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

GB/T 9659-2026

Replacing GB/T 9659-2008

Citrus grafted nursery stock

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 9659-2008 "Citrus Grafted Seedlings". Compared with the 2008 version, apart from structural adjustments and editorial changes, the main differences are... The technological changes are as follows:

---Added terms and definitions for grafted seedlings, branching levels, virus-free citrus seedlings, bare-root seedlings, and container seedlings (see 3.1, 3.6, 3.7, 3.8). 3.9);

---The classification of citrus fruits has been changed (see 4.2, 4.6 in the 2008 edition);

---The quality requirements for rootstock have been changed (see 5.1, 2008 version 5.1);

---The quality requirements for scions have been changed (see 5.2, 2008 version 5.2);

---The quality requirements for grafted seedlings have been revised (see 6.1, 6.3 in the 2008 edition);

- The quality requirements for transplanted large seedlings have been increased (see 6.2);
- The sampling rules have been changed (see 7.1, 7.2 in the 2008 version);
- The testing method has been changed (see 7.2, 7.1 in the 2008 edition);

1 Scope

GB/T 9659-2026 is the Chinese national standard covering the grafted citrus tree a grower plants - the rootstock and scion combination, the graft union, the size and root system, and above all the freedom from huanglongbing and the other graft-transmissible diseases that clean nursery stock is the only defence against. It replaces GB/T 9659-2008 and has been in force since 1 September 2026. It was issued on 27 February 2026 and has been in force since 1 September 2026, replacing GB/T 9659-2008. The document is under the responsibility of the Ministry of Agriculture and Rural Affairs. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the terms and definitions related to grafted citrus seedlings, rootstock selection, requirements for rootstocks and scions, seedling quality requirements, sampling and inspection. Inspection, packaging, and labeling, etc. This document applies to one-year-old grafted seedlings and transplanted large seedlings of sweet oranges, mandarins (including hybrid citrus), pomelos, lemons, kumquats, etc.

4 Selection of rootstock

4.1 Sweet Oranges Blanco, *C. aurantium* L., etc. are used as rootstocks.

4.2 Mandarin Oranges Select trifoliate orange, trifoliate orange, sweet orange, tangerine, trifoliate pomelo, sour tangerine, wild orange, and local early-maturing (*C. succosa* Hort.) as rootstocks. For hybrid citrus varieties, fragrant varieties are preferred. Orange, trifoliate orange, trifoliate orange, and tangerine are used as rootstocks.

4.3 Grapefruit Sour pomelo (*C. grandis*) can be used as rootstock, but trifoliate orange, trifoliate orange, and trifoliate pomelo can also be used as rootstock.

4.4 Lemons Choose red tangerines, sour tangerines, sweet oranges, etc. as rootstocks.

4.5 Kumquats Choose trifoliate orange or trifoliate orange as rootstock.

4.6 Other Each production area can formulate different rootstock-scion combinations based on its specific circumstances. If other combinations are to be used, or if the optimal

rootstock-scion combination needs to be determined... Ideally, there should be more than 10 years of production reference data.

5.1 Rootstock

5.1.1 The varietal purity meets the requirements, single-line varieties are preferred, and the rootstock-scion combination is reasonable.

5.1.2 It adapts to local ecological conditions and has strong resistance to adverse conditions and diseases.

5.1.3 The growth cycle from sowing to grafting should not exceed 18 months.

5.1.4 Seedlings with straight, healthy main stems, complete root systems, and well-developed fibrous roots are preferred.

5.2 Scion

5.2.1 The varietal purity meets the requirements and comes from mother trees of virus-free superior varieties or healthy plants from their propagation nurseries.

5.2.2 It is advisable to use vigorous, lignified spring shoots, summer shoots, and autumn shoots.

5.2.3 Each scion has more than 5 effective buds, the branches are plump, the buds are full, and there are no diseases, pests, or mechanical damage.

5.2.4 Scions used for cultivating virus-free seedlings should not carry viral diseases and viroid diseases specified in NY/T 973.

6.1.1 Basic Requirements

6.1.1.1 The main stem should be thick and straight, and the grafting point should be more than 10cm above the ground. The curvature of the rootstock-scion junction should not exceed 15°.

6.1.1.2 The graft union has healed normally, the binding material has been removed, and there are no obvious mechanical injuries or constriction marks. The rootstock stump is not exposed, and there are no defects or injuries.

6.1.1.3 It has 2 to 4 branches, each over 15cm long, that are not clustered, with the first branch being over 30cm above the ground (for kumquat seedlings). The first branch should be at least 25cm tall; the shoots should be fully lignified, healthy, and evenly distributed and spaced. Alternatively, the main trunk should be unbranched (for one-year-olds only). (Grafted seedlings).

6.1.1.4 The plant has a complete root system, with a taproot longer than 15cm, more than 5 primary lateral roots, and well-developed fibrous roots. There is no root coiling or twisting on

the taproot and root collar. There should be no bending, twisting, or knotting. The root system should be pale yellow to white, without any tears, root diseases or pests, or root rot. (The main characteristics of container seedlings are...) The roots are not exposed.

6.1.1.5 The pathogen of Huanglongbing (HLB) should not be detected, and the plant should not carry canker lesions. The affected areas of other harmful organisms on the plant should be smaller than the entire plant's branches and leaves. 10%.

Note. Other harmful organisms include, but are not limited to, citrus anthracnose, resinosis, gummosis, spider mites, tarsiers, swallowtail butterflies, leaf miners, beet armyworms, whiteflies, and aphids. Leaf miners, snails, slugs, thrips, etc.

6.1.1.6 Virus-free citrus seedlings should meet the requirements of

6.1.1.5 and should not carry citrus bark cracking disease, leaf rot, or citrus degeneration virus stem spot type. Highly virulent strains can cause dwarfing disease in grapefruit, stem spot disease in sweet orange, and satsuma mandarin wilt disease, among others.

6.1.1.7 Grafted seedlings must have a purity of $\geq 95\%$.

6.1.2 Grading of one-year-old seedlings One-year-old grafted seedlings, provided they meet all the requirements in 6.1.1, are further graded based on seedling diameter, seedling height, and the number of primary lateral roots. The grading criteria for different categories of grafted seedlings shall be implemented according to Table 1.

6.2.1 Basic Requirements

6.2.1.1 One-year-old grafted seedlings used for cultivating large seedlings for transplanting should meet the relevant indicator requirements listed in 6.1.1.

6.2.1.2 The basic requirements for transplanting large seedlings should comply with the provisions of 6.1.1.

6.2.1.3 No serious signs of flowering or fruiting.

6.2.2 Grading of large seedlings transplanted from seedbeds For transplanted large seedlings, provided they meet the requirements of 6.2.1, the following factors should be considered for transplantation. seedling diameter, seedling height, number of main branches, number of branching levels, and number of last shoots. The grading criteria for large seedlings are as follows: the grading of artificially planted large seedlings shall be carried out in accordance with Table 2.

6.3 Quality Judgment If a sample of one-year-old grafted seedlings does not meet the requirements of 6.1.1, or if a sample of transplanted large seedlings does not meet the requirements of 6.2.1, the seedlings shall be deemed to have failed to meet the requirements of 6.1.1. The seedlings were substandard. One-year-old grafted seedlings that meet the requirements of 6.1.1, and large transplanted seedlings that meet the