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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

LY/T 3091-2019

**Technical regulations on seedlings cultivation of *Michelia
macclurei***

火力楠育苗技术规程

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is proposed by the Chinese Academy of Forestry.

This standard is under the jurisdiction of the National Forest Seeds Standardization Technical Committee (TCS 115).

1 Scope

This standard specifies *Michelia macclurei* Dandy seeding, asexual reproduction, seedling management, seedling management, Technical requirements such as filing.

This standard applies to seedling cultivation of *Phoebe bournei*.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this document.

file. For undated references, the latest version (including all amendments) applies to this document.

GB/T 2772 Forest tree seed inspection regulations GB/T 6001 Seedling raising technical regulations GB/T 7908 Forest tree seed quality classification GB/T 16619 Forest seed collection technology LY/T 1000 Container Seedling Technology LY/T 1882 Technical Regulations for Tree Tissue Culture LY/T 2289 Forest tree seedling production and operation file

3.1.1.1 Forecast of seed volume

It is carried out when the seeds are almost ripe from August to September. The prediction and analysis methods are implemented in accordance with GB/T 16619.

3.1.1.2.1 Mother Tree

It is better to choose a good single plant in the local fine forest for more than 15 years, which has strong growth, straight and complete stem shape, and is free of diseases and insect pests as the mother tree.

3.1.1.2.2 Acquisition time

Seeds were harvested from mid-November to early December when the skin of capsules changed from green to red-brown or yellow without cracking.

3.1.1.2.3 Collection method

Use high branches to cut small branches with fruits to avoid damaging the mother tree. Remove the fruits from the stalk and place them in a breathable nylon mesh bag.

Or inside a woven bag.

3.1.2.1 Threshing

Place the fruits in a dry and ventilated place indoors, and allow them to ripen and air-dry for 1 to 3 days.

After the wrapped seeds are completely separated from the husk, the seeds are selected and packed in a mesh bag.

3.1.2.2 Net seed

Soak the collected aril coat seeds with water for 10 to 12 hours, then put them into a net bag and rub them to remove the red aril coat and other impurities, pick up the seeds and place them in a ventilated and dry place to dry the surface moisture.

3.1.3 Seed storage

The seeds of *Phoebe flavescent* are recalcitrant seeds with high water content, and can be deposited in sand at room temperature or low temperature of 1-5 °C. Shelf life. 1 at room temperature Month to 3 months, 3 to 5 months at low temperature of 1-5 °C.

3.1.4 Seed quality

Seed kernels are not damaged, no pests and diseases, thousand kernel weight is 63.5 g ~ 170 g. Seed quality classification according to GB/T 7908, seed testing according to GB/T 2772 Execution.

3.2 Field

It is better to choose a place with flat terrain, good leeward weather, convenient transportation, deep soil and good drainage. The length of the seedbed depends on the terrain. First clear After weeding, level the ground and dig drainage ditches. Divided seedbeds and walkways on a well-kept nursery floor. The seedbeds are 10 cm high and 100 cm ~ 120 wide.

cm, the trail is 40 cm wide, and the length of the seedbed depends on the terrain.

3.3.1 Matrix

Yellow heart soil 50% Topsoil 25% Loose powder 25% or Yellow heart soil 50% Loose powder 50% or Yellow heart soil 60% Fired soil 15% Coconut Bran 25%. The size of the soil particles in the substrate should be more uniform, with a particle size of 0.1 cm to 0.3 cm; 60% of the mushroom residue should be used to cultivate light substrate seedlings.

Or 15% sawdust 25% sawdust.

3.3.2 Container

The diameter of the container is 9 cm to 12 cm, and the height of the container is 15 cm to 20 cm. Or use (5.5 ~ 6.0) cm x (10 ~ 12) cm non-woven fabric capacity Device.

3.3.3 Disinfection

Place the container with the substrate (the plastic seedling container is placed directly on the noodle surface, and the non-woven seedling container is placed in the seedling tray).

After that, the substrate was permeated with 0.2% potassium permanganate, and then covered with a film for 2 to 3 days, and then the plantlets could be peeled off.

3.4 Seeding

It should be harvested and planted immediately, soaked in warm water at 40 °C for 24 hours, and then taken out to dry.

On the surface, lightly press the seeds into the sand with a wooden board or the like, cover a fine sand with a thickness of 0.4 cm to 0.6 cm, and finally cover it with a thin film for heat preservation and proper ventilation.

3.5 Post-Play Management

After sowing, set up an arch shed, and moderate ventilation to keep the soil moist.

3.6.1 Transplanting

When the sprouts grow 2 to 3 true leaves, transplant the sprouts into the nursery container in time, and cut the root first, and keep the main root 3 cm ~ 4 cm. Place the container after transplanting, and drizzle with water.

3.6.2 Shade

Set up an arch shed and cover a shade net with a shading rate of 75% to 80%. After 30 days of shading, the shading is gradually uncovered. If the weather is hot, the shading days will be extended appropriately.

4.1 Explant preparation

Use the selected superior tree or the excellent breeding material approved by the forest species approval committee at or above the provincial level as the collection the mother plant of the plant was harvested as an explant after cutting or cutting the base of the trunk.

4.2 Explant collection

Choose continuous sunny days from 3 d to 5 d, collect longer young sprouts, seal with fresh-keeping bags and store them at about 4 ° C for low temperature storage and storage.

4.3 Explant disinfection

Rinse the dust on the surface of the explant repeatedly with tap water, and then wash the explant with sterile water. On a clean bench, use 75% alcohol Sterilize for 1 to 3 minutes and rinse with sterile water for 2 to 3 times. Sterilize with a few drops of 1 per mille mercury chloride solution added with Tween-80.

Sterilize by stages for 1 to 5 minutes, and then rinse with sterile water 4 to 5 times, each time 2 to 3 minutes.

4.4 Axillary bud induction culture

Strip the sterilized explant buds from the surface for 1 or 2 layers, and bud induction medium. One explant is connected to each bottle of culture medium. Culture temperature is 24 °C ~ 28 °C, light intensity 1500 Lx ~.2000 Lx, light time 12 hours per day, other conditions shall be implemented according to LY/T 1882.