CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Twenty-seventh meeting of the Plants Committee
Geneva (Switzerland), 8 – 13 July 2024

Regulation of trade

Exemptions and special trade provisions

GUIDANCE ON THE TERM 'ARTIFICIALLY PROPAGATED'

1. This document has been submitted by the Secretariat.

2. At its 19th meeting (CoP19; Panama City, 2022), the Conference of the Parties adopted Decisions 19.182 and 19.183 on *Guidance on the term 'artificially propagated'* as follows:

Directed to the Secretariat

19.182 *The Secretariat shall, subject to external funding:*

a) revise, also considering recommendations made at the 25th meeting of the Plants Committee, the Preliminary guidance on terms related to the artificial propagation of CITES regulated plants *to cover plant specimens derived from artificial propagation (source code 'A') or assisted production (source code 'Y');*

b) review the existing guidance materials, specifically A guide to the application of CITES source codes *to ensure alignment with a finalized version of the* Preliminary guidance on terms related to the artificial propagation of CITES regulated plants *and report its findings to the Plants Committee for consideration;*

c) submit the draft revised guidance to the Plants Committee; and

d) subject to approval by the Plants Committee, make it available to Parties in all working languages of the Convention.

Directed to the Plants Committee

19.183 *The Plants Committee shall:*

a) consider and, if appropriate, approve, the revised Preliminary guidance on terms related to the artificial propagation of CITES regulated plants *submitted by the Secretariat as per Decision 19.182; and*

b) consider the report from the Secretariat on the revision of the existing guidance materials to ensure alignment with the updated Preliminary guidance on terms related to the artificial propagation of CITES regulated plants*, and if appropriate, approve the update to the* Guide to the application of CITES source codes.

3. At its 26th meeting (PC26; Geneva, June 2023), the Plants Committee took note of document PC26 Doc. 24, which informed the Committee that partial funding had been secured to elaborate revisions to the English version of the *Preliminary guidance on terms related to the artificial propagation of CITES regulated plants*,

and to the *Guide to the application of CITES source codes* and that complementary funding would be required to ensure the translation of these revised documents into all official languages of the Convention.

4. The Secretariat is working with the United Nations Environment Programme – World Conservation Monitoring Centre (UNEP-WCMC) to produce a revised *Guidance on terms related to the artificial propagation of CITES regulated plants* and to propose elements for the revision of *A guide to the application of CITES source codes*.

5. Drafts of these revisions (in track changes) are available in the Annexes to the present document in English for the consideration of the Committee:

   a) Annex 1 contains a revision of the *Preliminary guidance on terms related to the artificial propagation of CITES regulated plants*, in particular to incorporate source code Y.

   b) Annex 2 proposes revisions to *A guide to the application of CITES source codes*, to align it with the guidance in Annex 1, in particular where it relates to source code Y.

Reflections on next steps

6. Following the present meeting, the Secretariat will coordinate the incorporation of any additional comments to these draft documents for a publication on the CITES website in English before the end of 2024.

7. The Secretariat is of the view that, pending incorporation of any feedback from the Plants Committee at the present meeting, and with the approval of the *Guidance* in Annex 1, Decisions 19.182 and 19.183 can be considered completed.

8. The Secretariat also notes that, following CoP20, Parties could benefit from sharing their experiences in consulting and using the new version of the guidance on artificial propagation, as well as the associated proposed revisions to the source-code guide.

9. The draft *Guidance on terms related to the artificial propagation of CITES regulated plants* in Annex 1 to the present document is currently available in English only. In contrast, the *Guide to the application of CITES source codes* is currently available in all three languages of the Convention and an additional 11 languages on the webpage on *Captive-produced animals and artificially propagated plants*: Chinese, Dutch, English, French, German, Indonesian, Italian, Khmer, Lao, Malay, Portuguese, Spanish, Thai and Vietnamese.

10. Once the new versions of the two guidance documents are finalized, the Secretariat will make efforts to identify complementary external funds for their translations into all CITES working languages in accordance with Decision 19.182, paragraph d). Given that the *Guide to the application of CITES source codes* is currently available in 11 additional languages as mentioned above, the Secretariat proposes that the Plants Committee invite Parties to support the translation of the new version of this guide into these languages.

11. The Secretariat also notes that ongoing revisions to Resolution Conf. 16.10 on *Implementation of the Convention for agarwood-producing taxa* might be considered by the Conference of the Parties at its 20th meeting (see document PC27 Doc. 25), which could have implications on future updates to the *Guidance on terms related to the artificial propagation of CITES regulated plants*.

12. In light of the above, the Plants Committee could consider proposing the following draft decisions for submission to the 20th meeting of the Conference of the Parties:

Directed to the Secretariat

20.AA *The Secretariat shall keep under review the* Guidance on terms related to the artificial propagation of CITES regulated plants *and the* Guide to the application of CITES source codes, *as living documents, based on feedback received by Parties and any relevant developments adopted by the Conference of the Parties and submit any revisions to the Plants Committee for approval.*

Directed to Parties

20.BB *Parties are encouraged to use the* Guidance on terms related to the artificial propagation of CITES regulated plants *and the* Guide to the application of CITES source codes *and to provide feedback and information to the Secretariat.*

Directed to the Plants Committee

20.CC *The Plants Committee shall approve any revisions of the* Guidance on terms related to the artificial propagation of CITES regulated plants *and the* Guide to the application of CITES source codes*.*

Recommendations

13. The Plants Committee is invited to:

    a) consider and provide feedback on the *Guidance on terms related to the artificial propagation of CITES regulated plants* and on the revised *Guide to the application of CITES source codes* contained in Annexes 1 and 2 to the present document;

    b) request the Secretariat to publish the two guidance documents on its website;

    c) agree that Decisions 19.182 and 19.183 have been completed and can be proposed for deletion to the 20th meeting of the Conference of the Parties (CoP20);

    d) consider and agree to submit the draft decisions contained in paragraph 12 of the present document to CoP20; and

    e) invite Parties to support the translation of the *Guide to the application of CITES source codes* into additional languages referred to in paragraph 9.

~~PRELIMINARY~~ GUIDANCE ON TERMS RELATED TO THE ARTIFICIAL PROPAGATION OF CITES REGULATED PLANTS

~~Preliminary~~ Gguidance on terms related to the artificial propagation of CITES regulated plants

Published: 2024

Prepared under contract from the CITES Secretariat by UNEP-WCMC.

Citation
CITES. (2024). ~~Preliminary~~ *Gguidance on terms related to the artificial propagation of CITES regulated plants*. ~~*UNEP-WCMC, Cambridge*~~.

Acknowledgements
The CITES Secretariat and UNEP-WCMC are grateful to Noel McGough and Uwe Schippmann for their helpful input, suggestions and guidance on the content of this document, which was finalised following review by the Secretariat and the PC25 Working Group on *Guidance on the term "artificially propagated"*. Thanks are also extended to the CITES Parties that provided information for the collation of case studies on source code Y, namely China, India, Mexico and Peru.

Cover Photo photology1971/ Adobe Stock

Contents

Introduction

~~T~~~~Recent meetings of t~~he Conference of the Parties (CoP) have adopted a number of Decisions on issues relating to artificial propagation of CITES regulated plants. At its 18th meeting (CoP18, Geneva, 2019) the Conference of the Parties adopted Decision 18.178 on *Guidance on the term 'artificially propagated'* as follows:

> ***18.178 Directed to the Secretariat***
>
> *The Secretariat shall, subject to external funding:*
>
> *a) commission the preparation of guidance materials for the Parties on aspects of artificial propagation including the terms 'under controlled conditions', 'cultivated parental stock' and the new source code or such terms as may be adopted at CoP18, to supplement the publication* A Guide to the application of CITES source codes*;*
>
> *b) report to the Plants Committee at its 26th meeting on progress on paragraph a); and*
>
> *c) after review and revision by the Plants Committee, if directed by the Plants Committee, publish the final guidance on the CITES website.*

This guidance, which addresses paragraph a) of Decision 18.178, aims to explain the terminology used[1] in the Resolutions relevant to source codes A, D and Y and to help CITES Authorities understand how these Resolutions are applied to plants.

At CoP19, the Conference adopted the Decision 19.182 as follows

> ***19.182 Directed to the Secretariat***
>
> *The Secretariat shall, subject to external funding:*
>
> *a) revise, also considering recommendations made at the 25th meeting of the Plants Committee, the Preliminary guidance on terms related to the artificial propagation of CITES regulated plants to cover plant specimens derived from artificial propagation (source code 'A') or assisted production (source code 'Y');*
>
> *b) review the existing guidance materials, specifically A guide to the application of CITES source codes to ensure alignment with a finalized version of the Preliminary guidance on terms related to the artificial propagation of CITES regulated plants and report its findings to the Plants Committee for consideration;*
>
> *c) submit the draft revised guidance to the Plants Committee; and d) subject to approval by the Plants Committee, make it available to Parties in all working languages of the Convention.*

The guidance, which was updated in ~~April~~ 2024 in line with this Decision ~~19.182 to provide more detail on "plant specimens derived from artificial propagation (source code 'A') or assisted production (source code 'Y'),~~ is complementary to the *Guide to the application of CITES source codes*[2].

Current Resolutions that are core to issues relating to artificial propagations are Resolution Conf. 11.11 (Rev. CoP18) on *Regulation of trade in plants*, Resolution Conf. 10.13 (Rev. CoP18) on *Implementation of the Convention for tree species* ~~and~~, Resolution Conf. 16.10 on *Implementation of the Convention for agarwood-*

[1] Terminology provided is for guidance only and does not represent a legal interpretation of these terms.
[2] https://cites.org/sites/default/files/eng/prog/captive_breeding/E-Souce%20codes%20booklet%20-%20April%2017.pdf

producing taxa and Resolution Conf. 9.19 (Rev. CoP15) on *Registration of nurseries that artificially propagate specimens of Appendix-I plant species for export purposes*. The range of source codes and purpose of transaction codes are outlined in Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19) on *Permits and Certificates*.

~~*A Guide to the application of CITES source codes* was produced by IUCN for CITES in 2017. The current guidance covers flora species only and updates, expands and complements the work carried out by IUCN.~~

Since the first formal definition of artificial propagation was adopted in Resolution Conf. 2.12 in 1979, the CoP amended and expanded the definition to adapt to new technologies and methodologies in propagation of CITES-listed plants, and it dealt with specific challenges by adopting new Resolutions. At its 24th meeting, the Plants Committee was invited to discuss options for a new source code and consolidate some definitions into Resolution Conf. 11.11 (Rev. CoP17) (PC 24 Doc. 16.1). An informative overview of the evolution of Resolution Conf. 11.11 (Rev. CoP18) on the *Regulation of trade in plants* is given in information document PC24 Inf.1 and on the discussions on plant productions systems in information document PC24 Inf.8. CoP18 Doc. 59.2 looked at *Source Codes for Plant Specimens in Trade* recommending a new intermediary source code between A and W to be termed Y to cover "assisted production"; the new source code was adopted in Resolution Conf. 11.11 (Rev. CoP18). CoP18 Doc. 59.1 on *Guidance on the Term "Artificially Propagated"* explored a range of issues including the need for guidance to help Parties clearly understand and apply some of the requirements around the definition of artificial propagation, in particular in relation to the terms "cultivated parental stock" and "under controlled conditions" and also guidance on the new source code Y for assisted production.

Terminology

The following terms and excerpts from key CITES Resolutions form the framework for understanding how CITES interprets artificial propagation. Text in *italics* indicates a direct excerpt from the relevant CITES Resolution. ~~The Annex I to this document provides a~~ A visual guide to terms and definitions is included in Annex I.

'Artificially propagated'

Resolution Conf. 11.11 (Rev. CoP18), paragraph 2, *determines that the term 'artificially propagated' shall be interpreted to refer to plants specimens*[3] *that are:*

> *"a) grown under controlled conditions; and*
>
> *b) grown from seeds, cuttings, divisions, callus tissues or other plant tissues, spores or other propagules that are either exempt from the provisions of the Convention or have been derived from cultivated parental stock;"*

'Under controlled conditions'

Paragraph 1 a) of Resolution Conf. 11.11 (Rev. CoP18) adopts the following definition for the terms 'under controlled conditions':

> *"a) 'under controlled conditions' means in a non-natural environment that is intensively manipulated by human intervention for the purpose of plant production. General characteristics of controlled conditions may include but are not limited to tillage, fertilization, weed and pest control, irrigation, or nursery operations such as potting, bedding or protection from weather."*

The term '*under controlled conditions*' ~~(Resolution Conf. 11.11 (Rev. CoP18), paragraph 2 a)~~ refers to plants that are propagated and grown in a *non-natural environment* that is manipulated to promote optimal growing conditions and exclude predators and pests (see Annex I: Figures A and B). A nursery, glasshouse or mono-specific *tree plantation* (see 'Trees and artificial propagation' section) are examples of *controlled conditions*. Temporary annexation or appropriation of a piece of natural or semi-natural vegetation where wild plants occur is not *controlled conditions*. Such annexation might occur when a field boundary is moved to incorporate adjacent wild habitat in which the targeted species occurs; this area then receives little or no management until harvest occurs, after which the original field boundary is restored.

The key element of the term '*under controlled conditions*' is that there is a management system in place for the cultivation of the plants in an environment which is clearly distinct from their natural habitat. Such a system may or may not involve the establishment of clear boundaries from the natural environment, but should have procedures to enhance growth and prevent loss of plants to pests and diseases. The types of interventions may differ due to the characteristics of the taxa concerned, their cultivation and their propagation systems. In cases such as desertification control and afforestation, interventions occur within natural habitats and therefore clear boundaries cannot be easily determined. A clear definition of how the term 'boundaries' applies to plants has not yet been considered by the Plants Committee; however, use of this terminology as it relates to captive breeding in accordance with Resolution Conf. 10.16 (Rev) paragraph 1 (d), provides some guidance as follows: '*a controlled environment…that has boundaries designed to prevent animals, eggs or gametes of the species from entering or leaving the controlled environment…*'. It could be assumed that a similar interpretation could apply to a limited number of highly controlled and contained plant

[3] Note that this is slightly different for timber-producing trees and for specimens of agarwood, see below. Also note that for populations of Appendix-I listed species, an exception may be granted in accordance with paragraph 4 of Res. Conf. 11.11 (Rev. CoP18), see below.

production systems, and that such conditions would create a relatively high maintenance environment where the controls to enhance production are evident throughout the life cycle of the plants involved. In all cases, the management of such production systems would be expected to have some level of record keeping in place, ensuring that the management system is maintained to an adequate level and that the plants produced are of high quality.

! Wild-collected plants are considered wild even if they are or have been maintained in *controlled conditions*. ~~for some time, e.g., from several weeks to years; however, this will be dependent on the plant group or specimen concerned.~~ Furthermore, legally sourced wild-collected plants can be used to produce plant specimens in an *environment with some level of human intervention* (see sections on 'Source codes applicable to artificially propagated plants: A and D' and on 'Plant obtained through assisted production' pertaining to source code Y, for details).

'Cultivated parental stock'

Resolution Conf. 11.11 (Rev. CoP18), paragraph 1 b), ~~adopts~~ contains the following definition for the terms 'cultivated parental stock':

> ~~"~~*b) 'cultivated parental stock' means the ensemble of plants grown under controlled conditions that are used for reproduction, and which must have been, to the satisfaction of the designated CITES authorities of the exporting country:*
>
> *i) established in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild; and*
> *ii) maintained in sufficient quantities for propagation so as to minimize or eliminate the need for augmentation from the wild, with such augmentation occurring only as an exception and limited to the amount necessary to maintain the vigour and productivity of the cultivated parental stock;*~~"~~

The term '*cultivated parental stock*' refers to the ensemble of wild-sourced plants brought into cultivation and grown under controlled conditions that are used for reproduction.

The *cultivated parental stock*, which originated from wild collected material, must have been *established in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild*[4]. Simply stated, this stock must have been obtained legally in CITES terms (i.e. must have met the legal acquisition requirements according to CITES Resolution Conf. 18.7 on *Legal acquisition findings*) and in terms of any national laws in the country of origin (see Annex I: Figures A and B). There must be evidence that the plants have been acquired legally, for example, copies of permits, phytosanitary certificates, invoices, or authorization for collection by relevant authorities. In addition, the term *established … in a manner not detrimental to the survival of the species in the wild* indicates that a non-detriment finding is required for the parental stock that is being set up (see Annex I: Figure A).

The term '*cultivated parental stock*' is used in order to indicate that some addition of fresh wild collected plants is permissible following the establishment of the original parental stock. This should occur only *as "an exception and be limited to the amount necessary to maintain the [genetic] vigour and productivity* of the *cultivated parental stock"*. Clearly, such addition of wild plants needs to be managed, limited, legally acquired and not detrimental to the survival of the species in the wild if the plants are to be considered *cultivated parental stock*.

Resolution Conf. 11.11 (Rev. CoP18) does not indicate what frequency of addition of fresh stock is appropriate, nor what level of addition is appropriate. Requirements can differ between the wide range of

[4] Paragraph 1, b i) of Resolution Conf. 11.11 (Rev. CoP18).

plant groups included in the CITES Appendices, and it is left to the relevant Scientific Authority to give appropriate advice. In practical terms, the Scientific Authority can base their advice on information supplied by experts (such as horticulturalists from a botanic garden) on the plant group concerned and, for example, by liaising with other Parties that have addressed the same issues. Such addition of fresh stock should be *an exception and limited.*

Source codes applicable to artificially propagated plants: A and D

Codes 'A' and 'D' are used on permits and certificates to indicate the source of artificially propagated plant species. In both cases, plants are artificially propagated in accordance with the definitions contained in Resolution Conf. 11.11 (Rev. CoP18), paragraph 1 a) and b); however, the decision on applicability of the two source codes relies on an assessment of the purpose of the propagation~~transaction~~ (commercial or non-commercial), consideration of Articles VII, paragraphs 4 and 5[5] and is dependent on the CITES Appendix, noting that artificially propagated hybrids of unannotated Appendix I plant species are to be treated as Appendix II plant species.

Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19), paragraph 3, j) recommends that source codes A and D be used to indicate the following source of the plant specimens:

> **A** '*plants that are artificially propagated in accordance with Resolution Conf. 11.11 (Rev. CoP18), as well as parts and derivatives thereof, exported under the provision of* ***Article VII, paragraph 5*** *(specimens of species included in Appendix I that have been propagated artificially for 'non-commercial purposes', and specimens of species included in Appendix II and III)*';
>
> **D** *'Appendix-I plants artificially propagated 'for commercial purposes', as well as part and derivatives thereof, exported under the provisions of* ***Article VII, paragraph 4****, of the Convention*'.

Concerning Article VII paragraphs 4 and 5 of the Convention:

- **Article VII, paragraph 4** states: '*specimens of a plant species included in Appendix-I artificially propagated for commercial purposes, shall be deemed to be specimens of species included in Appendix II.*' This means that those specimens can be traded under Article IV and ~~imported under~~ purpose code T (commercial purpose), while still being subject to a non-detriment finding (see Table 1).
- **Article VII, paragraph 5** states: '*Where a Management Authority of the State of export is satisfied that any specimens of ... a plant species was artificially propagated…a certificate by that Management Authority shall be accepted in lieu of any of the permits or certificates required under the provision of Articles III, IV and V*'. This means that certificates of artificial propagation can be used instead of permits; a non-detriment finding is not required prior to export of specimens but is still needed for the acquisition of the founder stock (see Table 1 for details).

Application of source code 'D' – a comparison between animals and plants

As it relates to animal specimens, Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19) ~~outlines~~ recommends that source code D should be used by Parties when trading '*Appendix-I animals bred in captivity for commercial purposes in operations included in the Secretariat's Register in accordance with Resolution Conf. 12.10 (Rev. CoP15)* on *Registration of operation that breed Appendix-I animal species in captivity for commercial purposes.* Parties that wish to export captive-bred animals of Appendix I species for commercial purposes should therefore register the relevant operations with the CITES Secretariat in order to qualify for the use of source code D.

[5] Document AC31 Doc. 19.3/PC25 Doc. 21 outlined the need for further guidance on whether Article VII, paragraphs 4 and 5 could be applied sequentially.

~~Although~~ Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19) ~~also~~ indicates that source code D should be used for Appendix I plants artificially propagated ~~plants exported~~ for commercial purposes, it does not specifically refer to Resolution Conf. 9.19 (Rev. CoP15) on the *Registration of nurseries that artificially propagate specimens of Appendix-I plant species for export purposes,* meaning that the approaches are different for plant and animal taxa. This distinction is reflected in the preamble of Resolution Conf. 9.19 (Rev. CoP15), which recognizes~~recognises~~ that '*the artificial propagation of plants is essentially different from captive breeding of animals, in particular with regard to the number of specimens produced, as well, in most cases, with regard to the time span between generations*'.

Resolution Conf. 9.19 (Rev. CoP15) outlines the procedure for the registration of nurseries that ~~export~~ artificially propagated specimens of Appendix-I plant species for commercial purposes. Registration is the responsibility of the Management Authority, in consultation with the Scientific Authority within the Party where the nursery operation is located; a Register of nurseries is maintained by the Secretariat on the CITES website. The registration process is intended to facilitate the trade by making the use of the simplified procedure for the issuance of export permits to each registered nursery[6]. ~~Whereas all animal specimens exported from CITES registered facilities need to be appropriately and securely marked,~~ Appendix I artificially propagated plants from registered nurseries need to be packed and labelled in such a way that specimens are clearly separated from wild-collected or Appendix II artificially propagated plants within the same consignment.

Furthermore, as ~~acknowledged~~ recognized in the preamble of Resolution Conf. 9.19 (Rev. CoP15), nurseries that are not included within the CITES Register *may still continue exporting Appendix I artificially propagated specimens by using standard procedures for obtaining export permits*, thus Appendix I plants that were artificially propagated for commercial purposes in nurseries not included in the CITES Register for ~~'*commercial*' and '*export*' purposes,~~ can still be exported under Article VII, paragraph 4, using source code D.

If a nursery artificially propagates Appendix-I plants **from wild seeds or spores** for export, the nursery concerned should be registered as an operation with the CITES Secretariat in accordance with Resolution Conf. 9.19 (Rev. CoP15). The registration process is required to allow a Party to benefit from the exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) on *Regulation of trade in plants* [7].

In summary:

- **Source code D** should be used for:
    - plant specimens of Appendix I species that have been artificially propagated for commercial purposes ~~plant specimens~~, including their parts and derivatives, ~~of Appendix I species that are traded for commercial purposes in the context of the application of Article VII, paragraph 4~~; and
    - Appendix I artificially propagated specimens grown from wild seeds or spores, in registered nurseries, for commercial purposes, within a range State (according to paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18).
- **Source code A** should be used for all remaining artificially propagated plant specimens, including their parts and derivatives, in the context of the application of Article VII, paragraph 5, of:
    - Appendix I species propagated ~~and traded~~ for non-commercial purposes, including hybrids derived from one or more unannotated Appendix I species[8], and

[6] In accordance with Article VII, paragraph 4, of the Convention, and with Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19), section XIII. See also the *Guidance on the use of simplified procedures, section IV*.

[7] To fulfil the exception, the Appendix I taxa must be difficult to establish as a parental stock because specimens take a long time to reach maturity, and the propagation must take place in controlled conditions in a range State, and in a nursery registered with the CITES Secretariat.

[8] Resolution Conf. 11.11 (Rev. CoP18) paragraph 6, b) iii) states that "*artificially propagated hybrids derived from one or more unannotated Appendix-I species or other taxa shall be regarded as being included in Appendix II and entitled to all exemptions applicable to artificially propagated specimens of species included in Appendix II*".

- Appendix II and III species, irrespective of the purpose of propagation and trade.

Trees and artificial propagation

As the criteria for artificial propagation laid down in Resolution Conf. 11.11 (Rev. CoP18) were originally designed with horticultural plants in mind, issues with determining source codes arose when the first commercially traded timber trees were listed. Applying these "horticultural" criteria to trees and plantations posed challenges for CITES Authorities.

The Conference of the Parties took a pragmatic approach to defining "artificially propagated" in Resolution Conf. 10.13 (Rev. CoP18) on *Implementation of the Convention for tree species* (see Annex I: Figure C) stating that [paragraph 1.f)]:

Timber or other parts or derivatives of trees grown in monospecific plantations be considered as being artificially propagated in accordance with the definition contained in Resolution Conf. 11.11 (Rev. CoP18).

! Simply stated, timber or other parts or derivatives obtained from trees planted and grown in a monospecific (single species) plantation are considered artificially propagated if the seeds or other propagules from which the trees are grown were legally acquired and obtained in a non-detrimental manner as outlined in Resolution Conf. 11.11 (Rev. CoP18). This definition of artificial propagation applies only to tree species (source codes A or D apply as described above).

Specimens derived from mixed-tree species plantations do not meet the definition of artificially propagated in accordance with Resolution Conf. 10.13 (Rev, CoP18) or Resolution Conf. 11.11 (Rev. CoP18), and therefore do not qualify for the use of source code A. However, they may meet the criteria for source code Y (see section on 'Plant obtained through assisted production').

Special cases and exceptions:

Araucaria araucana: The Monkey Puzzle or Puhúen tree is the national tree of Chile; it is an iconic and highly valued species for Chile's indigenous people. This tree produces large seeds – *piñones* – which are edible and an important food source. The trees are grown from wild-collected seeds in nurseries, and the resultant plants have been exported internationally since 2004. As they were grown directly from wild seeds, the Appendix I seedlings could not be legally exported for trade because they did not fulfil the then definition of artificially propagated. The Parties therefore sought a solution to support sustainable harvest and trade of the species.

! The original version of current paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) was adopted at CoP13 in 2004 based on document CoP13 Doc. 51 and related to the example of *A. araucana*. Today, paragraph 4 recommends that a limited exception may be granted for some Appendix I specimens of some long-lived, late-maturing Appendix-I species (where *for the taxon involved, the establishment of a cultivated parental stock presents significant difficulties in practice because specimens take a long time to reach reproductive age, as for many tree species*), allowing qualifying specimens to be deemed to be artificially propagated if specific criteria are met. The criteria include that the Appendix-I material is grown under controlled conditions in a range State, from propagules collected from the wild within that same range State (the country of origin of the propagules), determined by the Management Authority to be legally acquired and by the Scientific Authority to be both non-detrimental and beneficial to the conservation of wild populations. Additional specifications are found in paragraph 4 a), b) and c) of Resolution Conf. 11.11 (Rev. CoP18). Any range State using this exception is required to register the nurseries concerned with the CITES Secretariat and fulfil the criteria outlined in paragraph 4. Of Resolution Conf. 11.11 (Rev. CoP18). Nurseries using the paragraph 4 exception will be indicated as such in the CITES Register maintained on the CITES website.

***Aquilaria* spp. and *Gyrinops* spp. (Agarwood):** Agarwood specimens are highly traded CITES non-timber forest products derived from the resinous heartwood of *Aquilaria* or *Gyrinops* trees. Renowned for its aromatic and medicinal properties, Ttrade in agarwood specimens includes extract, oils, perfumes, chips, beads and powder. The ~~origin~~ production of resinous wood ~~agarwood~~can be induced throught natural or artificial stress factors (e.g., bacteria/fungi-infected tree attacks, inoculation or mechanical wood injuries) (see the information box below for details on agarwood cultivation methods). ~~is fungi-infected tree heartwood.~~

Range States of agarwood-producing tree species proposed that cultivation of the trees is very different from that of conventional forestry, and the CITES definitions of artificial propagation were inadequate. As a result, at its sixteenth meeting (CoP16, Bangkok, 2013), the Conference of the Parties adopted Resolution Conf. 16.10 on *Implementation of the Convention for agarwood-producing taxa*, ~~adopting~~ including a definition of "artificially propagated specimens" specifically for agarwood-producing taxa as follows:

Regarding artificially propagated specimens

Agrees that:

a) *the current definition of 'artificially propagated' in Resolution Conf. 11.11 (Rev. CoP18) does not meet the circumstances of agarwood-producing taxa, due to the definition of the term 'under controlled conditions', and the source of parental stock is not suitable and fully complied with the plantation activities of agarwood-producing taxa; and*
b) *the source of seeds or propagules for cultivation of agarwood-producing species may be obtained from the wild according to the definition of 'cultivated parental stock' in Resolution Conf. 11.11 (Rev. CoP18);*

Adopts the following definition for terms used in this Resolution:

For agarwood-producing taxa, 'under controlled conditions' means in a tree plantation, including other non-natural environment, that is manipulated by human intervention for the purpose of producing plants of plant parts and derivatives;

Determines that the term' artificially propagated' shall be interpreted to refer to plant specimens of agarwood as follow:

a) *grown under controlled conditions; and*
b) *grown from seeds, seedlings, saplings, cuttings, grafting, marcotting/air-layering, divisions, plant tissues or other propagules that have been derived from wild or cultivated parental stocks, according to the definition of cultivated parental stock in Resolution Conf. 11.11 (Rev. CoP18).*

Agrees that trees of agarwood-producing taxa grown in cultivation such as:

a) *gardens (home and/or community garden); and*
b) *state, private or community production plantation, monospecific or mixed species, shall be considered to be artificially propagated in accordance with the definition above.*

~~These changes~~This significantly extended the definition of artificial propagation for agarwood-producing taxa; for example, agarwood derived from trees grown in gardens and mixed species plantations grown from wild-collected seeds, plants parts and sapling can be considered artificially propagated.

! Resolution Conf. 16.10 should be referred to when considering the issue of artificial propagation of agarwood-producing taxa, which is currently listed in CITES Appendix II as *Aquilaria* spp. and *Gyrinops* spp. (see Annex I: Figure D).

Examples of agarwood cultivation methods

Agarwood is a long-term plantation crop; to optimize and promote the growth of heathy trees and resin production, trees are widely cultivated in plantations and agroforestry systems, were environment factors (i.e., temperature, humidity, soil condition, inoculation techniques) can be kept under control. Trees are typically propagated by seeds or coppicing, with young seedlings planted in mono-specific or mixed-tree plantations; trees are also reported to be grown in home, village or community gardens. As example, *Aquilaria malaccensis* in Indonesia is found being cultivated in palm oil, rubber, pepper and other tree species in production areas, home gardens and on private land; in Malaysia, the species is reported to be cultivated in monoculture or crop rotation systems. Often, the origin of the seedlings is reported to be mother trees located in the nearby forests.

Tree spacing in production plantation and home gardens varies (2.75 m x 2.75m in plantation, and 1m x 1m to 1.5 x 1.5 m spacing in home gardens). Wider spacing is needed when trees are planted along with suitable crop; in these cases, the harvest of agarwood takes place at the end of the crop cycle. In cases where agarwood is planted in restricted spacing, the harvest take place between 2 to 3 times in 8 to 10-year period, with the purpose to thin out the plantation and allow the remaining trees to develop. After having been planted, seedlings are assisted with staking (to keep the young plant in upright position) followed by watering, and in some instances, by fertilization. A typical plantation harvesting cycle might take ~15 years, with shorter cycles being reported producing low-quality agarwood.

Since the natural process of agarwood formation is very slow and infrequent in old trees, to meet the market demand and to preserve natural agarwood populations, different agarwood cultivation methods have been developed. These span from the more conventional, laborious but less expensive methods to the more advanced and efficient methods that use chemicals and bioinoculants to produce resin. A non-exhaustive list of agarwood cultivation methods is presented below:

Wounding-nailing: tree trunks are subject to axe wounds, the bark is removed, and by hammering, hundreds of nails are applied to the trunks;

Fungi-inoculation: drills are used to make holes of at least 8 cm deep in the trunk (horizontal line); holes are then filled with fungi cultures (i.e. fungal strains of the genera *Aspergillus* spp. and *Fusarium* spp.), and holes are then wrapped by fabrics/ rubberized textile;

Burning-chisel-drilling: burning/ red-hot iron drill of 1.2 cm are used to drill holes in the tree trunk, roots, brunches; the wounds are kept open by small plastic pipes. Wounds are then inoculated with different chemical substances and then drilled again every 2 to three months.

Whole-tree agarwood inducing technique: agarwood inducers are injected into the xylem (through a transfusion set), and then these are transported to the whole tree body forming overall internal wounds;

Partly-trunk pruning: cuts of 2-4 cm wide/ 3-5 cm deep are sawn along one side of the trunk (50 cm above the ground, with spaces of 20 cm between two cuts);

Cultivated agarwood kits: microbes are inserted in the trunk via tubes in the trunk, delivering microbes that stimulate the defence mechanisms of the trees, and therefore agarwood production;

Aeration: Similar to the drilling method, trunk wounds are kept open by aeration devices of at least 2 cm in diameter (made of bamboo, wood or other materials), with the scope to maintain the wound open to prevent healing;

Bottle dipping methods: bottles filled with inducers, are placed upside down into the holes for inoculating the tree. Bottles are connected to the wounds via the hose, and parafilm is used to prevent the spilling of inoculants.

Further information on the cultivation methods cited above can be found in: Herath & Jinendra, 2023; Talucder, Haque & Saha (2016); Liu *et al*., 2013.

Other plant tissues and ~~other~~ propagules

Paragraph 2 b) of Resolution Conf. 11.11 (Rev. CoP18) states that artificially propagated shall refer to plant specimens that are, *inter alia*, ~~"~~*grown from seeds, cuttings, divisions, callus tissues or other plant tissues, spores or other propagules that are either exempt from the provisions of the Convention or have been derived from cultivated parental stock*"[9]. Paragraph 3 specifies that *"plants grown from cuttings or divisions are considered to be artificially propagated only if the traded specimens do not contain any material collected from the wild".*

This list of terms has been interpreted by the Parties to embrace the range of plant parts used in propagation and the range of propagation techniques. The terms *other plant tissues* and *other propagules* are not formally defined. The term *other propagules* originated from Resolution Conf 2.12 on *Regulating trade in artificially propagated specimens under the Convention*, adopted in San Jose, Costa Rica, in 1979. The means by which plants can be propagated and the range of potential source material from which plants can be reproduced has expanded dramatically since that time. The terms *other plant tissues* and *other propagules*, in effect, have been interpreted by Parties to reflect such changes. This seems practical given the expanding range of source material and procedures for artificial propagation.

In the case of CITES Appendix-I listed plants, the individual plant, "*alive or dead*" and "*any readily recognizable part or derivative*" are covered under CITES[10]. In effect, everything is covered, as long as the specimens are readily recognisable in the sense of Resolution Conf. 9.6 (Rev. CoP19) on *Trade in readily recognizable parts and derivatives*. In the case of Appendix II and III-listed plant species, specimens covered under CITES include plants "*alive or dead*" and "*any readily recognizable part or derivative thereof specified in Appendices II and III in relation to the species*". The parts and derivatives covered or exempted are specified ~~in the Appendices~~ by an annotation to the relevant listing in the Appendices. For example, in the case of the Appendix II medicinal plant *Hydrastis canadensis* (Goldenseal or Yellow root), only trade in the underground parts of the plant, as specified in the Annotation #8[11], are covered under CITES. In the example of *Hydrastis canadensis*, ~~All~~ all other parts and derivatives are not specified and ~~in the example given of *Hydrastis canadensis*~~ are thus not covered by the Convention.

In accordance with paragraph 2 b) of Resolution Conf. 11.11 (Rev. CoP18), source material for artificial propagation should be either exempt from CITES or ~~should *have been*~~ *derived from cultivated parental stock.* The preamble of Resolution Conf. 11.11 (Rev. CoP18) also states that *plant specimens may legally enter international trade under exemptions from the provisions of CITES, provided by an annotation, and that the qualification for such an exemption may cease outside the country of origin.* Propagules are, in fact, often exempted by ~~plant #~~ annotations; for example, plants annotated with Annotation #4 ~~paragraph b) which~~ exempts *seedling or tissue cultures obtained in vitro, ~~in solid or liquid media,~~ transported in sterile containers* [paragraph b)]. In such cases where plants are grown from legally imported exempt seedlings or propagules, it would be the responsibility of the country of export to determine whether the plant specimens intended for export meet the definition of artificially propagated plants. Therefore, this stock should be managed under the terms of Resolution Conf. 11.11 (Rev. CoP18).

'Plant obtained through assisted production' – Source Code Y

'*Plant obtained through assisted production*' refers to a plant or parts or derivatives thereof that does not meet the definition of artificial propagation and therefore does not qualify for source code A. However, it is not a wild plant because it was propagated or planted in an environment with some human intervention in its cultivation or production; therefore, it does not qualify for source code W either.

[9] Paragraph 2, b of Resolution Conf. 11.11 (Rev. CoP18).
[10] Article 1 (b) (iii) of the text of the CITES Convention.
[11] Annotation #8: Underground parts (i.e. roots, rhizomes): whole, parts and powdered.

An example of 'assisted production' could be bulbs grown in a hillside field in the Caucasus as a second crop under maize. In this situation, the parent stock has been originally sourced from the wild (exact timing unclear); there is some management by local people; and harvest of the bulbs takes place after the maize has been cleared. There is limited record keeping, and the boundaries with nearby wild populations may not be fully clear. The bulbs reproduce very well in these partially managed cultivation fields and are harvested and sold to middlemen acting for bulb exporters. A similar situation may occur, for example, for orchids grown within a village garden in South-East Asia – where epiphytic orchid stock is collected from natural habitat and is cultivated on trees and rocks adjacent to a village.

In both examples outlined above, the criterion of "controlled conditions" is not met. However,

~~In cases such as the examples outlined above,~~ *assisted production* is cultivation being carried out by local communities without the use of advanced technologies, and ~~where it~~ may be a significant source of income.

The Conference of the Parties at its 18th meeting (CoP18, Geneva 2019) amended Resolution Conf. 11.11 (Rev. CoP18)[12] to address the ~~alternative~~ plant production system that is described as '*plants obtained through assisted production*'. ~~-~~These are defined in paragraph 9 of the Resolution as plants or specimens thereof that:

i) *do not fulfil the definition of "artificially propagated", and*

ii) *are considered not to be 'wild' because they are propagated or planted in an environment with some level of human intervention for the purpose of plant production.*

Propagation material can come from a range of sources, including from the wild, as long as that collection is legally acquired and non-detrimental to the survival of the species in the wild.

The exact amount of human intervention to qualify as assisted production (source code Y) is not defined in Resolution Conf. 11.11 (Rev. CoP18) and is determined by the national Scientific Authority. The key element for plants obtained through 'assisted production' is that such specimens can be propagated from plant material that is collected from the wild in a manner that is non-detrimental to wild populations, and grown in an environment with some level of human intervention in accordance with the provisions of CITES and relevant national laws. ~~It is likely that there will be a range of~~ Four case studies of 'assisted production' ~~plant production~~ systems ~~that qualify as 'assisted production'~~ for which source code Y is used by Parties ~~could be applicable~~ are presented in Annex II as further guidance.~~-~~

The example given earlier of the temporary annexation of a portion of wild habitat to provide material for harvest at the end of one season (see 'under controlled conditions'), would qualify for source code W ~~-~~(Wild) as there is no real management of this plant material until harvest occurs. However, if boundaries were added and the plants were grown with some level of human assistance for the purpose of plant production, ~~-~~ and if plants are propagated from or derived from plant material that is exempt, or artificially propagated, or plant propagation material that is collected sustainably from the wild population, it might ~~then~~ be considered appropriate for 'assisted production' and source code Y. ~~If plants are propagated from or derived from plant material that is exempt, or artificially propagated, or plant propagation material that is collected sustainably from wild populations, source code Y could apply.~~

In effect, the situation in relation to the application of source codes W and Y is a gradient or cline, and it is more challenging to define the boundaries between these two codes compared with source codes A and W. In effect, the source code Y was adopted by Parties to allow them to assess situations that fall within this cline and apply the new source code as they determine to be appropriate. ~~Further examples of the suitability of 'assisted production' and source code Y, are likely to be available in a few years' time when Parties have implemented its application more widely~~.

[12] And, accordingly, Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19) on *Permits and Certificates.*

Export permits can be granted for specimens produced by 'assisted production' methods if[13]:

a) *A Management Authority of the State of export is satisfied that the specimen to be exported was* obtained legally; and
b) A Scientific Authority of the State of export has advised that the export will not be detrimental to the survival of the species.

~~For this group of *assisted production* plants, the new source code "Y" can now be .~~ This allows Parties to permit ~~methods~~ trade ~~of cultivation that produce~~in specimen plants~~that~~ do not qualify as artificially propagated and that are not wild ~~and the subsequent use of source code "A" which no longer need to be traded as wild~~ (see Annex I: Figure E).

! Since source code Y specimens do not meet the definition of 'artificially propagated', they therefore do not qualify for the exemptions and other special provisions under Article VII, paragraphs 4 and 5. In practical terms~~s~~, commercial trade in specimens of Appendix I species derived from assisted production would be prohibited under Article III paragraph 3 c).

Interpretation and application of source codes for plants

Source codes on CITES permits and certificates are reported as a one-letter code (see column 'Codes' in Table 1). According to Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19) on *Permits and certificates*, there are seven options to indicate the original source in permits and certificates of the specimen of a plant species being traded (W, Y, D, A, U, I and O); all of these ~~except the new source code Y~~ are reflected in ~~current version of~~the '~~*A*~~ *Guide to the application of CITES source codes*'[14].

When determining a source code, careful consideration should be given to the origin of the species~~, the purpose of the transaction (e.g., specimens traded for commercial or non-commercial purpose, such as for a botanic garden)~~ and to the CITES Appendix in which the taxon concerned is listed.

Descriptions of the range of sources of plant specimens and guidance on the use of source codes are provided in Table 1 (and Figure A). If a non-detriment finding (NDF) and/or a legal acquisition finding (LAF) is required, this is also indicated in Table 1 (and Annex I -Figure A).

[13] Paragraph 10 a) and b) of Resolution Conf. 11.11 (Rev. CoP18).
~~[14] The guidance provided herein complements and expands upon the guidance provided within the relevant Resolutions and the 2017 IUCN Guide to provide further clarity to Parties on the use of plant source codes.~~

Table 1. List of source codes for plants and parts and derivative thereof, their definition and application, and interpretation of the NDF requirements under the provisions of Articles III and IV of the Convention and LAF requirements under the provisions of Articles III, IV and V of the Convention. Underlined text refers to the purpose of the ~~transaction~~propagation; **bold** text indicates the CITES Appendix (App). Unless otherwise indicated by a footnote, all definitions are sourced from Resolution Conf. 12.3 (Rev. ~~CoP18~~CoP19) on *Permits and certificates*. The requirements for making NDFs under each source code in the table below align with the information contained in Module 2 (V1.0) of the CITES NDF guidance: Practical Considerations for Making Non-Detriment Findings.

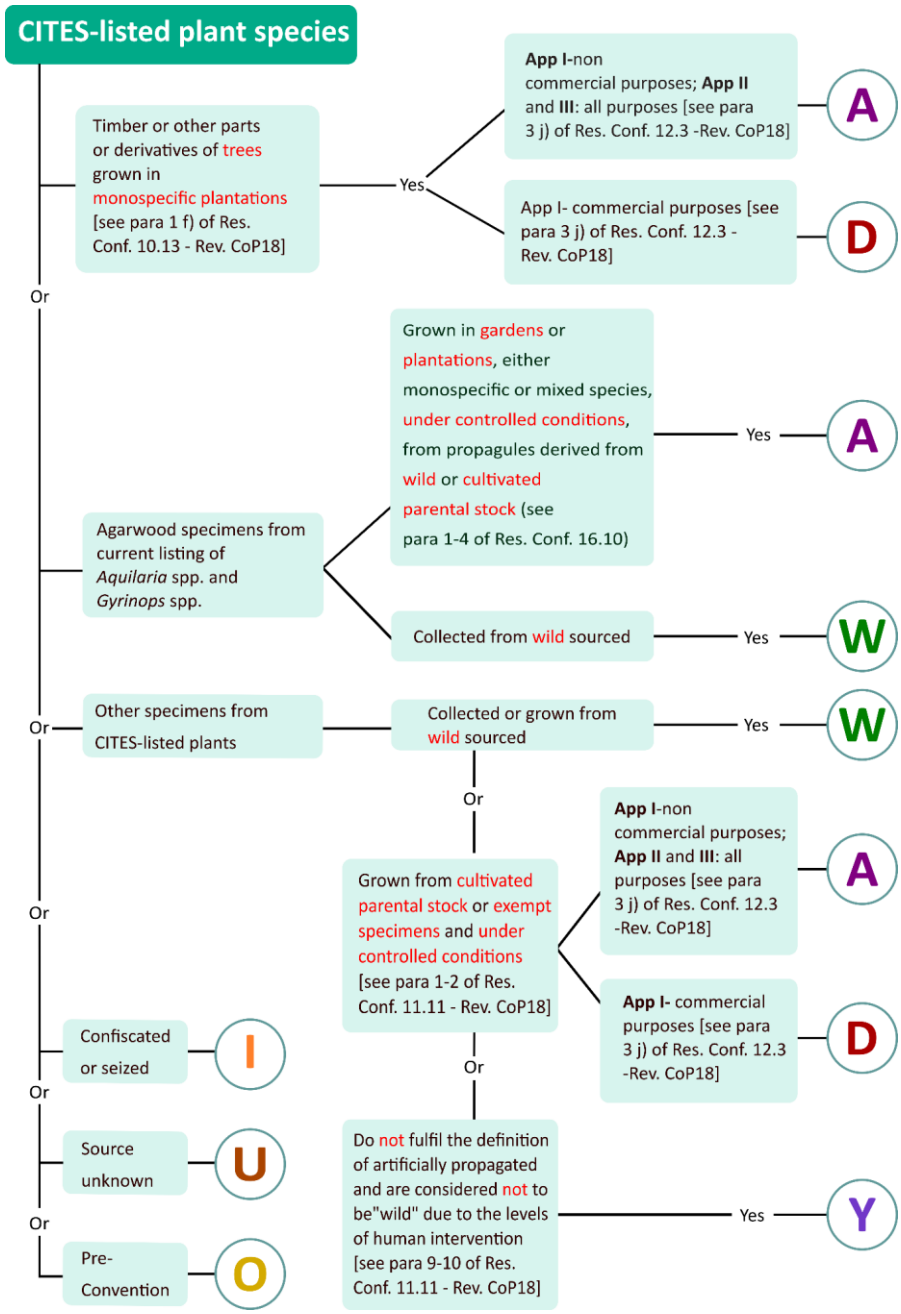
Source codes	Description	Definition	Application	Requirement for a non-detriment finding (NDF)	Requirement for a legal acquisition finding (LAF) or other legal finding[15]
A	Artificially propagated plant	Plants that are artificially propagated in accordance with Resolution Conf. 11.11 (Rev. CoP18), as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 5 (specimens of species included in **App I** that have been propagated artificially for non-commercial purposes and specimens of species included in **App II and III**)[16]. Artificially propagated hybrids of unannotated **App I** plant species are treated as App II for purposes of Article VII, paragraph 5[17].	To be used for: **App I** – propagated for non-commercial purposes **App II** and **III**: all purposes.	Yes: only for founder stock removed from the wild of **App I and II** listed plants used to establish the cultivated parental stock in the propagation system involved[18] and for any harvest of additional wild specimens for augmentation.	Yes: for founder stock of **App I, II and III** listed plants used to establish the cultivated parental stock in the propagation system involved[19] and for re-export to ensure prior trade was in compliance with CITES.
D	Artificially propagated plant	**Appendix-I** plants artificially propagated for commercial purposes, as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 4, of the Convention.	To be used for: **App I** – propagated for commercial purposes;	Yes: for founder stock removed from the wild of **App I** listed plants used to establish the cultivated parental stock in the propagation system involved[18] and any harvest of additional wild specimens for augmentation. ~~Yes: for specimens treated as App II under Article VII, paragraph 4 and exported under Article IV.~~	Yes: for founder stock of **App I** listed plants used to establish the cultivated parental stock in the propagation system involved[20]; Yes: for export permit of **App I** listed plants[21], and for re-export to ensure prior trade was in compliance with CITES.

[15] Resolution Conf. 18.7 (Rev. CoP19) on Legal acquisition findings.
[16] In addition to Resolution Conf 12.3 (Rev. ~~CoP18~~CoP19), for the definition of artificial propagated specimen for agarwood-producing taxa the reader must refer to Resolution Conf. 16.10, and for tree species must refer to Resolution Conf. 10.13 (Rev. CoP18).
[17] Paragraph 5 of the Interpretation section of the CITES Appendices.
[18] Resolution Conf. 11.11 (Rev. CoP18).
[19] Resolution Conf. 11.11 (Rev. CoP18).
[20] Resolution Conf. 11.11 (Rev. CoP18).
[21] Article III 2 (b) of the CITES Convention.

Source codes	Description	Definition	Application	Requirement for a non-detriment finding (NDF)	Requirement for a legal acquisition finding (LAF) or other legal finding[15]
I	Confiscated or seized	Specimens that were acquired illegally; imported or (re-)exported in violation of the Convention[22].	**All Appendices.**	Yes (in exceptional circumstances). An NDF is required by the Party that confiscated the specimen if it allows the specimen to enter back into trade (see Resolution Conf. 17.8 (Rev. CoP19), paragraph 8 c)).	Not applicable, except for export or re-export of confiscated specimens, under limited circumstances in accordance with Resolution Conf. 17.8 (Rev. CoP19).
O	Pre-Convention	Specimens that were acquired before the provisions of the Convention applied to that specimen[23].	**All Appendices.** Source code O may be used with other source codes. To be used only in pre-Convention certificates. Date of acquisition is defined in Resolution Conf. 13.6 (Rev.CoP18).	Not required. ~~applicable.~~	Verification of date of acquisition, as defined in Resolution Conf. 13.6 (Rev. CoP18).
U	Unknown	The source is unknown (source code U must be justified).	**All Appendices.** Specimens to be traded as source code 'U' are treated the same as source code 'W'.	Yes: see W below.	Yes: see W below.
W	Wild	Specimens taken from the wild, as well as parts and derivatives thereof.	**All Appendices.**	Yes: for exports of **App I** and **II** listed plants[24]; Yes: for imports of **App I** listed plants[25].	Yes: for exports of plants in **all Appendices**[26]; Yes: for imports of **App I** listed plants[27]. Yes: for re-export of **App I** and **II** listed plants[28].
Y	Assisted production	Specimens of plants that fulfil the definition for 'assisted production' in Resolution Conf. 11.11 (Rev. CoP18) as well as parts and derivatives thereof.	**All Appendices.**	Yes: for exports of **App I and II** listed plants. Yes: for imports of **App I** listed plants.	Yes: for exports of plants in **all Appendices**[29]. Yes: for imports of **App I** listed plants[30]. Yes: for re-exports of **App I** and **II** listed plants[31].

[22] Resolution Conf. 17.8 (Rev. CoP19) on Disposal of illegally traded and confiscated specimens of CITES-listed species.
[23] Article VII, paragraph 2 of the CITES Convention; Resolution Conf. 13.6 (Rev. CoP18).
[24] Article III 2 (a) and Article IV 2 (a) of the CITES Convention.
[25] Article III 3 (a) of the CITES Convention.
[26] Article III 2 (b), Article IV 2 (b) and Article V 2 (a) of the CITES Convention.
[27] Article III 3 (c) of the CITES Convention.
[28] Article III 4 (a) and Article IV 5 (a) of the CITES Convention.
[29] Article III 2 (b), Article IV 2 (b) and Article V 2 (a) of the CITES Convention.
[30] Article III 3 (c) of the CITES Convention.
[31] Article III 4 (a) and Article IV 5 (a) of the CITES Convention.

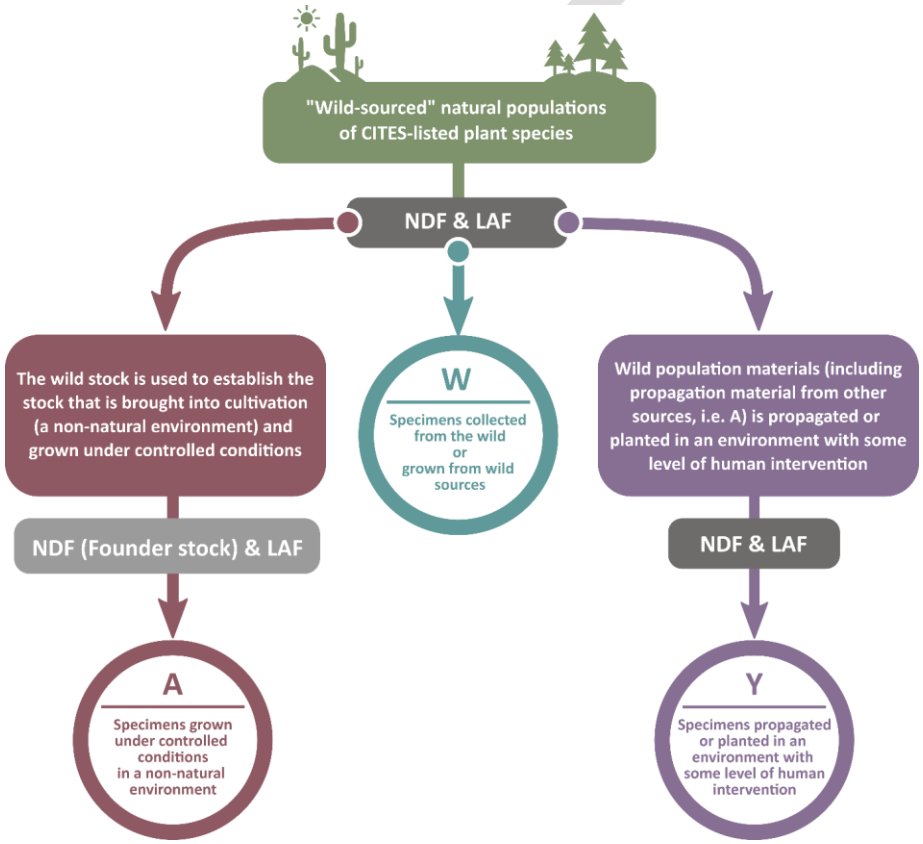
Figure 1. Flow chart differentiating the source codes that can be used for CITES-listed plants.



Annex I: A visual guide to NDF-LAF requirements, terms and definitions

This Annex provides a series of figures that help readers to visualise the legal and scientific requirements for trade in CITES-listed plants under three source codes – **Figure A**, as well as the main terms and definitions used in CITES Resolutions concerning artificially propagated plants: 'under controlled conditions' and 'cultivated parental stock' – **Figure B**; timber producing trees – **Figure C**; agarwood producing taxa – **Figure D**; and assisted production – **Figure E**.

Figure A: Overview of the differences between the source codes ('A', 'W' and 'Y'), as well as the stage at which a legal acquisition finding (LAF) is required by a Management Authority and a non-detriment finding (NDF) is required by a Scientific Authority for trade in CITES-listed plants.



Note: The requirement for both an NDF and an LAF for the founder stock removed from the wild and any harvest of additional specimens for augmentation for source code A is equally applicable to source code D. ~~Both an NDF and an LAF are also required for the issuance of an export permit for the qualifying source code D~~ specimens intended for international trade that are treated as Appendix II under Article VII, paragraph 4 and traded under Article IV. LAF are required for all original collections of parental stock, as well as acquisition of cultivated parental stock from suppliers that produce specimens that are propagated in accordance with Resolution Conf. 11.11 (Rev. CoP18).

Commented [A1]: Rename the top box as "Wild populations of CITES-listed plants", connect the two arrows that lead to the descriptions of materials for source codes A and Y directly to the top box, and align the three circular boxes with source codes A, W and Y at the same level - to avoid the double NDF & LAF for A and Y

Figure B: The main terms concerning source code 'A' for "artificially propagated" plants are: 'under controlled conditions' and 'cultivated parental stock' [Resolution Conf. 11.11 (Rev. CoP18)].

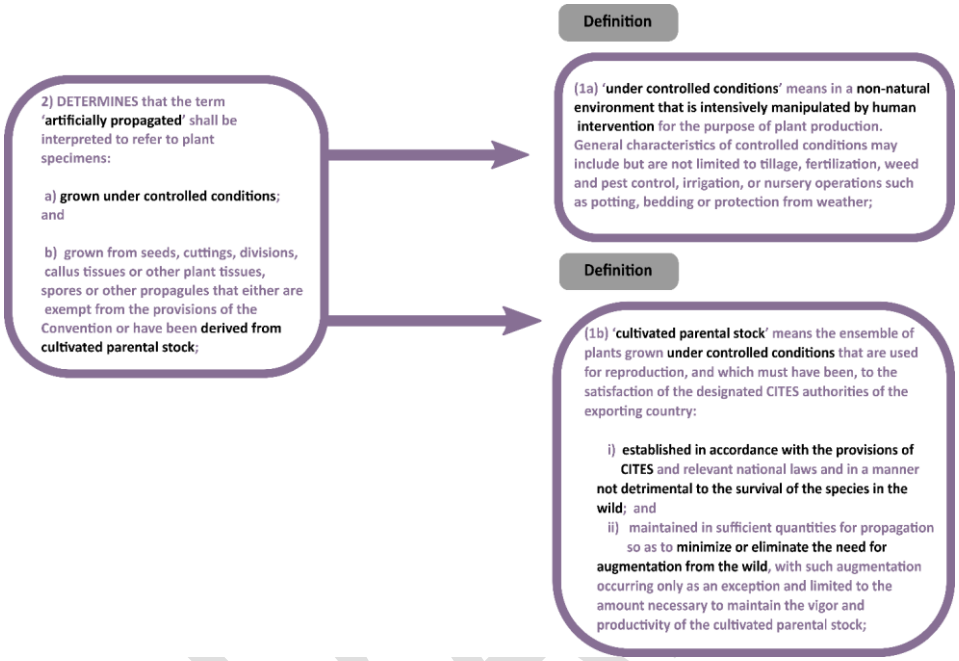


Figure C: Definition of "artificially propagated" for timber and other wood products-producing trees [Resolution Conf. 10.13 (Rev. CoP18)].

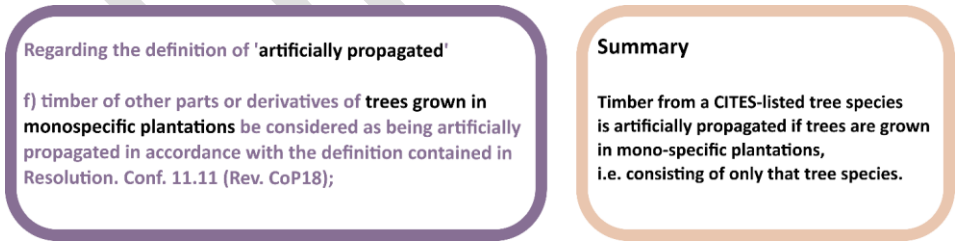


Figure D: Definition of "artificially propagated specimens" for agarwood-producing taxa of the genera *Aquilaria* and *Gyrinops* (Resolution Conf. 16.10).

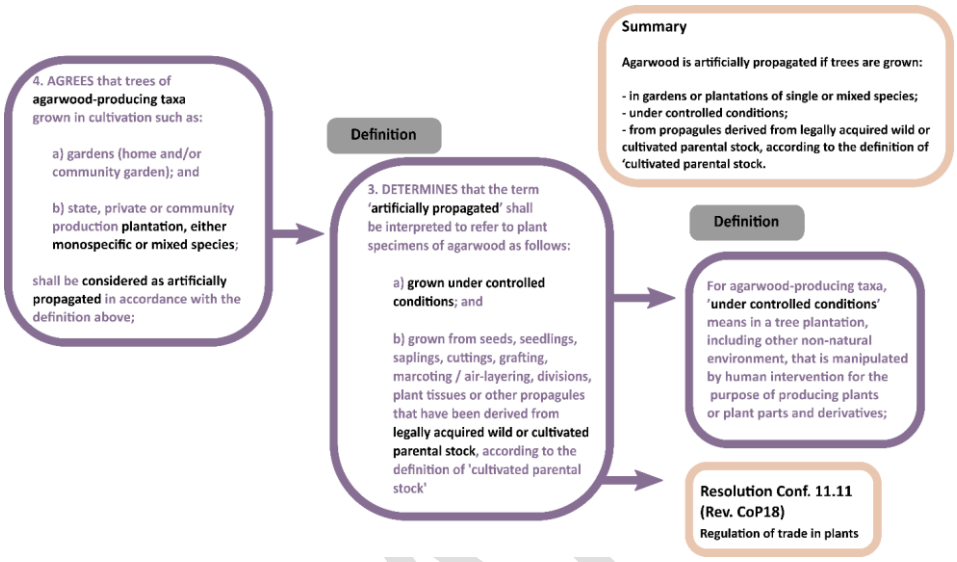
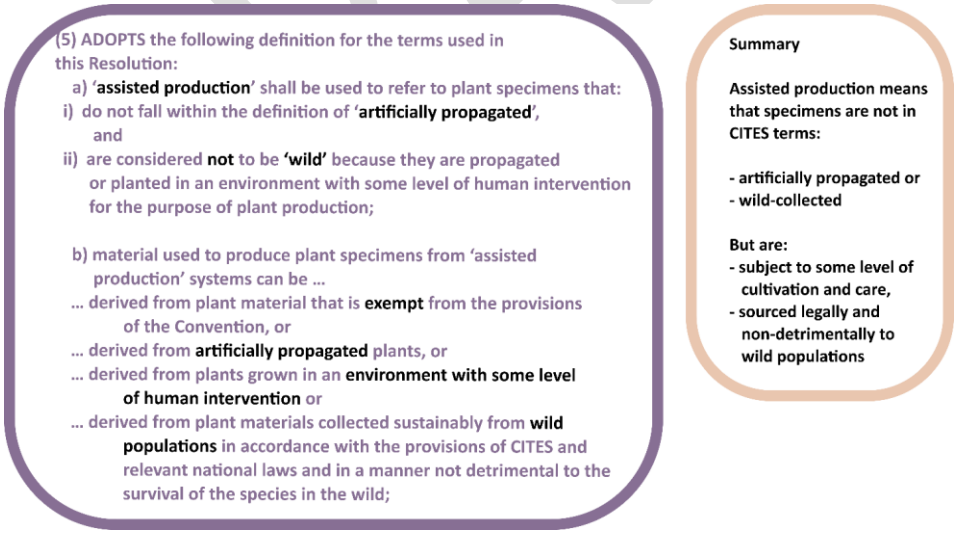


Figure E: Main criteria for plants (including parts and derivatives thereof) obtained through 'assisted production' (source code Y) is that plants are propagated or planted in an environment with some level of human intervention for the purpose of plant production.



Annex II: Case studies on the use of source code Y

This Annex addresses paragraph a) of Decision 19.182 to inform CITES Authorities on the variety of plant production systems qualifying as 'assisted production' that are already in use, together with best practises on the use of source code Y to date.

Four case studies on the use of source code Y for perennial and timber species, based on the experience of CITES Parties, are presented. Case studies were collected via consultations with Parties and regional representatives of the CITES Plants Committee in all CITES regions (the consultations were carried out by UNEP-WCMC in March 2024).

The four case studies on the use of source code Y cover a range of taxa, including perennial plants and timber species, across a geographical spread, as follows:

Case Study	CITES Party	CITES Region	Species
1	Mexico	North America	*Cedrela odorata* (Spanish cedar) and *Swietenia macrophylla* (Big-leaf mahogany)
2	China	Asia	*Rhodiola rosea* (Golden root)
3	India	Asia	*Aquilaria malaccensis* (Eaglewood)
4	Peru	Central and South America and the Caribbean	*Aniba rosaeodora* (Brazilian rosewood)

Case studies presented provide a summarised version of the initial Party submissions; inverted commas " - " indicate direct excerpts from the case studies as submitted by CITES Parties.

In applying source code Y, Parties indicated the following best practices:

- The formulation of NDFs for Y-sourced specimens is similar in rigour to the approach followed for wild-sourced specimens;
- The precautionary principle should be applied for Y-sourced specimens, when these cannot be clearly distinguishable from specimens grown from the wild;
- Attention should be paid to the origin of the founder stock used to replenish the cultivation parental stock, and to the amount of human intervention/silvicultural practices in use for the specimens to qualify as assisted production/ Y-sourced.

Case study 1: *Cedrela odorata* (Spanish cedar) and *Swietenia macrophylla* (Big-leaf mahogany) in Mexico	
Institution	CITES Scientific Authority of Mexico: CONABIO.
Species lifeform in trade	Bark, carvings, longs, plywood, sawn wood, timber, veneer, wood product. [Mexico has not yet exported both species under source code Y].
Geographic location	*Cedrela odorata* occurs across Mexico from the north to the southeast of the country. Both species can be found in the Yucatan Peninsula. *S. macrophylla* is naturally distributed in the southeast of the country, and it is primarily exported from the State of Quintana Roo.
Motivation for using source code Y	The CITES Scientific Authority of Mexico reported that in 2023 a project focused on Mexican timber species was developed to understand and interpret the definition of source code Y and its applicability to their national forest management scheme. The definition was found to be applicable to all cultivated perennial and timber species from "manipulated seeds not wild / naturally grown" in their natural habitat in Mexico. Mexico aims to maintain its forests, with the exception of commercial plantations, in a natural state. However, management measures (e.g., human interventions) are often needed to help forests recover from harvesting cycles and increase production. Commercial forest plantations of timber species, such as *Cedrela odorata,* can be established within the natural habitat of the species, and cultivated seedlings are left to grow and develop naturally. Seedlings are not of wild origin and are not intensively managed; therefore, source codes W and A are not applicable and source code Y is more appropriate.
Management / production system in place for source code Y specimens	At early developmental stages, plants are propagated under controlled conditions; later, young plants are left growing in their natural habitat with a certain degree of human intervention (e.g., low-density planting, uneven age management).
Considerations for undertaking NDFs under source code Y	The Scientific Authority of Mexico noted that: - Planted/cultivated trees (under the forest management scheme) would meet the definition of assisted production (Y); - Trees growing from naturally dispersed seeds in their natural ecosystems would meet the definition of wild-sourced specimens (W). The Scientific Authority of Mexico develops species-specific NDFs. Formulating an NDF and establishing a sustainable harvesting rate for wild-sourced specimens involves gathering data on, *inter alia*, species biology, pre-harvest evaluation and estimates, harvesting area inventory/sampling data, and conservation management measures in place. The making of NDFs for source Y specimens is similar to the approach followed for wild-sourced specimens; however, greater attention is given to the composition and structure of the populations of the species concerned over time.
Recommendations and best practices in applying source code Y	Source code Y should be applied to specimens propagated from seeds in a controlled environment that are then planted in an environment with a certain level of human intervention (e.g., forest management scheme). They must be clearly distinguishable from specimens grown in the wild (i.e., those from wild-dispersed seeds that are grown in natural forests and without any human interventions at any developmental stage). When this distinction cannot be made, the CITES Scientific Authority of Mexico notes that source code W should be applied in line with the precautionary principle.

Case study 2: *Rhodiola rosea* (roseroots), in China	
Institution	CITES Scientific Authority of China: Chinese Academy of Science[32].
Species lifeform in trade	Extract, roots. [China reported to have started exporting Y-sourced specimens of *R. rosea* in 2023, when the Appendix II listing became applicable; this trade is not yet visible in the CITES Trade Database as annual reports for 2023 are due only in October 2024].
Geographic location	Wild populations of *R. rosea* are reported to be small and scattered in North China, with the few remaining wild populations located mainly within protected areas in northern China, including within nature reserves and temples.
Motivation for using source code Y	The harvesting of wild whole plants of *R. rosea* is prohibited in China (in 2021 the species was listed in the List of China's National Key Protected Plants list, Class II), and seed collection from wild populations is granted only for scientific research and 'rescue breeding'.
Management / production system in place for source code Y specimens	Local commercial plantations are reported to be well established in China and under further development. With the permission and supervision of rangers and monks, seeds from wild plants may be harvested in protected areas or temples *to "maintain the cultivation quality"*. Plants grown from seeds are then cultivated in *a* "farmland environment that is intensively manipulated by human intervention for the purpose of plant production". After a period of 3–4-years, whole plants are ready to be harvested. Since high yields of seeds and seedlings are produced in cultivation, these are often sold in the interim to allow producers to recover from the cost of waiting for the plants to reach harvestable size.
Considerations for undertaking NDFs under source code Y	For NDF formulation, the CITES Scientific Authority of China reported that plants or specimens traded under source code Y should be assessed with higher rigour and being considered as wild specimens (W) while determining, for example, identification and taxonomy, conservation concern, intrinsic biological risk, and harvest impact on individual plants.
Recommendations and best practices in applying source code Y	The CITES Authorities of China noted that source code Y "can be applied to specimens produced through some particular silviculture practices, such as enrichment plantings and assisted natural regeneration". Cultivated specimens of *R. rosea* from verified plantations have been exported from China under source code Y and as pre-Convention specimens (source code O) since summer 2023.

[32] Source of information: 'Non-detriment Finding for Roseroots/Rhodiola Rosea/ North China', available on the CITES Website at: https://cites.org/sites/default/files/ndf/NDF_workshop_2023/NDF%20case%20study%20on%20Rhodiola%20rosea.pdf and CITES COP19 Inf. Doc.15, available at https://cites.org/sites/default/files/documents/E-CoP19-Inf-15_0.pdf.

Case study 3: *Aquilaria malaccensis* (Eaglewood) in India	
Institution	CITES Scientific Authority of India: Botanical Survey of India (BSI)[33].
Species lifeform in trade	Carvings, chips, derivatives, extract, live, logs, medicine, oil, powder, roots, sawn wood, seeds, stems, timber, veneer, wax, wood product. [Although at present no trade data in Y-sourced specimens of *A. malaccensis* has been reported, India indicated that the use of source code Y has started in the country].
Geographic location	Wild trees of *A. malaccensis* can be found in the following north-eastern States of India: Arunachal Pradesh, Assam, Manipur, Nagaland, and Tripura. The species can be found in cultivation throughout the country, in ~22 States: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Manipur, Mizoram, Meghalaya, Nagaland, Odisha, Punjab, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh, West Bengal, and potentially also in Jharkhand and Rajasthan.
Motivation for using source code Y	Currently, trade in *A. malaccensis* consists of specimens harvested only from trees cultivated in "home/community gardens, private or community production plantations, and from plantations in leased lands". India does not use source code W for *A. malaccensis* because, due to past overharvest, wild populations of *A. malaccensis* are now mostly restricted to protected areas in the north-east of the country, where the harvest of any species is not permitted. Source code A is not applicable, due to the origin of the seeds used in cultivation; seeds are typically derived from cultivated mother plants, but in rare cases are harvested sustainably from the wild, including from protected areas. Thus, in some instances, it is not possible to guarantee with complete certainty whether seeds originated from wild or cultivated parental stocks. The CITES Scientific Authority of India reported that, although source code A could be used under Resolution Conf. 16.10 for agarwood producing species derived from wild propagules and then grown under controlled conditions in gardens and state/private/community production plantations, source code Y is the 'preferred' source code on a "precautionary basis". In addition, *A. malaccensis* is classified as Critically Endangered in the wild at global level in the IUCN Red List, and the CITES MA of India noted that the requirement for NDFs for Y-sourced specimens may help to strengthen monitoring and protection of the remaining wild population.
Management / production system in place for source code Y specimens	*A. malaccensis* is cultivated and harvested in a range of private and community owned lands. Plantations can be either monospecific or mixed species. Cultivated plants are grown from seeds (originating from cultivated mother plants or wild plants) or through coppicing. In some instances, seeds from wild trees growing just outside protected areas, are collected by local people.
Considerations for undertaking NDFs under source code Y	According to the CITES Scientific Authority of India, source code Y should be applied, and NDFs issued, in cases where there is some doubt as to the origin of the specimens' propagules (wild/cultivated).
Recommendations and best practices in applying source code Y	No limitations were encountered in the use of source code Y for this species in India; however, the CITES Scientific Authority indicated that the definition of 'assisted production' in Resolution Conf. 11.11 (Rev. CoP18) could benefit from examples and further clarification regarding the term 'some level of human intervention'.

[33] Information received by the CITES Authority of India were complemented with the information contained in the 2024 Report on Non-Detriment Findings of *Aquilaria malaccensis* in India, available on the CITES website at: https://cites.org/sites/default/files/ndf_material/INDIA%20-%20NDF%20Study%20Report%20of%20A%20malaccensis%20%28Agarwood%29%20in%20India.pdf.

Case study 4: *Aniba rosaeodora* (Brazilian rosewood, Palo rosa) in Peru	
Institution	CITES Management Authority of Peru: National Forestry and Wildlife Services (SERFOR).
Species lifeform in trade	Extract, oil, wood product. [Exports of Y-sourced specimens of *A. rosaeodora* from Peru have been reported since 2021].
Geographic location	Registered plantations of *A. rosaeodora* can be found in Loreto in the northern department of Peru (where the majority of *A. rosaeodora* plantations are located), and in the south-eastern department of Madre de Dios.
Motivation for using source code Y	In Peru, the definition of 'plants obtained through assisted production' is consistent with the definition of forest plantations as defined in their National Regulations, such as the Regulation for the Management of Forest Plantations and Agroforestry Systems. According to the Peruvian Regulation, 'forest plantations' are defined as "ecosystems formed from human intervention through the introduction of one or more native forest species for the purpose of producing wood or non-timber products… and registered in the National Registry of Forest Plantations". Based on this definition, specimens of *A. rosaeodora* (used to produce rosewood oil for export) originating from registered forest plantations meet the definition of 'assisted production' and can be exported under source code Y.
Management / production system in place for source code Y specimens	The use and management of all CITES-listed species originated in forest plantations is regulated by national regulations (e.g., the National Registry of Forest Plantations) and the provisions of CITES. To ensure the legality of specimen exploitation, all human interventions in forest plantations must be authorised and recorded by the Regional Forestry Authorities.
Considerations for undertaking NDFs under source code Y	NDFs issued by the CITES Scientific Authority are required for all CITES-listed species originating in forest plantations prior to the granting of export permits by the Management Authority.
Recommendations and best practices in applying source code Y	The CITES Scientific Authority should be consulted when doubts around the definitions of 'assisted production' and 'artificial propagation' arise; additional procedures around the determination of source code Y might be needed.

~~A~~ Guide to the application of CITES source codes

First edition: February 2017.

Prepared under contract for the CITES Secretariat by the International Union for Conservation of Nature (IUCN), Rue Mauverney 28, 1196 Gland, Switzerland.

Written by Jessica A. Lyons, Daniel J. D. Natusch and Robert W. G. Jenkins.

Produced with the financial support of the European Union.

Second edition: August 2024

Revised under contract from the CITES Secretariat by UNEP-WCMC.

Citation: CITES Secretariat (2024) *Guide to the application of CITES source codes*.

CITES Secretariat
Maison internationale de l'environnement
Chemin des Anémones

CH-1219 Châtelaine, Genève
Switzerland

Tel: +41(0)22 917 8139/40
Fax: +41(0)22 797 34 17
E-mail: info@cites.org
Web: www.cites.org

1.0 Background and Introduction

The role of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is to regulate international trade in CITES-listed animals and plants to ensure their survival in the wild is not threatened. To achieve this, it is important that management systems used to produce specimens for international trade are clearly defined and understood, and the impact of each regime on wild populations is appropriately assessed. Each system should have an associated source code to be used on CITES permits and certificates, which informs Parties about the management system used to produce specimens and thus which provisions of the Convention apply. For example, an animal that is born in the wild has the source code "W" for wild. There are ~~ten~~ eleven source codes currently used to signify the origin of specimens of CITES-listed species in trade (explained in detail in Section 2.0).

To assist Parties with the task of correctly applying source codes for exports of CITES species, Decision 15.52 from the Fifteenth Meeting of the CITES Conference of the Parties (Doha, Qatar, 13-25 March 2010) requested the CITES Secretariat to:

> *"…contract an appropriate expert to prepare a guide to advise the Parties on the appropriate use of source codes…to be provided to the Animals and Plants Committee for review and comment".*

http://www.cites.org/sites/default/files/eng/cop/16/doc/E-CoP16-48.pdf

The CITES Secretariat in turn commissioned the IUCN to carry out this task. This report is the result of this work and aims to guide CITES Parties in the appropriate application of source codes for specimens entering international trade.

At CITES CoP19 (Panama City, 2020), Decisions 19.182 & 19.183 on *Guidance on the term 'artificially propagated'* were adopted, and directed the CITES Secretariat to:

"…review the existing guidance materials, specifically A guide to the application of CITES source codes *to ensure alignment with a finalized version of the Preliminary guidance on terms related to the artificial propagation of CITES regulated plants and report its findings to the Plants Committee for consideration",* and

Directed the Plants Committee to:

"…consider the report from the Secretariat on the revision of the existing guidance materials…. and if appropriate, approve the update to the Guide to the application of CITES source codes*".*

https://cites.org/eng/dec/index.php/44349

In line with Decisions 19.182 & 19.183, the *Guide to the application of CITES source codes* was updated in May 2024 to reflect the adoption of the source code Y on 'assisted production' as adopted in Resolution Conf. 11.11 (Rev. CoP18) on *Regulation of trade in plants,* and to ensure its alignment with the *Preliminary guidance on terms related to the artificial propagation of CITES regulated plants.*

2.0 Current Source Codes and Production Systems

The source code definitions used here are taken from Resolution Conf. 12.3 (Rev. ~~CoP17~~CoP19) and the CITES website. For further explanation of terms please see the CITES Glossary: http://www.cites.org/eng/resources/terms/glossary.php

Source code	Description	CITES Appendix	Definition
W	Wild	I, II, III	Specimens taken from the wild.
X	Marine environment	I, II, III	Specimens taken from the marine environment not under the jurisdiction of any State.
R	Ranched animal	I, II, III	Specimens of animals reared in a controlled environment, taken as eggs or juveniles from the wild, where they would otherwise have had a very low probability of surviving to adulthood.
D	Captive-bred animal or artificially propagated plant	I	Appendix-I animals bred in captivity for commercial purposes in operations included in the Secretariat's Register, in accordance with Resolution Conf. 12.10 (Rev. CoP15), and Appendix-I plants artificially propagated for commercial purposes, as well as parts and derivatives thereof, exported under the provisions Article VII, paragraph 4, of the Convention.
A	Artificially propagated plant	I, II, III	Plants that are artificially propagated in accordance with Resolution Conf. 11.11 (Rev. ~~CoP17~~CoP18), as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 5 (specimens of species included in Appendix I that have been propagated artificially for non-commercial purposes and specimens of species included in Appendices II and III). Artificially propagated hybrids of unannotated Appendix-I plant species shall be treated as included in Appendix II for purposes of Article VII, paragraph 5.
C	Bred in captivity	I, II, III	Animals bred in captivity in accordance with Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 5.
F	Born in captivity	I, II, III	Animals born in captivity (F1 or subsequent generations) that do not fulfil the definition of 'bred in captivity' in Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof.
Y	Assisted production	I, II, III	Specimens of plants or derivatives that fulfil the definition of 'plant obtained through assisted production' ('assisted production') in Resolution Conf. 11.11 (Rev. CoP18): plant specimens that do not fulfil the definition of 'artificially propagated, and are considered not to be 'wild' because they are propagated or planted in an environment with some level of human intervention for the purpose of plant production.
U	Unknown	I, II, III	Source of the specimen is unknown, but must be justified.
I	Confiscated or seized	I, II, III	Specimens that have been confiscated or seized, this source code must be used in conjunction with another source code.
O	Pre-Convention	I, II, III	Specimen acquired before the provisions of the Convention applied to it. If a certificate is issued by a Management Authority, then no other permit or certificate is required under the Convention to authorise export, import or re-export.

3.0 Source Code dichotomous key

A source code dichotomous key was developed to assist Parties in correctly applying source codes for exports of CITES-listed specimens. Instructions on how to use the key are as follows:

1. For international trade in both plants and animals, including their parts and derivatives, begin at the bold "**X**" below on this page.

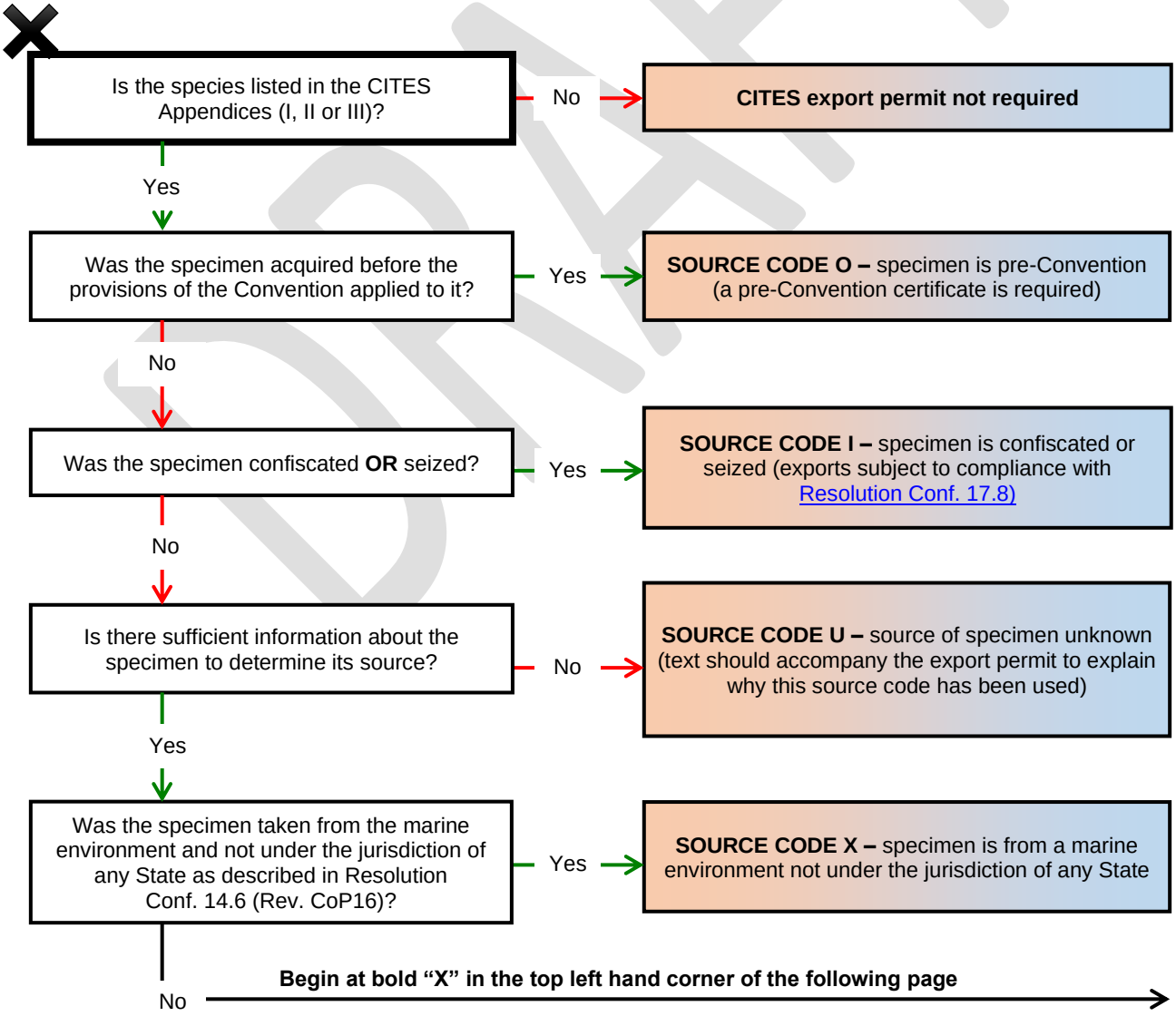
2. For each question follow either the "yes" or "no" arrows to the next question box until finishing with a coloured box. The coloured boxes indicate the CITES source code that should be used when issuing permits and certificates for a specimen.

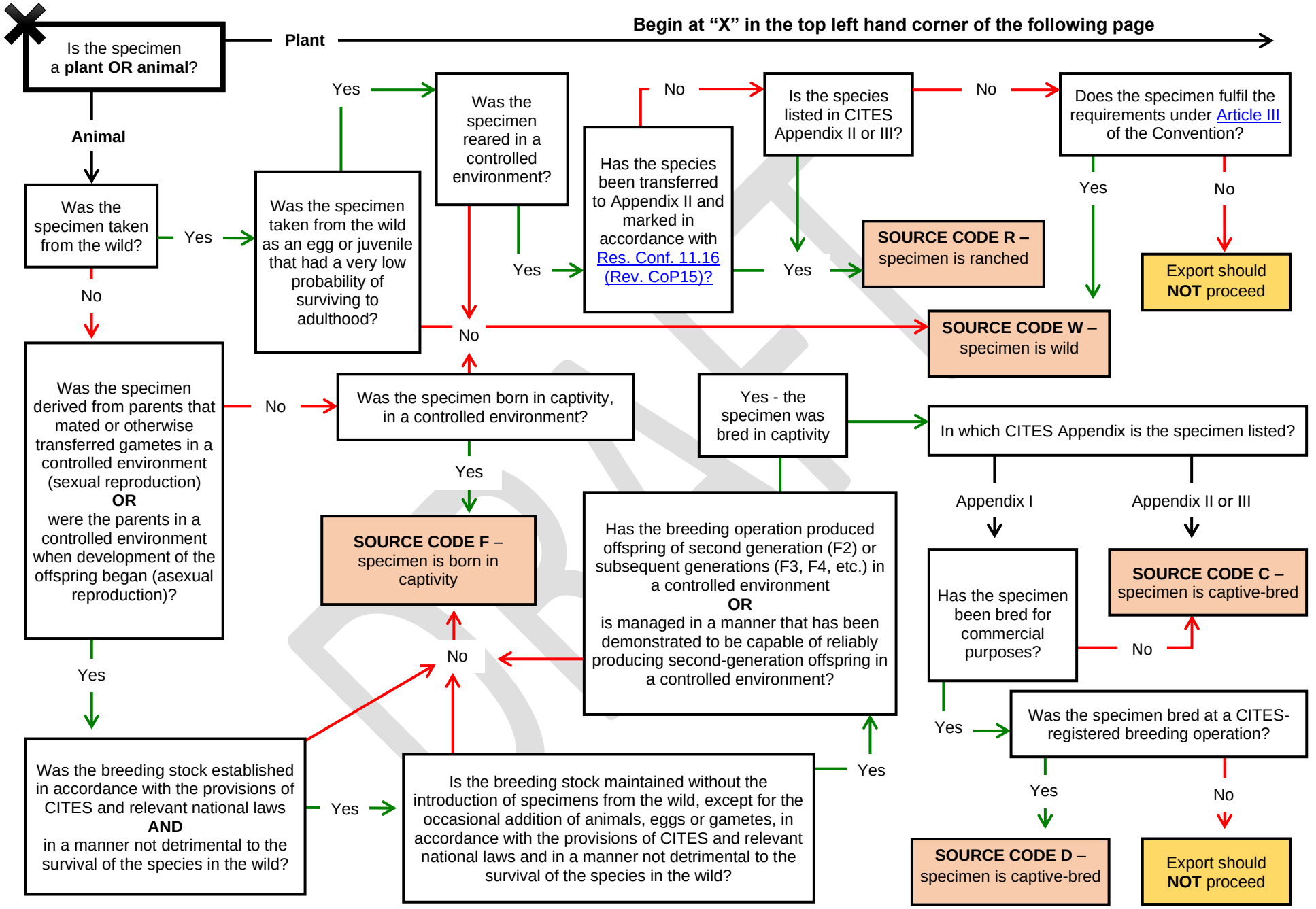
3. Some boxes feature an asterisk that direct the user to further guidance (found in Sections 4.0 to 7.0) for determining source codes.

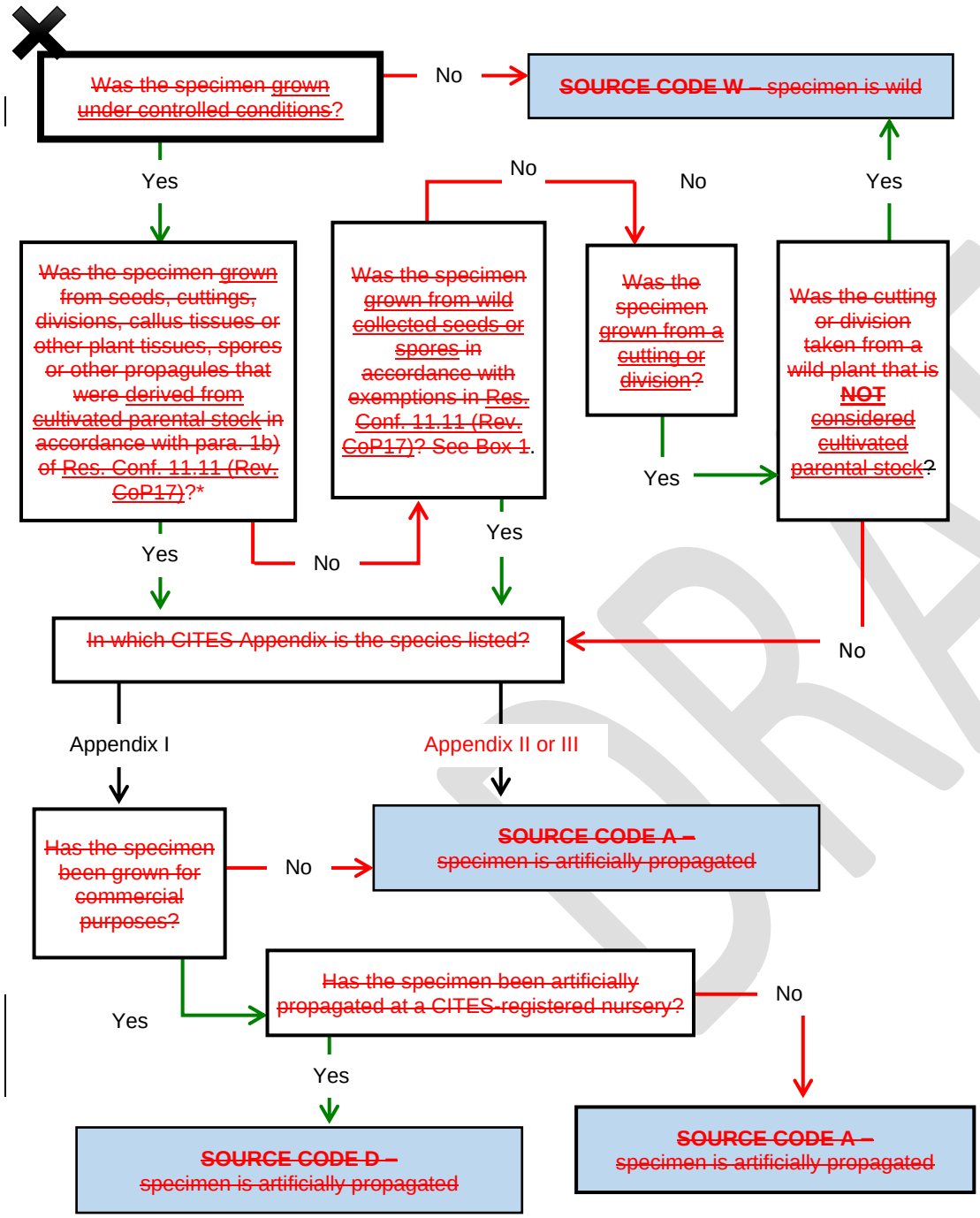
4. If still unsure which source code should be used for a particular specimen, consult the CITES Secretariat.

5. Also note there are several exemptions and special provisions that apply to CITES-listed specimens – **links to exemptions and special provisions are provided in Section 7.0 of this guidance.**

6. The same information is shown in question format in the Annex to this guide (see page 12 "Flow chart in questionnaire format").




Begin at “X” in the top left hand corner of the following page
Is the specimen a **plant OR animal**?
Plant
Animal
Was the specimen taken from the wild?
Yes
No
Was the specimen taken from the wild as an egg or juvenile that had a very low probability of surviving to adulthood?
Yes
No
Was the specimen reared in a controlled environment?
Yes
No
Has the species been transferred to Appendix II and marked in accordance with Res. Conf. 11.16 (Rev. CoP15)?
Yes
No
Is the species listed in CITES Appendix II or III?
Yes
No
Does the specimen fulfil the requirements under Article III of the Convention?
Yes
No
SOURCE CODE R – specimen is ranched
Export should **NOT** proceed
SOURCE CODE W – specimen is wild
Was the specimen derived from parents that mated or otherwise transferred gametes in a controlled environment (sexual reproduction) **OR** were the parents in a controlled environment when development of the offspring began (asexual reproduction)?
Yes
No
Was the specimen born in captivity, in a controlled environment?
Yes
No
SOURCE CODE F – specimen is born in captivity
Was the breeding stock established in accordance with the provisions of CITES and relevant national laws **AND** in a manner not detrimental to the survival of the species in the wild?
Yes
No
Is the breeding stock maintained without the introduction of specimens from the wild, except for the occasional addition of animals, eggs or gametes, in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild?
Yes
Has the breeding operation produced offspring of second generation (F2) or subsequent generations (F3, F4, etc.) in a controlled environment **OR** is managed in a manner that has been demonstrated to be capable of reliably producing second-generation offspring in a controlled environment?
Yes - the specimen was bred in captivity
In which CITES Appendix is the specimen listed?
Appendix I
Appendix II or III
Has the specimen been bred for commercial purposes?
Yes
No
SOURCE CODE C – specimen is captive-bred
Was the specimen bred at a CITES-registered breeding operation?
Yes
No
SOURCE CODE D – specimen is captive-bred
Export should **NOT** proceed



Box 1. Exemptions for plants grown from seeds and spores [Resolution. Conf. 11.11 [Rev. CoP17]]

An exception may be granted and specimens deemed to be artificially propagated if grown from wild-collected seeds or spores only if, for the taxon involved:

a) **i)** the establishment of a cultivated parental stock presents significant difficulties in practice because specimens take a long time to reach reproductive age, as for many tree species;

ii) the seeds or spores are collected from the wild and grown under controlled conditions within a range State, which must also be the country of origin of the seeds or spores;

iii) the relevant Management Authority of that range State has determined that the collection of seeds or spores was legal and consistent with relevant national laws for the protection and conservation of the species; and

iv) the relevant Scientific Authority of that range State has determined that:

A. collection of the seeds or spores was not detrimental to the survival of the species in the wild; and

B. allowing trade in such specimens has a positive effect on the conservation of wild populations;

b) at a minimum, to comply with subparagraphs a) iv) A. and B. above:

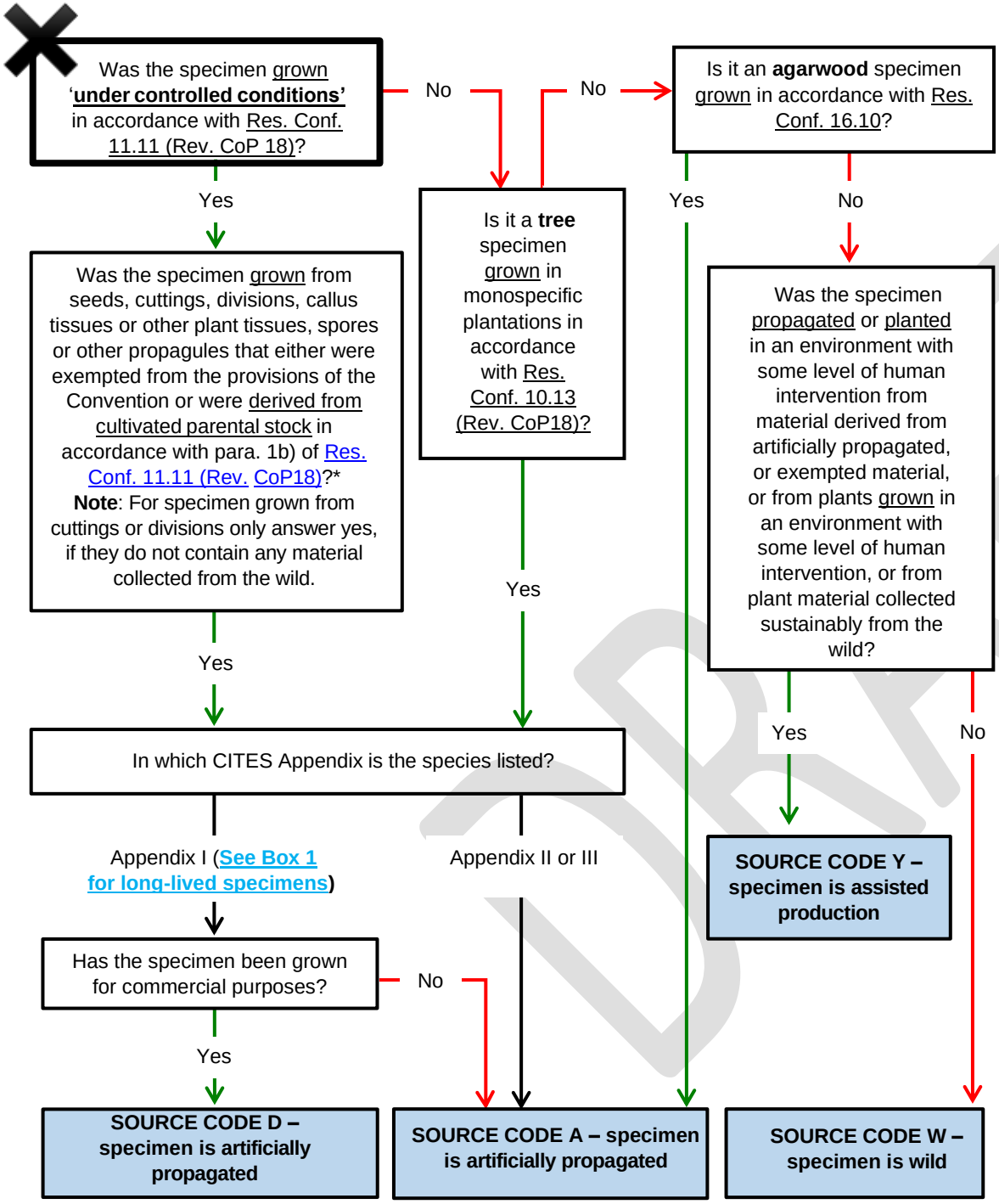
i) collection of seeds or spores for this purpose is limited in such a manner such as to allow regeneration of the wild population;

ii) a portion of the plants produced under such circumstances is used to establish plantations to serve as cultivated parental stock in the future and become an additional source of seeds or spores and thus reduce or eliminate the need to collect seeds or spores from the wild; and

iii) a portion of the plants produced under such circumstances is used for replanting in the wild, to enhance recovery of existing populations or to re-establish populations that have been extirpated; and

c) in the case of operations propagating Appendix-I species for commercial purposes under such conditions they are registered with the CITES Secretariat in accordance with Resolution Conf. 9.19 (Rev. CoP15) on Guidelines for the registration of nurseries exporting artificially propagated specimens of Appendix-I species.

* grafted plants [are] recognized as artificially propagated only when both the root-stock and the graft have been taken from specimens that have been artificially propagated



Box 1. Exception for populations of Appendix-I listed plants for which the establishment of a cultivated parental stock presents significant difficulties in practise because specimens take a long time to reach reproductive age [para 4 of Resolution. Conf. 11.11 [Rev. CoP18]]

For populations of Appendix-I listed species, an exception to paragraphs 2 and 3 of Resolution 11.11 (Rev. CoP18) may be granted and specimens deemed to be artificially propagated if the following conditions are met, for the taxon involved:

a) **i)** the establishment of a cultivated parental stock presents significant difficulties in practice because specimens take a long time to reach reproductive age, as for many tree species;

ii) the propagules are collected from the wild and grown under controlled conditions within a range State, which must also be the country of origin of the propagules;

iii) the relevant Management Authority of that range State has determined that the collection of propagules was legal and consistent with relevant national laws for the protection and conservation of the species; and

iv) the relevant Scientific Authority of that range State has determined that:

A. collection of the propagules was in a manner not detrimental to the survival of the species in the wild in accordance with Resolution Conf. 16.7 (Rev. CoP17) on Non-detriment findings; and

B. allowing trade in such specimens has a positive effect on the conservation of wild populations;

b) at a minimum, to comply with subparagraphs a) iv) A. and B. above:

i) collection of propagules for this purpose is limited in such a manner such as to allow regeneration of the wild population;

ii) a portion of the plants produced under such circumstances is used to establish plantations to serve as cultivated parental stock in the future and become an additional source of propagules and thus reduce or eliminate the need to collect propagules from the wild; and

iii) if appropriate, a portion of the plants produced under such circumstances is used for replanting in the wild, to enhance recovery of existing populations or to re-establish populations that have been extirpated; and

c) in the case of operations propagating Appendix-I species for commercial purposes under such conditions they are registered with the CITES Secretariat in accordance with Resolution Conf. 9.19 (Rev. CoP15) Registration of nurseries that artificially propagated specimens of Appendix-I plant species for export purposes.

* Grafted plants [are] recognized as artificially propagated only when both the root-stock and the graft have been taken from specimens that have been artificially propagated

Box 1. Exceptions for populations of Appendix-I listed plants grown for which the establishment of a cultivated parental stock presents significant difficulties in practise because specimens take a long time to reach reproductive age from seeds and spores
[para 4 of Resolution. Conf. 11.11 [Rev. CoP187]]

For populations of Appendix-I listed species, an exception to paragraphs 2 and 3 of Resolution 11.11 (Rev. CoP18) An exception may be granted and specimens deemed to be artificially propagated if the following conditions are met grown from wild-collected seeds or spores only if, for the taxon involved:

a) **i)** the establishment of a cultivated parental stock presents significant difficulties in practice because specimens take a long time to reach reproductive age, as for many tree species;

ii) the seeds or sporespropagules are collected from the wild and grown under controlled conditions within a range State, which must also be the country of origin of the propagulesseeds or spores;

iii) the relevant Management Authority of that range State has determined that the collection of propagules seeds or spores was legal and consistent with relevant national laws for the protection and conservation of the species; and

iv) the relevant Scientific Authority of that range State has determined that:

A. collection of the propagules seeds or spores was in a manner not detrimental to the survival of the species in the wild in accordance with Resolution Conf. 16.7 (Rev. CoP17) on Non-detriment findings; and
B. allowing trade in such specimens has a positive effect on the conservation of wild populations;

b) at a minimum, to comply with subparagraphs a) iv) A. and B. above:

i) collection of propagules seeds or spores for this purpose is limited in such a manner such as to allow regeneration of the wild population;

ii) a portion of the plants produced under such circumstances is used to establish plantations to serve as cultivated parental stock in the future and become an additional source of propagules seeds or spores and thus reduce or eliminate the need to collect propagules seeds or spores from the wild; and

iii) if appropriate, a portion of the plants produced under such circumstances is used for replanting in the wild, to enhance recovery of existing populations or to re-establish populations that have been extirpated; and

c) in the case of operations propagating Appendix-I species for commercial purposes under such conditions they are registered with the CITES Secretariat in accordance with Resolution Conf. 9.19 (Rev. CoP15) on Guidelines for the Rregistration of nurseries that exporting artificially propagated specimens of Appendi species for export purposes.

* grafted plants [are] recognized as artificially propagated only when both the root-stock and the graft have been taken from specimens that have been artificially propagated

4.0 Additional guidance with applying Source Code R

CITES defines the term "*ranching*" as ***the rearing in a controlled environment of animals taken as eggs or juveniles from the wild, where they would otherwise have had a very low probability of surviving to adulthood***. Although already amended to be more specific [Resolution. Conf. 11.16 (Rev. CoP15)], the ranching definition still contains several ambiguous terms that are open to interpretation and mis-declaration of source if not well defined. This section provides further information to assist Parties in correctly applying source code "R".

What constitutes a "very low probability of surviving to adulthood"?

Probability of surviving to adulthood is the most fundamental consideration when determining whether a specimen is of a species that can be ranched (as the term is currently defined by the Parties to CITES). Probability of survival relates to a species' life-history strategy. Some species are r-selected: they have large numbers of offspring, only a small proportion of which survive to become adults. Other species are k-selected: they have a small number of offspring, with each individual having a high likelihood of surviving to adulthood. For example, sea turtles, crocodilians, bony fishes and most invertebrates are r-selected and produce large numbers of eggs, only a small proportion of which survive to become mature adults. On the other hand, juveniles of species such as elephants and big cats are k-selected and have a relatively high likelihood of surviving to become adults. Thus, removing juveniles of k-selected species from the wild for ranching is likely to have greater impact on wild populations than removing r-selected species. A ranching production system is, therefore, only applicable to eggs and juveniles of species where the vast majority of these individuals in the wild die from natural causes (e.g., predation, disease, environmental, etc.).

What constitutes *'rearing in a controlled environment'*?

For the purpose of correctly applying source code "R", the term "rearing" should be related to the degree of growth and/or development a specimen has undergone while under captive management and not necessarily to a length of time spent in captivity. This distinction is important because of the diversity of life histories among taxa. For example, some invertebrates may be considered ranched after only two weeks in a controlled environment because of their rapid rates of development. Conversely, some reptiles (e.g., slow-growing tortoises) may require substantially longer periods under captive management before they can be considered ranched. When determining what constitutes rearing in a controlled environment, Management Authorities, in consultation with the Scientific Authority, should determine whether:

1) The ranching facility actively provides conditions necessary for the growth and well-being of the specimen (e.g., adequate shelter, food, veterinary care, etc.), or

2) Simply holds the specimen pending export.

If the Management Authority considers that the facilities provide the necessary conditions for growth and development, then the specimens derived from such facilities are likely to be ranched. However, if no such conditions are provided, then the specimen is likely to be wild. However, it should be noted that "rearing in a controlled environment" does not imply that individual animals must be managed in captivity until reaching adulthood in order to satisfy the definition of "ranched".

Understanding the market

Another useful piece of information for guiding the correct application of CITES source code "R" is to understand the nature and characteristics of the market that the specimen has been produced to supply. For example, specimens exported live for the pet trade are usually required to be juveniles or neonates. In general these specimens have not undergone significant development in a controlled environment before export and thus are not ranched. Conversely, species that are exported for the meat or skin trade are usually required to be larger and thus are more likely to have been reared in a controlled environment for a prolonged period in order to achieve body sizes required by the prevailing market.

5.0 Additional assistance with applying source code C

1. When evaluating an application to export specimen(s) of CITES-listed species claimed by the applicant to have been bred in captivity, the following considerations will assist in verifying whether or not the specimen(s) fulfil the CITES requirements for being “bred-in-captivity”.

2. Having established that the specimen has been bred in captivity in accordance with the definition in Resolution Conf. 10.16 (Rev.), in order to ascribe the correct source code, it is necessary to determine:

    i. in which Appendix the species is included; and

    ii. the purpose of the export (commercial or non-commercial).

3. If the specimen(s) is an Appendix-I species that has been bred in captivity, and the breeding is for commercial purposes - consult the CITES website to determine whether or not the specimen(s) have been derived from a breeding operation included in the Secretariat's Register of breeding operations http://www.cites.org/eng/common/reg/cb/summary.html

4. If there is no doubt that the specimen(s) have been derived from a CITES-registered breeding operation then APPLY source code D.

5. If doubt exists, and the applicant is unable to provide adequate evidence to prove that the specimen(s) originated from a CITES-registered operation, DO NOT APPLY source code D. In this circumstance, it will be necessary to determine whether or not the specimen(s) have actually been bred in captivity, harvested from the wild or derived from another source.

6. If no verifiable evidence exists that the specimen(s) in question have been bred in captivity in accordance with the definition in Resolution Conf. 10.16 (Rev.) then caution should be exercised and a more detailed evaluation undertaken.

7. In this respect, information on the following questions will assist in determining whether or not a breeding operation satisfies the definition of “bred in captivity” in Resolution Conf. 10.16 (Rev.), thereby enabling the Management Authority to make an informed decision on whether to apply source code C, F or reject the application:

    i. Are there any licensed breeding operations for the species in question? If no licensed operation for the species exists, the legality of the export should be questioned.

    ii. What date was each breeding operation first licensed or registered to operate?

    iii. How many permits have been issued, over what period of time, to collect specimens from the wild, and how many individuals were collected, in order to establish the captive population?

    iv. What are the annual production quantities and, based on independent scientific advice on the biological characteristics of the species, are these quantities feasible for the species concerned?

    v. What is the total number of individuals of the species kept by the breeding operation and how many breeding adult male and female animals comprise the parental stock?

    vi. Have the facilities been inspected by officials from the Scientific and Management Authorities, and are inspection reports available?

8. In cases where there is doubt about the accuracy of a source code, the Management Authority of the importing country should, if necessary, in the first instance, consult the Scientific Authority of the exporting country to determine whether the species is commonly bred in captivity within the jurisdiction of the Management Authority of the exporting country. In case of outstanding doubt, the matter should be brought to the attention of the CITES Secretariat.

6.0 Relevant Definitions

These definitions are taken from the CITES website. For explanation of additional terms please see the CITES Glossary: http://www.cites.org/eng/resources/terms/glossary.php

Artificially propagated (for plants)	Plant specimens that have been: • Grown under controlled conditions; and • Grown from seeds, cuttings, divisions, callus tissues or other plant tissues, spores or other propagules that either are exempt from the provisions of the Convention or have been derived from cultivated parental stock; For agarwood-producing taxa that have been: • Grown under controlled conditions; and • G, grown from seeds, seedlings, saplings, cuttings, grafting, marcoting/air-layering, divisions, plant tissues or other propagules that have been derived from wild or cultivated parental stocks, according to the definition of 'cultivated parental stock' in ; For timber producing trees: • timber or other parts or derivatives of trees grown in monospecific plantations.
Bred in captivity (for animals)	Animals born or otherwise produced in a controlled environment only if: i) the parents mated or gametes were transferred in a controlled environment (if reproduction is sexual), or the parents were in a controlled environment when development of the offspring began (if reproduction is asexual). ii) The breeding stock, to the satisfaction of the competent government authorities of the exporting country: a) was established in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild; b) is maintained without the introduction of specimens from the wild, except for the occasional addition of animals, eggs or gametes, in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild as advised by the Scientific Authority; 1. to prevent or alleviate deleterious inbreeding, with the magnitude of such addition determined by the need for new genetic material; 2. to dispose of confiscated animals in accordance with Resolution Conf. 17.8; or 3. exceptionally, for use as breeding stock; and c) 1. has produced offspring of second generation (F2) or subsequent generation (F3, F4, etc.) in a controlled environment; or 2. is managed in a manner that has been demonstrated to be capable of reliably producing second-generation offspring in a controlled environment.
Breeding Stock	The ensemble of the animals used for reproduction in a captive-breeding operation
Controlled environment (for animals) / **Controlled conditions (for plants)**	For animals: an environment that is manipulated for the purpose of producing a particular species, that has boundaries designed to prevent animals, eggs or gametes of the species from entering or leaving it, and the general characteristics of which may include but are not limited to: artificial housing; waste removal; health care; protection from predators; and artificially supplied food. For plants: a non-natural environment that is intensively manipulated by human intervention for the purpose of plant production. General characteristics of controlled conditions may include but are not limited to tillage, fertilization, weed and pest control, irrigation, or nursery operations such as potting, bedding or protection from weather. For agarwood-producing taxa: a tree plantation, including other non-natural environment, that is manipulated by human intervention for the purpose of producing plants or plant parts and derivatives.

Cultivated parental stock (for plants)	The ensemble of plants grown under controlled conditions that are used for reproduction, and which must have been to the satisfaction of the designated CITES authorities of the exporting country: • established in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild; and • maintained in sufficient quantities for propagation so as to minimize or eliminate the need for augmentation from the wild, with such augmentation occurring only as an exception and limited to the amount necessary to maintain the vigour and productivity of the cultivated parental stock.

7.0 Additional ~~Guidance~~Resources

CITES Convention text

- Article VI on~~Guidance on~~ Permits and Certificates: www.cites.org/eng/disc/text.php#VI
- Article VII on ~~Guidance on~~ Exemptions and Other Special Provisions Relating to Trade: www.cites.org/eng/disc/text.php#VII

~~Guidance on~~ Resolution Conf. 12.3 (Rev. CoP19~~7~~) on~~-~~ Permits and c~~C~~ertificates:
https://cites.org/sites/default/files/documents/E-Res-12-03-R19.pdf

Preliminary guidance on the terms related to the artificial propagation of CITES regulated plants:
https://cites.org/sites/default/files/eng/prog/captive_breeding/Art_Prop_Guidance_Feb2022.pdf

Annex

Flow chart in questionnaire format

1. Is the species listed in the CITES Appendices (I, II or III)?

Yes ..... **go to question 2**

No ..... **CITES export permit not required**

2. Was the specimen acquired before the provisions of the Convention applied to it?

Yes ..... **SOURCE CODE O**

No ..... **go to question 3**

3. Was the animal confiscated OR seized? Exports subject to compliance with Resolution. Conf. 17.8

Yes ..... **SOURCE CODE I**

No ..... **go to question 4**

4. Is there sufficient information about the specimen to determine its source?

Yes ..... **go to question 5**

No ..... **SOURCE CODE U**

5. Was the specimen taken from the marine environment and not under the jurisdiction of any State?

Yes ..... **SOURCE CODE X**

No ..... **go to question 6**

6. Is the specimen a plant OR animal?

Animal ..... **go to question 7**

Plant ..... **go to question 21**

7. Was the specimen taken from the wild?

Yes ..... **go to question 8**

No ..... **go to question 13**

8. Was the specimen taken from the wild as an egg or juvenile that had a very low probability of surviving to adulthood?

Yes ..... **go to question 9**

No ..... **SOURCE CODE W**

9. Was the specimen reared in a controlled environment?

Yes ..... **go to question 10**

No ..... **SOURCE CODE W**

10. Has the specimen been transferred to Appendix II and marked in accordance with Resolution Conf. 11.16 (Rev. CoP15)?

Yes ..... **SOURCE CODE R**

No ..... **go to question 11**

11. Is the specimen listed in CITES Appendix II or III?

Yes ..... SOURCE CODE R

No .....go to question 12

12. Does the specimen fulfil the requirements under Article III of the Convention?

Yes ..... SOURCE CODE W

No .....Export should NOT proceed

13. Was the specimen derived from parents that mated or otherwise transferred gametes in a controlled environment (sexual reproduction) OR were the parents in a controlled environment when development of the offspring began (asexual reproduction)?

Yes .....go to question 15

No .....go to question 14

14. Was the specimen born in captivity, in a controlled environment?

Yes .....SOURCE CODE F

No ..... SOURCE CODE W

15. Was the breeding stock established in accordance with the provisions of CITES and relevant national laws AND in a manner not detrimental to the survival of the species in the wild?

Yes .....go to question 16

No .....SOURCE CODE F

16. **Is the breeding stock maintained without the introduction of specimens from the wild, except for the occasional addition of animals, eggs or gametes, in accordance with the provisions of CITES and relevant national laws AND in a manner not detrimental to the survival of the species in the wild?**

Yes ..... **go to question 17**

No ..... **SOURCE CODE F**

17. **Has the breeding stock produced offspring of second generation (F2) or subsequent generations (F3, F4, etc.) in a controlled environment OR is managed in a manner that has been demonstrated to be capable of reliably producing second-generation offspring in a controlled environment?**

Yes, the specimen was bred in captivity ..... **go to question 18**

No ..... **SOURCE CODE F**

18. **In which CITES Appendix is the specimen listed?**

Appendix I ..... **go to question 19**

Appendix II or III ..... **SOURCE CODE C**

19. **Has the specimen been bred for commercial purposes?**

Yes ..... **go to question 20**

No ..... **SOURCE CODE C**

20. **Was the specimen bred at a CITES-registered breeding operation?**

Yes ..... **SOURCE CODE D**

No ..... **Export should NOT proceed**

21. Was the specimen grown 'under controlled conditions' in accordance with Resolution Conf. 11.11 (Rev. CoP18)?

Yes .....go to question ~~21~~22

No ..... ~~SOURCE CODE W~~go to question 25

22. Was the specimen grown from seeds, cuttings, divisions, callus tissues or other plant tissues, spores or other propagules that either were exempted from the provisions of the Convention or were derived from cultivated parental stock in accordance with para. 1b) of Resolution Conf. 11.11 (Rev. CoP1~~87~~)?*
Note: For specimens grow from cuttings or divisions only answer Yes if they do not contain Any material collected from the wild.

Yes .....go to question ~~26~~23

No .....go to question 2~~53~~

23. In which CITES Appendix is the species listed? ~~Was the specimen grown from wild collected seeds or spores in accordance with exemptions in Resolution Conf. 11.11 (Rev. CoP17)?~~

~~Yes~~Appendix I (See Box 1)..... go to question 24~~26~~

~~No~~Appendix II or III..... SOURCE CODE A~~go to question 24~~

24. 24. ~~Was the specimen grown from a cutting or division?~~ Has the specimen been grown for commercial purposes?

Yes ..... SOURCE CODE D ~~go to question 25~~

No.....SOURCE CODE A ~~SOURCE CODE W~~

* Grafted plants [are] recognized as artificially propagated only when both the root-stock and the graft have been taken from specimens that have been artificially propagated

25. Is it a tree specimen grown in monospecific plantations in accordance with Resolution Conf. 10.13 (Rev. CoP18)?

~~Appendix I~~ Yes ..... go to question ~~27~~23

~~Appendix II or III~~ No ..... go to question 26 ~~SOURCE CODE A~~

~~1. Has the specimen been grown for commercial purposes?~~ 26. Is it an agarwood specimen grown in accordance with Resolution Conf. 16.10?

Yes ..... SOURCE CODE A~~go to question 28~~

No ..... go to question 27~~SOURCE CODE A~~

~~Has the specimen been artificially propagated at a CITES-registered nursery?~~ 27. Was the specimen propagated or planted in an environment with some level of human intervention from material derived from artificially propagated plants, or exempted material, or from plants grown in an environment with some level of human intervention, or from plant material collected sustainably from the wild?

Yes ..... SOURCE CODE ~~D~~Y

No ..... SOURCE CODE ~~A~~W

~~29. Was the specimen collected from the wild and grown from wild sources?~~