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The International Treaty



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INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

SECOND TECHNICAL CONSULTATION ON INFORMATION TECHNOLOGY SUPPORT FOR THE IMPLEMENTATION OF THE MULTILATERAL SYSTEM OF ACCESS AND BENEFIT SHARING OF THE INTERNATIONAL TREATY

Rome, 2-3 December 2008

IMPLEMENTATION OF THE MULTILATERAL SYSTEM OF THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE – A GERMAN CASE STUDY

1. Article 11.2 states that "the Multilateral System, as identified in Article 11.1, shall include all plant genetic resources for food and agriculture listed in Annex I that are under the management and control of the Contracting Parties and in the public domain."

2. A number of Contracting Parties have already taken national measures to identify which material within their jurisdiction is included under this provision of the Multilateral System of the International Treaty. The measures taken by Contracting Parties include a wide range of options for national implementation. One of the most elaborate measures which the Secretariat of the Treaty has been informed of is the flagging of material included in the Multilateral System within the relevant German genebank documentation systems maintained in the National Inventory for Plant Genetic Resources PGRDEU, which comprise data of *ex situ* collections in German genebanks such as the Genebank of the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), the German Fruit Genebank, the German Grapevine Genebank and other institutions.

3. Given the advanced nature of these measures, the Secretariat invited Germany to share its experience by documenting the measures it has taken and the process it has followed. Consequently, the attached case study has been provided by the relevant German authorities. It is reproduced in the Annex to this document in the form and language in which it has been received.

Annex 1

Implementation of the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture – a German Case Study

Federal Agency for Agriculture and Food (BLE), Div. 513 - Information and Coordination Centre for Biological Diversity (IBV), Bonn, Germany

A. BACKGROUND

The International Treaty on Plant Genetic Resources for Food and Agriculture (the Treaty) was adopted by the thirty-first session of the FAO Conference on 3 November 2001 and entered into force on 29 June 2004. Germany has ratified the Treaty on 31 March 2004 and is fully supportive of its objectives, which are the conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA) and the fair and equitable sharing of the benefits arising from their use, in harmony with the Convention on Biological Diversity (CBD).

A core element of the Treaty is the "Multilateral System of Access and Benefit Sharing" (MLS), referring to plant genetic resources of major crops as defined in Annex I of the Treaty. Contracting Parties grant facilitated access to the plant genetic resources in the MLS according to mutually agreed terms, as defined in the Standard Material Transfer Agreement (SMTA). Article 11.2 of the Treaty states that the MLS "*shall include all plant genetic resources for food and agriculture listed in Annex I that are under the management and control of the Contracting Parties and in the public domain*". The Governing Body of the Treaty adopted in June 2006 (Resolution 2/2006) the SMTA and "*urges Contracting Parties to the Treaty to take measures necessary for the implementation of the Standard Material Transfer Agreement*" and "*urges all other holders of the plant genetic resources for food and agriculture listed in genetic resources for food and agriculture listed in genetic resources for food and agriculture listed in Annex I to the Treaty to include these plant genetic resources in the Multilateral System, and urges Contracting Parties to take appropriate measures, in accordance with Article 11.3 of the Treaty".*

Accordingly, access for the purpose of research, breeding and training for food and agriculture to PGRFA belonging to species listed in Annex I is governed by the provisions of the Treaty and the SMTA. Access conditions for other purposes than research, breeding and training for food and agriculture and for PGRFA not listed in Annex I depend on the date, the material was acquired by the holder of the material. For PGRFA collected before the entry into force of the CBD by the end of 1993, conditions for access are subject to national or individual discretion. For material acquired since 1994, the CBD is applicable and access and benefit-sharing conditions are normally set by the country of origin of the material. The Bonn Guidelines for Access to Genetic

Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation adopted in 2002 provide for voluntary guidelines for the Parties to the CBD and offer support to providers as well as to users with respect to access and benefit-sharing in conformity with the legal obligations of the CBD. Currently, the CBD working Group on Access and Benefit-Sharing is mandated to elaborate and negotiate an international regime on access to genetic resources and benefit-sharing by 2010.

B. SITUATION IN GERMANY

In Germany, the responsibilities for PGRFA are shared between the Federal as well as the Laender authorities and institutions. At the federal level, the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) holds the responsibility for genetic resources for food and agriculture including PGRFA and is *inter alia* the Focal Point for the Treaty. The framework for activities of the authorities and the private sector in the field of conservation and sustainable use of plant genetic resources in Germany is provided by the National Programme on Plant Genetic Resources of Agricultural and Horticultural Crops. It has been developed under the responsibility of the BMELV and was formally established in 2002.

The National Programme is implemented through the combined efforts and individual contributions of the Federal Government, the Laender governments and various public and private institutions, bodies and other stakeholders. In fulfilling its responsibilities for the implementation of the programme as designated by the Federal Government, the BMELV is assisted by the Advisory and Co-ordinating Committee for Agricultural and Horticultural Crops (BEKO). The BEKO consists of representatives of the Federal and Laender governments as well as research institutions, breeders and non-governmental organisations. Besides its task to advise BMELV, BEKO constitutes the relevant platform for broad stakeholder involvement. The Secretariat for the National Programme is located at the Information and Coordination Centre for Biological Diversity (IBV) of the Federal Agency for Agriculture and Food (BLE). Furthermore IBV is providing information and advice for all actors and is also maintaining the National Inventory for Plant Genetic Resources PGRDEU, comprising data of *ex situ* collections in German genebanks such as the Genebank of the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), the German Fruit Genebank, the German Grapevine Genebank and other institutions.

C. IMPLEMENTATION STEPS

The Governing Body of the Treaty adopted the SMTA in June 2006. As Contracting Party of the Treaty and in accordance with Article 11.2 and 11.3 Germany started shortly after with activities needed for the implementation of the MLS.

Step 1: Information of Relevant Stakeholders

All stakeholders in Germany had been continuously informed during the negotiations and after the adoption of the Treaty about its objectives and the main elements of the Treaty, such as the MLS, and the SMTA.

To facilitate and update the broad information of all stakeholders in Germany, BMELV prepared 2006 a German courtesy translation of the SMTA which has been agreed with Switzerland and Austria. In addition, explanatory notes were compiled, summarising the SMTA and providing a short introduction to the main "elements" of the SMTA such as

- Kind of contract
- How it can be concluded (signature, shrink-wrap, click-wrap)
- Obligations of the provider / recipient
- Benefit sharing clauses
- Third Party Beneficiary
- Applicable law and dispute settlement

The above mentioned information was published by BMELV together with answers to frequently asked questions (FAQs) on its website (<u>http://www.bmelv.de</u>).

Besides these explanatory notes and FAQs, all competent authorities, relevant public institutions as well as the private sector through its associations have been directly informed by BMELV by written communication in 2006 on the SMTA and the rights and obligations arising from its use. In this context, the private sector has been encouraged to make voluntary payments whenever a product that incorporates material accessed from the MLS is commercialised without restrictions to others for further research and breeding, as appropriate.

In the course of this whole process BMELV and IBV acted as focal points for the information of all stakeholders, answering questions and / or giving support and advice.

Step 2: Introduction of the SMTA

At the beginning, all providers for Annex I species (genebanks, other collections etc.) were identified mainly based on the National Inventory for Plant Genetic Resources PGRDEU.

In general, it has to be distinguished between PGRFA of Annex I species, that are under the direct control of the Contracting Parties (Article 11.2 of the Treaty) and between PGRFA brought into the MLS by natural and legal persons under the jurisdiction of the Contracting Parties (Article 11.3 of the Treaty).

Based on this analysis, BMELV as responsible Federal authority then acted in a differentiated approach *inter alia* via the above mentioned written communication:

- Collection holders under the direct control of the Federal Ministry were instructed to introduce the SMTA
- Collections under the control of the Laender and / or local authorities were requested to introduce the SMTA
- All other collection holders (mixed, private) were invited to use the SMTA as appropriate.

In 2007, the SMTA was introduced by two German genebanks:

- the German Fruit Genebank, coordinated by the Federal Research Centre for Cultivated Plants
 Julius Kuehn Institute (JKI), introduced the SMTA for its *Malus* and *Fragaria* collections
- the Genebank of the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) in Gatersleben introduced the SMTA for all Annex I species.

For the introduction of the SMTA at the IPK, the IPK Genebank Statutes had to be amended in 2007; in parallel IPK started the process of inclusion of material into the MLS. In the course of the introduction of the SMTA the genebank information system GBIS/I (<u>http://gbis.ipk-gatersleben.de/gbis_i/</u>) of IPK, which allows to retrieve information from the collection and offers the possibility to order samples online, had to be amended. Inter alia, a "click-wrap" option was implemented in the online ordering system (see figure 1).

Step 3 : Inclusion of Material into the MLS at Genebank Level

The inclusion process can be distinguished in

- a) identification of accessions of Annex I species in the taxonomic part of the documentation systems, and
- b) identification of accessions of Annex I species in the respective collections that are in the public domain.

Annex I of the Treaty defines the scope of the MLS. For food crops Annex I follows in general the broad genepool concept by defining a crop through the respective genus or genera, with only few exceptions where certain species were excluded (e.g. *Musa textilis*) or only one species is included (e.g. *Manihot esculenta*), whereas all forages in Annex I are defined by one or more species names.

Consequently, all relevant species - in the case of crops all species of the crop genepool (taking into account the exceptions mentioned in Annex I itself) - and their infraspecific taxa in each genebank documentation system were marked with an "Annex I flag".

For a multi-crop genebank like the one of IPK (more than 3.000 species) this is a time consuming process, that needs to be conducted with care taking into account synonyms (e.g. in Annex I *Agrostis tenuis* is mentioned, which is a synonym of *Agrostis capillaris*; the same is the case with *Lespedeza stipulcea* and *Kummerowia stipulcea*) and different taxonomic concepts. In cases, where the material was not taxonomically determined by the genebank itself it was even necessary to go back to the original information provided by the donor / collector.

In a second step all public domain accessions were identified and marked as "public domain" in the genebank documentation system, taking into account possible restrictions (e.g. black-box arrangements).

Varieties with existing variety protection were not included in the MLS (this was mainly the case for the German Fruit Genebank). However, such varieties are available for further research and breeding from the respective protection holders of these varieties.

The processes of step a) and step b) had been added to the standard genebank routines, to guarantee, that these procedures will be applied to new material entering the genebank or in cases the taxonomy of material is re-determined.

In a last step MLS material then could be easily determined by matching the information gained by these two steps ("Annex I flag" and "Public domain") and flagged as MLS material in the genebank documentation systems such as GBIS/I in the case of IPK and further on in PGRDEU.

Step 4: Inclusion of Material into the MLS by the Contracting Party

The backbone for the inclusion of material into the MLS is PGRDEU which encompasses data of PGRFA gathered through a reporting infrastructure defined in the framework of the National Programme (see figure 2). The data structure and the exchange format, which is based on the data exchange format of the European Plant Genetic Resources Search Catalogue (EURISCO), was expanded by one field "MLS status" to indicate which accessions are included into the MLS.

After finalisation of this inclusion process at genebank level by the end of 2007, PGRDEU was updated using the expanded exchange format. The website was also updated and the search functionality adapted in order to allow for searches to be focussed on the MLS material only (see figure 3).

As of April 2008, German institutions contribute to the MLS with, at present, more than 108,000 accessions. More details are available through the website of PGRDEU (<u>http://www.genres.de/pgrdeu/</u>). Through written communication, the Secretary of the International Treaty on Plant Genetic Resources for Food and Agriculture was informed about the German contribution to the MLS. During the last year, more than 7,000 accessions were provided by German institutions using the SMTA.

D. LESSONS LEARNT AT NATIONAL LEVEL

- Early and comprehensive information of the relevant stakeholders on the national implementation of the MLS and the SMTA by the respective authorities is important.
- Existing "infrastructure" for cooperation such as a National Programme for PGRFA with a National Coordination Committee and a National Inventory (documentation system) should be used as much as possible.
- The text of the SMTA is not self-explanatory, especially for users not speaking UN languages. There is a need for assistance through experts giving guidance and / or a courtesy translation in the national language. Explanatory notes, FAQs etc. are useful in order to facilitate the implementation of the MLS and the SMTA at national level.
- General guidelines on how to include material into the MLS at the collection level (e.g. identification of public domain accessions) could be helpful.

European cooperation and infrastructure with relevance to the Treaty and its MLS

One of the core objectives of the Treaty is to promote the sustainable use of PGRFA. Without use nothing could be shared for mutual benefit. It will therefore be essential to develop the MLS not only nationally but also internationally to an efficient and effective system that will promote the sustainable utilisation of PGRFA. Facilitated access and benefit-sharing provisions of the MLS are cornerstones of such a system, but there is also a need for supporting components such as networks and information systems, as stated in articles 16 and 17 of the Treaty.

The most important regional network in Europe is the European Cooperative Programme for Plant Genetic Resources (ECPGR). The objectives of this collaborative programme for plant genetic resources, in which some 40 European countries are involved, are

- to facilitate the long-term *in situ* and *ex situ* conservation of plant genetic resources in Europe
- to facilitate the increased sustainable utilisation of plant genetic resources in Europe
- to strengthen links between all plant genetic resources programmes in Europe and promote the integration of countries that are not members of ECPGR
- to encourage cooperation between all stakeholders, including non-governmental organisations and private breeders

- to enhance joint activities including the development of joint project proposals to be submitted to funding agencies
- to encourage the sharing of conservation responsibilities for PGRFA in Europe
- to increase awareness, at all levels, of the importance of PGRFA activities including conservation and sustainable use
- to seek collaboration with other relevant regional and global initiatives.

An activity of major importance within the ECPGR collaboration is the implementation and further development of the EURISCO (<u>http://eurisco.ecpgr.org/</u>) which is strongly supported by Germany. EURISCO is a web-based catalogue that provides information about *ex situ* plant collections across Europe. It is based on a European Network of National Inventories of *ex situ* collections (such as the German National Inventory PGRDEU) and contains passport data on more than 1.1 million samples from 38 countries. One of the key elements of EURISCO is the network of National Focal Points responsible for the respective National Inventory and the data flow between the National Inventories and EURISCO. Each country has full responsibility and sovereign rights concerning availability, accuracy and uploads of data of its National Inventory.

The information infrastructure of EURISCO is at present already very well developed and can be utilised as a regional system to fulfil countries (Contracting Parties of the Treaty) information requirements under the Treaty (see figure 4). In particular, EURISCO can build a regional pillar of the Treaty's Global Information System which has to be developed and strengthened by the Contracting Parties based on existing information systems (Article 17).

A main obligation for Contracting Parties is the inclusion of material into the MLS. While at national level the National Inventories probably will be used for the inclusion, at European (regional) level EURISCO can act as the backbone for a regional inclusion of material into the MLS relying on the existing information infrastructure. As part of a self-funded initiative of the ECPGR Documentation and Information Network a cost-effective inclusion procedure was developed and approved by the ECPGR Steering Committee in September 2008. A new descriptor was added to the EURISCO exchange format. By this new descriptor (number 34: MLS Status) countries can provide the information about the MLS-Status of the accessions in their National Inventories directly through EURISCO to the Secretariat of the Treaty (see figure 5). Once fully operational, EURISCO as the regional information system can provide not only a cost-effective inclusion procedure for European Contracting Parties of the Treaty but also represent the central entry point for potential users of PGRFA providing comprehensive information on the European contribution to the MLS (see figure 6).

Another obligation arises from the use of the SMTA for providers of MLS material. According to Article 5 (e) of the SMTA providers "*shall frequently inform the Governing Body about the Material Transfer Agreements entered into, according to a schedule to be established by the Governing Body.*" In an attempt to decrease transaction costs the ECPGR Steering Committee approved a proposal to provide the EURISCO infrastructure as a service for European providers to report on concluded SMTAs via their National Inventories as an interim reporting procedure at national level. The main intention for offering National Inventories as a depository for this additional and voluntary reporting infrastructure is to facilitate the use of the SMTA in order to increase the use of MLS material itself. The interim procedure comprises a few new descriptors in the EURISCO exchange format (see figure 7) providing information which allows for the monitoring of the evolution of the MLS and in cases where it is necessary, the information needed by the Third Party Beneficiary as a starting point for further clarification. The ECPGR Steering Committee decided to consider the EURISCO SMTA reporting procedure as an "Interim Module" and that it "*should not be interpreted in such a way as to pre-empt any future discussion and decision of the Governing Body of the Treaty on the necessary elements of such a module"*.

EURISCO offers hence a cost-effective and efficient information infrastructure which can be used as the European regional contribution to the Global Information System under Article 17 of the Treaty. Work on this Global Information System is making progress as well, e.g. by the development of tools such as the Accession Level Information System (ALIS), which will provide a single portal to other existing information systems such as EURISCO, SINGER of the CGIAR or other regional information systems (e.g. GRIN).

E. CONCLUDING REMARKS:

- For the success of the Treaty it will be crucial that the MLS will be fully implemented by the Contracting Parties. This has to be done in an effective and efficient way to guarantee a maximum of sustainable use of the MLS material with a minimum of transaction costs.
- Implementation at the national and international levels must imply continuous and comprehensive information flow between all stakeholders on the content and the progress.
- It has to be built upon extensive collaboration in the framework of national programmes as well as in the framework of regional and international cooperative networks in order to ensure effectiveness and compliance.
- With regard to documentation and reporting aspects, regional systems such as EURISCO could and should in our view play an important role for the future.

Order					
Confirmation of the	Verification of	Intended usage	Check order items	Submit the order	
SMTA Confirmation of the	address data				
commuter of the	UMITA				
Genetic Resources (I	PGRs) and bringing	g Genebank operations	enebank Information Systen into line with the Federal riculture (the Treaty), which	Republic of Germany's	international obliga
	d the introduction o		es to join a newly establish system pertaining to comm		
(SMTA), for the practic	cal achievement of t	the foregoing objectives	reaty approved a model agr including the safeguarding/ t of PGR in accordance wit	securing of good complia	nce patterns. The S
			t of PGR in accordance wit Arabic, Chinese, English, Fr		
PGRs are to be used	d or conserved by	the recipient for purpos	illection of PGRs exclusivel ies of research, breeding c nflicting third party rights.		
forms their contact de	etails and answering	g any additional queries	ir orders within the Geneba by way of ticking or clicki a signed original hardcopy o	ing the respective icons (
Please take into acc represent a contract			only possible if you have	confirmed the agreem	ent(s). The agreer
🗖 I agree with the	Standard Materia	l Transfer Agreement	(SMTA). (to view click h	ere)	
The agreements are d	lownloadable as PD	F files. It is the Adobe A	Acrobat Reader or a corresp	oonding programme to loo	k necessary.

Figure 1: Screen-shot of the accession ordering module in GBIS/I of IPK

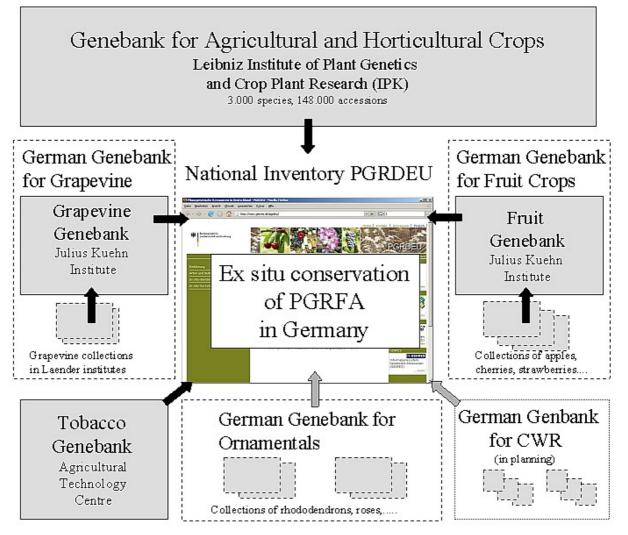


Figure 2: Reporting infrastructure on ex situ collections as defined in the framework of the German National

Programme



Figure 3: Screen-shot of the search interface of the National Inventory for Plant Genetic Resources PGRDEU

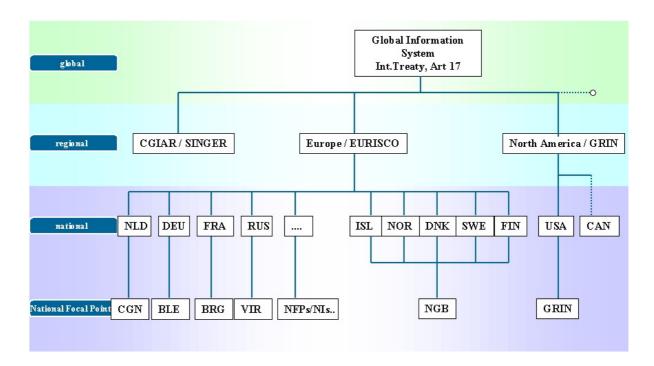


Figure 4: Existing information infrastructure in the area of PGRFA

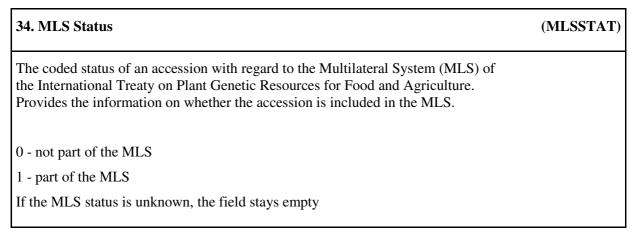
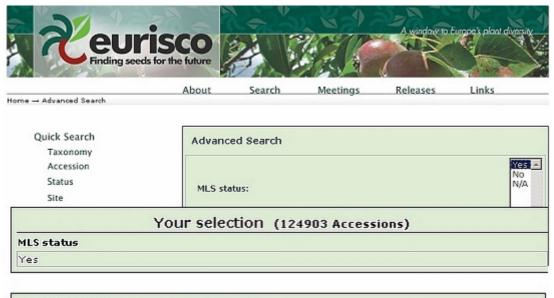


Figure 5: New approved MLS status descriptor for EURISCO



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View Summary by Institute Holdings								
Institute Holdings	National Inventory	Country of origin	NO. Acc.					
Centre for Genetic Resources, the Net Research International	nerlands Plant Netherlands	Zambia	1					
Centre for Genetic Resources, the Net Research International	nerlands Plant Netherlands	Zimbabwe	2					
External Branch North of the Departme IPK, Oil Plants and Fodder Crops in Ma			1108					
External Branch North of the Departme IPK, Oil Plants and Fodder Crops in Ma	(serro anu	Afghanistan	7					
External Branch North of the Departme IPK, Oil Plants and Fodder Crops in Ma		Albania	16					
External Branch North of the Departme IPK, Oil Plants and Fodder Crops in Ma		Algeria	3					

Figure 6: Screen-shot of the EURISCO prototype with information on the European contribution to the MLS

35. SMTA Institute Code	(SMTAINST
FAO Institute Code [or another official code] for the institute acting as Provider.	
Example: DEU146	
36. SMTA Number	(SMTANUMB
This number serves as a unique identifier for the SMTA contract within an institute, and is assigned by the institute acting as Provider.	
Example: IPK00724	
37. SMTA Date	(SMTADATE
Date on which the SMTA contract was concluded as YYYYMMDD. Missing data (MM or DD) should be indicated with hyphens. Leading zeros are required.	× ×
Example: 20020620	
38. SMTA Total Number of Accessions	(SMTACCE
Total number of accessions transferred by the SMTA.	
Example: 345	
39. SMTA Number of Accessions per Genus	(SMTAGENUS
The field is used to elaborate on the number of accession per genus transferred by the SMTA. Prefix genus name in Latin, initial uppercase letter required, and a colon followed by the number of transferred accessions for the genus without space. Separate entries referring to different genera by semicolons without space.	
Example: Allium:120;Beta:25;Hordeum:200	
40. SMTA Category of recipient	(SMTARECIP
The coded category of the Recipient of the accessions transferred by the SMTA.	(
1 – genebank	
2 – botanical garden	
3 – public research institute	
4 – private breeder	
5 – private individual, non-profit association 6 – education	
9 – other (Elaborate in REMARKS field)	
41. SMTA Remarks	(SMTAREMARK
The remarks field is used to add notes or to elaborate on descriptor(s) with value 9 (=Other). Prefix remarks with the field name they refer to and a colon. Separate remarks are separated by semicolons without space.	(2
Example: SMTARECIP:museum	

Figure 7: Descriptors of the interim procedure for reporting the use of the SMTA of the Treaty for European providers