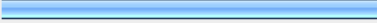
20. Does your country provide NI data to EURISCO?		
	Response Percent	Response Count
Yes 	95.7%	22
No 	4.3%	1
If no, please specify the main obstacles:		3
<i>answered question</i>		23
<i>skipped question</i>		4




21. How frequent is your NI update to EURISCO?			
		Response Percent	Response Count
> 5 times a year		8.7%	2
2- 5 times a year		8.7%	2
Once a year		56.5%	13
Not updated yet		26.1%	6
			<i>answered question</i>
			23
			<i>skipped question</i>
			4

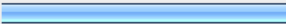


22. Is the current number of accessions in your NI the same as in EURISCO?			
		Response Percent	Response Count
Yes, exactly		21.7%	5
More or less (slight difference)		52.2%	12
Totally different numbers		26.1%	6
Please comment, if necessary:			4
			<i>answered question</i>
			23
			<i>skipped question</i>
			4

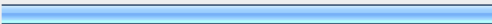
23. Are all NI descriptors included in EURISCO or you are missing some important passport descriptor/s?			
		Response Percent	Response Count
Yes, all are included		70.0%	14
No, I am missing important descriptor/s		30.0%	6
If no, please specify in comment:			8
			<i>answered question</i>
			20
			<i>skipped question</i>
			7

24. Conversion your NI data format into EURISCO descriptors is:			
		Response Percent	Response Count
Not necessary (the NI data structure follows EURISCO exactly)		33.3%	7
Fully automatic (special programme for data conversion available)		19.0%	4
Combination programme + manual work		42.9%	9
Pure manual work		4.8%	1
			<i>answered question</i>
			21
			<i>skipped question</i>
			6

25. Do you find the work with resulting txt and gzip file inconvenient or difficult?		
	Response Percent	Response Count
Yes 	23.8%	5
No 	76.2%	16
Please, comment:		4
<i>answered question</i>		21
<i>skipped question</i>		6

26. Speed of data upload to Bioversity server is:		
	Response Percent	Response Count
high 	25.0%	5
sufficient 	60.0%	12
low 	15.0%	3
<i>answered question</i>		20
<i>skipped question</i>		7

27. Resulting text/gzip file was uploaded to EURISCO in all cases fully automatic (without special assistance of Bioversity IT staff)?		
	Response Percent	Response Count
Yes, in all cases (if yes, skip to the question 6 on this page) 	57.9%	11
Sometimes yes, sometimes no 	31.6%	6
No, never 	10.5%	2
Please, comment:		4
<i>answered question</i>		19
<i>skipped question</i>		8

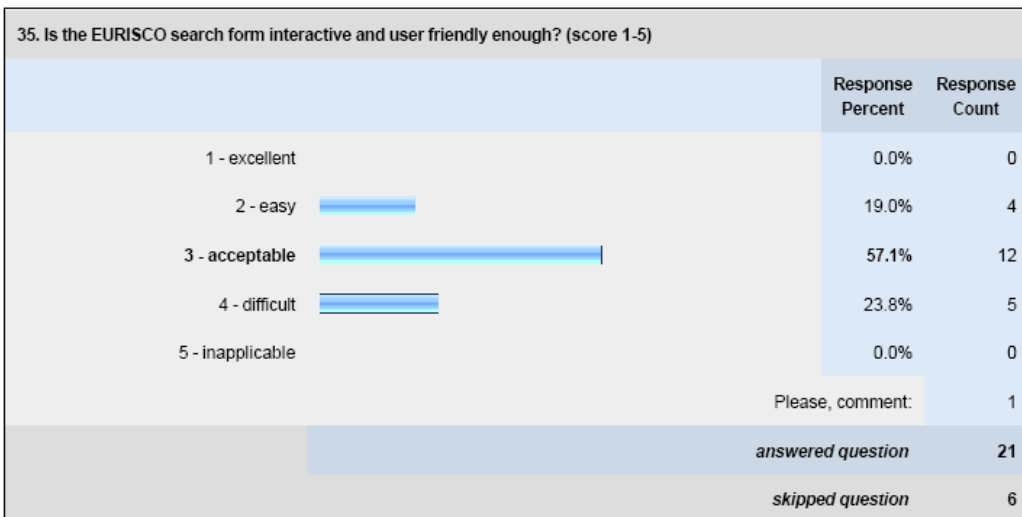
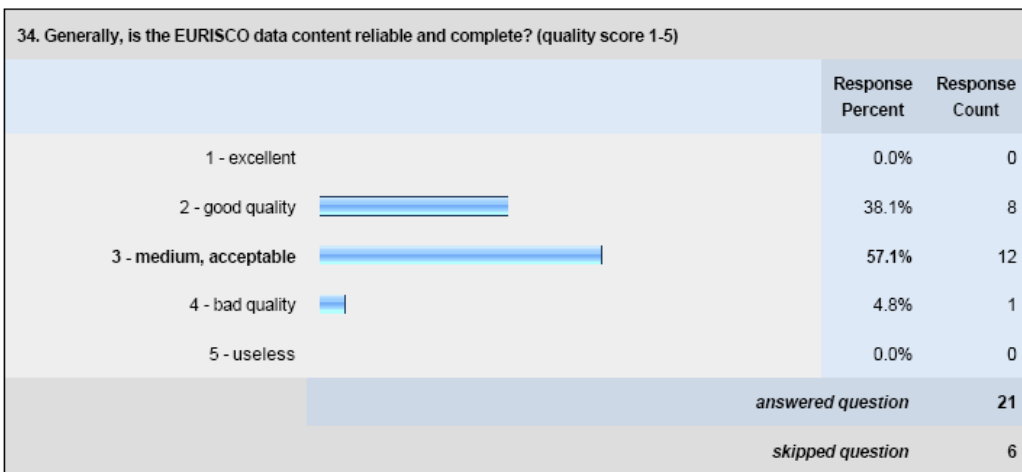
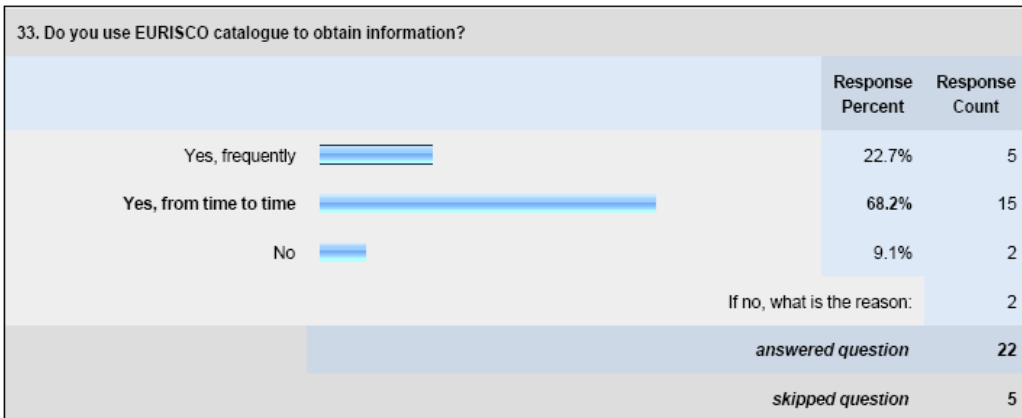
28. Was the reaction from Bioversity IT staff satisfactory?		
	Response Percent	Response Count
Yes 	100.0%	14
No	0.0%	0
<i>answered question</i>		14
<i>skipped question</i>		13



29. Did the EURISCO uploading report contribute to improve your original NI data quality?			
		Response Percent	Response Count
Yes, I corrected original NI data		80.0%	16
No, I didn't correct the original NI data		20.0%	4
	Please, comment if necessary:		2
<i>answered question</i>			20
<i>skipped question</i>			7



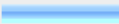

30. Did you receive the data quality reports announcing errors in your existing EURISCO data set during last Summer?			
		Response Percent	Response Count
Yes		65.0%	13
No		35.0%	7
<i>answered question</i>			20
<i>skipped question</i>			7

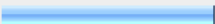

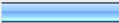
31. How did you use the data quality report identifying wrong geographic coordinates non corresponding to the country of origin/collecting ?			
		Response Percent	Response Count
by correcting wrong information (improvement of information)		76.5%	13
by deleting wrong values (loss of information)		11.8%	2
no update (no change)		11.8%	2
	Please, comment:		5
<i>answered question</i>			17
<i>skipped question</i>			10



32. How did you use the data quality report identifying invalid taxonomic data in your NI set?			
		Response Percent	Response Count
by correcting wrong information (improvement of information)		70.6%	12
no update (no change)		29.4%	5
	Please, comment:		6
<i>answered question</i>			17
<i>skipped question</i>			10

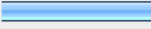
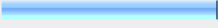
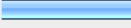


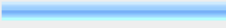


36. Do you find the display of EURISCO results suitable and functional? (score 1-5)		
	Response Percent	Response Count
1 - excellent	0.0%	0
2 - good 	23.8%	5
3 - medium, acceptable 	61.9%	13
4 - bad 	14.3%	3
5 - inapplicable	0.0%	0
Please, comment:		4
answered question		21
skipped question		6

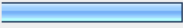

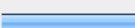
37. Is the display of EURISCO results quick enough (in comparison to similar applications)? (score 1-5)		
	Response Percent	Response Count
1 - excellent 	14.3%	3
2 - good 	57.1%	12
3 - medium, acceptable 	23.8%	5
4 - bad 	4.8%	1
5 - inapplicable	0.0%	0
answered question		21
skipped question		6

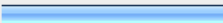
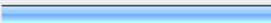
38. How do you find the download format of results from EURISCO?		
	Response Percent	Response Count
1 - excellent	0.0%	0
2 - good 	42.9%	9
3 - medium, acceptable 	33.3%	7
4 - bad 	23.8%	5
5 - inapplicable	0.0%	0
Pease comment:		1
answered question		21
skipped question		6


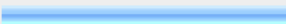






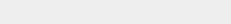

39. Does the download of results contain all requested descriptors?		
	Response Percent	Response Count
Yes 	65.0%	13
No 	35.0%	7
Please, comment:		4
<i>answered question</i>		20
<i>skipped question</i>		7

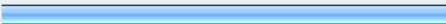

40. Do you think that the EURISCO catalogue is known to wide users as an important information source?		
	Response Percent	Response Count
Yes 	30.4%	7
No 	43.5%	10
I don't know 	26.1%	6
<i>answered question</i>		23
<i>skipped question</i>		4

41. Did you personally recommend the EURISCO catalogue to some prospective user?		
	Response Percent	Response Count
Yes, many times 	45.5%	10
Yes, from time to time 	50.0%	11
No 	4.5%	1
<i>answered question</i>		22
<i>skipped question</i>		5

42. Is the EURISCO information fact sheet translated to your language?		
	Response Percent	Response Count
Yes 	36.4%	8
No 	36.4%	8
Not necessary, the English version is sufficient 	27.3%	6
<i>answered question</i>		22
<i>skipped question</i>		5

43. Have you used the fact sheets (translated or not) to help disseminating EURISCO?		
		Response Percent Response Count
Yes		45.5% 10
No		54.5% 12
	Please, comment:	3
		answered question 22
		skipped question 5

44. Should the information in EURISCO be extended with the new content? (tick all matching)		
		Response Percent Response Count
Additional passport descriptors		52.6% 10
Taxonomy standard		57.9% 11
Storage information		42.1% 8
Characterization data		52.6% 10
Evaluation data		47.4% 9
Molecular data		31.6% 6
On-line sample ordering tool kit		36.8% 7
Standard Material Transfer Agreement on-line		63.2% 12
In-situ collection data		47.4% 9
Other: specify in comment		5.3% 1
	Please, comment:	6
		answered question 19
		skipped question 8

45. Would you be willing to deliver the above mentioned new data und update them regularly?		
		Response Percent Response Count
Yes		90.5% 19
No		9.5% 2
		answered question 21
		skipped question 6

46. Should EURISCO be expanded by links to other data sources? (tick all matching)			
		Response Percent	Response Count
Taxonomy		50.0%	9
Characterization		61.1%	11
Evaluation		55.6%	10
Molecular data		33.3%	6
European Central Crop Databases		61.1%	11
Other International databases		61.1%	11
In situ documentation		33.3%	6
Publications		33.3%	6
Other: specify in comment		11.1%	2
	Other (please specify):		4
<i>answered question</i>			18
<i>skipped question</i>			9

47. Do you think that EURISCO could act as future replacement of CCDBs in case of characterisation/evaluation data?			
		Response Percent	Response Count
Yes		50.0%	10
No		30.0%	6
I don't know		20.0%	4
	Please, comment:		7
<i>answered question</i>			20
<i>skipped question</i>			7





48. If necessary, how could the existing upload to EURISCO be improved?	
	Response Count
	4
<i>answered question</i>	4
<i>skipped question</i>	23





49. If necessary, how could the existing search form be improved?	
	Response Count
	4
<i>answered question</i>	4
<i>skipped question</i>	23

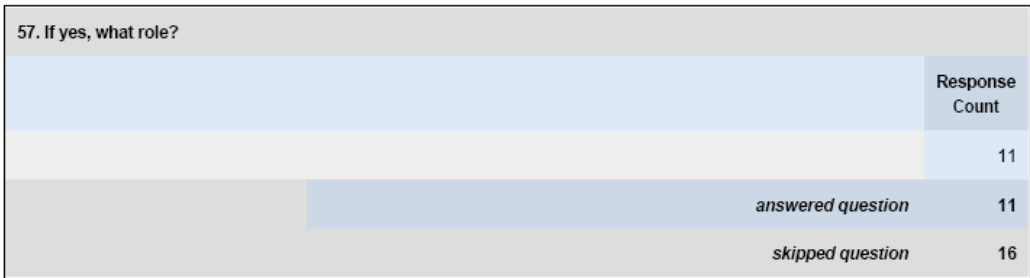
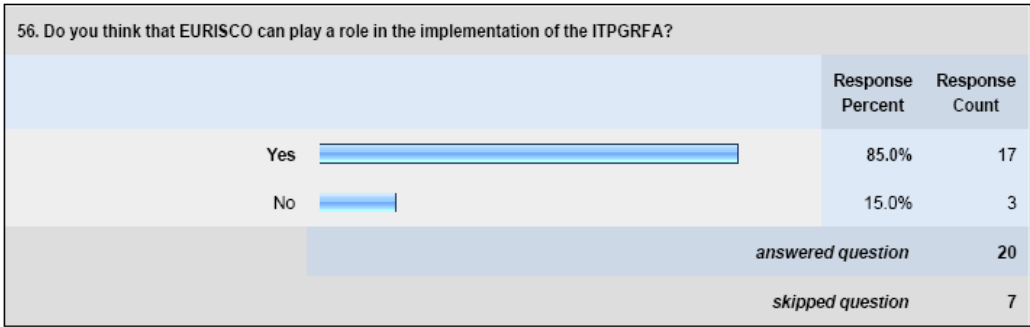
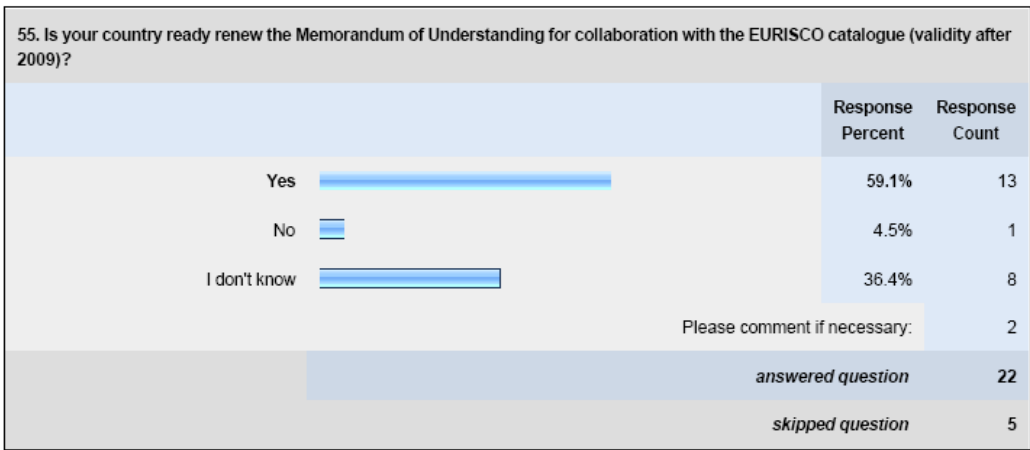
50. If necessary, how could the existing display of results be improved?	
	Response Count
	5
<i>answered question</i>	5
<i>skipped question</i>	22





51. If necessary, how could the existing download of results be improved?	
	Response Count
	5
<i>answered question</i>	5
<i>skipped question</i>	22


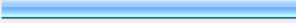
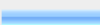
52. How to improve EURISCO visibility and dissemination?	
	Response Count
	4
<i>answered question</i>	4
<i>skipped question</i>	23

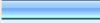
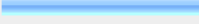






53. Do you, NFP (or your colleagues), need some training on EURISCO?		
	Response Percent	Response Count
Yes, urgently 	4.8%	1
Yes, in short term (during 1-2 years) 	38.1%	8
Yes, perspectivevely (during 3-5 years) 	23.8%	5
No 	33.3%	7
Please, comment:		3
answered question		21
skipped question		6

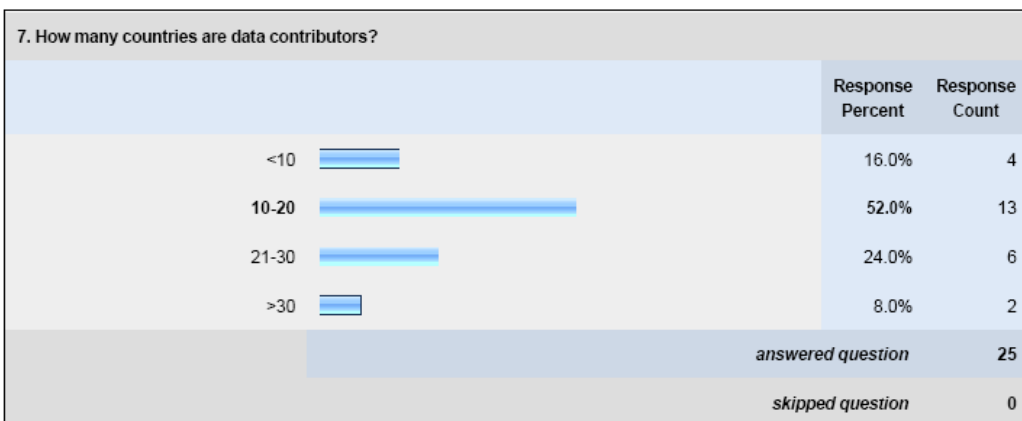
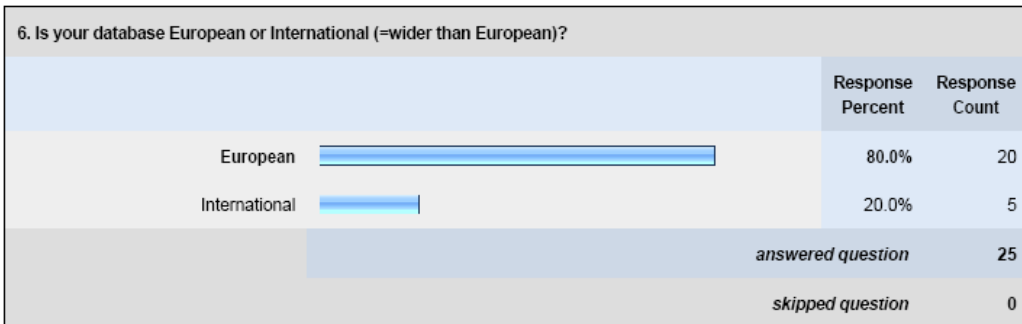
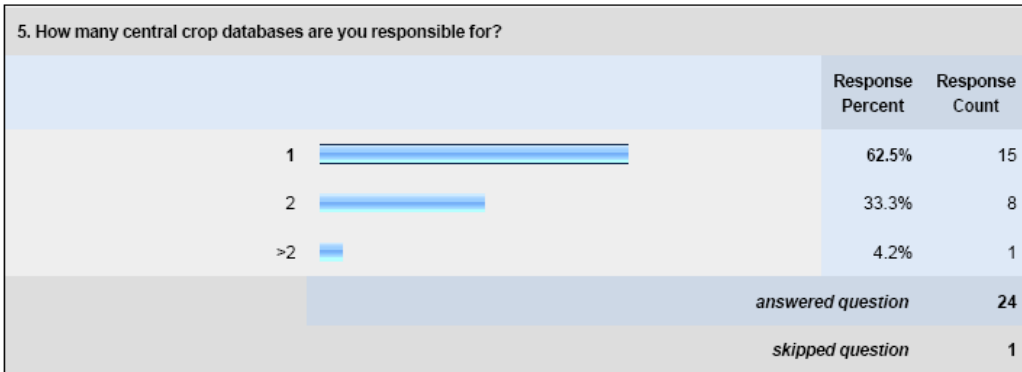
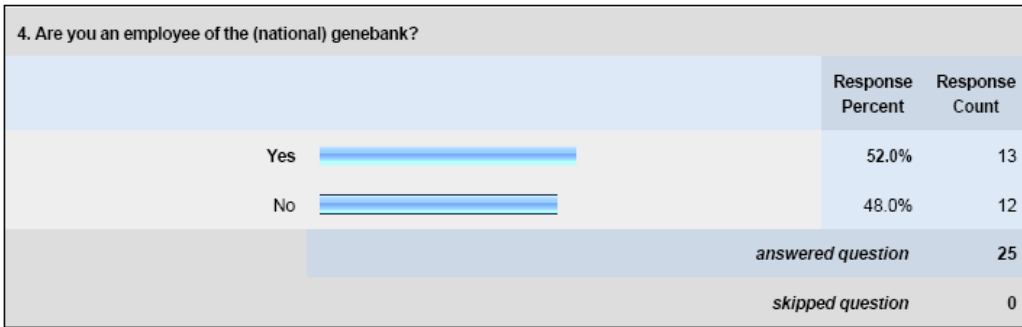
54. Are you personally willing and able to keep your data updated and with high quality?		
	Response Percent	Response Count
Yes, I am 	36.4%	8
Yes, I will do my best 	40.9%	9
Yes, but at the moment there is need of skilled human sources 	18.2%	4
Yes, but at the moment there is shortage of money	0.0%	0
Yes, but at the moment I don't have any time to do it 	9.1%	2
No, I am not	0.0%	0
Other:		2
answered question		22
skipped question		5

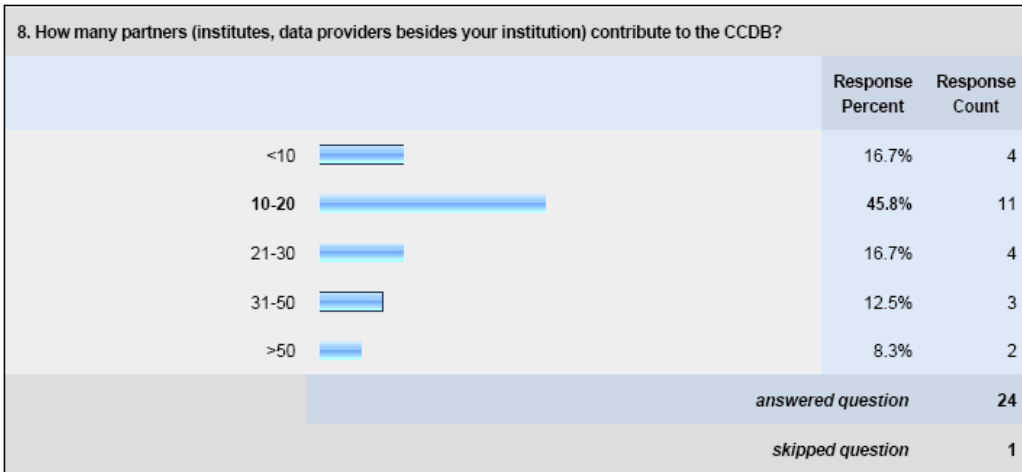


1. How long are you a CCDB Manager?		
	Response Percent	Response Count
<1 year	0.0%	0
1-2 years 	8.0%	2
3-5 years 	20.0%	5
6-10 years 	32.0%	8
>10 years 	40.0%	10
<i>answered question</i>		25
<i>skipped question</i>		0

2. Did you develop the structure of "your" CCDB?		
	Response Percent	Response Count
Yes, myself 	20.0%	5
Yes, in collaboration 	60.0%	15
No, I took over the responsibility from my predecessor/s 	20.0%	5
<i>answered question</i>		25
<i>skipped question</i>		0

3. What is your main professional position/specialization?		
	Response Percent	Response Count
Documentation 	20.0%	5
Research - collection curator 	40.0%	10
Research - gene bank 	12.0%	3
Research - other than both previous 	8.0%	2
Breeding 	4.0%	1
Education 	4.0%	1
Management 	4.0%	1
Policy	0.0%	0
Other, please specify in comment 	8.0%	2
Other (please specify):		3
<i>answered question</i>		25
<i>skipped question</i>		0





9. What is the total number of accessions (passport records) in your database?



Response	Response Count
	24
<i>answered question</i>	24
<i>skipped question</i>	1





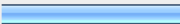
10. In case of wider International database, how many accessions (passport records) are kept on extra-European territories?




Response	Response Count
	7
<i>answered question</i>	7
<i>skipped question</i>	18

11. Do you use the EURISCO (enlarged MCPD) passport descriptors as a standard format for your database?

Response	Response Percent	Response Count
Yes, standard descriptors only	17.4%	4
Yes, with slight modifications and additional descriptors	82.6%	19
No, completely different format	0.0%	0
Please, comment:		3
<i>answered question</i>		23
<i>skipped question</i>		2

12. Are you missing some passport descriptors (important for your mandate crop/s) in the EURISCO standard set?		
	Response Percent	Response Count
Yes 	40.9%	9
No 	59.1%	13
If yes, please specify:		9
<i>answered question</i>		22
<i>skipped question</i>		3

13. Do you use a standard taxonomy scheme for your database?		
	Response Percent	Response Count
Yes, the GRIN standard 	13.6%	3
Yes, the ITIS standard	0.0%	0
Yes, the KEW standard 	4.5%	1
Yes, the Mansfeld standard	0.0%	0
Yes, other common standard (specify in comment) 	4.5%	1
Yes, the CCDB-specific "standard" 	40.9%	9
No, data are in original form 	36.4%	8
Other common standard, please specify:		8
<i>answered question</i>		22
<i>skipped question</i>		3



14. Do you also hold characterization/evaluation data in your database?		
	Response Percent	Response Count
Yes 	45.8%	11
Not yet, the descriptor list is in development and data are expected (if not yet, skip to the no. 11 and than to the no.15 on this page) 	16.7%	4
No (if no, skip to the question no.15 on this page) 	37.5%	9
<i>answered question</i>		24
<i>skipped question</i>		1



15. What is the total number of characterized/ evaluated accessions? (meaning sets of characterization/evaluation data belonging to 1 accession, not single scoring values)		Response Count
		12
<i>answered question</i>		12
<i>skipped question</i>		13

16. Do you use the IBPGR/IPGRI/Bioversity descriptor list for characterization/evaluation?		
	Response Percent	Response Count
Yes, without additional descriptors	7.1%	1
Yes, with additional descriptors	14.3%	2
The IBPGR/IPGRI/Bioversity descriptor list was used as a guide only	57.1%	8
No, totally different descriptors and scoring	21.4%	3
<i>answered question</i>		14
<i>skipped question</i>		11



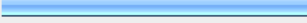
17. What is the full number of descriptors defined in your characterization/evaluation descriptor list?		
	Response Percent	Response Count
<10	18.2%	2
10-30	27.3%	3
31-50	27.3%	3
>50	27.3%	3
<i>answered question</i>		11
<i>skipped question</i>		14


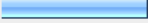
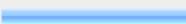

18. What is the average number of characterization/evaluation descriptors filled in per one accession in your database?		
	Response Percent	Response Count
<10	66.7%	8
10-30	16.7%	2
31-50	16.7%	2
>50	0.0%	0
<i>answered question</i>		12
<i>skipped question</i>		13



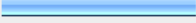
19. Are characterization/evaluation data in your database resulting from separately funded project?		
	Response Percent	Response Count
Yes 	75.0%	9
No 	25.0%	3
Other (please specify)		2
<i>answered question</i>		12
<i>skipped question</i>		13



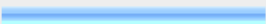
20. Is your CCDB available from the web?		
	Response Percent	Response Count
Yes 	83.3%	20
No (if no, skip to the question no. 18 on this page) 	16.7%	4
<i>answered question</i>		24
<i>skipped question</i>		1

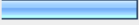

21. If yes, please provide the URL:		Response Count
		19
<i>answered question</i>		19
<i>skipped question</i>		6



22. Is your CCDB web application:		
	Response Percent	Response Count
Dynamic (on-line searchable, SQL) 	66.7%	14
static (text, simple table form, html) 	9.5%	2
downloadable 	61.9%	13
<i>answered question</i>		21
<i>skipped question</i>		4

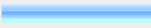

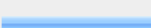
23. How frequently do you update your database?		
	Response Percent	Response Count
Regularly, every year 	20.8%	5
Irregularly, frequently (1-3 years) 	29.2%	7
Irregularly, in longer periods (>3 years) 	37.5%	9
Not at all 	12.5%	3
<i>answered question</i>		24
<i>skipped question</i>		1



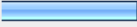
24. Do you check the number of accessions belonging to your mandate crop/s in EURISCO?		
	Response Percent	Response Count
Yes, frequently 	4.3%	1
Yes, from time to time 	56.5%	13
No (if no, skip to the question no. 5 on this page) 	39.1%	9
<i>answered question</i>		23
<i>skipped question</i>		2



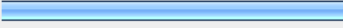
25. Is the current number of accessions in your database the same as in EURISCO?		
	Response Percent	Response Count
Yes, exactly 	0.0%	0
More or less (small difference) 	46.7%	7
No, totally different numbers 	53.3%	8
<i>answered question</i>		15
<i>skipped question</i>		10

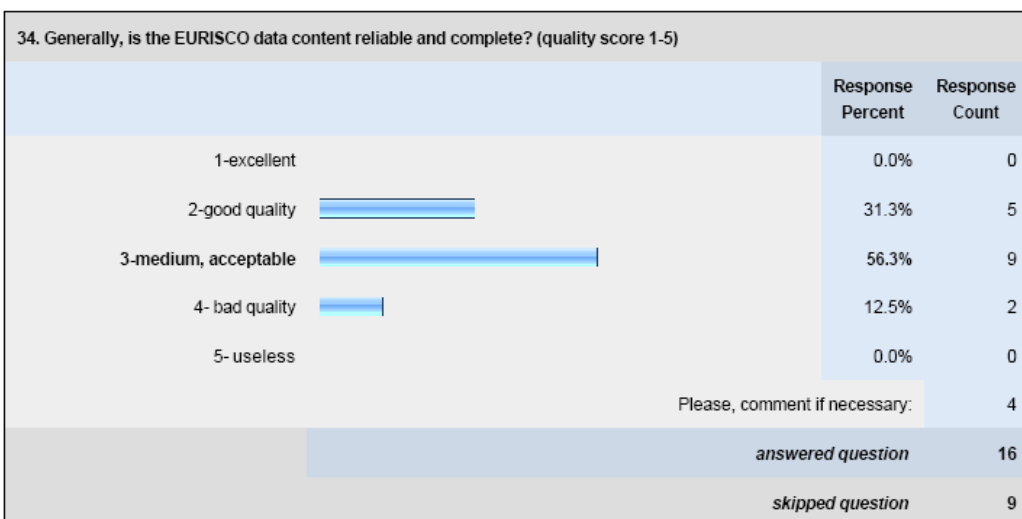
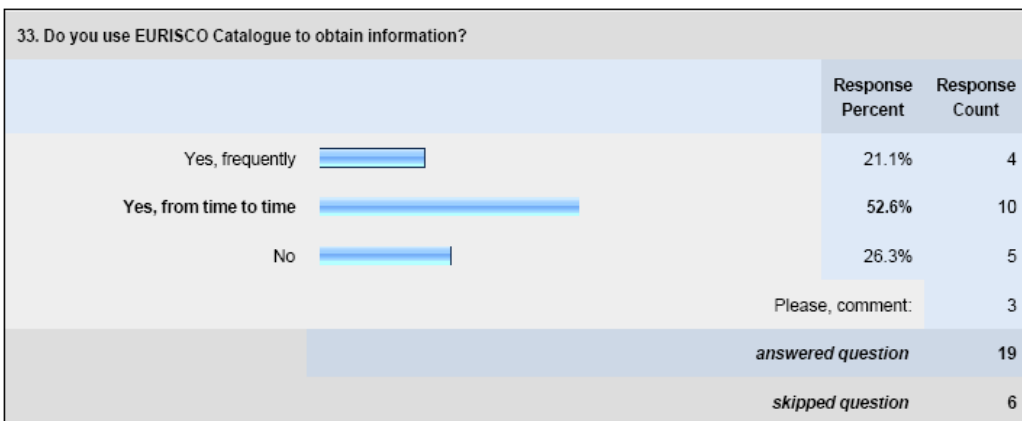
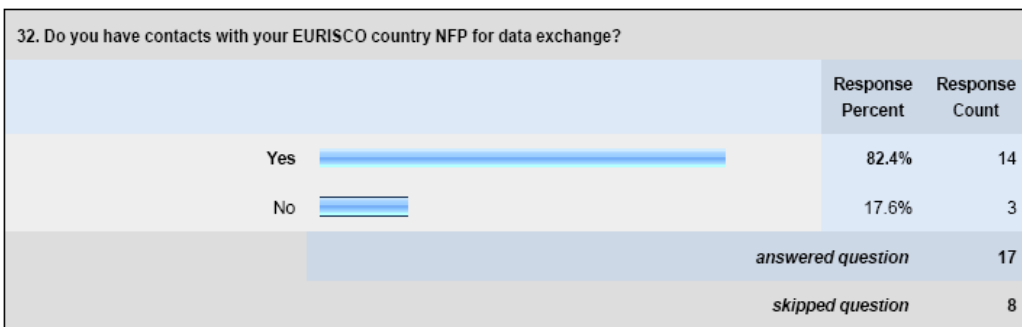
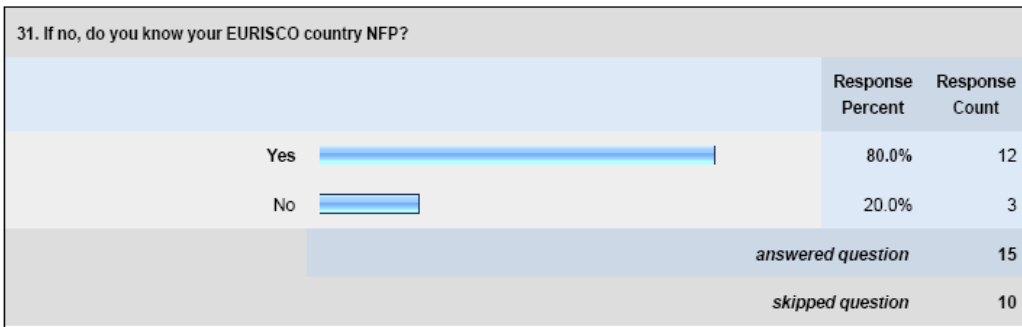
26. ... if no, how is it?		
	Response Percent	Response Count
Lower (than EURISCO) 	27.3%	3
Higher (than EURISCO) 	72.7%	8
Please, comment if necessary:		4
<i>answered question</i>		11
<i>skipped question</i>		14

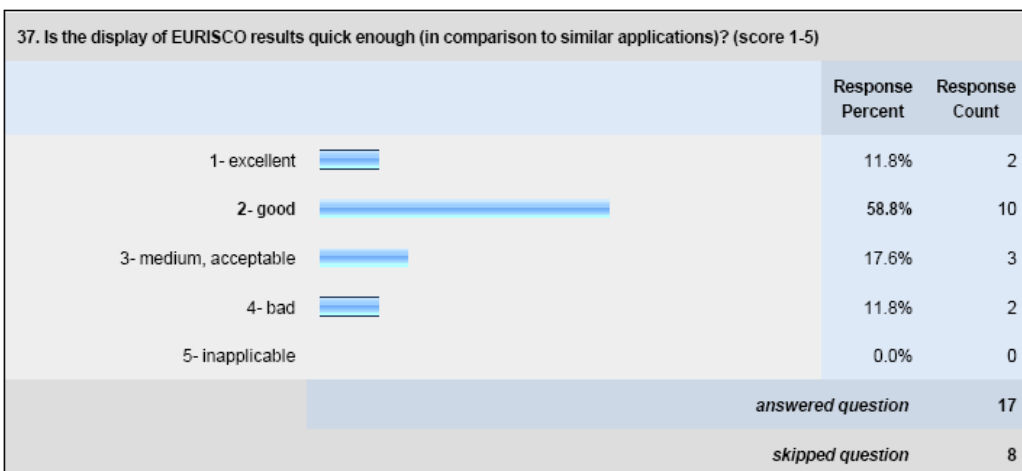
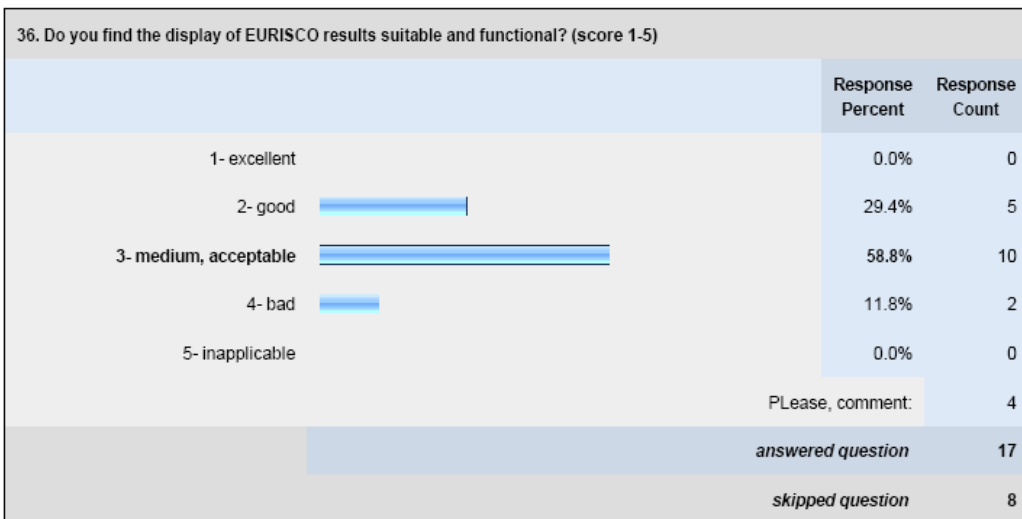
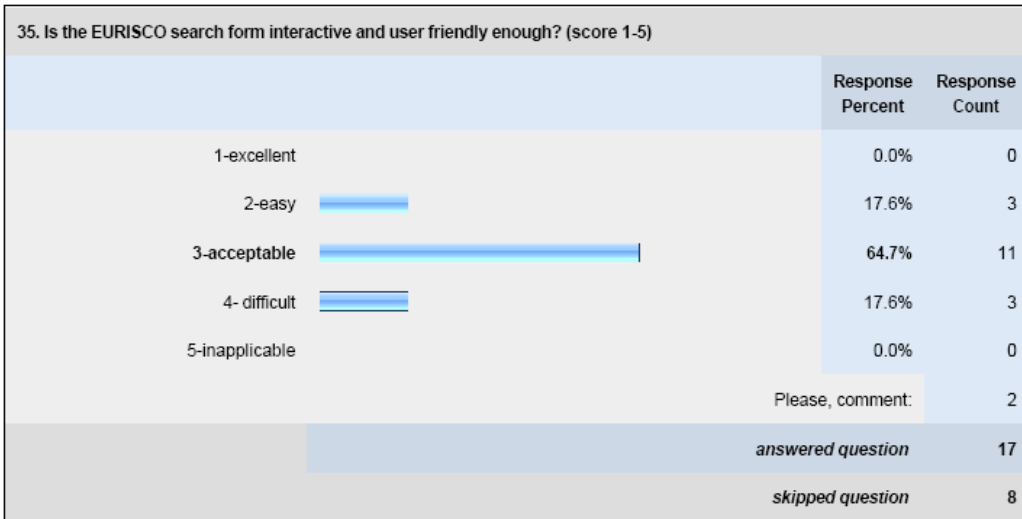
27. Did you download any records from EURISCO to enlarge your passport data set?		
	Response Percent	Response Count
Yes, many times 	20.0%	3
Yes, once 	40.0%	6
No 	40.0%	6
Please, comment if necessary:		3
<i>answered question</i>		15
<i>skipped question</i>		10

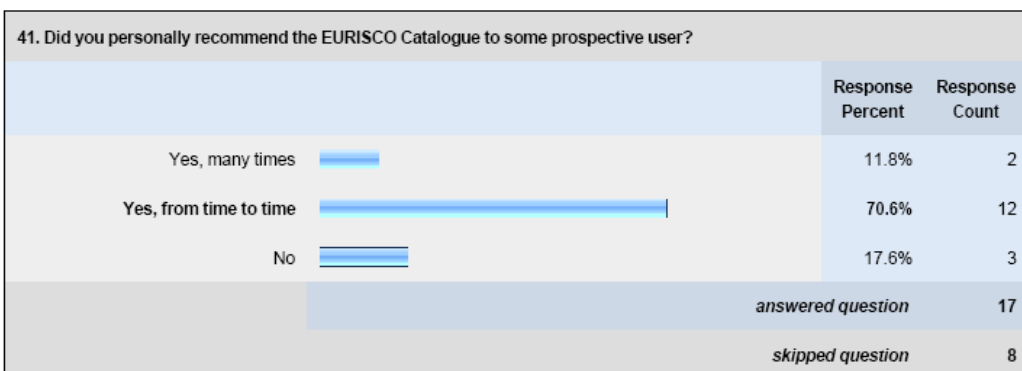
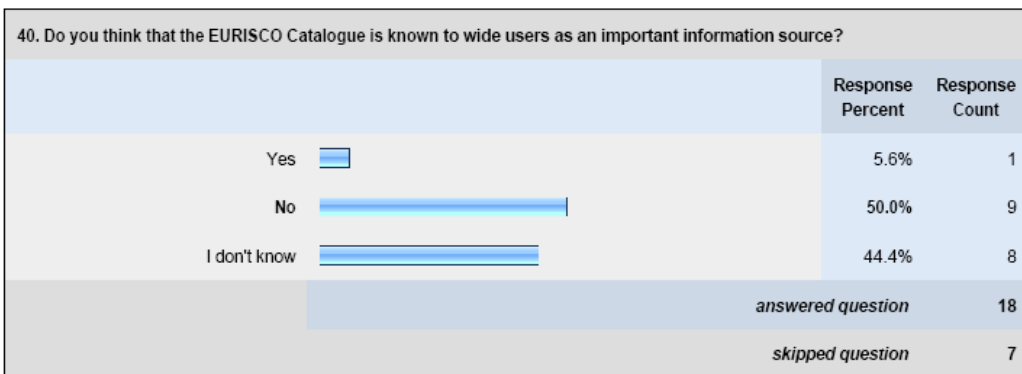
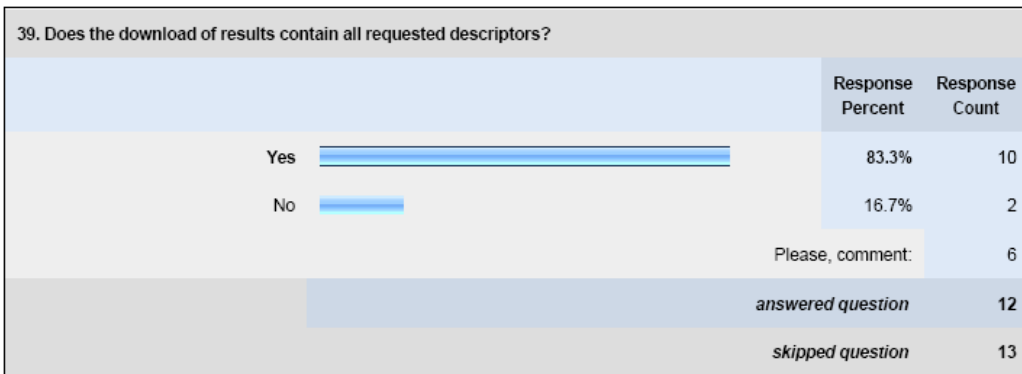
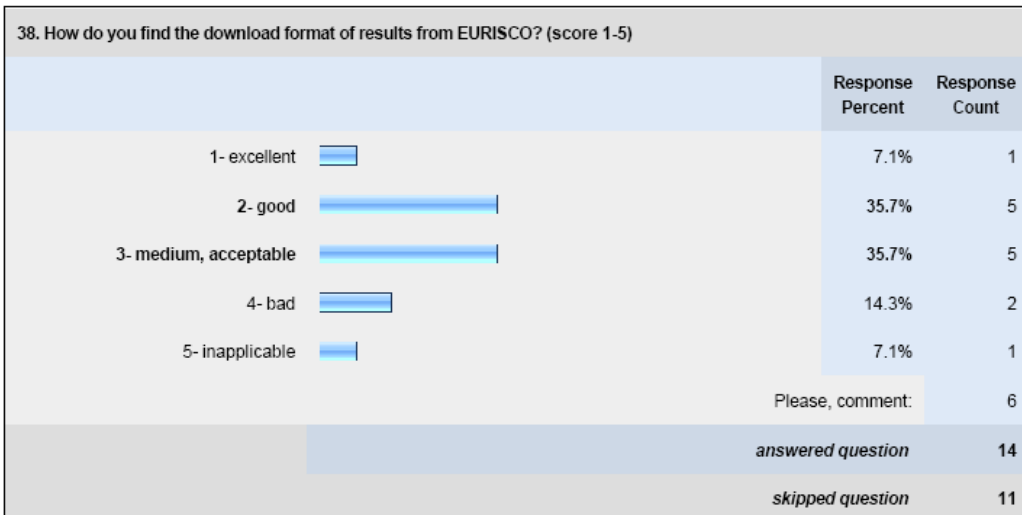
28. Are you ready to link the characterization/evaluation data held in your CCDB to the related EURISCO passport records?		
	Response Percent	Response Count
Yes 	30.4%	7
No 	39.1%	9
I don't have characterization/evaluation data 	30.4%	7
<i>answered question</i>		23
<i>skipped question</i>		2

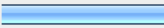
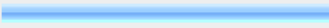
29. Do you think that the role of CCDBc and EURISCO are complementary and is that complementarity beneficial to users?		
	Response Percent	Response Count
Yes 	68.2%	15
No 	4.5%	1
I don't know 	27.3%	6
Please, comment:		10
<i>answered question</i>		22
<i>skipped question</i>		3

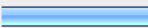

30. Are you also the EURISCO NFP?		
	Response Percent	Response Count
Yes (I filled in the questionnaire for NFP already) 	17.4%	4
Yes (but I didn't fill in the questionnaire for NFP) 	13.0%	3
No 	69.6%	16
<i>answered question</i>		23
<i>skipped question</i>		2



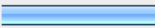


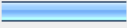






42. Do you know about the EURISCO fact sheet?		
	Response Percent	Response Count
Yes 	33.3%	6
No 	66.7%	12
<i>answered question</i>		18
<i>skipped question</i>		7

43. If yes, have you used the fact sheets to help disseminating EURISCO?		
	Response Percent	Response Count
Yes 	30.0%	3
No 	70.0%	7
<i>answered question</i>		10
<i>skipped question</i>		15

44. Should the information in EURISCO be extended with the new content? (tick all matching)		
	Response Percent	Response Count
Additional passport descriptors	0.0%	0
Taxonomy standard 	12.5%	2
Storage information	0.0%	0
Characterization data 	12.5%	2
Evaluation data	0.0%	0
Molecular data	0.0%	0
On-line sample ordering tool kit 	31.3%	5
Standard Material Transfer Agreement on-line 	12.5%	2
In situ collection data 	6.3%	1
Other: specify in comment 	25.0%	4
Comment:		11
<i>answered question</i>		16
<i>skipped question</i>		9

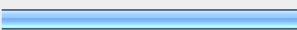
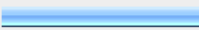
45. Should EURISCO be expanded by links to other data sources? (tick all matching)		
	Response Percent	Response Count
Taxonomy <input type="checkbox"/>	14.3%	2
Characterization <input type="checkbox"/>	14.3%	2
Evaluation <input type="checkbox"/>	0.0%	0
Molecular data <input type="checkbox"/>	0.0%	0
European Central Crop Databases <input type="checkbox"/>	21.4%	3
Other International databases <input type="checkbox"/>	14.3%	2
Publications <input type="checkbox"/>	7.1%	1
In situ data <input type="checkbox"/>	7.1%	1
Other: specify in comment <input type="checkbox"/>	21.4%	3
Comment:		8
<i>answered question</i>		14
<i>skipped question</i>		11

46. If necessary, how the existing search form could be improved?	
	Response Count
	4
<i>answered question</i>	4
<i>skipped question</i>	21

47. If necessary, how the existing display of results could be improved?	
	Response Count
	5
<i>answered question</i>	5
<i>skipped question</i>	20

48. If necessary, how the existing download of results could be improved?	
	Response Count
	5
<i>answered question</i>	5
<i>skipped question</i>	20

49. How to improve EURISCO visibility and dissemination?		Response Count
		2
	<i>answered question</i>	2
	<i>skipped question</i>	23

50. Do you think that EURISCO can play a role in the implementation of the ITPGRFA?		
	Response Percent	Response Count
Yes 	60.0%	6
No 	40.0%	4
	<i>answered question</i>	10
	<i>skipped question</i>	15

51. If Yes, what role? Please, specify:		Response Count
		8
	<i>answered question</i>	8
	<i>skipped question</i>	17

52. Do you have any other idea, comment or recommendation for EURISCO future you would like to bring to our attention?		Response Count
		6
	<i>answered question</i>	6
	<i>skipped question</i>	19

Annex 9 – List of Acronyms

AEGIS	A European Genebank Integrated System
AFRISCO	Proposed African Plant Genetic Resources Search Catalogue
ALIS	Accession-Level Information System
AMERISCO	Proposed South America Plant Genetic Resources Search Catalogue
BioCASE	Biological Collection Access Service for Europe
BGCI	Botanic Gardens Conservation International
BLE	Bundesanstalt für Landwirtschaft und Ernährung , Bonn (Federal Agency for Agriculture and Food, Bonn)
C&E	Characterization and Evaluation
CCDB	European Central Crop Database (under ECPGR)
CCER	Centre-Commissioned External Review
CGIAR	Consultative Group on International Agricultural Research
CGN	Centre for Genetic Resources, the Netherlands, Wageningen
CU	Common User
D&I	Documentation and Information
EAG	EURISCO Advisory Group
EC	European Commission
ECPGR	European Cooperative Programme for Plant Genetic Resources
EPGRIS	European Plant Genetic Resources Information Infra-Structure
EPGRIS3	Initiative aiming at providing a platform for collaboration in the field of information and documentation of PGR in Europe
EURISCO	European Plant Genetic Resources Search Catalogue
FAO	Food and Agriculture Organization of the United Nations
GBIF	Global Biodiversity Information Facility
GIS	Geographic Information System
GPS	Global Positioning System
GRIN	Germplasm Resources Information Network
IGER	Institute of Grassland and Environmental Research, Aberystwyth
INSTCODE	WIEWS/FAO Standard Institute Code; EURISCO descriptor
IPEN	International Plant Exchange Network
IPGRI	International Treaty on Plant Genetic Resources for Food and Agriculture
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
LSID	Life Science Identifier
MCPD	Multi-Crop Passport Descriptors
MLS	Multi-Lateral System
MoU	Memorandum of Understanding
NFP	National Focal Point
NI	National Inventory
NICODE	National Inventory Code - EURISCO descriptor
PGR	Plant Genetic Resources
SINGER	System-wide Information Network for Genetic Resources
sMTA	Standard Material Transfer Agreement
TAPIR	TDWG Access Protocol for Information Retrieval
TDWG	Biodiversity Information Standards (initially Taxonomic Database Working Group)
UMB	Understanding and Managing Biodiversity Programme
URL	Uniform Resource Locator
USDA	United States Department of Agriculture
WIEWS	World Information and Early Warning System
