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ANNEXES 1 to 8

## ANNEXES

*to the*

**Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**on the production and marketing of forest reproductive material, amending Regulations (EU) 2016/2031 and 2017/625 of the European Parliament and of the Council and repealing Council Directive 1999/105/EC (Regulation on forest reproductive material)**

{SEC(2023) 414 final} - {SWD(2023) 410 final} - {SWD(2023) 414 final} -  
{SWD(2023) 415 final}

## ANNEX I

### LIST OF TREE SPECIES AND ARTIFICIAL HYBRIDS

<i>Abies alba</i> Mill.	<i>Pinus canariensis</i> C. Smith
<i>Abies cephalonica</i> Loud.	<i>Pinus cembra</i> L.
<i>Abies grandis</i> Lindl.	<i>Pinus contorta</i> Loud
<i>Abies pinsapo</i> Boiss.	<i>Pinus halepensis</i> Mill.
<i>Acer platanoides</i> L.	<i>Pinus leucodermis</i> Antoine
<i>Acer pseudoplatanus</i> L.	<i>Pinus nigra</i> Arnold
<i>Alnus glutinosa</i> Gaertn.	<i>Pinus pinaster</i> Ait.
<i>Alnus incana</i> Moench.	<i>Pinus pinea</i> L.
<i>Betula pendula</i> Roth.	<i>Pinus radiata</i> D. Don
<i>Betula pubescens</i> Ehrh.	<i>Pinus sylvestris</i> L.
<i>Carpinus betulus</i> L.	<i>Populus</i> spp. and artificial hybrids between those species
<i>Castanea sativa</i> Mill.	<i>Prunus avium</i> L.
<i>Cedrus atlantica</i> Carr.	<i>Pseudotsuga menziesii</i> Franco
<i>Cedrus libani</i> A. Richard	<i>Quercus cerris</i> L.
<i>Fagus sylvatica</i> L.	<i>Quercus ilex</i> L.
<i>Fraxinus angustifolia</i> Vahl.	<i>Quercus petraea</i> Liebl.
<i>Fraxinus excelsior</i> L.	<i>Quercus pubescens</i> Willd.
<i>Larix decidua</i> Mill.	<i>Quercus robur</i> L.
<i>Larix x eurolepis</i> Henry	<i>Quercus rubra</i> L.
<i>Larix kaempferi</i> Carr.	<i>Quercus suber</i> L.
<i>Larix sibirica</i> Ledeb.	<i>Robinia pseudoacacia</i> L.
<i>Picea abies</i> Karst.	<i>Tilia cordata</i> Mill.
<i>Picea sitchensis</i> Carr.	<i>Tilia platyphyllos</i> Scop.
<i>Pinus brutia</i> Ten.	

## ANNEX II

### REQUIREMENTS FOR THE APPROVAL OF BASIC MATERIAL INTENDED FOR THE PRODUCTION OF FRM OF THE 'SOURCE-IDENTIFIED' CATEGORY

**A. General requirement:** The seed source or stand shall meet the criteria set by the competent authorities.

**B. Specific requirements:**

**1. Type of basic material**

The basic material shall be a seed source or stand located within a single region of provenance.

**2. Effective size of the population**

The seed source or stand shall consist of one or more groups of trees. Those trees shall be well distributed and sufficiently numerous to maintain genetic diversity and ensure adequate cross-pollination between the trees in those seed sources or stands.

**3. Origin and region of provenance**

- (a) The region of provenance, the location and the latitudinal, longitudinal and altitudinal range of the place(s), where the FRM is collected, shall be stated in the master certificate.
- (b) The professional operator shall determine either by historical evidence (bibliography, documentation kept by competent authorities, research institutes or any other organisations) or by other appropriate means (provenance trials), including internationally recognised bio-molecular techniques, whether the origin of the basic material is:
  - (i) autochthonous;
  - (ii) non-autochthonous;
  - (iii) indigenous;
  - (iv) non-indigenous;
  - (v) unknown.

In the case of non-autochthonous or non-indigenous basic material, the origin of that basic material shall be stated if known.

The competent authority shall verify the information provided by the professional operator.

**4. Sustainability characteristics**

- (a) The trees shall be well-adapted to the climatic and ecological conditions including the biotic and abiotic factors prevailing in the region of provenance.
- (b) The trees shall in be practically free from pests and their symptoms.

## ANNEX III

### REQUIREMENTS FOR THE APPROVAL OF BASIC MATERIAL INTENDED FOR THE PRODUCTION OF FRM OF THE 'SELECTED' CATEGORY

**A. General requirement:** The competent authority shall assess the stand with respect to the specific purpose for which the FRM will be used and shall give due weight to requirements set out in Section B, depending on that purpose. The competent authority shall determine the criteria for selection on the basis of that specific purpose for use of the FRM. That purpose shall be indicated in the national register of the Member State concerned.

#### **B. Specific requirements:**

1. **Origin:** It shall be determined either by historical evidence (bibliography, documentation kept by competent authorities, research institutes or any other organisations) or by other appropriate means (provenance trials), including internationally recognised bio-molecular techniques, whether the stand is autochthonous/indigenous, non-autochthonous/non-indigenous or whether its origin is unknown. For non-autochthonous/non-indigenous basic material the origin shall be stated if known.
2. **Isolation:** Stands shall be situated at a sufficient distance from stands of poor quality of the same species or from stands of a related species which can form hybrids with the species in question. Particular attention shall be paid to this requirement when the stands surrounding autochthonous/indigenous stands are non-autochthonous/non-indigenous or of unknown origin.
3. **Effective size of the population:** To maintain genetic diversity and ensure adequate cross-pollination, stands shall consist of one or more groups of trees. Those trees shall be well distributed and sufficiently numerous in a given area to maintain genetic diversity, to avoid the unfavourable effects of inbreeding and ensure adequate cross-pollination between those trees.
4. **Age and development:** The age or stage of development of the trees in the stands shall be such to allow the criteria given for the selection of those trees to be clearly judged.
5. **Uniformity:** Stands shall show a normal degree of individual variation in morphological characteristics. When necessary, inferior trees shall be removed.
6. **Sustainability characteristics:**
  - (a) Stands shall be well-adapted to the climatic and ecological conditions, including the biotic and abiotic factors prevailing in the region of provenance.
  - (b) The trees shall be practically free from pests and their symptoms and show resistance to adverse site conditions in the place where they are growing.
7. **Volume production:** For the approval of selected stands, the volume of wood produced shall normally be superior to the accepted average volume produced under similar ecological and management conditions.
8. **Wood quality:** The quality of the wood shall be taken into account. The quality of the wood is an essential criterion, if the FRM will be used in the forestry industry for the purpose of producing timber, furniture or pulp. In that case the competent authority shall give more weight to this criterion.
9. **Form or growth habit:** Trees in stands shall show particularly good morphological features, especially straightness and circularity of stem, favourable branching habit,

small size of branches and good natural pruning. In addition, the proportion of forked trees and those showing spiral grain shall be low.

## ANNEX IV

### REQUIREMENTS FOR THE APPROVAL OF BASIC MATERIAL INTENDED FOR THE PRODUCTION OF FRM OF THE 'QUALIFIED' CATEGORY

#### 1. Seed orchards

- (a) The competent authority shall approve and register the type and objective of the crossing design, the crossing design of component clones or families and field layout, the component clones or families, isolation and location and any changes of these.
- (b) The professional operator shall select component clones or families for their outstanding characteristics and shall give due weight to the requirements set out in points 4 and 6 to 9 of Section B of Annex III, taking into account the specific purpose for which the resulting FRM will be used.
- (c) The component clones or families shall be planted or shall have been planted according to a plan which has been approved by the competent authority and established in such a way that each component can be identified.
- (d) Thinning carried out in seed orchards shall be described together with the selection criteria used for such thinning and registered with the competent authority.
- (e) The professional operator shall manage seed orchards and harvest seed in such a way that the objectives of the orchards are attained. In the case of a seed orchard intended for the production of an artificial hybrid, the percentage of hybrids in the FRM shall be determined by a verification test.

#### 2. Parents of family(ies)

- (a) The professional operator shall select parents for their outstanding characteristics or for their combining ability. In the case of a selection based on outstanding characteristics, due weight shall be given to the requirements set out in points 4 and 6 to 9 of Section B of Annex III, taking into account the specific purpose for which the resulting FRM will be used.
- (b) The objective, crossing design and pollination system, components, isolation and location and any significant changes of these shall be approved and registered with the competent authority.
- (c) The identity, number and proportion of the parents in a mixture shall be approved and registered with the competent authority.
- (d) In the case of parents intended for the production of an artificial hybrid, the percentage of hybrids in the FRM shall be determined by a verification test.

#### 3. Clones

- (a) Clones shall be identifiable by distinctive characteristics which have been approved and registered with the competent authority.
- (b) The value of individual clones shall be established by the observation and the qualitative assessment of the characteristics of those clones or have been demonstrated by sufficiently prolonged experimentation.

- (c) Ortets used for the production of clones shall be selected for their outstanding characteristics and due weight shall be given to the requirements set out in points 4 and 6 to 9 of Section B of Annex III, taking into account the specific purpose for which the resulting FRM will be used.
- (d) Approval shall be restricted by the competent authority to a maximum number of years or a maximum number of ramets produced.

#### **4. Clonal mixtures**

- (a) Clonal mixtures shall meet the requirements set out in point 3(a), (b) and (c).
- (b) The identity, number and proportion of the component clones of a mixture, and the selection method and foundation stock shall be approved and registered by the competent authority. Each mixture shall contain sufficient genetic diversity.
- (c) Approval shall be restricted by the competent authority to a maximum number of years or a maximum number of ramets produced.

## ANNEX V

### REQUIREMENTS FOR THE APPROVAL OF BASIC MATERIAL INTENDED FOR THE PRODUCTION OF FRM OF THE 'TESTED' CATEGORY

#### 1. REQUIREMENTS FOR ALL TESTS

##### (a) **General**

If the basic material is a stand, it shall satisfy the appropriate requirements set out in Annex III. If the basic material is a seed orchard(s), parents of family(ies), clones or clonal mixture(s), it shall satisfy the appropriate requirements set out in Annex IV. The competent authority shall determine the selection criteria based on the intended purpose for which the FRM will be used.

The professional operators shall prepare, lay out and conduct tests set up for the approval of the basic material. They shall interpret the results of those tests in accordance with the internationally recognised procedures. For comparative tests, the professional operator shall compare the FRM under test with one or preferably several approved or pre-chosen standards as described in point 3(b).

##### (b) **Characteristics to be examined**

- (i) The professional operator shall design tests to assess the relevant characteristics specified in point (ii) and shall indicate these for each test in the test records.
- (ii) Weight shall be given to adaptation, growth, biotic and abiotic factors of importance. In addition, other characteristics, considered important in view of the intended specific purpose, shall be evaluated in relation to the ecological conditions of the region in which the test is carried out including current and future projected climatic conditions.

##### (c) **Documentation**

The professional operator shall keep records describing the test sites, including the location, climate, soil, past use, establishment, management and any damage due to abiotic/biotic factors. He shall make those records available to the competent authority upon request. The competent authority shall record the age of the basic material and the FRM and the results at the time of the evaluation.

##### (d) **Setting up the tests**

- (i) The professional operator shall raise, plant and manage each sample of FRM in an identical way as far as the types of plant material permit.
- (ii) The professional operator shall establish each experiment in a valid statistical design with a sufficient number of trees, in order that the individual characteristics of each component under examination can be evaluated.

##### (e) **Analysis and validity of results**

- (i) The professional operator shall analyse the data from experiments using internationally recognised statistical methods and shall present the results for each characteristic examined.
- (ii) The methodology used for the test and the detailed results obtained shall be made freely available.



- (iii) The competent authority of the Member State in which the test was carried out shall designate the suggested deployment area, and shall inform about any characteristics of the FRM, which might limit its usefulness.
- (iv) If during tests it is proved that the FRM does not possess at least the characteristics of the basic material from which that FRM was produced, including in particular the resistance/tolerance to plant pests of economic importance, then such FRM shall not be certified as tested material.

## 2. REQUIREMENTS FOR GENETIC EVALUATION OF THE COMPONENTS OF BASIC MATERIAL

- (a) The components of the following basic material may be genetically evaluated: seed orchards, parents of family(ies), clones and clonal mixtures.

### (b) **Documentation**

The following additional documentation shall be required for approval of the basic material providing information about:

- (i) the identity, origin and pedigree of the evaluated components;
- (ii) the crossing design used to produce the FRM used in the evaluation tests.

### (c) **Test procedures**

The following requirements shall be met:

- (i) The genetic value of each component shall be estimated in two or more evaluation test-sites, at least one of which shall be in an environment relevant for the intended deployment area of the FRM.
- (ii) The test period shall be of sufficient duration for the tested characteristics to be expressed.
- (iii) The estimated superiority of the FRM to be marketed shall be calculated on the basis of these genetic values and the specific crossing design.
- (iv) Evaluation tests and genetic calculations shall be approved by the competent authority.

### (d) **Interpretation**

- (i) The estimated superiority of the FRM shall be calculated against a reference population for a characteristic or set of characteristics. The professional operator shall define the reference population in the breeding program and describe this reference population in the test reports.
- (ii) It shall be stated whether the estimated genetic value of the FRM is inferior to the reference population for any important characteristic.

## 3. REQUIREMENTS FOR COMPARATIVE TESTING OF FRM

### (a) **Sampling of the FRM**

- (i) The sample of the FRM for comparative testing shall be truly representative of the FRM derived from the basic material to be approved.
- (ii) Sexually produced FRM for comparative testing shall be:
  - harvested in years of good flowering and good fruit/seed production, and

- harvested by methods that ensure that the samples obtained are representative.

Artificial pollination may be utilised for the production of such FRM.

**(b) Standards**

- (i) The performance of standards used for comparative purposes in the tests shall, if possible, be known over a sufficiently long period in the region in which the test is to be carried out. The standards represent, in principle, basic material that has been shown to be useful for the intended purpose for forestry at the time that the test starts, and in ecological conditions for which it is proposed to certify the FRM. The standards used for comparative purposes in the tests shall be, as far as possible:
  - stands selected according to the criteria in Annex III; or
  - basic material officially approved for the production of FRM of the tested category.
- (ii) For comparative testing of artificial hybrids, both parent tree species shall, if possible, be included among the standards.
- (iii) Several standards shall be used whenever possible. When justified, standards may be replaced by the most suitable of the FRM under test or the mean of the components of the test.
- (iv) The same standards shall be used in all tests over as wide a range of site conditions as possible.

**(c) Interpretation**

- (i) A statistically significant superiority as compared with the standards shall be demonstrated for at least one important characteristic.
- (ii) The professional operator shall report if there are any characteristics of economic or environmental importance which show significantly inferior results to the standards, and their effects shall be compensated for by favourable characteristics.

**4. PROVISIONAL APPROVAL**

Preliminary assessment of young trials may be the basis for provisional approval. Claims of superiority based on an early assessment shall be re-examined at a maximum interval of ten years.

**5. EARLY TESTS**

Nursery, greenhouse and laboratory tests may be accepted by the competent authority for provisional approval or for final approval, if it can be shown that there is a close correlation between the measured characteristic and the characteristics normally assessed in forest stage tests. Other characteristics to be tested shall meet the requirements set out in point 3.

## ANNEX VI

### CATEGORIES UNDER WHICH FRM FROM THE DIFFERENT TYPES OF BASIC MATERIAL MAY BE MARKETED

Basic material	Category of FRM (Label colour, if coloured official label used)			
	Source-identified (Yellow)	Selected (Green)	Qualified (Pink)	Tested (Blue)
Seed source	x			
Stand	x	x		x
Seed orchard			x	x
Parents of family(ies)			x	x
Clone			x	x
Clonal mixture			x	x

## ANNEX VII

### Amendment of Annex VII to Regulation (EU) 2016/2031

In Annex VII to Regulation (EU) 2016/2031, the following parts are added:

#### ‘PART G

##### **Plant passports for movement within the Union territory, combined with the official label, as referred to in Article 83(5), second subparagraph**

- (1) The plant passport for movement within the Union territory, combined in a joint label with the official label referred to in Article 83(5), shall contain the following elements:
  - (a) the words ‘Plant Passport’ in the upper right-hand corner of the joint label, in one of the official languages of the Union and in English, if different, separated by a slash;
  - (b) the flag of the Union in the upper left-hand corner of the joint label printed in colour or in black and white. The plant passport shall be positioned in the joint label immediately above the official label and have the same width as that official label.
- (2) Point (2) of Part A shall apply accordingly.

#### PART H

##### **Plant passports for introduction into and movement within protected zones, combined with the official label, as referred to in Article 83(5), third subparagraph**

- (1) The plant passport for introduction into and movement within protected zones, combined in a joint label with the official label for FRM referred to in Article 83(5), shall contain the following elements:
  - (a) the words ‘Plant Passport — PZ’ in the upper right-hand corner of the joint label in one of the official languages of the Union and in English, if different, separated by a slash;
  - (b) immediately underneath those words, the scientific name(s) or code(s) of the protected zone quarantine pest(s) concerned;
  - (c) the flag of the Union in the upper left-hand corner of the joint label printed in colour or in black and white.

The plant passport shall be positioned in the joint label immediately above the official label and have the same width [as that official label.
- (2) Point (2) of Part B shall apply accordingly.’

## ANNEX VIII

### Correlation table

Council Directive 1999/105/EC	This Regulation
Article 1	Article 1, subparagraph 1
Article 2	Article 3
Article 3(1)	Article 2(1)
Article 3(2)	Article 2(5)
Article 3(3)	–
Article 3(4)	Article 2(4), point (c)
Article 4(1)	Article 4(1)
Article 4(2), point (a)	Article 4(2), subparagraphs 1 to 4
Article 4(2), point (b)	Article 4(2), subparagraph 7 and Article 4(3)
Article 4(3), point (a)	Article 4(4)
Article 4(3), point (b)	Article 4(5)
Article 4(4)	Articles 6 and 18
Article 4(5)	Article 21
Article 5	–
Article 6(1)	Article 5(1)
Article 6(2)	Article 5(2)
Article 6(3), subparagraph 1	Article 8(1)
Article 6(3), subparagraph 2	Article 8(2)
Article 6(4)	Article 10(1)
Article 6(5), point (a)	Article 2(4), point (d)
Article 6(5), point (b)	–
Article 6(6)	–
Article 6(7)	Article 7
Article 6(8)	Article 4(6)

Article 7	Article 23
Article 8	–
Article 9	Article 11
Article 10	Article 12
Article 11	Article 13
Article 12	Article 14
Article 13	Article 15
Article 14(1), subparagraph 1	Article 16(1)
Article 14(1), points (a) to (e)	Article 16(4)
Article 14(2) to (6)	–
Article 14(7)	Article 15(1)(j)
Article 15	Article 17
Article 16	Article 31
Article 17	–
Article 18	Article 21
Article 19	Article 24
Article 20	–
Article 21	Article 22
Article 22	Article 5(1)(g)
Article 23	Articles 2(2), 4(2), 4(6), 5(3)
Article 24	Articles 14(1), 14(5), 16(5), 16(6), 18(4), 21(3), 22(1), 23(1)
Article 25	Article 26
Article 26	Article 27
Article 27	–
Article 28	–
Article 29	Article 32
Article 30	Article 33

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