

PROJECT FULL TITLE:
**COORDINATION AND COLLABORATION BETWEEN REFERENCE COLLECTIONS OF
PLANT PESTS AND
DISEASES FOR EU PLANT HEALTH POLICY**

GRANT AGREEMENT NO.: 612712



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collections: Inventory of reference criteria for access to reference
collections & connected databases within a sustainable European
network
D4.4: Guidelines for collections deposit and distribution: Guidelines for
collections to organize deposit and distribution of biological resources
and information
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Introduction

The objective of this document is to outline a strategy for an improved access to service reference collections and their connected databases within the Q-collect network. In a first step the needs of both the user and the provider community and the problems that arise to fulfil them had to be identified. For this purpose the information on the current level of access to biological material (i.e. resources) which was determined by analysing surveys conducted by the work packages focussing on inventory (WP2) and access (WP4) was used. Based on these data, strategies to improve the present situation are proposed.

Access to biological resources and connected databases

a. Intentions to receive access to biological resources

From the surveys performed by WP2 and WP4 follows that the motives from respondents, either focused on viruses/viroids, phytoplasmas, bacteria, fungi, nematodes, insects/mites or invasive plants, to access resources (i.e. biological material) are almost independent of their scope of activity. With the exception in the case of invasive plants, the most important reasons were in general the need for positive controls for diagnostic purposes, followed by the development of diagnostics (other needs include trials, basic research and teaching). This indicates the necessity to have access to reliable reference material and to preserve the diversity of plant damaging and relevant non-target organisms in service collections, as reference strains are not enough to set up reliable target tests and the quality thereof.

b. Difficulties to obtain biological resources

- **Accessibility of resources**

Despite the observation that some users declare to have no problems finding resources, it is fair to state that it is a serious challenge for users to obtain biological material. This may point at either gaps in the offer of resources (unavailability of the biological material) or difficulties in identifying the provider of the requested resources.

With respect to the latter, it was a remarkable finding that most of the collections indicated they do not have a catalogue (neither on paper, database, web sites or online applications). This is so unlikely, that one needs to take into account that respondents may have misinterpreted this question when answering the questionnaire. The misinterpretation of the applied terminology ("catalogue") in the question probably created confusion as most collections have some kind of documentation on their holdings but do not consider this as a catalogue.

Nevertheless, for the user, this actually means that they do not have the opportunity to check whether the requested material is offered. In addition, only a minority of the catalogues (around 10 to 15%) is available or accessible via website or online applications. The user is therefore unable to discriminate whether the requested resources are not available online or not available at all.

- **Access to information on resource handling by users**

Users claim difficulties to access information on biological resources and related issues such as growth conditions and requirements, habitat and environmental information. More specifically, 18%

of the respondents indicated that regulations or restrictions with respect to Material Transfer Agreements (MTA's), transport, biosecurity,... are impeding an efficient access to the desired material. Users are sometimes unfamiliar (or unaware) of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits (ABS) and the Convention on Biological Diversity (CBD).

Providing information on these issues would meet the user's expectations. However, awareness and knowledge on certain items is inadequate on both sides (users and providers). For example, it was striking to notice that the majority of collections do not invest in providing complete and adequate information on their resources and related issues (via the web site, online accessible information,...) and formalised ordering processes such as MTA's.

- **Conclusion**

Both these points clearly show that communication with respect to the offer needs to improve. An integrated information system accessible via a user-friendly web-portal within the Q-collect network would foster visibility and help users in localizing their requested resources (and resource provider). In order to enhance access to resources, the collections are encouraged to implement a clear ordering process and to enhance traceability of exchanges (with Material Transfer Agreement or other suitable means).

c. Specific requirements for access to reference collections and connected databases

From the questionnaires followed that essential prerequisites for participants to acquire a more efficient access to resources are an improved visibility and clear contact information for the collection (i.e. a clear contact person).

Important working points are:

i. Increased visibility

Visibility of resource providers can be improved at two different levels. On the one hand, there is room for improving the visibility of individual collections towards their (potential) users while on the other hand progress can be made on the coordinated collective action through a network of collections organized by Q-collect.

The first step will be to identify where Q-collect makes the difference. Once this has been defined, key messages that indicate the added value of Q-collect need to be transferred to the outside.

For this reason it is advisable that members commit themselves to participate in applicable Q-collect networking activities. This can be done using several channels but preferentially via the establishment of a well-designed web-portal taking into account the expectations and requirements of both the collections and the user community. In addition, the concept for a portal that will allow improved visibility must take into consideration that a dedicated "coordinating office" needs to be installed to manage and coordinate the portal in its construction and daily operation. The concept must also include and define operational costs and investments needed to develop the envisaged

portal on the long term. The complete in-depth elaboration of such a portal is however beyond the scope of this deliverable and will be elaborated in a “white book”.

Aside from the web-portal other suggestions for promoting Q-collect could include enhanced personal contact (face-to-face), Q-collect representation at events (organisation, participation, exhibition...), establish a Q-collect newsletter, use of social media, scientific publications, ...

At its best, it is advisable that within the context of establishing and maintaining the Q-collect network, members of the Q-collect network mention Q-collect at their web-site and foresee a link to the envisaged web-portal.

ii. Database/ online catalogue

As on-line catalogues were pointed out as missing features, it seems crucial to encourage collections to implement such tools. However, this demands efforts and means (time, finance, competence,...) which can be out of reach for some collections. Here also, Q-Collect can help to make the difference. Catalogues within the Q-collect context refer to accessible (up-to-date) inventory lists of the holdings from Q-collect members. Q-collect will integrate these lists (catalogues, databases) from the different members and try to connect the resources with as much information as possible (as described by the inventory or catalogue requirements (WP3)) and links to other databases. The short term target within this context is to identify the necessary databases to link to (or to develop them) and ways to integrate them. This integrated pool of information shall become accessible via the envisaged web-portal. The main objective is to know where resources are available through the web-portal in a clear and user-friendly way. For this reason, it is important to discriminate between “knowing” where certain resources are available and “retrieving” these resources. With respect to the latter, it is advisable that the web-portal foresees shortcuts to the webpage of the participating (individual) collections, so that users are one click away from obtaining the necessary information to retrieve (purchase) their desired resources.

In order to achieve this goal, members will be asked to provide their data and information in a way that meets the Q-collect’s data management and delivery need (output WP5), in the scope of the Q-collect target for a FAIR (Findable, Accessible, Interoperable and Reusable) based information system. It is recommended that information on resources is as complete and thorough as possible (as described by the inventory or catalogue requirements (WP3, WP6)) in order avoid questions on the traceability and authenticity of resources.

Aside from resources, it is advisable that the web-portal provides information on applicable regulations such as Nagoya protocol and regulations in different countries on issues associated with the resources (biosecurity, transport...), guidelines for quality standards, ... The collections should insure that the users have the capability and agreement (if required) to maintain and manipulate the requested resources.

The main concern on the long run is a lack of funding to develop such an integrated system (and a web-portal to incorporate it). For this reason, it is recommend that key partners demonstrate their commitment and secure financial means for its future development and operation. Partners should continue to explore funding opportunities to develop this integration beyond the Q-collect context.

iii. Resources/ Expand network

Members should contribute to the one-point access to the collections inclusive expertise and services.

Some users indicated the difficulty to find providers of some (specialized) organisms. Q-collect should increase the network in order to broaden the offer. If necessary, Q-collect should work closely with these potential partners in order to help them to meet the desired quality level.

In order to provide users with the required biological resources, the service reference collections within the Q-collect network are encouraged to extend their holdings towards the whole diversity of quarantine organisms and their relatives (at least those listed in the European regulations and in EPPO alert lists).

In order to efficiently obtain access (retrieve) the desired resources, the web-portal should foresee a shortcut to the webpage of the individual collections.

iv. Financial issues

It is advisable to agree on a common policy on prices for retrieving collection material, and this in compliance with the specificity of the provided material and with the different types of users in and outside Europe (officially authorized diagnostic labs and NRLs, researchers from non-profit organizations, commercial activities, other collections...).

Even if the customers say that the price is not a major drawback to material access, the price should be at a reasonable level to limit uncontrolled exchanges. A balance should be found between the need to generate income and the need to insure reliable preservation of resources.

d. Added value envisaged Q-collect network portal

Answers to the questions related to the needs declared by users and observed by collections do correspond, so collections are aware of the needs regarding access to resources and connected databases, but this does not mean that collections are fulfilling these needs in a user-friendly way. The suggestions presented in this document set out a way forward on how Q-collect will efficiently and effectively address and resolve these issues.

The establishment of a **well-designed Q-collect network portal** will

- Remove fragmentation in resource availability and provide an inventory of existing phytosanitary important collections within Europe and their content;
- Provide a one point access to a broad range of biological resources and expertise;
- Provide one click away shortcuts to the individual collection webpage to purchase the biological resources;
- Provide adequate information on resources and related issues (such as growth conditions, regulations regarding transport, biosecurity, ...);
- Enhance the traceability of exchanges (with MTA and other suitable means);
- Maintain the distribution of material at reasonable prices;
- Improve the interoperability between collections as overarching network;
- Improve the visibility of individual collections.

Annex 1 provides reference criteria for the access to reference collections and connected databases of the Q-collect network. Guidelines to achieve the criteria at the collective network level (or at the individual collection level) are included as well.

Annex 1: Criteria and guidelines for the access to reference collections and connected databases

PROPOSED CRITERION RELEVANT FOR ACCESS TO AND DATABASES CONNECTED TO SERVICE REFERENCE COLLECTIONS	GUIDELINES TO ACHIEVE THE CRITERION To be reached either at the individual collection level, or at the collective (network) level
Remove fragmentation in resource availability	<ul style="list-style-type: none"> • Extend the holdings toward the whole quarantine organisms' diversity and related organisms; • Contribute to Q-collect web-portal.
Improve Databases/ information	<ul style="list-style-type: none"> • contribution/connection of network partners to joint databases; • contribution of network partners to data exchange according to the envisaged data management; • Each collection should provide on-line an inventory of their holdings containing at least the minimal information relevant for each domain; • Provide guidance to deal with the regulations; • Provide appropriate information on resource related issues such as growth conditions and requirements,...;
Improve visibility	<ul style="list-style-type: none"> • Contribute to Q-collect web-portal; • Participate in applicable Q-collect networking activities; • Interest of network partners in collaboration at different levels expressed; • Communicate about the existence of Q-collect/collection: communications in congresses, symposium, through institutional organisations (ISHS).
Contribute to Q-collect web-portal	<ul style="list-style-type: none"> • Create online catalogue of accessions/specimens present at network partner including quality issues (as described by WP3); • Link online catalogue to web-portal; • Implement a clear ordering process linked to the web-portal (one point access).
Improve traceability	<ul style="list-style-type: none"> • Enhance traceability of exchanges (with MTA or other suitable means); • Conserve any track of all distributions; • No obstacles with regard to legal issues to supply specimen; • Maintain the distribution of material to reasonable price.