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

LY/T 3092-2019

**Technical regulations on cultivation of casuarina seedlings and
trees**

木麻黄栽培技术规程

(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 Afforestation Standardization Technical Committee (ASC/TC385).

This standard was drafted. Institute of Tropical Forestry, Chinese Academy of Forestry

1 Scope

This standard specifies the technical requirements for seedling cultivation, afforestation, tending management, pest control and archives management of Casuarina species.

This standard applies to Casuarina equisetifolia LASJohnson and Thinwood Casuarina in tropical and subtropical regions.

C.cunninghamiana Miq., C.glauca Sieber ex.Spreng, C.junghuhniana Miq.), C.collina Poiss ex.Panch.

Casuarina (C. obesa Miq.), C. oligodon LASJohnson, C. grandis LAS Johnson), Allocasuarina littoralis (Salib.) LASJohnson, and Forest Casuarina (A.torulosa (Ait.)) L. Johnson) and other Casuarina species.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 6000 Quality Classification of Main Afforestation Tree Seedlings GB/T 6001 Seedling raising technical regulations GB/T 15776 Afforestation Technical Regulations GB/T 15781 Forest care regulations GB/T 15782 General design code for afforestation LY/T 1607 Design rules for afforestation operations

3 Terms and definitions

The following terms and definitions apply to this document.

Young shoot with branchlets and leaves Coniferous semi-lignified or lignified young branches that have degenerated tooth-like leaves and a few small side branches.

Young shoot rooted cutting stocks by water culture *Casuarina equisetifolia* cuttings are treated with hormones, placed in an aqueous solution to grow roots, and then transplanted asexual propagation seedlings.

4.1.1.1 Mother Tree Selection

It is better to collect mother tree seeds with strong growth, full and straight trunks, and no pests or diseases in plantations over 5 years old, or verified by provenance it is really suitable for growing in the planting area.

4.1.1.2 Seeding time

Capsule ripening period is from July to January of each year, and most of it is from September to December. It is collected when the capsule becomes dark brown.

4.1.1.3 Seed modulation

Capsules are dried in the shade at room temperature and dried at room temperature. After the capsules are cracked, the seeds are scattered. The seeds are cleaned, removed, and seeds are collected.

Store in a low-temperature refrigerator or freezer at 4 ° C to 5 ° C for later use.

4.1.1.4 Seed quality

The 1000-grain weight is 0.5g ~ 5.0g, which varies depending on the tree species, among which 1.3g ~ 2.1g of *casuarina equisetifolia*, 0.6g of *casuarina equisetifolia* and coarse *casuarina equisetifolia*, Mountain *casuarina* is from 0.7g to 1.1g, coastal *casuarina* is about

2.1g, celosia casuarina is about 2.4g and forest casuarina is about 5.0g. Germination rate of seeds 40% -95% (or 80 strains · g-1-1100 strains · g-1), and the water content should be less than 12%.

4.1.2.1 Field

According to GB/T 6001, fixed or temporary nursery land should be selected, and waste land should be selected. Land that has been planted with susceptible bacterial wilt plants such as Solanaceae is prohibited.

4.1.2.2 Seed disinfection

Before sowing, soak the seeds with 0.1% potassium permanganate solution for 3 to 5 minutes to disinfect the surface, and rinse with water several times.

4.1.2.3 Seeding time

It is advisable to plant from September to March of the following year.

4.1.2.4 Seeding

Drain the well-formed seedbed, mix the sterilized seeds with dry fine sand at a ratio of 1. 1, and spread evenly on the seedbed to cover the fine sand.

Gently compact the soil to cover the seed by about 2mm or cover until the seed is no longer visible. Sowing amount 10g · m-2 ~ 50g · m-2, 1000 seeds per tree Factors such as weight and germination rate vary.

4.1.2.5 Post broadcast management

Keep the surface of the seedbed moist before emergence of the buds, and properly shade and rainproof before sprouts. Use a fine-pored shower or sprayer of about 1mm for water spray. Wait when the seedlings reach 7cm-10cm in height, they are transplanted.

4.2.1.1 Site selection

Select fertile and loose soil, sufficient water sources, good drainage and irrigation, and convenient transportation to build ear picking nurseries. Prohibition of susceptible young people such as Solanaceae Blight plant land.

4.2.1.2 Origin of clones

The selected excellent clones were selected.

4.2.1.3 Mother plant colonization and pruning

The mother plant is ground-grown, with a bed width of 60cm ~ 120cm, a bed height of 20cm ~ 30cm, a walkway width of 50cm, and a plant spacing of 20cm ~ 50cm x 30cm ~ 60cm. When the seedlings reach 70 cm to 90 cm, they will be truncated, and the height should be 40 cm to 60 cm.

4.2.1.4 Fertilization

In the year of planting, a compound fertilizer (N. P. K = 15. 15. 15) 100g · m⁻² was applied once. Spray 1% compound fertilizer once after picking, the application rate is 0.75 g · m⁻² to 1.12 g · m⁻².

4.2.1.5 Mother plant update

The ear picking period of the mother plant is 2 to 4 years.

4.2.2.1 Cutting materials

Three to six months old twigs were collected for cuttings, and the cuttings were 8 cm to 12 cm long.

4.2.2.2 Cutting disinfection

Immerse the cuttings with 0.1% potassium permanganate solution for 3 to 5 minutes to disinfect the surface and rinse with water several times.

4.2.2.3 Cutting processing

Use 30mg.kg⁻¹ ~ .200mg.kg⁻¹ IBA or 10mg.kg⁻¹ ~ .200mg.kg⁻¹ NAA hormone solution to immerse the base of the cutting strip (length 2cm ~ 3cm) 1 hour to 24 hours.

4.2.2.4.1 Hydroponics

Hydroponic seedling propagation is to place cuttings upright in a container filled with clean water. According to local conditions, use transparent plastic cups (9.0cm in height, upper diameter 7.5cm and the diameter of the bottom is about 5.5cm), each cup can be inserted 30 to 50. The water level of the container is 1/3 of the length of the cuttings and placed on the platform.

Full light before rooting or shade with 30% to 50% shading net, full light irradiation after rooting. Change the water every 24 hours and remove moldy cuttings.