

ICS 65.020.01
CCS B 61

LY

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

LY/T 3106-2019

Packaging of forest tree seed

林木种子包装

(English Translation)

Issued on: October 23, 2019

Implemented on: April 1, 2020

Issued by: State Forestry and Grassland Administration

Table of Contents

Foreword
1 Scope
2 Normative references
3 Definitions and terminology
3.1 Ultra-dried seeds
3.2 Normal Seed
3.3 Stubborn Seeds
3.4 Intermediate Seeds
4 General requirements
5 Packaging materials and containers
5.1 Packaging materials
5.2 Container selection
6 Packaging specifications
7 Packaging identification and sealing
7.1 Packaging identification
7.2 Packaging seal

Foreword

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

This standard was proposed by the Chinese Academy of Forestry and is under the jurisdiction of the National Forest Seed Standardization Technical Committee (SAC/TC 115).

This standard was drafted. Forestry Research Institute, Chinese Academy of Forestry, China Forest Seeds Company, Guangdong Forest Resources Conservation Center, Beijing Forestry Seeds and Seedlings Management Station, Tianjin Jizhou Forestry Bureau, Hunan Forest Products Quality Inspection Center, Daxingan, Inner Mongolia Ridge Forest Survey and Planning Institute.

1 Scope

This standard specifies the general requirements for packaging of forest tree seeds, packaging materials and containers, packaging specifications, packaging marks and seals, etc.

This standard applies to the packaging of forest tree grains and fruits during storage, transportation, and sales.

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

GB 7908 Forest Tree Seed Quality Classification GB/T 10016 Forest tree seed storage
GB/T 16620 Terminology for tree breeding and seed management LY/T 2290 Forest tree seedling label

3 Definitions and terminology

The terms and definitions defined in GB/T 16620 and the following terms apply to this document.

3.1 Ultra-dried seeds

Seeds dried by artificial methods to below the safe lower moisture limit of 5.0%.

3.2 Normal Seed

It can be dried without damage under a wide range of environmental conditions. The storage life of the seed is reduced with the decrease of seed moisture content and storage temperature.

Improved in a quantitative and predictable way. The lower limit of seed water content can reach 2-6%, which varies with tree species.

3.3 Stubborn Seeds

Refers to seeds that are not tolerant to dryness and low temperature and cannot be used to predict the shelf life of the seed vigor equation. The lower limit of water content is 23.0%-61.5% it varies from tree to tree. Once the seed is dehydrated, it will cause rapid loss of vitality and affect its germination process.

3.4 Intermediate Seeds

Refers to a type of seed that is neither a normal seed nor a recalcitrant seed. Most seeds fall into this category. Carambola and papaya as an example, the seeds can be dried to 10-12% moisture content and can be stored sealed (not stubborn seeds), and not tolerant to 0 °C Warm (not a normal seed).

4 General requirements

4.1

Packaged seeds should meet the germination rate (or viability, or goodness), moisture content, and purity indicated on the packaging label Requirements, and the quality index of packaging labeling should meet the requirements of GB 7908 forest seed quality classification.

4.2

The same batch of seeds should use the same packaging materials, and the weight of the seeds in each package is equal.

4.3

Packaging should be convenient for storage, handling, stacking, inventory and sampling.

4.4

Refer to GB/T 10016 for storage conditions of packaged tree seeds.

5.1 Packaging materials

Strong, durable, environmentally friendly, moisture-proof, clean, non-quarantine harmful organisms, and adapt to the physiological characteristics of forest seeds.

5.2 Container selection

Should be based on seed type, seed characteristics, seed moisture content, seed use, shelf life, storage conditions, transportation distance and geographical climate Conditions and other factors to choose packaging containers. Mainly sacks, woven bags, cloth bags, wooden boxes, metal cans (barrels), plastic barrels, glass bottles, poly Vinyl aluminum foil composite bags and polyethylene bags.

- a. Ultra-dried seeds should be vacuum-packed in containers such as waterproof and airtight polyethylene bags and polyethylene aluminum foil composite bags.
- b. The stubborn seeds should be packed with sacks, cloth bags, wooden boxes, etc. that have ventilation function.
- c. Normal seeds and intermediate seeds should be dried to a safe moisture content range. In temperate areas, sacks, metal buckets, Plastic barrels, plastic woven bags or rubber-coated plastic woven bags are used for packaging; high temperature and high humidity in tropical and subtropical areas should choose tight, Pack in a moisture-proof container. The safe water content shall meet the corresponding regulations in GB 7908.
- d. Long-term preservation and preservation of forest germplasm resources should choose metal cans (barrels), plastic barrels, glass bottles and polyethylene aluminum foil composite

Packaging such as bags.

e. Forest tree seed storage conditions shall be implemented in accordance with GB/T 10016.

6 Packaging specifications

6.1

Packed with seed quality or quantity, different packages can be selected according to different tree species, seed size, seed volume and seed price Loading specifications.

6.2

The total mass of each packaging unit of ultra-dried seeds and ordinary seeds should not be higher than 50 kg, and the total mass of each packaging unit of stubborn seeds should not be Above 25kg.

7.1 Packaging identification

7.1.1

Packaging identification includes seed labels, printed trademarks and designs, packaging specifications, and coated seeds and fumigated seeds should be labeled with the type of medicine and its content.

7.1.2

The seed label shall be printed, affixed or fixed on the surface of the seed package. Seed labels should indicate forest tree seed category, tree species or Variety name, place of origin, quality index, phytosanitary certificate number, net content (quantity), seed production license number, production date Period, name, address and contact information of the production operator. The content of the seed tag should be true, valid, and comply with the corresponding regulations of LY/T 2290 set.

7.1.3

Seeds with registered trademarks should be marked with the brand name and pattern, and the trademark pattern should be pasted or printed on a prominent place on the exterior of the package.

7.2 Packaging seal

The sealing should ensure the integrity of the packaging material, be strong and compact, and not be easily damaged in the storage, handling and transportation of seeds.