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Technical Standard of International Seabuckthorn Association

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沙棘采穗圃营建技术规程

Technical regulation for establishment of cutting orchard of
seabuckthorn

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前 言

本标准按照 GB/T 1.1—2020《标准化工作导则 第1部分：标准化文件的结构和起草规则》的规定起草。

本标准的某些内容可能涉及专利。本标准的发布机构不承担识别专利的责任。

本标准由国际沙棘协会归口。

本标准起草单位：山西省林业和草原科学研究院、水利部沙棘开发管理中心（水利部水土保持植物开发管理中心）、新疆松源林果生物科技有限公司、宝得瑞（河北）健康产业有限公司、内蒙古沙漠之花生态产业科技有限公司。

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本标准为首次发布。

Foreword

This standard was drafted in accordance with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines - Part 1: Structure and Drafting Rules for Standardization Documents".

Some contents of this standard may involve patents. The issuing body of this standard does not assume responsibility for identifying patents.

This standard is under the jurisdiction of the International Sea Buckthorn Association.

The drafting units of this standard are: Shanxi Academy of Forestry and Grassland Sciences, Management Center for Sea Buckthorn Development of Ministry of Water Resources (Plant Development and Management Center for Soil and Water Conservation of the Ministry of Water Resources), Xinjiang Songyuan Fruit and Forest Biotechnology Co., LTD., Baoderui (Hebei) Health Industry Co., LTD., and Inner Mongolia Desert Flower Ecological Industry Technology Co., LTD.

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This standard is issued for the first time.

沙棘采穗圃营建技术规程

Technical regulation for establishment of seabuckthorn cutting orchard

1 范围

本标准规定了沙棘 (*Hippophae rhamnoides L.*) 采穗圃建立、采穗圃管理和档案管理等要求。

本标准适用于沙棘采穗圃的营建和管理。

1. Range

This standard stipulates the requirements for the establishment and management of *Hippophae rhamnoides L.* cutting orchard, and the management of its archives, etc.

This standard is applicable to the construction and management of sea buckthorn cutting orchard.

2 规范性引用文件

下列文件中的内容通过文中的规范性引用而构成本标准必不可少的条款。其中，注日期的引用文件，仅该日期对应的版本适用于本标准。不注日期的引用文件，其最新版本（包括所有修改单）适用于本标准。

NY/T 496 肥料合理使用准则通则

DB14/T 136 林木育苗技术规程

GB/T 11822 科学技术档案案卷构成的一般要求

2. Normative references

The contents of the following documents constitute indispensable provisions of this standard through normative references in the text. Among them, for the referenced documents with a specified date, only the version corresponding to that date is applicable to this standard. For undated referenced documents, the latest version (including all amendments) is applicable to this standard.

NY/T 496 General Guidelines for the Rational Use of Fertilizers

DB14/T 136 Technical Regulations for Forest Tree Seedling Raising

GB/T 11822 General Requirements for the Composition of Scientific and Technological Archives Case Files

3 术语和定义

3.1 沙棘采穗圃 (Cutting orchard of seabuckthorn)

采用沙棘优良品种或无性系作材料，为生产遗传品质一致的穗材而建立起的园圃。

3 Terms and Definitions

3.1 Cutting orchard of seabuckthorn

A garden established by using superior varieties or clones of sea buckthorn as materials to produce cuttings with consistent genetic qualities.

4 采穗圃建立

4.1 圃地选择

选择交通便利、光照充足、灌溉方便、排水良好、土层深厚、通透性好的沙壤土或壤土地块。

4. Establishment of the garden

4.1 Nursery site Selection

Select sandy loam or loam plots that are convenient for transportation, have abundant sunlight, are easy to irrigate, have good drainage, have deep soil layers and good permeability.

4.2 圃地区划

按照沙棘品种、无性系划分若干区，把同一品种或无性系区划在同一个小区。不同小区设置标志牌（标明位置、编号、品种名称、面积、株行距、数量、建立时间等）。

4.2 Plot Area layout

Divide the sea buckthorn into several zones according to its variety and clonal line, and place the same variety or clonal line in the same small area. Signboards should be set up in different communities (indicating location, number, variety name, area, row and plant spacing, quantity, establishment time, etc.).

4.3 整地施肥

秋季或春季深翻耙平，深度 30 cm ~ 40 cm。整地时结合土壤肥力施入腐熟农家肥或含 N、P、K 成分的复合肥，肥料使用按 NY/T 496 执行。土壤消毒按 DB14/T 136 执行。

4.3 Land preparation and fertilization

Deep ploughing and raking level in autumn or spring, with a depth of 30 to 40 cm. When preparing the land, apply well-rotted farmyard manure or compound fertilizer containing N, P and K components in combination with soil fertility. The application of fertilizer shall be carried out in accordance with NY/T 496. Soil disinfection shall be carried out in accordance with DB14/T 136.

4.4 苗木选择

4.4.1 品种选择

选择通过国家或省级审（认）定及引种推广的、适宜当地气候环境条件生长的沙棘优良品种或无性系。

4.4.2 苗木规格

选择生长健壮、根系发达、无病虫害的 1a~2a 生苗木，苗高 ≥ 30 cm、地径 ≥ 0.3 cm。

4.4 Selection of Seedlings

4.4.1 Variety Selection

Select superior sea buckthorn varieties or clones that have passed national or provincial approval (recognition) and been introduced and promoted, and are suitable for local climatic and environmental conditions to grow.

4.4.2 Specifications of Seedlings

Select vigorous seedlings of 1a to 2a with well-developed root systems and free from diseases and pests, with a height of ≥ 30 cm and a ground diameter of ≥ 0.3 cm.

4.5 栽植

4.5.1 时间

春季苗木萌动前或秋季苗木落叶后土壤封冻前。

4.5.2 密度

株行距 1.5 m \times 1.5 m 或 1.5 m \times 2.0 m。

4.5.3 方法

采用穴植法，规格 40 cm \times 40 cm \times 30 cm，品字形排列。栽植前修剪根系，采用“三埋、两踩、一提苗”的栽植方法，栽后浇透定根水。

4.5 Planting

4.5.1 Time

Before the seedlings sprout in spring or before the soil freezes after the seedlings shed their leaves in autumn.

4.5.2 Density

The plant and row spacing is 1.5m \times 1.5m or 1.5m \times 2.0m.

4.5.3 Method

The hole planting method is adopted, with a specification of 40 cm \times 40 cm \times 30 cm and a triangular arrangement. Before planting, prune the root system and adopt the planting method of "three burrows, two tramps and one lift". After planting, water thoroughly to help the roots settle.

4.6 截干

苗木定植后，在苗高 2/3 处截干。

4.6 Trunk Cutting

After planted, seedlings are should be cut of trunk at two-thirds of the height.

5 采穗圃管理

5.1 树体管理

第 2 年春季植株萌动前，壮枝短截，保留长度 7 cm \sim 10 cm，疏除过密枝条。夏季，结合采条剪切枝条数量的 1/2 \sim 2/3。

5. Management of cutting orchard

5.1 Tree Management

Before the plants sprout in the second spring, the strong branches should be shortened to a length of 7 to 10 cm, and the overly dense branches should be thinned out. In summer, cut 1/2 to 2/3 of the number of branches in combination with cuttings.

5.2 水肥管理

视土壤墒情适时浇水。萌动前施高氮复合肥。在树冠外围，采用带状施肥，深度 10 cm ~ 20 cm，施肥量为 600 kg/hm² ~ 900 kg/hm²。

5.2 Water and Fertilizer Management

Water in a timely manner according to the soil moisture condition. Apply high-nitrogen compound fertilizer before germination. On the periphery of the tree canopy, strip fertilization was adopted, with a depth of 10 cm - 20 cm and an application amount of 600 kg/hm²-900 kg/hm².

5.3 松土除草

生长期及时进行松土除草，保持土壤疏松，无杂草。

5.3 Loosening the soil and weeding

During the growth period, loosen the soil and remove weeds in a timely manner to keep the soil loose and free of weeds.

5.4 有害生物防治

5.4.1 病害防治

5.4.1.1 沙棘干缩病

加强土肥水管理。科学增施有机肥料，干旱缺水时及时灌溉，加强松土保墒，合理修剪，及时清除病死株，并集中烧毁。发病初期，结合开沟施肥，根灌 70%甲基硫菌灵 500 倍液 ~ 1000 倍液或根腐灵 1000 倍液等。

5.4.1.2 沙棘缩叶病

加强管理。干旱缺水时及时灌溉，加强松土保墒，合理施肥，提高树势。发现缩卷叶及时进行剪除。发病初期，结合浇水使用 0.1%盐酸四环素液或 0.1%土霉素液，按每株用量 200ml-300ml 灌根，也可使用 10g 四环素粉剂（25 万单位）100 倍液喷施树冠。

5.4 Pest Control

5.4.1 Disease Control

5.4.1.1 Sea buckthorn dry shrinkage disease

Strengthen the management of soil, fertilizer and water. Apply organic fertilizers scientifically, irrigate in a timely manner when there is a drought and water shortage, strengthen soil loosening to retain moisture, prune reasonably, remove diseased and dead plants in time, and burn them collectively. At the early stage of the disease, combined with furrow opening and fertilization, root irrigation can be carried out with 500 to 1000 times diluted 70% thiabendazole or 1000 times diluted root rot spirit, etc.

5.4.1.2 Sea buckthorn Leaf shrinkage disease

Strengthen management. When there is a drought and water shortage, irrigation should be carried out in a timely manner, soil loosening should be strengthened to retain moisture, and fertilization should be done reasonably to enhance the vigor of the trees. Cut off the curled leaves in time when they are found. At the early stage of the disease, 0.1% tetracycline hydrochloride solution or 0.1% oxytetracycline solution can be used in combination with watering for root irrigation at a rate of 200ml-300ml per plant. Alternatively, 10g tetracycline powder (250,000 units) at a 100 times dilution can be sprayed on the tree canopy.

5.4.2 虫害防治

5.4.2.1 沙棘木蠹蛾

在卵及孵化期，向树干喷施 40%乐果乳剂 1000 倍液、50%的辛硫磷 400 倍液 ~ 500 倍液。每 15 d ~ 20 d 1 次，毒杀初孵幼虫。用 40%乐果柴油液（混合比例为 1:1）涂抹蛀孔处。40%乐果乳油 60 倍注入虫孔，外敷黄泥。

5.4.2.2 沙棘蚜虫

冬季喷石硫合剂清除越冬卵。成蚜、若蚜发生期，用 10%吡虫啉 1000 倍、10%氯氰.啉虫脲乳油 1500 倍或 15% 氟啶虫酰胺·联苯菊酯悬浮剂 4000 倍液喷雾灭蚜。注意保护园内瓢虫等天敌。

5.4.2 Pest Control

5.4.2.1 Sea buckthorn wood moth

During the egg and hatching period, spray the tree trunk with 1000 times diluted 40% dimethoate emulsion and 400 to 500 times diluted 50% phoxylate. Poison the newly hatched larvae once every 15 to 20 days. Apply 40% Dimethoate diesel liquid (mixed in a 1:1 ratio) to the cavities. Inject 40% dimethoate emulsifiable concentrate at a ratio of 60 times into the wormholes and apply yellow mud externally.

5.4.2.2 Sea buckthorn aphids

Spray lime sulfur in winter to remove overwintering eggs. During the occurrence period of adult aphids and nymphs, use 10% imidacloprid 1000 times diluted and 10% cyanogen. Spray 1500 times diluted acetamiprid emulsifiable concentrate or 4000 times diluted 15% flufenamide/bifenthrin suspension to kill aphids. Pay attention to protecting natural enemies such as ladybugs in the garden.

6 档案管理

按 GB/T 11822-2008 科学技术档案案卷构成的一般要求执行。

6. Archive Management

It shall be implemented in accordance with the general requirements of GB/T 11822-2008 for the composition of scientific and Technological archives case files.