Farmer's Pride

Networking, partnerships and tools to enhance in situ conservation of European plant genetic resources

Concept for a possible extension of EURISCO for *in situ* crop wild relative and on-farm landrace data

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Citation

Acknowledgements

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1. Introduction

The European Search Catalogue for Plant Genetic Resources (EURISCO)[1] is currently limited to germplasm accessions maintained ex situ. However, it is equally desirable that germplasm is accessible whether it is held ex situ in a genebank or in situ either on-farm or in nature.

This document constitutes a first proposal for a possible extension of EURISCO for in situ CWR and on-farm LR data in the future. In this context, the main focus is on minimising the necessary changes to the established EURISCO system in order to avoid negative effects on exchange and provision of ex situ data.

1.1 Background EURISCO

The European Search Catalogue for Plant Genetic Resources (EURISCO) is operated within the framework of the European Cooperative Programme for Plan Genetic Resources (ECPGR). The idea behind is to provide a central entry point for both passport data and phenotypic data on germplasm accessions maintained *ex situ* in European collections. In this context, the focus is on material, which is (i) properly managed and (ii) accessible.

EURISCO is based on a network of so-called National Inventories from 43 member countries. In total, EURISCO documents more than two million accessions from over 400 institutes. The accessions comprise more than 6,700 genera and more than 45,000 species.

The holding institutes regularly send their accession-related data to the National Inventories, which compile and upload the data to EURISCO (Figure 1). The exchange of passport data is based on the Multi-Crop Passport Descriptors (MCPD) format, which is a globally accepted standard. For phenotypic data, a separate exchange format was agreed in the frame of ECPGR.
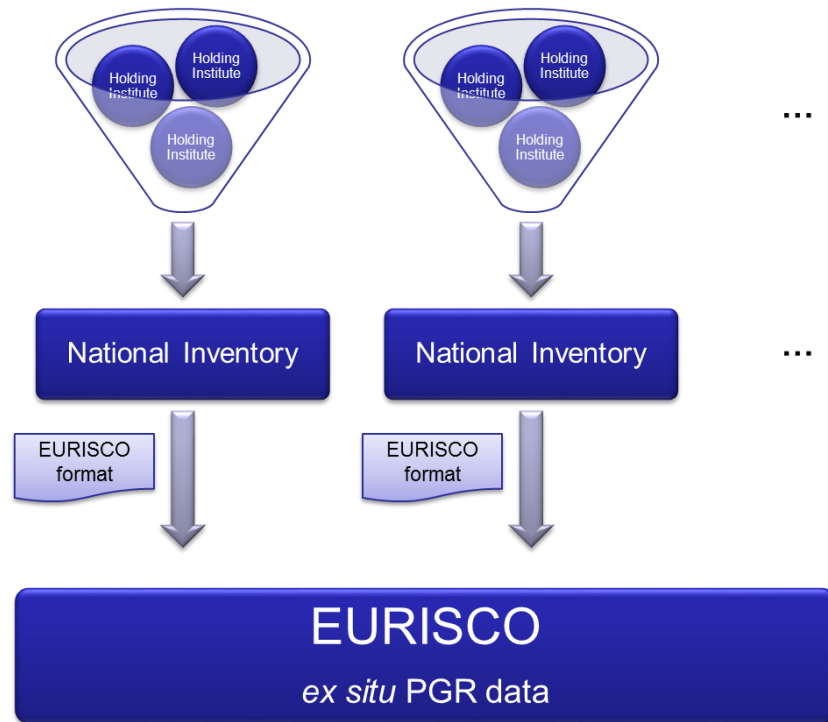
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[1] http://eurisco.ecpgr.org

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Figure 1: Data flow of *ex situ* data in EURISCO.

1.2   Possible extension of EURISCO

With a view to a possible extension of EURISCO, a fundamental discussion of the PGR community is required as to which data should be made available via the catalogue and which use cases should be considered for the users. While adding information about well-managed CWR seems to be reasonable, this cannot be clearly answered for on-farm data. An important prerequisite for the operation of a central search catalogue such as EURISCO is the regular updating of the data available there. Whereas in the case of CWR this can presumably be regarded as uncritical, the associated logistical effort is much greater in the case of on-farm maintenance. It might make sense to limit this to trees and perennial plant species.

Another important point of discussion is the structure of the underlying network. As mentioned above, more than 400 institutions currently provide their data to EURISCO. Logistically, this is only possible because the data are collected in a first step in the National Inventories of the respective member countries. Thus, a comparable mechanism also seems to be meaningful for CWR and on-farm data.

Furthermore, both the presumed amount of data and the exchange format to be used must be discussed. In addition, use cases/requirements for the EURISCO information system must be collected, e.g. certain extensions of the search functionalities, reports, analyses and so on.

Proposals will be made below as to how some of the above points could be technically implemented. The decision if and to what extent these proposals will be implemented will, however, lie with the EURISCO Advisory Committee.

2. Proposal for extension

2.1 Network/data flow

As already mentioned above, it seems appropriate to organise the exchange of *in situ* data in analogy to the *ex situ* data exchange in EURISCO. This means the creation of a National Inventory for a country's *in situ* collection. In this context, from EURISCO's point of view, it is irrelevant whether the existing *ex situ* National Inventory is expanded or whether an additional, dedicated *in situ* National Inventory is established. This decision should be made depending on the respective circumstances of the member states.

Furthermore, in the case of *in situ* conservation, it would be useful to define institutions that are responsible for conservation and through which material can be made available. This task could be handled by the National Inventories or by other institutions, e.g. genetic resource centres (Figure 2).

From a technical point of view, EURISCO would of course also be able to interact directly with the respective data providers. In the case of direct interactions with a large number of data providers, however, significant additional resources would have to be made available for training activities and a helpdesk. Overall, the National Inventories model is preferred by the authors. This approach has demonstrated very good functionality in recent years.

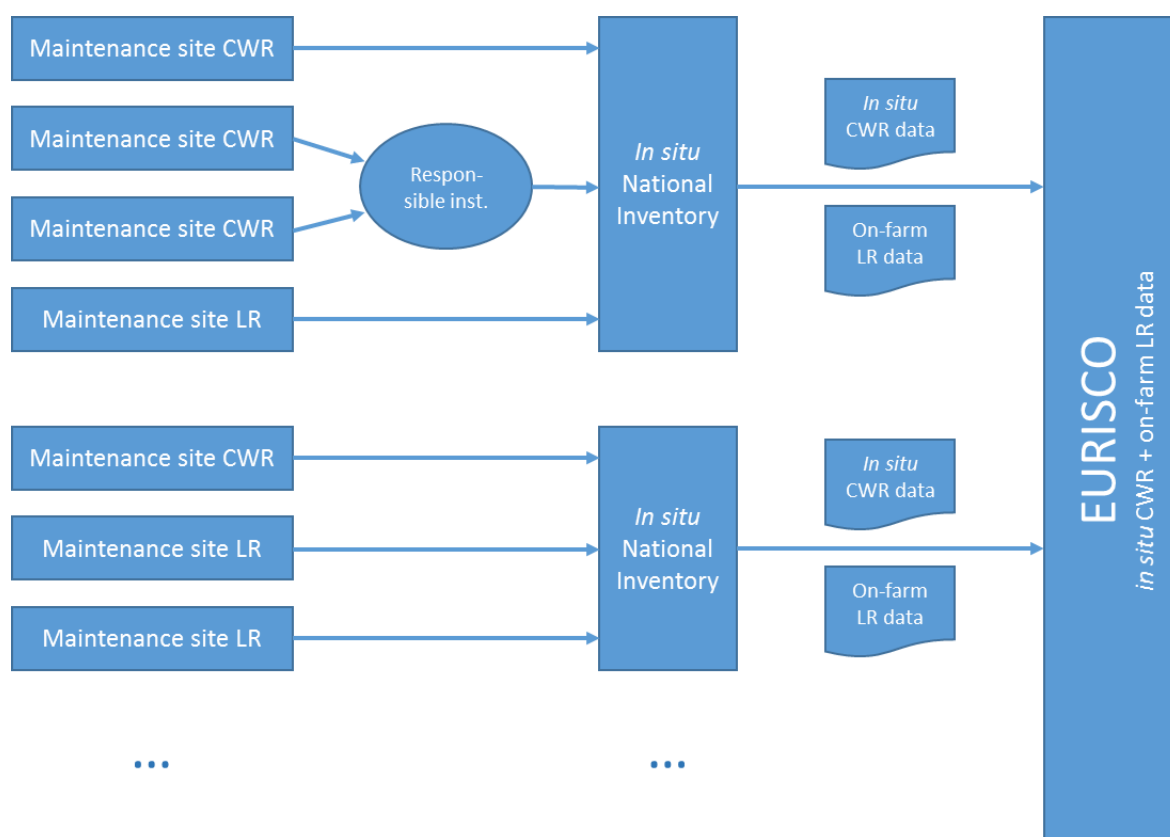Figure 2: Proposed data flow of *in situ* data in EURISCO.

2.2 Exchange of data

The exchange of passport data on *ex situ* collections in EURISCO is currently based on the MCPD format. Its current version (v2.1) has been extended by four EURISCO-specific descriptors. However, the MCPD format

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is not sufficient at present to include all data arising from *in situ* conservation. In this context, it should be noted that EURISCO will not replace local management systems. An exchange format should contain only the minimum features necessary to provide information on European collections.

In order to minimise the adjustments required for EURISCO, the exchange format should aim at maximum compliance with the existing MCPDs. This means that there are two alternative scenarios for exchanging *in situ* data:

2.2.1 Scenario A: Extension of ex situ MCPDs

This scenario contains the minimal extension of the well-established Multi-Crop Passport Descriptors by some additional descriptors and/or status terms. For example, it would be necessary to insert a descriptor for the conservation method, such as:

Conservation method (CONSMETH)

1 – *ex situ* conservation

2 – in nature conservation

3 – on-farm conservation

Alternatively, already existing descriptors could be extended by additional status values. For example, the STORAGE descriptor could be supplemented by the two status terms "in nature collection" and "on-farm collection".

However, if an exchange of *in situ* data beyond these simple extensions of the MCPD format is desired, it is more appropriate to pursue a different scenario.

2.2.2 Scenario B: Separate exchange formats for in situ CWR and on-farm LR

This scenario involves the development of two separate exchange formats for in situ CWR and on-farm LR data. Although it would also be possible to develop a common in situ exchange format that includes both in situ CWR and on-farm LR data, it is considered more effective to develop two independent formats. This opens the possibility to consider the specifics of the respective communities, whereby here too the greatest possible intersection with the MCPD format should be sought.

The authors prefer this scenario. Thus, annexes 0 and B propose exchange formats for in situ CWR and on-farm LR data. For this purpose, preparatory work that has been carried out in the two communities in recent years has been evaluated, in particular (Negri, Maxted et al. 2012, Thormann, Alercia et al. 2013, Maxted, Avagyan et al. 2015, Birmingham 2017, ECPGR 2017). From this, two compact format proposals were derived, which closely follow the MCPD format for ex situ data. These proposals were discussed with the project partners as part of the Farmer's Pride project.

The proposal for the in situ CWR data exchange was then forwarded to the ITPGRFA, which started a project in May 2019 that aimed at developing an internationally accepted standard for the exchange of in situ CWR data[2]. Besides other sources, the Farmer's Pride format proposal was used as input.

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[2] Development of a globally agreed list of descriptors for in situ crop wild relatives documentation, http://www.fao.org/plant-treaty/areas-of-work/global-information-system/development-of-a-globally-agreed-list-of-in-situ-cwr-descriptors/

2.3 Use-cases/requirements of the users

A survey amongst the task partners was performed in order to assess the suitability of EURISCO for a possible extension for *in situ* CWR and on-farm LR data (annex 0). The received feedback is summarised below.

Although the current user interface is dedicated to germplasm maintained *ex situ*, the feedback indicates that it is also suitable for *in situ* CWR and on-farm LR data in principle. However, all respondents to the survey were in favour of making specific extensions. This includes additional information as well as additional functionalities.

- Additional information:
  - Two levels of information for the holding institution: a) organisation managing the in situ genetic reserve (e.g. protected area, farm, NGO…); b) public institution which is competent for these genetic resources and which needs to be addressed to access the material
  - Date of last monitoring
  - Status of the species (vulnerable, threatened etc.)
  - Distribution area/cultivation area
  - Information about or link to accessions of the species conserved ex situ
- Extension of search functionalities:
  - Additional search over in situ descriptors that are not contained in the existing ex situ ones (not further specified)
  - Search for a particular in situ accession based on climatic, topographic, edaphic and geological data associated to the geographical coordinates where the natural population of CWR or LR are located (e.g., search in situ accessions where annual rainfall is below 450mm per annum)
- Improvement of the presentation of search results for in situ data:
  - Connect the geographical coordinates to climatic, topographic, edaphic and geological databases to provide additional reports with the ecogeographical data associated to the location
- Additional reports:
  - Report about the increase or the decrease of a population (not further specified)
  - List of CWR conserved in Europe
    - Ex situ (distinguishing between ex situ in general and ex situ flagged as AEGIS)
    - In genetic reserves
    - Percentage of CWR species and accessions occurring in genetic reserves
- Online analyses:
  - A predictive ecogeographical characterisation analysis system, which could have calibration modelling capacities that would provide potentially interesting in situ accessions based on incomplete characterisation and evaluation data
  - Overlay of maps of collecting sites, genetic reserves, protected areas
  - Number of in situ populations vs. ex situ samples per species: Has any of those in situ populations an ex situ back up?

2.4 Estimation of the effort for the extension of EURISCO

The estimation of the expected effort for a EURISCO extension is based on the assumption that the extensions proposed above will be approved by the EURISCO Advisory Committee.

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The following tasks are necessary:

Task	Effort in person months
Adjustment/extension of EURISCO's database structures	1
Development of import tools for in situ CWR and on-farm LR data	3
Development of procedures for data integrity checks (reuse of existing procedures for ex situ data as far as possible)	2
Extension of the EURISCO web interface according to the described use cases	6
Total	12

3. References

Bioversity International and University of Birmingham (2017). Crop wild relative checklist and inventory descriptors v.1, Bioversity International, Rome, Italy.

ECPGR (2017). ECPGR Concept for on-farm conservation and management of plant genetic resources for food and agriculture, European Cooperative Programme for Plant Genetic Resources, Rome, Italy.

Maxted, N., A. Avagyan, L. Frese, J. Iriondo, J. M. Brehm, A. Singer and S. Kell (2015). ECPGR Concept for *in situ* conservation of crop wild relatives in Europe, Wild Species Conservation in Genetic Reserves Working Group, European Cooperative Programme for Plant Genetic Resources, Rome, Italy.

Negri, V., N. Maxted, R. Torricelli, M. Heinonen, M. Vetelainen and S. Dias (2012). Descriptors For Web-Enabled National *In Situ* Landrace Inventories, University of Perugia.

Thormann, I., A. Alercia and M. E. Dulloo (2013). Core descriptors for *in situ* conservation of crop wild relatives v.1, Bioversity International, Rome, Italy.

A. Proposed descriptors for *in situ* CWR

Suggested mandatory descriptors are in bold font. MCPD descriptors the proposed descriptors are based on are shown with grey background.

Description	Descriptor	
	MCPD (ex situ)	***in situ* CWR**
National Inventory code Code identifying the National Inventory; the code of the country preparing the National Inventory. Exceptions are possible, if agreed with EURISCO, such as NGB. Example: ESP	NICODE	**NICODE**
Responsible institution code FAO WIEWS code of the institution, which can facilitate to obtain samples of the *in situ* CWR resource.	INSTCODE	**INSTCODE**
Responsible institution name Name of the institution, which can facilitate to obtain samples of the *in situ* CWR resource. This descriptor should only be used if INSTCODE cannot be filled.		INSTNAME
Persistent unique identifier Any persistent, unique identifier (preferably a DOI) assigned to the population so it can be unambiguously referenced at the global level and the information associated with it harvested through automated means. Report only one PUID for each population. The Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA) is facilitating the assignment of a persistent unique identifier (PUID), in the form of a DOI, to PGRFA at the accession level (http://www.fao.org/plant-treaty/areas-of-work/global-information-system/doi/en/)	PUID	PUID
Material identification number Population identifier of the material as used by the maintaining institute.	ACCENUMB	**POPID**
Genus Genus name for taxon. Initial uppercase letter required.	GENUS	**GENUS**
Species Specific epithet portion of the scientific name in lowercase letters. Only the following abbreviation is allowed: 'sp.'	SPECIES	SPECIES
Species authority Provide the authority for the species name.	SPAUTHOR	SPAUTHOR

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Subtaxon Subtaxon can be used to store any additional taxonomic identifier. The following abbreviations are allowed: 'subsp.' (for subspecies); 'convar.' (for convariety); 'var.' (for variety); 'f.' (for form); 'Group' (for 'cultivar group').	SUBTAXA	SUBTAXA
Subtaxon authority Provide the subtaxon authority at the most detailed taxonomic level.	SUBTAUTHOR	SUBTAUTHOR
Common name of the CWR Common name of the crop. Example: 'buckwheat'. In order to increase the comparability of data from different conservation sites/organisations, it is recommended to use the common names as provided by GRIN Taxonomy (https://npgsweb.ars-grin.gov/gringlobal/taxon/abouttaxonomy.aspx?chapter=common).	CROPNAME	COMMONNAME
Related crop species Scientific names of the crops, which the CWR is closely related to. Multiple values are separated by a semicolon without space. Example: Brassica cretica Lam.; Brassica juncea (L.) Czern.		RELATEDCROP
Threat Status Most recent IUCN Red List status for CWR, if the taxon has been assessed[3]. EX Extinct EW Extinct in the wild CR Critically endangered EN Endangered VU Vulnerable NT Near threatened LC Least concern DD Data deficient NE Not evaluated		THREATSTATUS
Threat status year Since the threat status of a species may change over time, the year of the most recent issuing of the status may be given.		THREATYEAR

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[3] IUCN Red List categories and criteria, version 3.1, second edition, https://portals.iucn.org/library/node/10315

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Observation date [YYYYMMDD] Date on which the CWR resource was observed most recently. YYYY is the year, MM is the month and DD is the day. Missing data (MM or DD) should be indicated with hyphens or '00' [double zero].	ACQDATE	OBSERVATIONDATE
Country of origin 3-letter ISO 3166-1 code of the country in which the sample originated.	ORIGCTY	ORIGCTY
Maintenance site name The name of the site where the material is maintained physically. Should only be filled if no FAO WIEWS code exists.		SITENAME
Maintenance site address The address of the site where the material is maintained physically. Should only be filled if no FAO WIEWS code exists.		SITEADDRESS

Maintenance site coordinates

Latitude and longitude in decimal degree format with a precision of four decimal places corresponds to approximately 10 m at the Equator and describes the point-radius representation of the location, along with geodetic datum and coordinate uncertainty in metres.

Latitude of maintenance site (Decimal degrees format) Latitude expressed in decimal degrees. Positive values are North of the Equator; negative values are South of the Equator (e.g. -44.6975).	DECLATITUDE	DECLATITUDE
Longitude of maintenance site (Decimal degrees format) Longitude expressed in decimal degrees. Positive values are East of the Greenwich Meridian; negative values are West of the Greenwich Meridian (e.g. +120.9123).	DECLONGITUDE	DECLONGITUDE
Coordinate uncertainty [m] Uncertainty associated with the coordinates in metres. Leave the value empty if the uncertainty is unknown.	COORDUNCERT	COORDUNCERT
Coordinate datum The geodetic datum or spatial reference system upon which the coordinates given in decimal latitude and decimal longitude are based (e.g. WGS84, ETRS89, NAD83). The GPS uses the WGS84 datum.	COORDDATUM	COORDDATUM
Georeferencing method The georeferencing method used (GPS, determined from map, gazetteer, or estimated using software). Leave the value empty if georeferencing method is not known.	GEOREFMETH	GEOREFMETH

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Elevation of maintenance site [masl] Elevation of maintenance site expressed in metres above sea level. E.g. the centrum height of height range. Negative values are allowed.	ELEVATION	ELEVATION

Site protection
 	
Indication whether the site is under any legal or
 	
official protection[4].
 	
   0   No (not protected)
   1   Strict nature reserve
   2   Wilderness area
   3   National park
   4   Natural monument or feature
   5   Habitat/species management area
   6   Protected landscape/seascape
   7   Protected area with sustainable use of natural resources
		SITEPROTECT

Biological status of the population
 	
The coding scheme proposed can be used at different levels of detail: either by using the general codes (in boldface) such as 100, 200, 300, or by using the more specific codes such as 110, 120, etc.
 	
   100) Wild
 	
      110) Natural
 	
      120) Semi-natural/wild
 	
      130) Semi-natural/sown
 	
   200) Weedy
 	
   999) Other (Elaborate in REMARKS field)
	SAMPSTAT	SAMPSTAT

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[4]   Following   the   Guidelines   for   applying   protected   area   management   categories, https://portals.iucn.org/library/node/30018

Status of maintenance site
 	
The coding scheme proposed can be used at different levels of detail: either by using the general codes (in boldface) such as 10, 20, etc., or by using the more specific codes, such as 11, 12, etc. Multiple values are separated by a semicolon without space.
 	
   10) Wild habitat
       11) Forest or woodland
       12) Shrubland
       13) Grassland
       14) Desert or tundra
       15) Aquatic habitat
   20) Farm or cultivated habitat
       21) Field
       22) Orchard
       23) Backyard, kitchen or home garden (urban, peri-urban or rural)
       24) Fallow land
       25) Pasture
       28) Park
   60) Weedy, disturbed or ruderal habitat
       61) Roadside
       62) Field margin
   99) Other (Elaborate in REMARKS field)
		POPSRC

Other identifiers associated with the population Any other identifiers known to exist in other collections for this population. INSTCODE and identifier are separated by a colon without space. Pairs of INSTCODE and identifier are separated by a semicolon without space. Example: INSTCODE:identifier;INSTCODE:identifier;… When the institute is not known, the identifier should be preceded by a colon. Example::identifier;:identifier;…	OTHERNUMB	OTHERNUMB
Location of safety duplicates FAO WIEWS code of the institute(s) where a safety *ex situ* duplicate of the *in situ* resource is maintained. Multiple values are separated by a semicolon without space.	DUPLSITE	DUPLSITE
Institute maintaining safety duplicates Name of the institute(s) where a safety duplicate of the population is maintained. Multiple values are separated by a semicolon without space. This descriptor should be used only if DUPLSITE cannot be filled.	DUPLINSTNAME	DUPLINSTNAME

Description	Descriptor	
MLS status of the resource The status of the PGRFA with regard to the Multilateral System of Access and Benefit-Sharing (MLS) of the International Treaty on Plant Genetic Resources for Food and Agriculture. Leave the value empty if the status is not known. 0 No (not available under the MLS) 1 Yes (available under the MLS)	MLSSTAT	MLSSTAT
Remarks The remarks field is used to add notes or to elaborate on descriptors with value 99 or 999 (= Other). Prefix remarks with the field name they refer to and a colon (:) without space (e.g. POPSRC:riverside). Distinct remarks referring to different fields are separated by semicolons without space.	REMARKS	REMARKS
Population URL URL linking to additional data about the population.	ACCEURL	POPURL

B. Proposed descriptors for on-farm LR

Suggested mandatory descriptors are in bold font. MCPD descriptors the proposed descriptors are based on are shown with grey background.

Description	Descriptor	
	MCPD (ex situ)	**on-farm LR**
National Inventory code Code identifying the National Inventory; the code of the country preparing the National Inventory. Exceptions are possible, if agreed with EURISCO, such as NGB. Example: ESP	**NICODE**	**NICODE**
Responsible institution code FAO WIEWS code of the institution through which samples of the on-farm LR resource can be obtained.	**INSTCODE**	**INSTCODE**
Persistent unique identifier Any persistent, unique identifier (preferably a DOI) assigned to the accession so it can be unambiguously referenced at the global level and the information associated with it harvested through automated means. Report only one PUID for each accession. The Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA) is facilitating the assignment of a persistent unique identifier (PUID), in the form of a DOI, to PGRFA at the accession level (http://www.fao.org/plant-treaty/areas-of-work/global-information-system/doi/en/).	PUID	PUID

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Material identification number Accession number of the material as used by the maintaining farmer.	ACCENUMB	**ACCENUMB**
Genus Genus name for taxon. Initial uppercase letter required.	GENUS	**GENUS**
Species Specific epithet portion of the scientific name in lowercase letters. Only the following abbreviation is allowed: 'sp.'	SPECIES	SPECIES
Species authority Provide the authority for the species name.	SPAUTHOR	SPAUTHOR
Subtaxon Subtaxon can be used to store any additional taxonomic identifier. The following abbreviations are allowed: 'subsp.' (for subspecies); 'convar.' (for convariety); 'var.' (for variety); 'f.' (for form); 'Group' (for 'cultivar group').	SUBTAXA	SUBTAXA
Subtaxon authority Provide the subtaxon authority at the most detailed taxonomic level.	SUBTAUTHOR	SUBTAUTHOR
Common crop name of the LR Common name of the crop. Example: 'buckwheat'. In order to increase the comparability of data from different conservation sites/organisations, it is recommended to use the common names as provided by GRIN Taxonomy (https://npgsweb.ars-grin.gov/gringlobal/taxon/abouttaxonomy.aspx?chapter=common).	CROPNAME	CROPNAME
Accession name Either a registered or other designation given to the material received, e.g. a traditional name or a name of an old cultivar. Multiple names are separated by a semicolon without space.	ACCENAME	ACCENAME
Acquisition date [YYYYMMDD] Date on which the accession entered the collection or reached the farm. YYYY is the year, MM is the month and DD is the day. Missing data (MM or DD) should be indicated with hyphens or '00' [double zero].	ACQDATE	ACQDATE
Country of origin 3-letter ISO 3166-1 code of the country in which the sample originated.	ORIGCTY	ORIGCTY
Maintenance site code FAO WIEWS code of the site where the material is maintained physically.		SITECODE

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Maintenance site name The name of the site where the material is maintained physically. Should only be filled if no FAO WIEWS code exists.		SITENAME
Maintenance site address The address of the site where the material is maintained physically. Should only be filled if no FAO WIEWS code exists.		SITEADDRESS

Maintenance site coordinates

Latitude and longitude in decimal degree format with a precision of four decimal places corresponds to approximately 10 m at the Equator and describes the point-radius representation of the location, along with geodetic datum and coordinate uncertainty in metres.

|		
Latitude of maintenance site (Decimal degrees format) Latitude expressed in decimal degrees. Positive values are North of the Equator; negative values are South of the Equator (e.g. -44.6975).	DECLATITUDE	DECLATITUDE
Longitude of maintenance site (Decimal degrees format) Longitude expressed in decimal degrees. Positive values are East of the Greenwich Meridian; negative values are West of the Greenwich Meridian (e.g. +120.9123).	DECLONGITUDE	DECLONGITUDE
Coordinate uncertainty [m] Uncertainty associated with the coordinates in metres. Leave the value empty if the uncertainty is unknown.	COORDUNCERT	COORDUNCERT
Coordinate datum The geodetic datum or spatial reference system upon which the coordinates given in decimal latitude and decimal longitude are based (e.g. WGS84, ETRS89, NAD83). The GPS uses the WGS84 datum.	COORDDATUM	COORDDATUM
Georeferencing method The georeferencing method used (GPS, determined from map, gazetteer, or estimated using software). Leave the value empty if georeferencing method is not known.	GEOREFMETH	GEOREFMETH
Elevation of maintenance site [masl] Elevation of maintenance site expressed in metres above sea level. E.g. the centrum height of height range. Negative values are allowed.	ELEVATION	ELEVATION

Biological status of accession
The coding scheme proposed can be used at different levels of detail: either by using the general codes (in boldface) such as 100, 200, 300, or by using the more specific codes such as 110, 120, etc.
    100) Wild
        110) Natural
        120) Semi-natural/wild
        130) Semi-natural/sown
    200) Weedy
    300) Traditional cultivar/landrace
    999) Other (Elaborate in REMARKS field)
	SAMPSTAT	SAMPSTAT

Status of maintenance site
The coding scheme proposed can be used at different levels of detail: either by using the general codes (in boldface) such as 10, 20, etc., or by using the more specific codes, such as 11, 12, etc. Multiple values are separated by a semicolon without space.
    10) Wild habitat
        11) Forest or woodland
        12) Shrubland
        13) Grassland
        14) Desert or tundra
        15) Aquatic habitat
    20) Farm or cultivated habitat
        21) Field
        22) Orchard
        23) Backyard, kitchen or home garden (urban, peri-urban or rural)
        24) Fallow land
        25) Pasture
        28) Park
    60) Weedy, disturbed or ruderal habitat
        61) Roadside
        62) Field margin
    99) Other (Elaborate in REMARKS field)
		POPSRC

Donor institute code FAO WIEWS code of the donor institute. Follows INSTCODE standard.	DONORCODE	DONORCODE

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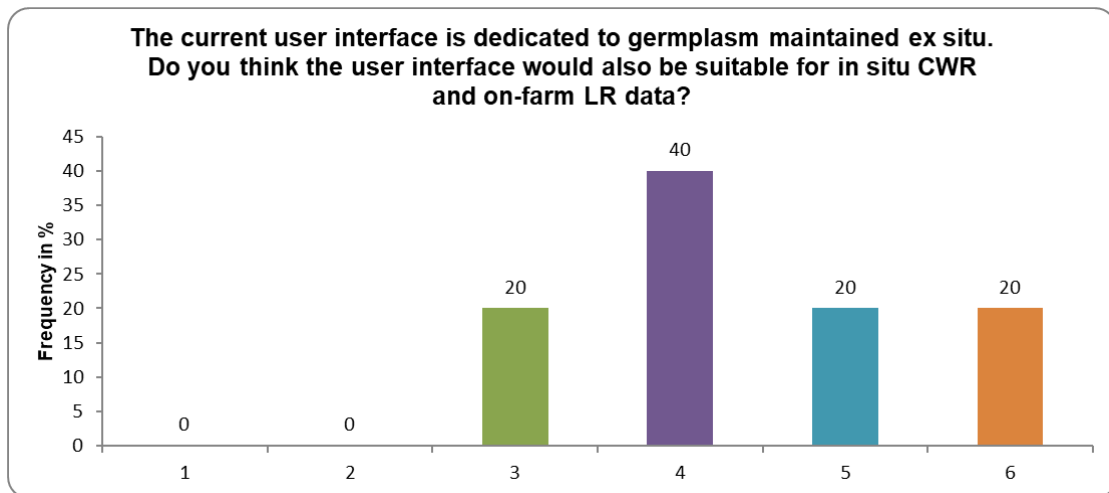|		
Donor institute name Name of the donor institute (or person). This descriptor should be used only if DONORCODE cannot be filled.	DONORNAME	DONORNAME
Donor accession number Identifier assigned to an accession by the donor. Follows ACCENUMB standard.	DONORNUMB	DONORNUMB
Other identifiers associated with the accession Any other identifiers known to exist in other collections for this accession/population. INSTCODE and identifier are separated by a colon without space. Pairs of INSTCODE and identifier are separated by a semicolon without space. Example: INSTCODE:identifier;INSTCODE:identifier;… When the institute is not known, the identifier should be preceded by a colon. Example::identifier;:identifier;…	OTHERNUMB	OTHERNUMB
Location of safety duplicates FAO WIEWS code of the institute(s) where a safety *ex situ* duplicate of the accession is maintained. Multiple values are separated by a semicolon without space.	DUPLSITE	DUPLSITE
Institute maintaining safety duplicates Name of the institute where a safety duplicate of the accession is maintained. Multiple values are separated by a semicolon without space. This descriptor should be used only if DUPLSITE cannot be filled.	DUPLINSTNAME	DUPLINSTNAME

MLS status of the accession
The status of the PGRFA with regard to the Multilateral System of Access and Benefit-Sharing (MLS) of the International Treaty on Plant Genetic Resources for Food and Agriculture. Leave the value empty if the status is not known.
   0   No (not available under the MLS)
   1   Yes (available under the MLS)
	MLSSTAT	MLSSTAT

Remarks The remarks field is used to add notes or to elaborate on descriptors with value 99 or 999 (= Other). Prefix remarks with the field name they refer to and a colon (:) without space (e.g. POPSRC:riverside). Distinct remarks referring to different fields are separated by semicolons without space.	REMARKS	REMARKS
Accession URL URL linking to additional data about the accession.	ACCEURL	ACCEURL

C. User survey for extending EURISCO

Survey amongst the task partners in order to assess the suitability of EURISCO for a possible extension for in situ CWR and on-farm LR data.
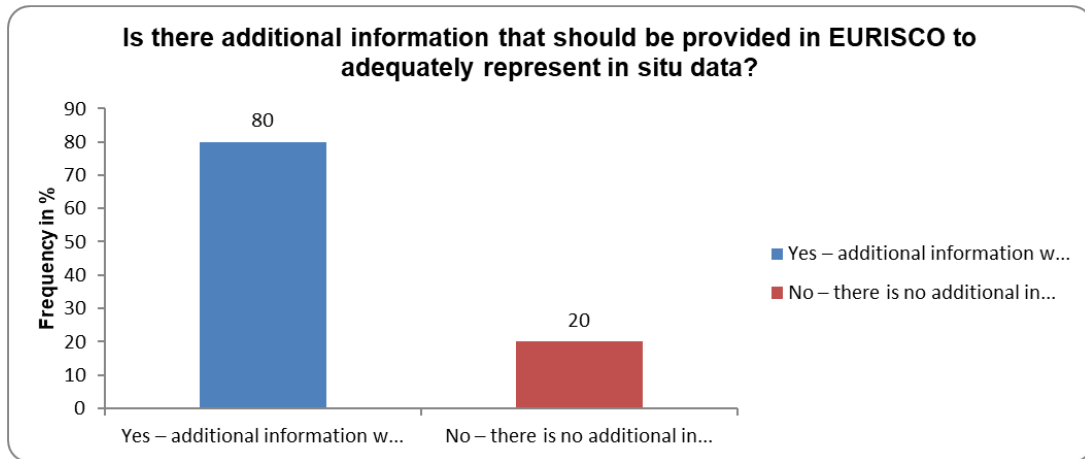
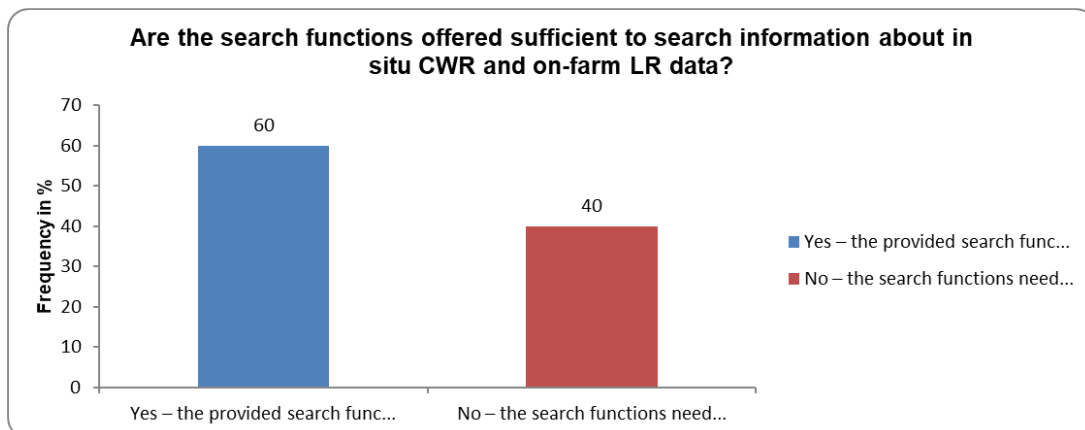- Did you use the EURISCO information system before?
    - Yes
    - No
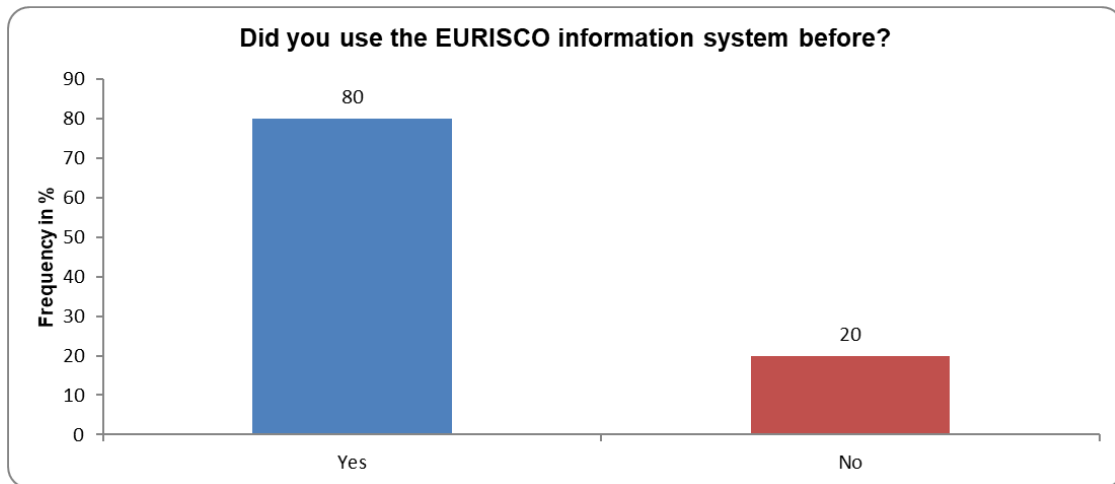
Did you use the EURISCO information system before?

- The current user interface is dedicated to germplasm maintained ex situ. Do you think the user interface would also be suitable for in situ CWR and on-farm LR data?
    - Rating from 1 (not fitting at all) to 6 (perfectly fitting)

The current user interface is dedicated to germplasm maintained ex situ. Do you think the user interface would also be suitable for in situ CWR and on-farm LR data?

- Is there additional information that should be provided in EURISCO to adequately represent in situ data?
    - Yes – additional information would be desirable.
    - No – there is no additional information needed.
    - If yes: Please indicate which additional information should be provided. → text field (see section 2.3)

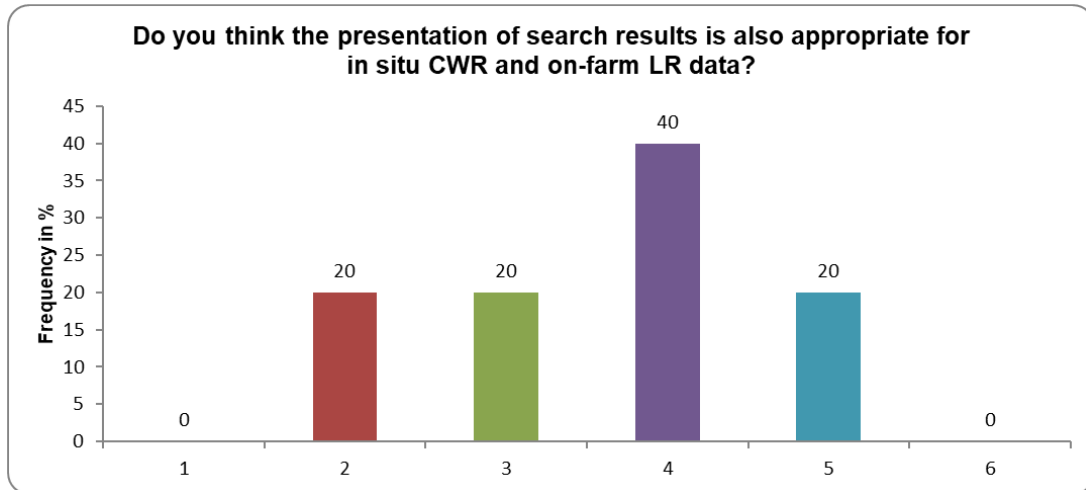Farmer's Pride: Concept for a possible extension of EURISCO for *in situ* crop wild relative and on-farm landrace data.

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Is there additional information that should be provided in EURISCO to adequately represent in situ data?

- Yes – additional information w...
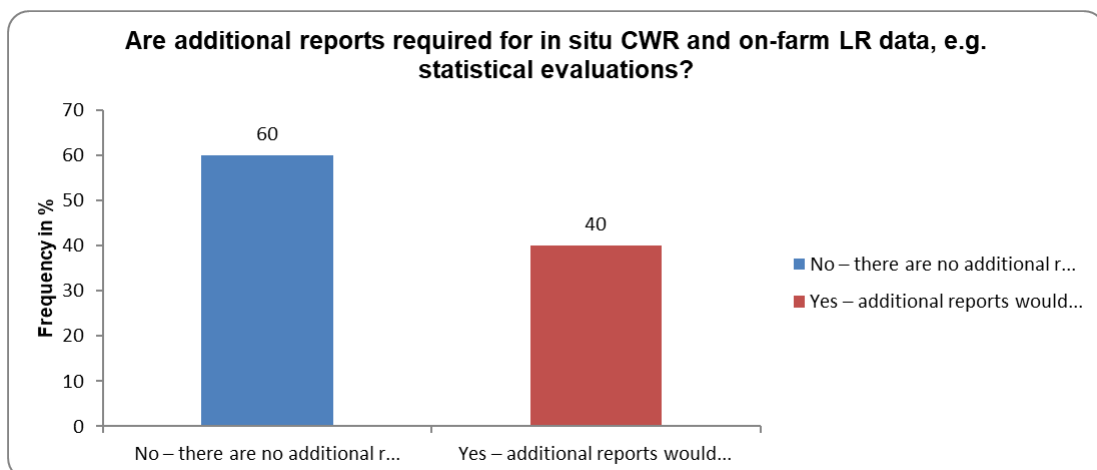- No – there is no additional in...

- Are the search functions offered sufficient to search information about in situ CWR and on-farm LR data?

  - Yes – the provided search functions are sufficient.

  - No – the search functions need to be extended.

  - If no: What additional search functionalities should be provided? → text field (see section 2.3)

Are the search functions offered sufficient to search information about in situ CWR and on-farm LR data?

- Yes – the provided search func...
- No – the search functions need...

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- Do you think the presentation of search results is also appropriate for in situ CWR and on-farm LR data?

  o Rating from 1 (not fitting at all) to 6 (perfectly fitting)

- How should the presentation of search results be improved, e.g. by additional reports, maps, download functionalities?

  o Text field (see section 2.3)

- Are additional reports required for in situ CWR and on-farm LR data, e.g. statistical evaluations?

  o No – there are no additional reports needed.

  o Yes – additional reports would be desirable.

  o If yes: Please indicate which additional reports should be provided. → text field (see section 2.3)

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- Do you think that in situ CWR and on-farm LR data users benefit from online analyses?

    o No – online analyses will not be necessary.

    o Yes – online analyses will provide a benefit.

    o If yes: Please indicate which kind of analyses should be provided. → text field (see section 2.3)

Do you think that in situ CWR and on-farm LR data users benefit from online analyses?

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