TECHNICAL GUIDELINE

Reference

FOREST TREE CULTIVARS – FOREST TREE NURSERY

HÀ NỘI - 2022

Preface

This guideline was developed with the financial support of the Technical Cooperation Project "Enhancing Sustainable Natural Resource Management Phase 2" (Project SNRM2) funded by the Japan International Cooperation Agency (JICA) and executed by the Ministry of Agriculture and Rural Development of Viet Nam from 2021 to 2025.

This guideline provides technical requirements for nursery and seedlings production to meet requirements for certifying sustainable forestmanagement under the Vietnam Forest Certification Scheme (VFCS).

1. Scope of application

This standard specifies the technical requirements and test methods for the technical parameters of the fixed nursery of forestry trees and the techniques for the production of forestry seedlings according to the VFCS.

2. Normative references

The following references are required for the application of this standard:

Vietnamese standard TCVN 7538-2:2005 (ISO 10381 - 2:2002) on Soil quality - Sampling - Part 2: Guidance on sampling issued by the Ministry of Science and Technology.

National standard TCVN 6663-1:2011 (ISO 5667-1:2006) Water quality - Sampling - Part 1: Guidance on the design of sampling programmes and sampling techniques issued by the Ministry of Science and Technology.

Vietnamese standard TCVN 11570-1:2016 Forest cultivar-Acacia plant-Part 1: *Acacia mangium*

Vietnam Standard TCVN 11570-2:2016 Forest cultivar-Acacia plant -Part 2: Acacia hybrid

Vietnam Standard TCVN 11570-3:2017 Forest tree cultivar-Acacia saping-Part 3: *Acacia crassicarpa* A.cunn.ex Benth, *Acacia auriculiformis* A.cunn.ex Benth

Vietnam Standard TCVN 11571-1:2016 Forest cultivar-Eucalyptus plant-Part 1: Eucalyptus hybrid

Vietnam Standard TCVN 11571-2:2017 Forest tree cultivar - Eucalyptus sapling - Part 2: *Eucalyptus urophylla* S.T.Blake, *Eucalyptus camaldulensis* Dehnh

Vietnamese standard TCVN 12714-1:2019 Forest tree cultivar - Seedlings of native plants Part 1: *Mella azedarach* Linn

Vietnamese standard TCVN 12714-2:2019 Forest tree cultivar - Seedlings of native plants Part 2: *Manglietia conifera* Dandy

Vietnamese standard TCVN 12714-3:2019 Forest tree cultivar - Seedlings of native plants Part 3: *Schima wallichii* Choisy

Vietnamese standard TCVN 12714-4:2019 Forest tree cultivar - Seedlings of native plants Part 4: *Hopea odorata* Roxb.

Vietnamese standard TCVN 12714-5:2020 Forest tree cultivar - Seedlings of native plants Part 5: *Canarium album* Raeusch

Vietnamese standard TCVN 12714-6:2020 Forest tree cultivar - Seedlings of native plants Part 6: *Michelia mediocris* Dandy

Vietnamese standard TCVN 12714-7:2020 Forest tree cultivar - Seedlings of native plants Part 7: *Dipterocarpus alatus*

Vietnamese standard TCVN 12714-8:2020 Forest tree cultivar - Seedlings of native plants Part 8: *Chukrasia tabularis* A.juss

Vietnamese standard TCVN 12714-9:2020 Forest tree cultivar - Seedlings of native plants Part 9: *Lithocarpus fissus* Champ ex Benth

Vietnam standard TCVN 13359-2021 Forest tree cultivar -Forest tree nursery

3. Terms and definitions

In this standard the following terms and definitions are used:

3.1. Original ortet

A plant that is productive, of high quality and stable, which is more resistant to pests, diseases and adverse conditions than other plants in a population of a variety recognized through clonal testing to provide asexual propagation material.

3.2. Seedlings

Seedlings created by incubating from seeds.

3.3. Rooted cutting

Seedlings created by rooted cutting.

3.4. Tissue culture plantlet

Seedlings created by tissue culture.

3.5. Clone

Plants propagated asexually (tissue culture, rooted cuttings, grafting, extraction) from an original ortet.

3.6. Original germplasm

Original germplasm (also known as author germplasm) means a variety selected, hybrided or taken from a genetic fund with stable heritability and kept for no more than 3 years for cutting material and no more than 15 years for grafting materials by the author.

3.7. Plantlet production area

Seedling production area from when plants are transplanted into the substrate, raised and tended until the plants are eligible for export from the nursery.

3.8. Storage

A place to store all kinds of materials, equipment, tools and labor protection for the production of forestry seedlings.

3.9. Hedge orchard

Orchards are planted with cloned seedlings from original ortet to provide materials (cuts, grafts) to produce clones.

4. Nursery classification by seedling origin

Nurseries are divided into three main categories according to seedling origin:

- Nursery by sowing method from seed (called seedling production nursery)

- Nursery by rooted cuttings, extraction, grafting (called nursery production of cuttings, extraction, grafting)

- Nursery by tissue culture method (called tissue production nursery)

- Nursery that grow seedlings from all of the above sources (called mixed plant production nurseries)

5. Technical requirements for forestry seedling production nurseries

5.1. Conditions for building a nursery

Table 1 – Requirements on conditions for building forestry tree nursery

Criteria	Suitable	Acceptable	Note
Steepness	Lower than 2^0	Lower than 5^0	
Soil profile thickness	At least 50cm	At least 30cm	Not applicable to nurseries using soil from other places
Soil texture	Medium silt	Light silt to light clay	
Drainage	fter the rain, the water drains immediately	After the rain, water logged for no more than 3 to 4 hours a day	
Water source for irrigation	There is a source of water of good quality and sufficient to serve the nursery	There is a source of water of good quality and sufficient to serve the nursery	
Irrigation water quality	Fresh water, pH from 6.5 to 7.0, NaCl content less than 0.2%	Fresh water, pH from 6.0 to 7.5, NaCl content less than 0.3%	
Electricity supply	Sufficient and even supply (sufficient and stable voltage)	Weak power that can be overcome by automatic voltage stabilizer	
Traffic	There are convenient roads for transporting materials and seedlings	There are convenient roads for transporting materials and seedlings	
Harmful pathogens in the soil	There are no harmful pathogens. No soil treatment	There are some harmful pathogens. The soil must be treated by conventional methods, which are less expensive and do not pollute the environment	Standards on management of chemical pesticides

5.2. Items in the nursery

The necessary levels of items in the nursery are presented in Table 2

Table 2 – Items and levels of necessity in nurseries for forestry seedling production

No.	Items	Levels of necessity	Note
1	Hedge orchard	May or may not apply	Does not apply to seed production nurseries or units using seed materials available from the breeder.
2	Seedling production area	Required	
3	Auxiliary area:		
-	Seed treatment area	May or may not apply	Apply to seedling production nursery or mixed plant nursery
-	Storage	Required	
-	Soil and potting mix storing area	Required	
-	Working area	For all kinds of nurseries	
-	Main route	Required	
-	Subdivision route	Required	
-	Water supply system	Required	
-	Drainage system	/Required	
-	Power system	Required	
-	Working house	May or may not apply	
-	Fence	Required	

5.3. Technical requirements for items in the nursery

5.3.1. Technical requirements for the hedge orchard

The hedge orchard that provides propagating material for tissue culture can be near the tissue culture facility and outside the nursery. Technical requirements for hedge orchards are specified in Table 3.

Table 3 - Technical requirements for the hedge orchard

Criteria	Technical requirements
Area	At least 500 m^2 (applicable to hedge orchards providing rooted cuttings)
	At least 1,000 m^2 (applicable to hedge orchards providing grafting materials for tree species for fruit and seed)
Terrain, steepness	Flat or slightly sloping, not more than 5^0 (applicable to hedge orchards providing rooted cuttings)
	Flat or slightly sloping, not more than 10^0 (applicable to hedge orchards providing grafting materials for tree species for fruit and seed)
Light conditions	Not shaded
Soil profile thickness	Minimum 50 cm
Mechanical composition of soil	Light to medium silt
Arrangement	The clones were grown in separate blocks for each line
Plant distance	0.3 to 0.5 m between trees; 0.6 to 0.8 m between rows (for hedge orchards providing rooted cuttings)
	3 m between trees; 3 m between rows (for the leading orchards providing grafting materials)
Watering and fertilizing system	Manual or semi-automatic/automatic
Origin of seedling	From the original germplasm that has been recognized by the competent authority
Line name plate	The nameplate of the line is placed at the top of the row, each row has a plate. Contents include: line code, origin, planting time
Time to use the original ortet	No more than 3 years (for hedge orchards providing cuttings)
	No more than 15 years (for hedge orchards providing grafting materials)
Pest and disease status	There are no signs of pests or diseases

5.3.2. Technical requirements for seedling production area

Technical requirements for seedling production areas are specified in Table 4.

Table 4 – Technical requirements for Seedling Production Area

Criteria	Technical requirements
Frame	The main material used to make the frame is common steel, which is difficult to rust in rainy and humid conditions. Connect the frame by bolting or hard welding, connecting the base of the house column to the concrete floor. The height of the frame from the ground surface to the top of the column and the distance between the beams and bracing must be convenient for the installation and operation of the upper shading system. The distance of the columns must be reasonable to ensure the durability of the beams, do not arrange columns in the roadway for indoor operation and in furrows.
Wall	Surrounded by walls, height from 0.8 to 1.0 m The structure of the wind wall must be simple, easy to install, and ensure safety. Wall panels made of transparent materials or specialized mesh walls, prevent wind, have the ability to reduce the intensity of light passing through, must be opened and closed flexibly, with fixed latches firmly.
Shading system	The visor is made of black nylon mesh or a specialized cover net (commercially available) with multiple layers of varying coverage. The structure of the shading layers must be separate and operate independently The distance between the upper shading layers in the vertical direction must be convenient for installation and operation. Control the opening and closing of shading layers by manual, motorized or automated methods
Bed	Soft or hard bed, flat, the height difference between the highest and the lowest is less than 0.5 cm Width: from 110 to 120 cm (uncovered) Length: from 8 to 10 m Height difference between the bed base and the trench: from 5 to 7 cm The distance between the two beds is from 40 to 50 cm
Line name plate	The nameplate of the line is placed at the top of the tree line, with a sign for each line. Contents include: line codes, propagation methods, time of tending at the nursery.

Watering system	Manual watering with a sprinkler or semi-automatic or automatic In the case of semi-automatic or automatic irrigation: - The humidification sprinkler system ensures water supply in the form of a mist with a high dispersion, uniformity, no droplet formation, no waterlogging of the substrate and water savings Simple system structure, easy to install, operate, maintain, replace lock valve, pump, nozzle. - The diameter of the pipe must be gradually reduced from the water supply to the spray branches, gradually from the beginning of the branch to the end of each spray branch, to ensure the relative uniformity of spray pressure between nozzles in the entire irrigation system. - The spray branch is installed along the centerline of the bed's axis. Each spray branch needs a locking valve at the top of the branch, the number of nozzles on each branch depends on the diameter of the pipeline and the length of the bed - Nozzles must meet TCVN 9221:2012 - The pump of the sprinkler irrigation system uses electrical energy, creating a reasonable pressure at the ejector to ensure sufficient pressure and flow for the nozzle to operate - The sprinkler irrigation system must be controlled automatically according to many different modes according to time or air humidity, depending on the technical requirements of breeding many species of forest trees, ensuring high accuracy and stable, easy to use, repair - The sprinkler irrigation system must have a part that automatically switches off the electrical circuit supplied to the pump according to the water level in the tank to ensure safety against electric shock when the tank runs out of water
Watering system	The electronic equipment of the control system must be securely installed in a fixed position, in a dry place, away from rain and sun, to ensure convenience and safety
Drainage system	The ditches surrounding the production areas should be arranged along both sides of the road in the nursery, with a width of 20 to 30 cm, a depth of 10 to 20 cm, a slope of 1 to 2%.

5.3.3. Technical requirements for auxiliary area

Based on the purpose of use and specific conditions to determine the number of items of the auxiliary area. General technical requirements for the auxiliary area are specified in Table 5.

Table 5 - Technical requirements for auxiliary area

Items	Technical requirements
Seed treatment area	Located in or no more than 100 m away from the nursery Has a roof and surrounding walls or House with flat roof, concrete, brick foundation, flat There are windows to ensure ventilation

	There is a fixed stand to place the seed tray
Storage	Located in the nursery One-story house with concrete roof or House with flat roof, concrete or Steel frame house with corrugated iron roof Flat brick or cement floor Walls, partitions built of bricks or reinforced concrete
Soil and potting mix storing area	Convenient access (for vehicles carrying soil and potting mix) Roof made of hard materials, ensuring sun/rain protection; walled from 0.7 to 1.0 m or Steel frame house with corrugated iron roof Hard, dry ground
Working area	Adjacent to or not more than 50 m from the seedling production area; Roof made of hard materials, ensuring sun/rain protection for activities; surrounded by walls from 0.7 to 1.0 m or Steel frame house with corrugated iron roof Hard, dry foundation
Main route	Minimum width 3 m
Subdivision route	Placed perpendicular to the main route, minimum width 2 m
Water supply system	The water tank has a solid structure that does not leak water (can be built underground). The surface of the tank wall should not be higher than the vertical nozzle height. The storage capacity of the tank must ensure enough water to irrigate the houseplants with cuttings when operating at maximum for at least 1 day in the hot or dry season. The water supply pipe to the tank needs to be buried in the ground to avoid brittleness due to rain and sun, must ensure its durability, withstand the hydraulic pressure in the pipe and mechanical impact during the production process.
Water supply system	The cross-section of the pipeline must ensure that the flow of water through is 1.5 to 2 times larger than the total flow of water consumed for sprinkler irrigation systems and other production activities in the nursery. Water supply to the tank by the self-flow method with a mechanical float valve that automatically locks the water supply line when the tank is fully filled or supplied to the tank by another pumping system with an automatic part that closes and cuts off the power supply to the pump according to the water level in the tank.
Drainage system	The drainage system in the nursery is designed next to the route in the nursery in the form of drainage channels and ditches. The ditches surrounding the nursery are built of cement bricks, from 30 to 50 cm wide, 20 to 30 cm deep, with a slope of 2 to 3%. There is a sink drain through the road to drain water to the wastewater treatment system area

Power system	The power line to the pump house must be installed on the pole according to electrical safety technical standards. The height of the power cord above the ground ensures the safety for vehicle. The load capacity of the conductor must be at least 1.5 times greater than the total maximum power consumed by the loads and other electrical equipment serving production activities in the nursery. Power lines must have devices that automatically switch off electrical circuits when overloaded or short-circuited. The electronic equipment of the control system must be firmly installed in a fixed location, in a dry place, away from rain and sun, to ensure convenient use and electrical safety.
Working house	Level 4 house or Flat roof, concrete house
Fence	Brick wall around the nursery, 1.5 to 2.0 m high or barbed wire with iron poles 2.5 to 3 m high

6. Technical requirements for the production of forest tree cultivar

6.1. General requirements

Table 6- General requirements

No	Criteria	Requirements
1	Training	- Seedling producers must be trained in propagation techniques and requirements on sustainable forest management for seedling production. - Workers must be trained in nursery techniques, and the use of chemicals and fertilizers
2	Infrastructure	- Containers or warehouses for storing fertilizers and pesticides must be sealed, not leaked to the outside, with warning signs. - Comply with regulations on using chemicals and pesticides
3	Equipment, machinery, tools	- Tools must be checked before use to ensure safety to avoid causing accidents to workers - Operators of machines and equipment have strict requirements on occupational safety and health, and must be trained in their usage.
4	Seedling production process	- Have an internal seedling production process - Seedling standards comply with Vietnamese standards.
5	Layout diagram of seedling production and record keeping	- Production diagram of seedlings according to regulations - Regulation and implementation of archiving and control of diagrams and records. Minimum record retention period is 5 years

6	Occupational Safety and Health	- There are regulations on labor protection, instructions on the safe use of equipment, machinery and tools in the production process. - Labor protection amterials (clothes, gloves, masks, boots...) should be cleaned before and after use and stored in the right place, not in the same place where pesticides, fertilizers and other chemicals are stored. - First aid tools and instructions for handling in case of need.

6.2. Technical requirements for propagation of acacia, eucalyptus seedlings (fast growing plants)

6.2.1. Propagation by seed

Table 7- Technical requirements for propagation by seed according to sustainable management standards

No.	Criteria	Requirements
1	Nursery requirements	Vietnam standard TCVN 13359-2021 Forest tree cultivar -Forest tree nursery
2	Seedling origin	Produced from seed obtained from a recognized seed source Vietnamese standard TCVN 11570-1:2016 Forest cultivar-Acacia plant-Part 1: *Acacia mangium* Vietnam Standard TCVN 11570-3:2017 Forest tree cultivar-Acacia saping-Part 3: *Acacia crassicarpa* A.cunn.ex Benth, *Acacia auriculiformis* A.cunn.ex Benth
3	Nursery profile	The producer must compile a record on management of the seedling nursery: clearly stating the origin of the seedling for seed; sowing date; the number of seeds suitable for potting.
4	Potting substrate	- The potting substrate must be porous, have good moisture retention and enough nutrition. The composition of materials to make the substrate is as follows: top soil or alluvial soil along the river not contaminated with alum, saline; organic matter: sawdust, coir, coco peat, smoked rice husks, smoked coffee husks...; manure; phosphate fertilizers; lime powder. - The substrate mixture is mixed and treated to kill weeds and pathogens.
5	Standards of seedlings exported from the nursery	Vietnamese standard TCVN 11570-1:2016 Forest cultivar-Acacia plant-Part 1: *Acacia mangium* Vietnam Standard TCVN 11570-3:2017 Forest tree cultivar-Acacia saping-Part 3: *Acacia crassicarpa* A.cunn.ex Benth, *Acacia auriculiformis* A.cunn.ex Benth

6.2.2. Propagation by rooted cuttings

Table 8 - Technical requirements for propagation by rooted cuttings according to sustainable management standards

No.	Criteria	Requirements
1	Nursery requirements	Vietnam standard TCVN 13359-2021 Forest tree cultivar -Forest tree nursery
2	Seedling origin	Vietnam Standard TCVN 11570-2:2016 Forest cultivar-Acacia plant - Part 2: Acacia hybrid Vietnam Standard TCVN 11571-1:2016 Forest cultivar-Eucalyptus plant-Part 1: Eucalyptus hybrid Vietnam Standard TCVN 11571-2:2017 Forest tree cultivar - Eucalyptus sapling - Part 2: *Eucalyptus urophylla* S.T.Blake, *Eucalyptus camaldulensis* Dehnh
3	Nursery profile	The producer must make a record on management of the seedling nursery: clearly stating the origin of the cuttings; date of cuttings; the number of cuttings; rate of cuttings put into the pot.
4	Potting substrate	The potting mixture must be porous, not mixed with stones and pebbles, have good moisture retention capacity and have enough nutrients. The potting mix must be treated free from harmful fungi and bacteria. The specific requirements for potting mixtures are as follows: - pH_{H2O}: 5.0 to 6.5. - Soil mechanical composition by volume: + Sand: ≤ 10%. + Clay: ≤ 30%. + Rate of coarse fillers (rotten manure, peat, rice husk coal...): ≥ 10% by volume.
5	Standards of seedlings exported from the nursery	Vietnam Standard TCVN 11570-2:2016 Forest cultivar-Acacia plant - Part 2: Acacia hybrid Vietnam Standard TCVN 11571-1:2016 Forest cultivar-Eucalyptus plant-Part 1: Eucalyptus hybrid Vietnam Standard TCVN 11571-2:2017 Forest tree cultivar - Eucalyptus sapling - Part 2: *Eucalyptus urophylla* S.T.Blake, *Eucalyptus camaldulensis* Dehnh

6.2.3. Propagation by tissue culture

Table 9 - Technical requirements for propagation by tissue culture according to sustainable management standards

No.	Criteria	Requirements
1	Nursery requirements	Vietnam standard TCVN 13359-2021 Forest tree cultivar -Forest tree nursery
2	Seedling origin	Vietnam Standard TCVN 11570-2:2016 Forest cultivar-Acacia plant - Part 2: Acacia hybrid Vietnam Standard TCVN 11571-1:2016 Forest cultivar-Eucalyptus plant-Part 1: Eucalyptus hybrid Vietnam Standard TCVN 11571-2:2017 Forest tree cultivar - Eucalyptus sapling - Part 2: *Eucalyptus urophylla* S.T.Blake, *Eucalyptus camaldulensis* Dehnh
3	Nursery profile	The producer must compile a record on management of the seedling nursery: clearly stating the source of the seedling from the hedge orchard; date of material collection; number of culture flasks; number of transplanted plants taken from the flasks
4	Potting substrate	The potting mixture must be porous, not mixed with stones and pebbles, have good moisture retention capacity and have enough nutrients. The potting mix must be treated free from harmful fungi and bacteria. The specific requirements for potting mixtures are as follows: - pH_{H2O}: 5.0 to 6.5. - Soil mechanical composition by volume: + Sand: ≤ 10%. + Clay: ≤ 30%. + Rate of coarse fillers (rotten manure, peat, rice husk coal...): ≥ 10% by volume.
5	Standards of seedlings exported from the nursery	Vietnam Standard TCVN 11570-2:2016 Forest cultivar-Acacia plant - Part 2: Acacia hybrid Vietnam Standard TCVN 11571-1:2016 Forest cultivar-Eucalyptus plant-Part 1: Eucalyptus hybrid Vietnam Standard TCVN 11571-2:2017 Forest tree cultivar - Eucalyptus sapling - Part 2: *Eucalyptus urophylla* S.T.Blake, *Eucalyptus camaldulensis* Dehnh

6.3. Technical requirements for propagating native plants (by seed)

Table 10 - Technical requirements for propagation by seed for native plants according to sustainable management standards

No.	Criteria	Requirements
1	Nursery requirements	Vietnam standard TCVN 13359-2021 Forest tree cultivar -Forest tree nursery
2	Seedling origin	Vietnamese standard TCVN 12714-1:2019 Forest tree cultivar - Seedlings of native plants Part 1: *Mella azedarach* Linn Vietnamese standard TCVN 12714-2:2019 Forest tree cultivar - Seedlings of native plants Part 2: *Manglietia conifera* Dandy Vietnamese standard TCVN 12714-3:2019 Forest tree cultivar - Seedlings of native plants Part 3: *Schima wallichii* Choisy Vietnamese standard TCVN 12714-4:2019 Forest tree cultivar - Seedlings of native plants Part 4: *Hopea odorata* Roxb. Vietnamese standard TCVN 12714-5:2020 Forest tree cultivar - Seedlings of native plants Part 5: *Canarium album* Raeusch Vietnamese standard TCVN 12714-6:2020 Forest tree cultivar - Seedlings of native plants Part 6: *Michelia mediocris* Dandy Vietnamese standard TCVN 12714-7:2020 Forest tree cultivar - Seedlings of native plants Part 7: *Dipterocarpus alatus* Vietnamese standard TCVN 12714-8:2020 Forest tree cultivar - Seedlings of native plants Part 8: *Chukrasia tabularis* A.juss Vietnamese standard TCVN 12714-9:2020 Forest tree cultivar - Seedlings of native plants Part 9: *Lithocarpus fissus* Champ ex Benth
3	Nursery profile	The producer must compile a record on management of the seedling nursery: clearly stating the origin of the seedling for seed; sowing date; the number of seeds suitable for potting.
4	Potting substrate	- The potting substrate must be porous, have good moisture retention and enough nutrition. The composition of materials to make the substrate is as follows: top soil or alluvial soil along the river not contaminated with alum, saline; organic matter: sawdust, coir, coco peat, smoked rice husks, smoked coffee husks...; manure; phosphate fertilizers; lime powder. - The substrate mixture is mixed and treated to kill weeds and pathogens.
5	Pot size	Vietnamese standard TCVN 12714-1:2019 Forest tree cultivar - Seedlings of native plants Part 1: *Mella azedarach* Linn Vietnamese standard TCVN 12714-2:2019 Forest tree cultivar - Seedlings of native plants Part 2: *Manglietia conifera* Dandy

		Vietnamese standard TCVN 12714-3:2019 Forest tree cultivar - Seedlings of native plants Part 3: *Schima wallichii* Choisy Vietnamese standard TCVN 12714-4:2019 Forest tree cultivar - Seedlings of native plants Part 4: *Hopea odorata* Roxb. Vietnamese standard TCVN 12714-5:2020 Forest tree cultivar - Seedlings of native plants Part 5: *Canarium album* Raeusch Vietnamese standard TCVN 12714-6:2020 Forest tree cultivar - Seedlings of native plants Part 6: *Michelia mediocris* Dandy Vietnamese standard TCVN 12714-7:2020 Forest tree cultivar - Seedlings of native plants Part 7: *Dipterocarpus alatus* Vietnamese standard TCVN 12714-8:2020 Forest tree cultivar - Seedlings of native plants Part 8: *Chukrasia tabularis* A.juss Vietnamese standard TCVN 12714-9:2020 Forest tree cultivar - Seedlings of native plants Part 9: *Lithocarpus fissus* Champ ex Benth
6	Standards of seedlings exported from the nursery	Vietnamese standard TCVN 12714-1:2019 Forest tree cultivar - Seedlings of native plants Part 1: *Mella azedarach* Linn Vietnamese standard TCVN 12714-2:2019 Forest tree cultivar - Seedlings of native plants Part 2: *Manglietia conifera* Dandy Vietnamese standard TCVN 12714-3:2019 Forest tree cultivar - Seedlings of native plants Part 3: *Schima wallichii* Choisy Vietnamese standard TCVN 12714-4:2019 Forest tree cultivar - Seedlings of native plants Part 4: *Hopea odorata* Roxb. Vietnamese standard TCVN 12714-5:2020 Forest tree cultivar - Seedlings of native plants Part 5: *Canarium album* Raeusch Vietnamese standard TCVN 12714-6:2020 Forest tree cultivar - Seedlings of native plants Part 6: *Michelia mediocris* Dandy Vietnamese standard TCVN 12714-7:2020 Forest tree cultivar - Seedlings of native plants Part 7: *Dipterocarpus alatus* Vietnamese standard TCVN 12714-8:2020 Forest tree cultivar - Seedlings of native plants Part 8: *Chukrasia tabularis* A.juss Vietnamese standard TCVN 12714-9:2020 Forest tree cultivar - Seedlings of native plants Part 9: *Lithocarpus fissus* Champ ex Benth

Reference

[1]. Ministry of Agriculture and Rural Development, 2018. Circular No. 28/2018/TT-BNNPTNT dated 16/11/2018 Regulations on sustainable forest management.

[2]. Ministry of Agriculture and Rural Development (2021). Circular 22/2021/TT-BNNPTNT dated December 29, 2021 providing for the list of main forestry plant species; recognition of varieties and sources of forestry tree cultivar.

[3]. Government of the Socialist Republic of Vietnam (2021). Decree No. 27/2021/ND-CP dated March 25, 2021 on management of forestry plant cultivar

[4]. National Assembly of the Socialist Republic of Vietnam, 2017. Law No. 16/2017/QH dated November 15, 2017 Law on Forestry.

[5]. Vietnam Administration of Forestry, 2019. Handbooks and guiding documents for implementing sustainable forest management. Industry and Trade Publishing House.