



# Network of reference collections criteria and future picture

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# Objectives/Tasks WP6

To FACILITATE TRANS-NATIONAL EUROPEAN and INTERNATIONAL ACCESS to  
and EXPLOITATION of REFERENCE COLLECTIONS for

- Plant Health Researchers
- National Plant Protection Organisations (NPPOs)
- mandated quarantine diagnostic laboratories
- associated organisations of participant countries

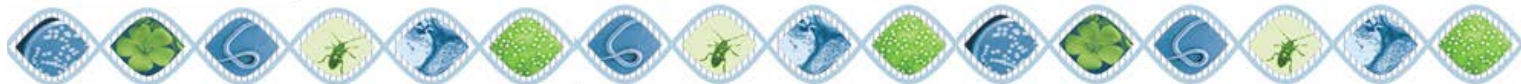
from non-participating EU member states

& from non-EU partner countries (as possible sources of quarantine pests)

## **DL6.1. Survey and guidance document on reference criteria for network collections: Inventory of REFERENCE CRITERIA for the ESTABLISHMENT & MAINTENANCE of a sustainable EUROPEAN NETWORK of REFERENCE COLLECTIONS (1)**

### **Development Reference Criteria**

- clarification types of reference collections relevant for Q-Collect network:  
→ **SERVICE REFERENCE COLLECTIONS & WORKING COLLECTIONS**
- **specification of Terms of Reference (ToRs) for participation of reference collections** in Q-collect network by
  - **Preparation of agreed, general reference criteria**
  - **Preparation of agreed, specific reference criteria for different taxonomic groups** of phytosanitary organisms and invasive plants (Europe)
- Identification of process steps for network establishment, e.g.:
  - call of interest for participation
  - formal application/assessment of applications
  - binding Consortium Agreement (“Charta”) partly formulated as Terms of References (ToRs) (in compliance with other infrastructure networks)



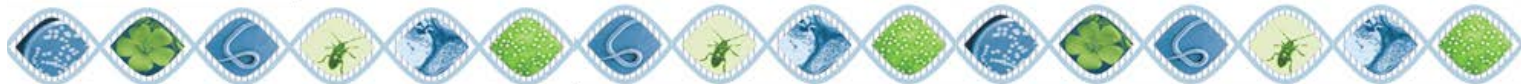
## DL6.1. Survey and guidance document on reference criteria for network collections: Inventory of REFERENCE CRITERIA for the ESTABLISHMENT & MAINTENANCE of a sustainable EUROPEAN NETWORK of REFERENCE COLLECTIONS (2)

### INFORMATION SOURCES

- **Q-Collect-project results** (available April 2015):
  - WP2 (“Inventory of important phytosanitary collections”) ✓
  - **WP3 (“Quality standards”) ✓ ✓**
  - WP4 (“Access”) ✓

#### To ensure international compatibility of the developed reference criteria

- data, standards & experiences from existing national/preliminary trans-national inventories (participant countries, recognized organisations especially EPPO)
- compliance with ongoing complementary European/International (research) initiatives:
  - MIRRI (Microbial Resource Research Infrastructure (<http://www.mirri.org/>))
  - ECCO (European Culture Collections' Organisation, <https://www.eccosite.org/>),
  - EMbaRC (European Consortium of Microbial Resources Centres, <http://www.embarc.eu/>)
- Scientific literature: Janssens et al. (2010)



# GENERAL CRITERIA (ToRs) for participation in the Q-Collect network

## 8 general criteria identified (DL61. Annex 1)

- ✎ the compliance with legal requirements → all applicable national, European and international legal acts and conventions
- ✎ the specified range of relevant organisms harmful to plants (legal, taxonomic, geographic aspects)
- ✎ the major overall requirements concerning the quality and provision of reference material
- ✎ the generation and delivery of metadata on reference organisms
- ✎ different levels of engagement of reference criteria connected to the two collection types of interest
- Commitment of network members:
  - to participate in applicable Q-Collect networking activities
  - to indicate own contribution to inventory/catalogue establishment & maintenance
  - to implement resulting harmonized practices, strategies and policies



## DL6.1 Annex 1: General criteria for the establishment & maintenance of the Q-collect network for service reference collections and working collections

Criterion	in service reference collection	in working collection	comment
Acting in compliance with the CBD <sup>1</sup> and the Nagoya <sup>2</sup> protocol (latest valid version of the conventions) or other applicable legal requirements	required	required	Has to be confirmed by the network member when joining the network (terms of reference) by signature (e.g. consortium agreement, consortium charta)
Includes samples of phytosanitary organisms listed in the annexes of EU Directive 2000/29/EC <sup>3</sup> and the EPPO-lists <sup>4</sup> (A1, A2, Alert list and invasive plant species list) and those organisms which might interfere with the correct identification of these target organisms - by sharing important diagnostic features or - being taxonomically related or - residing in the same biologic niche, on the same plants and confusable with the target organism or - being connected to the same commodity	required	required	
Delivers and/or loans certified reference organisms/material to third parties ( e.g. to other service reference collections, to working collections, to other third parties/users) through application of a standard quality system for collections, which guarantees the authenticity of reference material	required	optional	<u>Certified reference material</u> : this is reference material derived from a source that certifies the authenticity of the material. Preferably material should come from an internationally recognised source such as a national reference collection. It should go together with a unique identification code allowing traceability and the name of the person who certifies its authenticity. Details of how the material was authenticated should also be supplied. If appropriate, information about its activity (e.g. pathogenicity, antigenic properties) under specified conditions should also be supplied along with any related uncertainty at a stated level of confidence (EPPO PM 7-84) <sup>5</sup> . <b>For more details</b> see Q-Collect-DL6.1 Annexes 2.1, 2.2., 2.3, 2.4 and 2.5

<sup>1</sup> CBD: Convention on Biological Diversity <https://www.cbd.int/convention/>

<sup>2</sup> Nagoya protocol: <https://www.cbd.int/abs/>

<sup>3</sup> EU Directive 2000/29/EC: [http://ec.europa.eu/food/plant/plant\\_health\\_biosecurity/legislation/index\\_en.htm](http://ec.europa.eu/food/plant/plant_health_biosecurity/legislation/index_en.htm)

<sup>4</sup> EPPO-lists: <http://www.eppo.int/QUARANTINE/listA1.htm>; <http://www.eppo.int/QUARANTINE/listA2.htm>;

[http://www.eppo.int/QUARANTINE/Alert\\_List/alert\\_list.htm](http://www.eppo.int/QUARANTINE/Alert_List/alert_list.htm); [http://www.eppo.int/INVASIVE\\_PLANTS/ias\\_lists.htm](http://www.eppo.int/INVASIVE_PLANTS/ias_lists.htm)

**DL6.1 Annex 1: General criteria for the establishment & maintenance of the Q-collect network for service reference collections and working collections, *contin.***

Generates metadata on reference organisms (e.g. isolate, culture, specimen collector, date of collection, locality, ecology ... dependent on taxonomic group)	optional	required	The data which will have to be delivered from the working collection to the service reference collection when a reference organisms is deposited will be different for the different taxonomic groups, however specific data will be obligatory (minimum requirements)
Delivers metadata on reference organisms (e.g. isolate, culture, specimen collector, date of collection, locality, ecology dependent on taxonomic group) to third parties	required	optional	
Provides new reference organisms/material (after research) to service reference collections for distribution to third parties/users	optional	required	<u>Reference material:</u> Live cultures are most commonly used, but other material such as infected plant material, DNA/RNA preparations, images of a diagnostic quality or mounted specimens including insects, mites, nematodes or fungal spores may be considered. The reference material used should be documented and appropriate for the test and diagnosis being performed. It should be ensured that the reference material used has the features for which it was selected. These features can include expressing a desired antigen for use in serological diagnosis, or displaying specific physical features (e.g. sporulation) if the reference material used for morphological diagnosis (adapted from EPPO PM 7-84). <sup>5</sup>
expertise for the initial identification as backup of the service collection required	optional	required	
Minimum data requirements have to be fulfilled for depositing an organisms in a service reference collection	required	required	more data can be available in the working collection, but are not subject to be provided to the service reference collection

<sup>5</sup> EPPO Standard PM 7/84(1). Basic requirements for quality management in plant pest diagnosis laboratories  
<http://archives.eppo.int/EPPOstandards/diagnostics.htm>

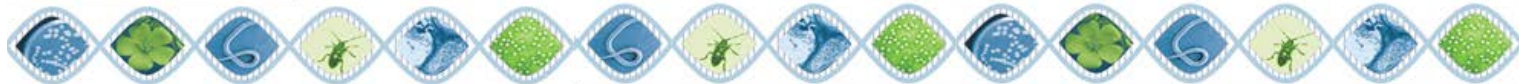
# Specific reference criteria and conditions relevant to join the network

## 5 specific CRITERIA GROUPS

1. inventory/ catalogue
2. identification methods
3. authenticity
4. storage & conservation
5. preparation & access

## 7 TAXONOMIC GROUPS

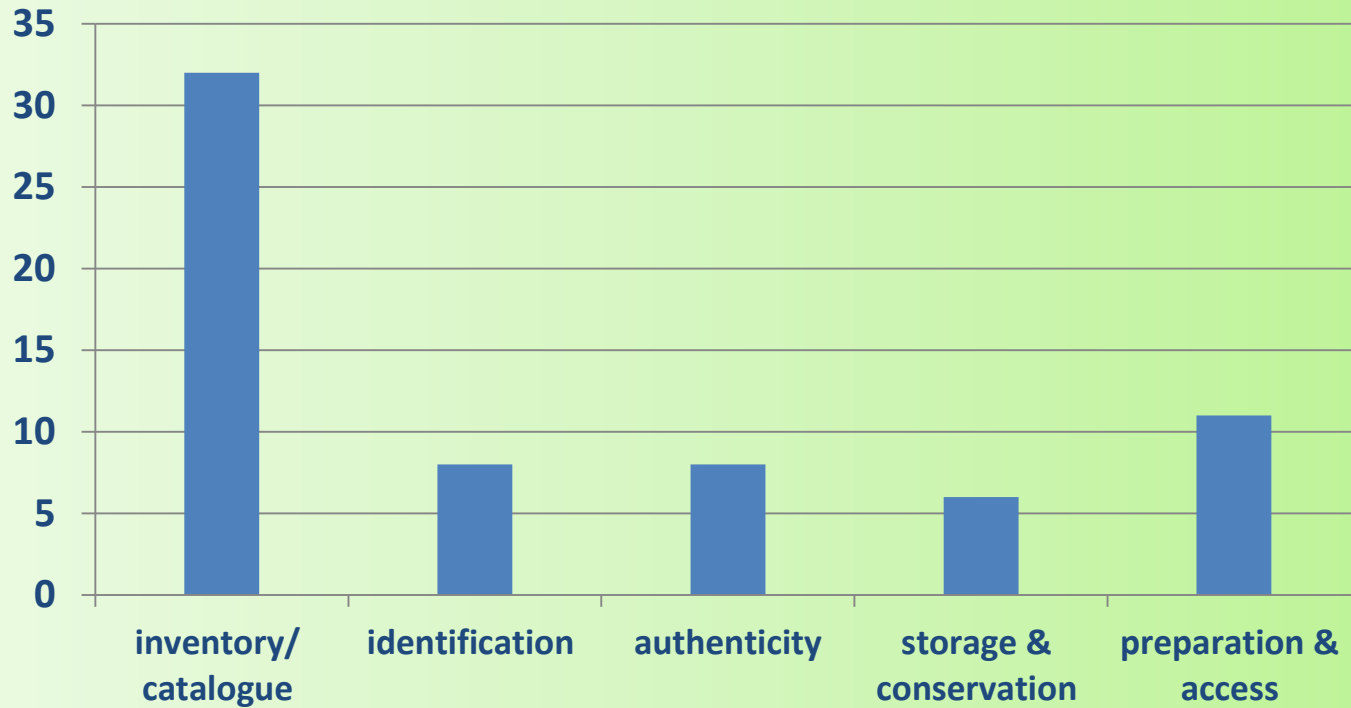
- a. viruses/viroids
- b. phytoplasmas
- c. bacteria
- d. fungi/oomycetes
- e. insects/mites,
- f. nematodes
- g. invasive plants





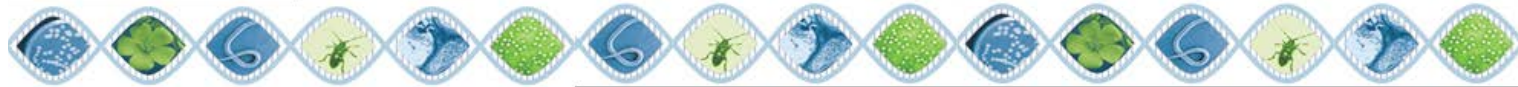
## Number of criteria in the 5 category groups

(→ 65 criteria listed in 5 DL6.1. Annexes)



# Q-Collect-DL6.1-Annex-2.1-Inventory-catalogue-criteria

Issues	Information to be held	Viruses/viroids		Phytoplasmas		Bacteria		Fungi/oomycetes		Insects/mites		Nematodes		Invasive Plants							
		in service reference	in working	in service reference	in working	in service reference	in working	in service reference	in working	in service reference	in working	in service reference	in working	in service reference	in working						
Data to be stored on each accession	Specimen/culture scientific name	Information to be held												Viruses/viroids		Phytoplasmas		in service reference	in working		
	Geographic source of specimen (at least to country of origin)													in service reference collection	in working collection	in service reference collection	in working collection	in service reference	in working		
	geographic place of isolation of specimen (especially import consignments)																				
	Date of deposit in collection	Specimen/culture scientific name												required	required	required	required				
	Preservation conditions (longterm) and reference collections	Geographic source of specimen (at least to country or region of origin)												required <sup>1</sup>	required	required	required				
	Reference to accession numbers for deposit reference collections	geographic place of isolation of specimen (especially import consignments)												required	required <sup>3</sup>	required	required				
	<sup>A)</sup> e.g. liquid nitrogen, -80 C, freeze drying, under oil, insect mounting, slide preparations etc	Host plant, host plant part, host plant material, substrate or other source (e.g. commodity) from which it was collected												required	required <sup>3</sup>	required	required <sup>3</sup>				
	Current quarantine status in EU (link to EU resp. lists)	Date (at least year) of sampling												required	required <sup>3</sup>	required	required <sup>3</sup>				
	Species type (yes or no)	Sampler/collector												required	required <sup>3</sup>	required	required <sup>3</sup>				
	Pathovar type (yes or no)	Original specimen/culture number or name given by collector												required	required <sup>3</sup>	required	required <sup>3</sup>				
	Authors of the current scientific name	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional						
	Year of publication of scientific name	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.						
	Links or references to sequence data from the accession	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional						
	Date of last viability test <sup>B</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.						
	Date of last purity test <sup>B</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.						
	Date of last pathogenicity test <sup>B</sup>	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional						
		n.a.	n.a.	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional						
		n.a.	n.a.	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional						
	<sup>B)</sup> These criteria or data are part of the quality assurance system and might be provided upon request, but might not be necessarily visible in the catalogue	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional						
		optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional						
		required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional						
Data	Data back-up process	required	optional	optional	optional	optional	optional	required	optional	required	optional	required	optional	optional	optional						
	Accessibility and visibility of selected data (e.g. via website or paper inventory/catalogue)	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional						
Access to data	Contact details for persons responsible for the collection	required	required	required	required	required	required	required	required	required	required	required	required	required	required						
Contact details																					
	<sup>A)</sup> e.g. liquid nitrogen, -80 C, freeze drying, agar cultures, under oil, insect mounting, slide preparations etc	<sup>1)</sup> for older accessions (to be specified) optional				<sup>3)</sup> required for working collections linked to plant health reference collections															
	<sup>B)</sup> These criteria or data are part of the quality assurance																				

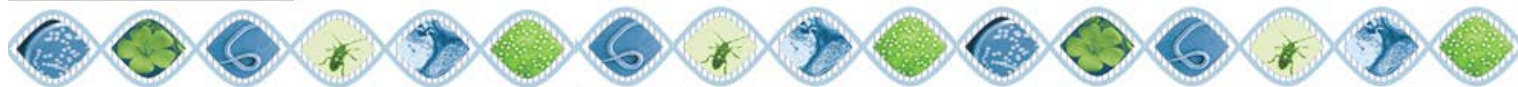


# Q-Collect-DL6.1: Annex-2.2-Identification methods-criteria

Issues	Operating procedures/ competences	Viruses/virioids		Phytoplasmas		Bacteria		Fungi/oomycetes		Insects/mites		Nematodes		Invasive Plants	
		in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection
Identification methods	Sources and use of identification keys	n.a.	n.a.	required	required	required	optional	required	required	required	required	required	required	optional <sup>2</sup>	optional <sup>2</sup>
	Classical morphological descriptions	required <sup>1</sup>	optional	n.a.	n.a.	n.a.	n.a.	required	optional	required	required	required	required	optional <sup>2</sup>	optional <sup>2</sup>
	Morphometric analysis of specimens	required <sup>1</sup>	optional	n.a.	n.a.	required	optional	required	optional	required	optional	required	optional	optional <sup>2</sup>	optional <sup>2</sup>
	Other phenotyping methods (examples)	n.a.	n.a.	n.a.	n.a.	required	optional	optional	optional	n.a.	n.a.	optional	optional	n.a.	n.a.
	DNA/RNA sequencing/barcoding methods	required	required	required	required	required	required	required	optional	required	optional	optional	optional	optional	optional
	Other identification methods (examples)	n.a.	n.a.	n.a.	n.a.	optional	optional	optional	optional	optional	optional	optional	optional	n.a.	n.a.
Updating taxonomy	Information of actual taxonomic status (e.g. database, publication)	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional
Current quarantine status	Sources of current quarantine status (examples; links)	required	required	required	required	required	required	required	required	required	required	required	required	n.a.	n.a.

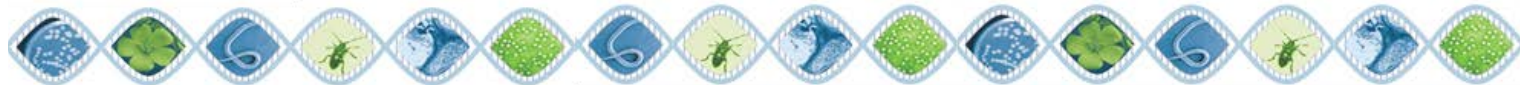
<sup>1)</sup> for viroids optional

<sup>2)</sup> currently not stated due to variety of sources, but usually confirmative identification by second



## Q-Collect-DL6.1: Annex-2.3-Authenticity-criteria

Issues	Operating procedures/ competences	Viruses/virioids		Phytoplasmas		Bacteria		Fungi/oomycetes		Insects/mites		Nematodes		Invasive Plants	
		in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection
Labelling	Unique number assignment/barcode labelling	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional
Storage facilities	Containment/isolation measures <sup>A</sup>	required	required	required	required	required	required	required	required	required	required	required	required	n.a.	n.a.
Purity	Measures to avoid cross-contamination or mixing	required	required	required	required	required	required	required	required	required	optional	required	required	required	optional
Chain of accession	Record keeping for movement of accessions in and out of the collection	required	optional	required	optional	required	optional	required	optional	n.a.	n.a.	optional	optional	n.a.	n.a.
Quality control/ Comparison with original accession	Methods to check batch to batch variation	required <sup>1</sup>	optional	required	optional	required	optional	required	optional	optional	optional	required	optional	optional	n.a.
	Assessment of quality after storage/exchange	required <sup>1</sup>	optional	required	optional	required	optional	required	optional	optional	optional	required	optional	n.a.	n.a.
Viability	Viability tests and frequency of assesment	required	optional	optional	n.a.	optional	optional	optional	optional	n.a.	n.a.	optional	optional	n.a.	n.a.
Pathogenicity	Pathogenicity tests and frequency of assessment	optional	optional	n.a.	n.a.	optional	optional	optional	optional	n.a.	n.a.	optional	optional	n.a.	n.a.
	<sup>A</sup> ) where applicable (i.e. QSO's)	<sup>1</sup> ) but limited use													



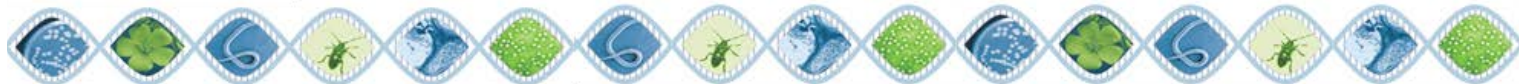
## Q-Collect-DL6.1: Annex-2.4-Storage-conservation

Issues	Operating procedures/ competences	Viruses/viroids		Phytoplasmas		Bacteria		Fungi/oomycetes		Insects/mites		Nematodes		Invasive Plants	
		in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection
Storage facilities	Location and maintenance of stores	required	required	required	required	required	required	required	required	required	required	required	required	required	required
Protection from loss	Duplication of collections	required <sup>1</sup>	optional	required	optional	required	optional	required	optional	optional	optional	optional	optional	n.a.	n.a.
Conservation	Validated conservation methods <sup>A</sup>	required	optional	required	optional	required	optional	required	optional	required	optional	optional	optional	n.a.	n.a.
	Determination of long term stability <sup>B</sup>	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	n.a.	n.a.
	Determination of short term stability (e.g. for transport)	required	optional	required	optional	required	optional	required	optional	required	optional	required	optional	n.a.	n.a.
Containment	Biosecurity for live quarantine organisms (OECD guidelines for Biological Research Centres; <a href="http://www.cabri.org/guidelines">http://www.cabri.org/guidelines</a> )	required	required	required	required	required	required	required	required	required	required	required	required	n.a.	n.a.

<sup>A</sup>) Validated: methods have been shown to be effective over a known storage period (if not part of quality assurance and thus not ISO related).

<sup>B</sup>) long term: related to reference collections where specimens have to be stored indefinitely or are periodically replaced/renewed

<sup>1</sup>) not for viruses that loose infectivity when freeze dried and have to be maintained in living plants



# Q-Collect-DL6.1: Annex-2.5-preparation-access-criteria

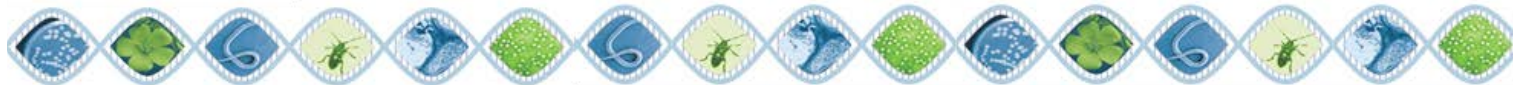
Issues	Operating procedures/ competences	Viruses/viroids		Phytoplasmas		Bacteria		Fungi/oomycetes		Insects/mites		Nematodes		Invasive Plants	
		in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection	in service reference collection	in working collection
Reference materials	Production methods <sup>A</sup>	required	required	required	required	required	required	required	required	required	optional	n.a.	n.a.	n.a.	n.a.
	Analysis of uniformity <sup>B</sup>	required	optional	n.a.	n.a.	required	optional	required	optional	required	optional	n.a.	n.a.	optional <sup>1</sup>	optional
	Quality/quantity confidence limits	n.a.	n.a.	n.a.	n.a.	required	optional	required	optional	required <sup>1</sup>	optional	n.a.	n.a.	n.a.	n.a.
	Instructions for end users	required	n.a.	required	optional	required	optional	required	optional	required	optional	required	optional	n.a.	n.a.
Access	Ordering procedures	required	n.a.	required	required	required	required	required	optional	required	required	required	required	required	required
	Packing and transportation procedures	required	required	required	required	required	required	required	required	required	required	required	required	required	required
	Customer communications and feedback	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	n.a.
	Customer data	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	n.a.
	Non-conformance procedures	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	n.a.	required	optional	n.a.	n.a.
Legal	Adherence to local plant health licensing requirements	required	required	required	required	required	required	required	required	required	required	required	required	n.a.	n.a.
	Adherence to international quarantine regulations	required	required	required	required	required	required	required	required	required	required	required	required	n.a.	n.a.

A) relevant for certified reference material (e.g. DNA in different matrices, concentrations or sequence lengths)

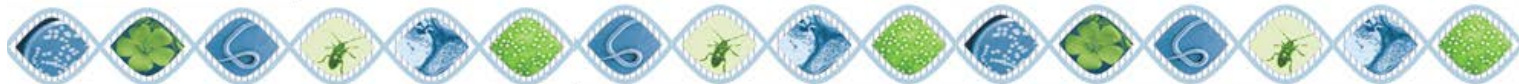
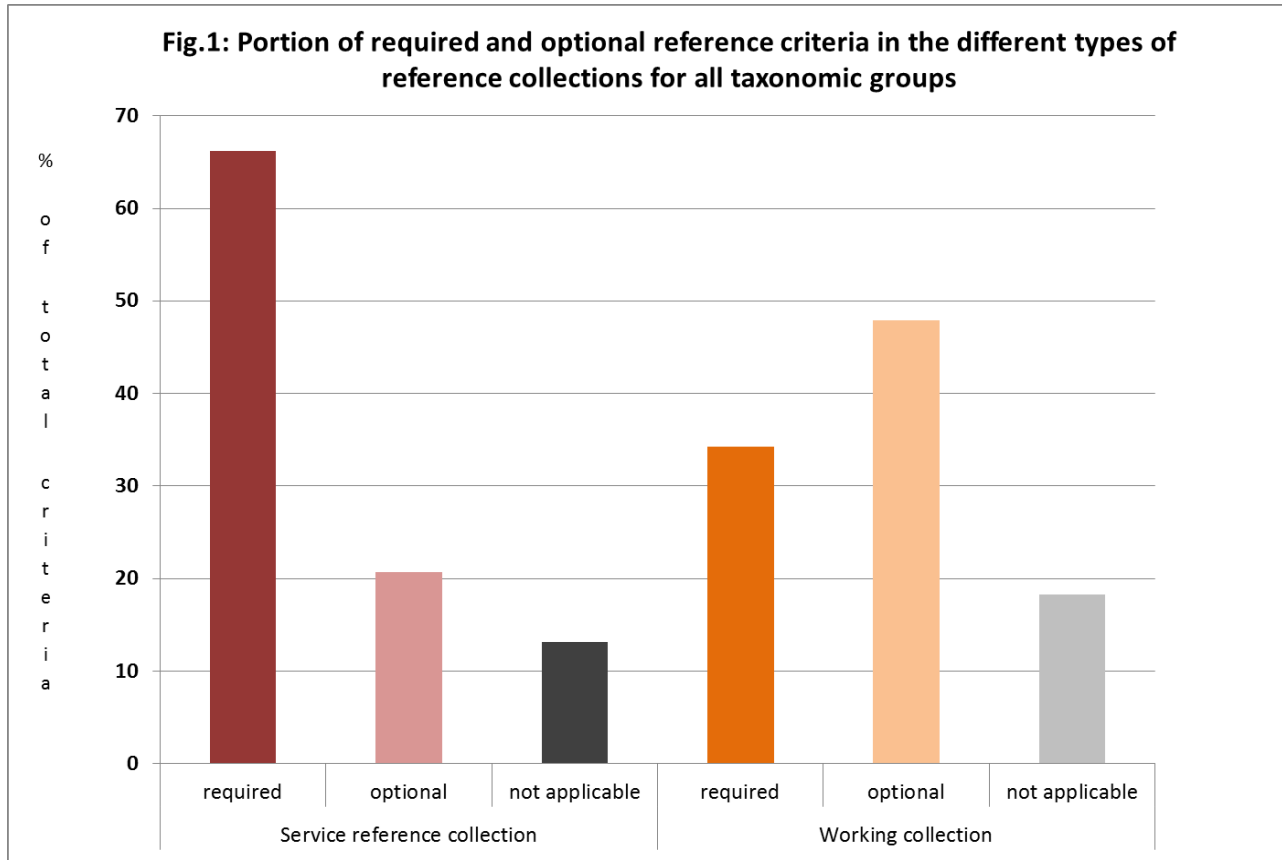
B) Uniformity will depend on the type of material, e.g. purity of a culture, repeatability/reproducibility of a test on the material, variation in number or viable population of individuals in different batches of the material (not necessarily ISO

<sup>1</sup>) quality is applicable not quantity (there are no confidence limits)

<sup>1</sup>) according to expert opinion collections involve usually one (sub)species only



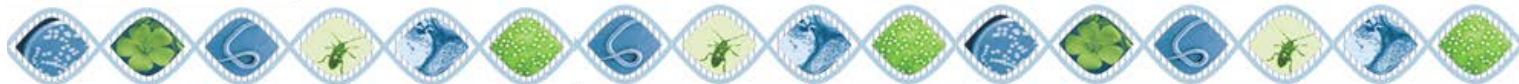
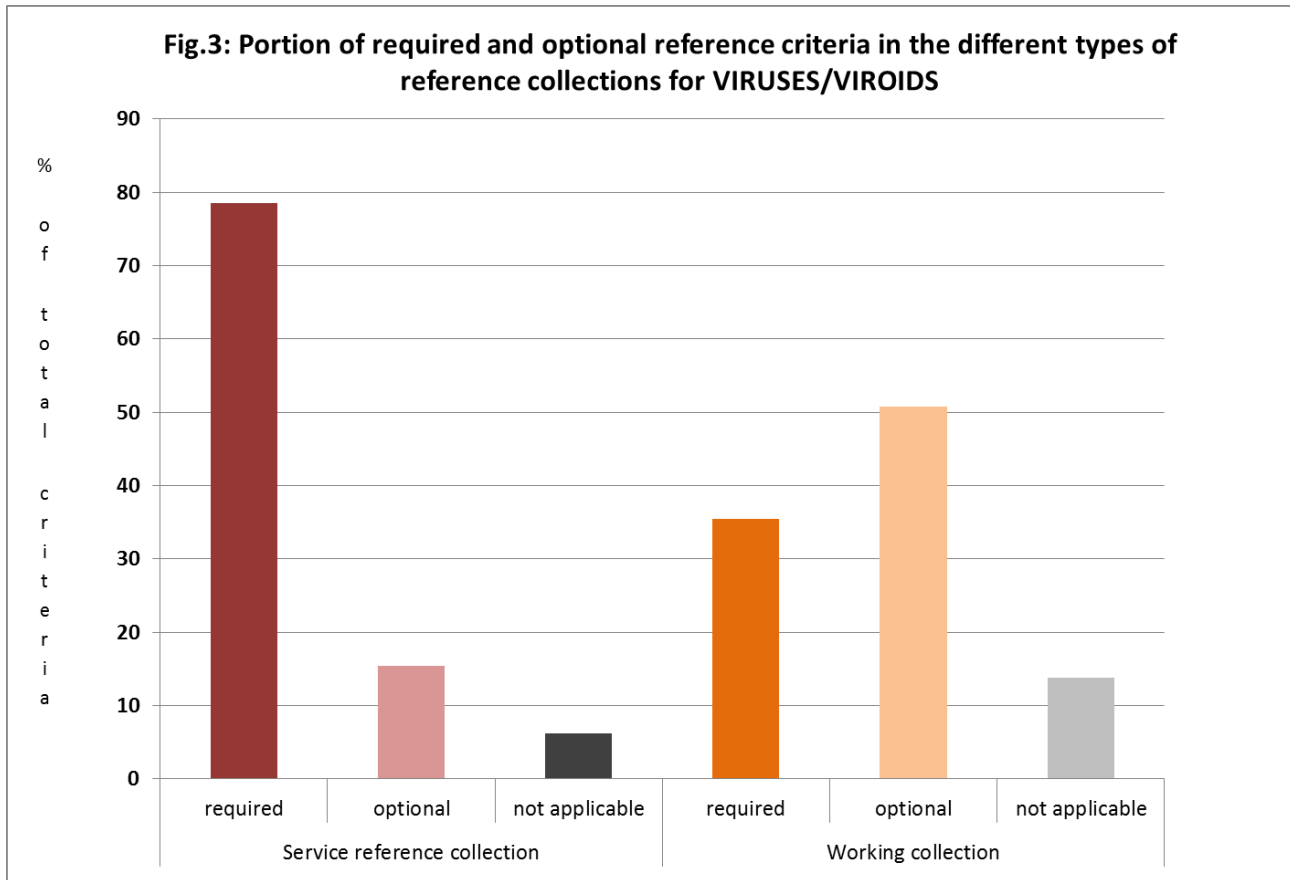
## Q-Collect-DL6.1: APPLICABILITY of identified reference criteria





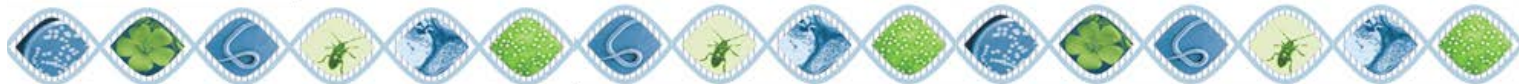
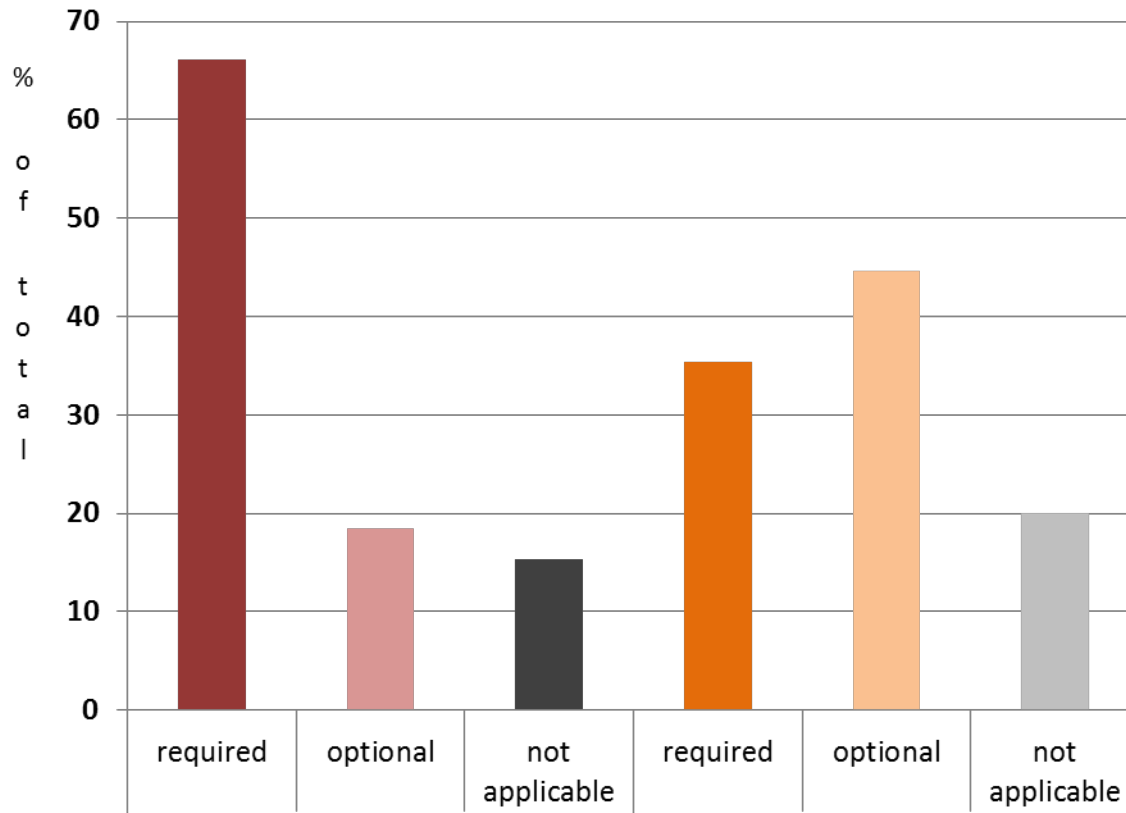


## Q-Collect-DL6.1: APPLICABILITY of identified reference criteria

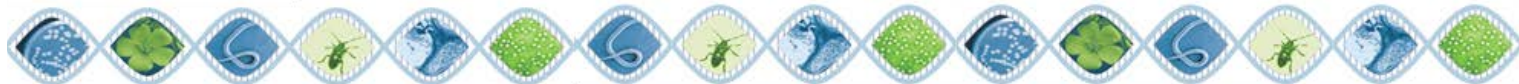
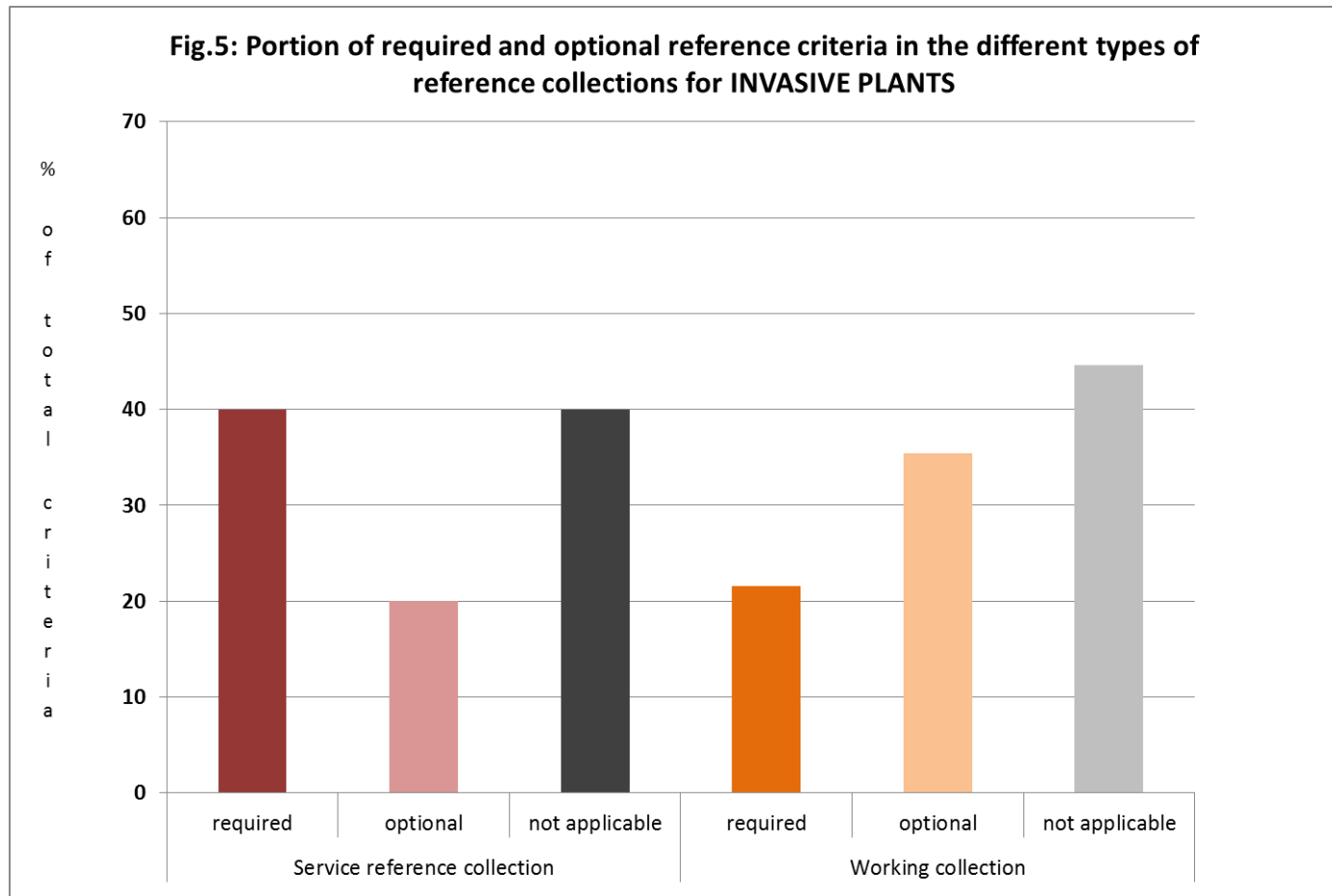


## Q-Collect-DL6.1: APPLICABILITY of identified reference criteria

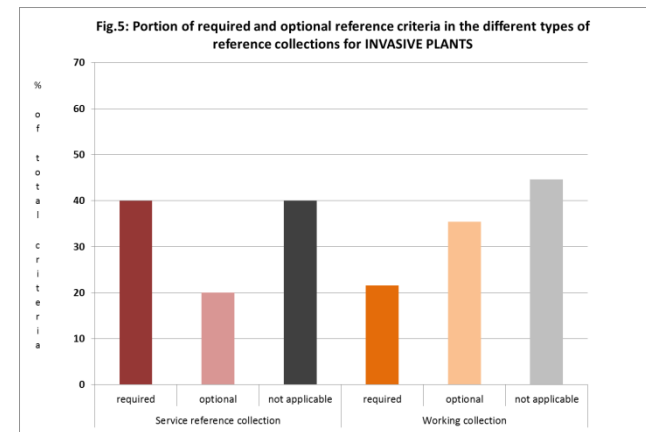
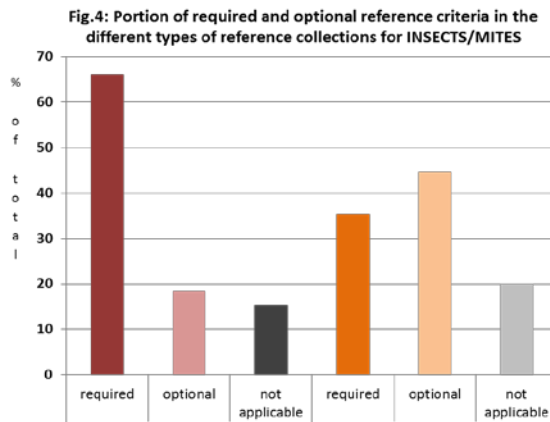
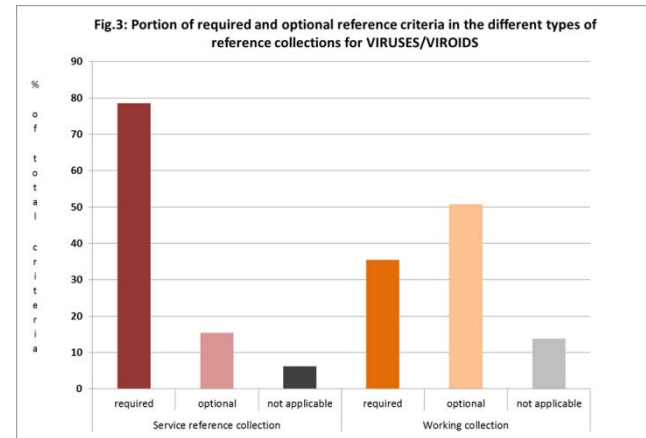
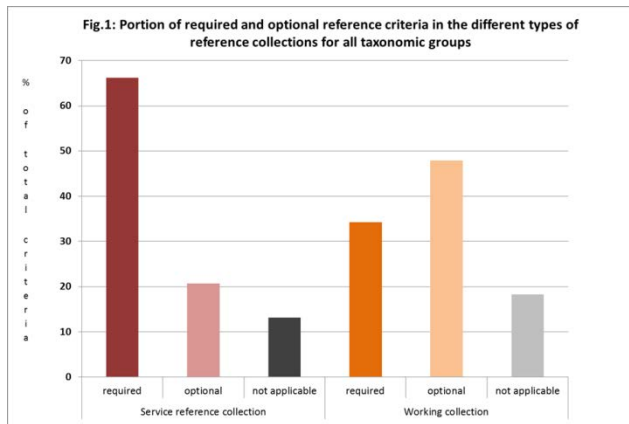
Fig.4: Portion of required and optional reference criteria in the different types of reference collections for INSECTS/MITES



## Q-Collect-DL6.1: APPLICABILITY of identified reference criteria



# Q-Collect-DL6.1: APPLICABILITY of identified reference criteria



## Further NEEDS FOR alignment of the developed reference criteria for collections

- to CLARIFY: SCIENTIFIC CLASSIFICATION SYSTEM to be used to derive the taxonomic groups for the allocation of the reference criteria
- to SPLIT/ RE-ARRANGE the TAXONOMIC GROUPS e.g. as follows:
  - split the group viruses/viroids
  - change the group insects/mites to the different subphyla of arthropods
  - add Mollusca
  - split fungi/oomycetes and split to different phyla of fungi
- to SPLIT the DIFFERENT TYPES OF DIAGNOSTIC resp. IDENTIFICATION METHODS AS the required REFERENCE CRITERIA FOR REFERENCE MATERIAL will be DIFFERENT for material which is used e.g. for MORPHOLOGICAL IDENTIFICATION or for IDENTIFICATION with MOLECULAR METHODS ( e.g. PCR).



## DL6.2. Survey and guidance document on reference criteria for network collections: Inventory of reference criteria for ACCESS to REFERENCE COLLECTIONS & CONNECTED DATABASES within a sustainable European network

→ strategy for improved access to reference collections & connected databases  
within Q-collect network

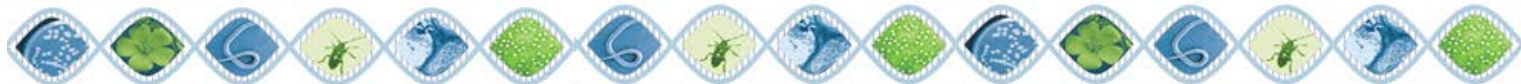
### Process

- Identify needs of user/provider community
- Identify obstacles to fulfill the requirements

Based on current level of access to biological material (i.e. resources)

### INFORMATION SOURCES

- Q-Collect-project results surveys based on questionnaires:
  - WP2 (“Inventory of important phytosanitary collections”) ✓
  - WP4 (“Access”) ✓



## DL6.2. Identification of user/provider community needs & obstacles

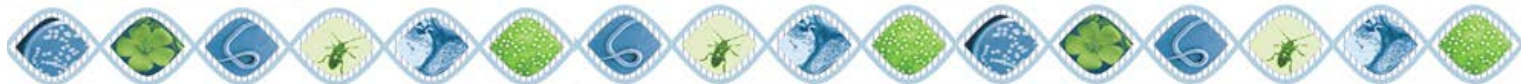
### ACCESS TO BIOLOGICAL RESOURCES & connected databases

- ❖ Major NEED for diagnostics (positive controls, development of methods)  
Other: trials, basic research, teaching  
➔ Access not only to reference organisms but also to “lookalikes” necessary
  
- ❖ Major OBSTACLES:
  - ❖ no /low accessibility for users as only very few (accessible) Catalogues
  - ❖ no /low accessibility to information about handling of resources by users, incl. MTA’s
  
- ➔ necessity for integrated information system accessible through a user-friendly web-portal
- 🕒 Visibility/localisation of resources
  
- ➔ Necessity for improved access (order process, traceability of exchange)



## DL6.2. Specific requirements for ACCESS to REFERENCE COLLECTIONS & CONNECTED DATABASES

- ❖ **Increased visibility for individual collections through Collection Network (Q-Collect)**  
(Joint web-portal with links to each other, personal contact (exchange), newsletter.....)
- ❖ **Database/online catalogue:**  
→ **FAIR (Findable, Accessible, Interoperable, & Reusable) information system**  
Integration/connection of information from individual collections according to Q-Collect data management and delivery needs (WP3, WP5 WP6) & through Q-Collect via **links/joint webportal**
- ❖ **Contribution of network members also with expertise and services**
- ❖ **Financial issues: common policy on prices for material access**
- ! **MAJOR CONCERN**  
**Lack of funding for appropriate development of integrated information and access system**

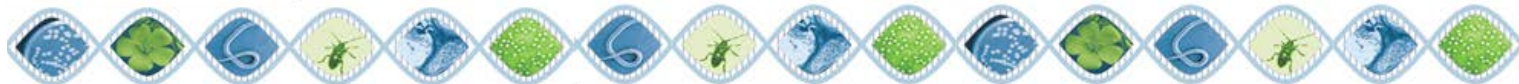




## DL6.2. Added value envisaged Q-collect network portal

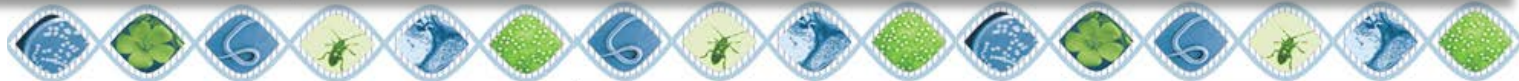
The establishment of a **well-designed Q-collect network portal** will:

- 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**
- **Improve the interoperability between collections** as overarching network
- **Improve the visibility of individual collections**
  - ➔ **Remove fragmentation in resource availability**
- Provide **adequate information** on resources and **related issues** (growth conditions, regulations regarding transport, biosecurity, ...);
  - ➔ **Enhance the traceability of exchanges** (MTA's...)
- *Maintain the **distribution of material at reasonable prices***



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

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



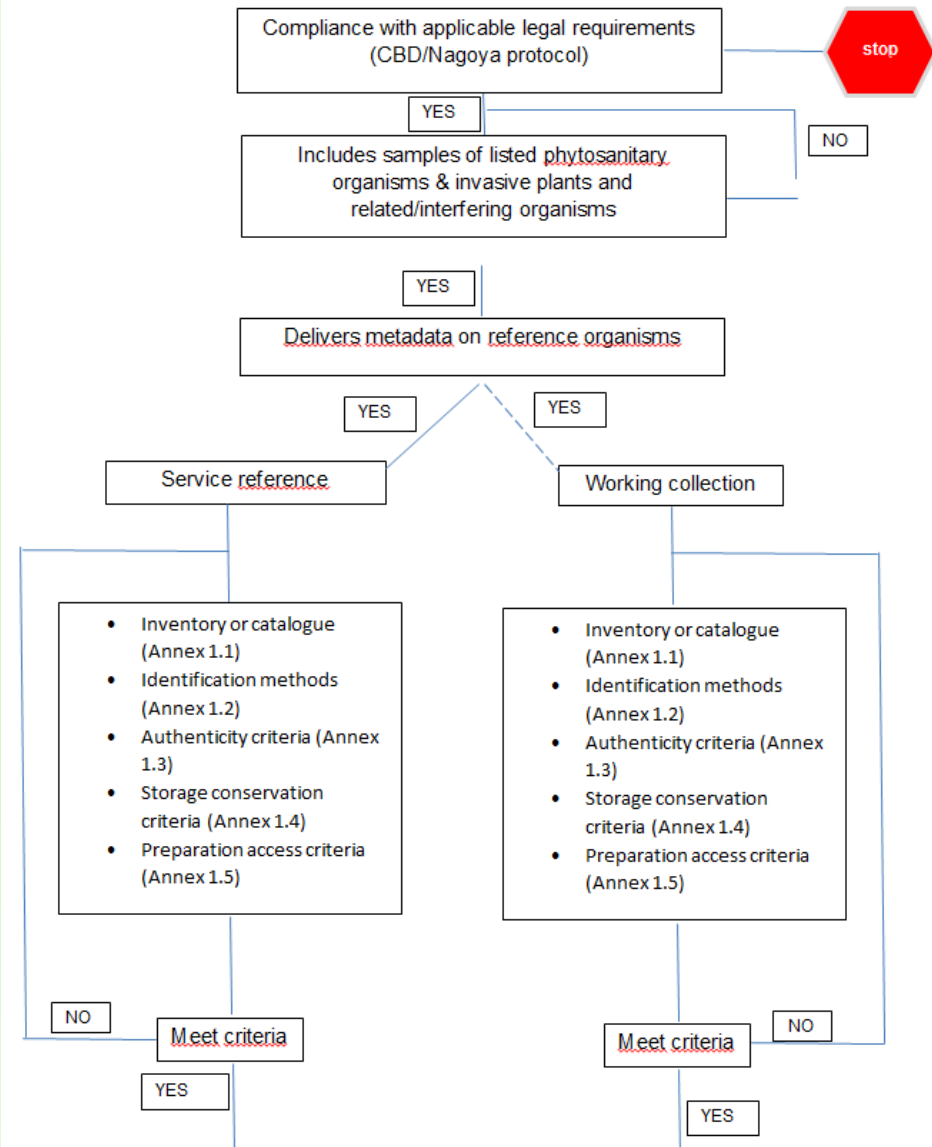
## DL6.3. Survey and guidance document on reference criteria for network collections: Process description/ flow chart for application of defined criteria

### Presumptions WP6:

- 1 flowchart sufficient for establishment & maintenance of the network
- 1 flowchart sufficient for both types of collections
- 1 flowchart sufficient for the general network criteria and the specific network criteria groups (for the detailed information reference to DL6.1 Annexes).

### Open issues to discuss:

1. How to distinguish which criteria would be "required" or "optional" for the different types of collections?
2. How to deal with the different organism groups?
3. Shall we produce more detailed flow charts for 2 representative, but quite different taxonomic groups e.g. bacteria and arthropods?



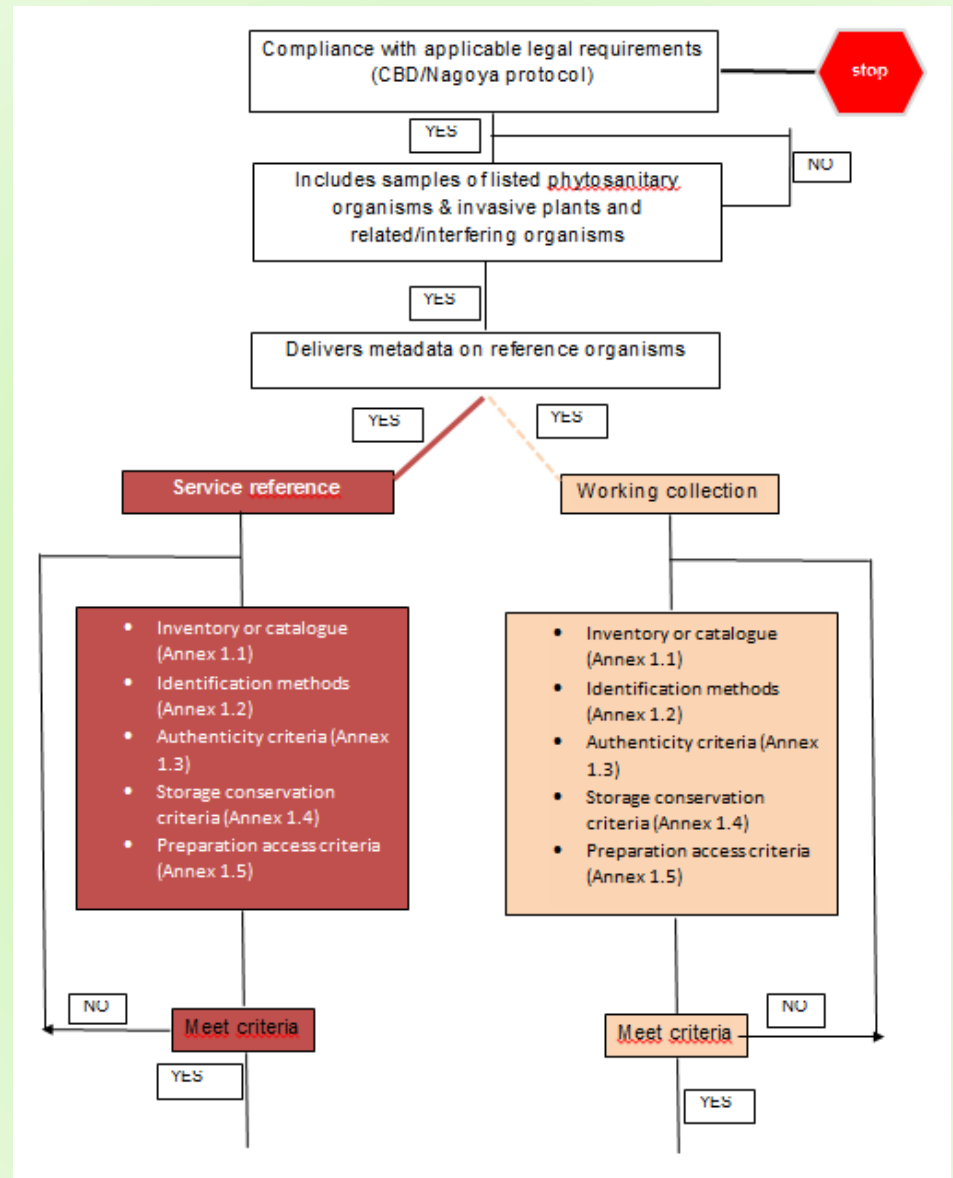
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### Discussion points:

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2. How to deal with the different organism groups?
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**Acknowledgement to  
the Q-Collect colleagues  
from WP2, WP3 and WP4  
and to the taxonomic experts  
contributing to WP6**



**THANK YOU for your attention**

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