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

GB/T 29378-2026

Replacing GB/T 29378-2012

Technical code of practice for virus-free seed potato production

马铃薯脱毒种薯生产技术规程

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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 29378-2012 "Technical Specification for Virus-Free Seed Potato Production". Compared with GB/T 29378-2012, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The terms "detoxification" and "seedling killing" have been removed (see 3.8 in the 2012 edition);
- b) The phrase "test-tube potatoes produced in containers" has been removed (see 3.3 in the 2012 edition);

- c) The word "germination" has been removed, and "sugar end" has been added (see 3.6 in the.2012 edition);
- d) The propagation of virus-free in vitro seedlings and the propagation of virus-free original seed have been deleted. The "Propagation Process of Virus-Free Seed Potatoes" has been changed to "Propagation Process of Virus-Free Seed Potatoes". Production procedures (see Chapters 4, 5, and 6; Chapters 4, 5, and 6 of the.2012 edition);
- e) The phrase "high latitude" has been removed, and the phrase "no occurrence of quarantine pests" has been added (see 5.1.1, 7.1.1 in the.2012 version);
- f) The phrase "yellow dish aphid attractant" has been removed (see 7.1.3 in the.2012 edition);
- g) Deleted the phrase "soil diseases such as nematode infestation, black spot disease, wilt, dry rot, cancer, bacterial wilt, and scab disease have occurred in the last 3 to 5 years". Soil that transmits diseases cannot be used as seed breeding grounds (G2) (see

5.1 Selection of breeding fields

- 5.1.1 Select areas with high altitude, high wind speed, cool climate, and no quarantine pests.
- 5.1.2 Select plots of land that are flat, level, and contiguous. The soil quality should meet the requirements for agricultural land and should not contain substances specified in GB 15618. Pollution risk; the soil is loose, fertile, and well-drained.
- 5.1.3 The preceding crop should be a non-solanaceous crop that has been grown for at least two years.
- 5.1.4 The isolation conditions are good, there are no other grades of seed potatoes or commercial potatoes in the surrounding area, and there are no plants of the Solanaceae, Brassicaceae, or those that easily attract aphids.
- 5.1.5 During the peak migration period of aphids, the number of winged aphids monitored per day shall not exceed 20 per yellow dish, and the total number shall not exceed 100 per yellow dish.
- 5.1.6 The water source shall meet the requirements for production and irrigation, and the water quality shall meet the requirements of GB 5084.
- 5.1.7 Equipped with complete water conservancy facilities and agricultural machinery.
- 5.1.8 Field road design should save land and be suitable for agricultural machinery operation.

5.1.9 Declare in accordance with the requirements of GB 7331 for quarantine of potato seed tubers at the place of origin, and fill in the "Application Form for Quarantine at the Place of Origin".

5.2 Soil Tillage Choose to plow after the previous crop is harvested or before sowing, depending on the actual situation.

5.3 Original strain (G1) treatment After being removed from storage, diseased, rotten, and defective potatoes are discarded. They are then sprouted under diffused light, good ventilation, and at a temperature of 10°C~15°C until the sprouts reach approximately 0.5cm in length. Sowing can begin immediately.

5.4 Sowing

5.4.1 Sow at the appropriate time according to the climate and variety. Sow when the soil temperature at a depth of 10cm below the surface is consistently above 8°C.

5.4.2 The planting density is determined according to the variety, seed potato size, soil fertility, planting method, etc., ranging from 60,000 plants/hm² to 120,000 plants/hm².

5.5 Field Management

5.5.1 Field tools for fertilization, pesticide application, cultivation, weeding, and other field operations should be disinfected before use.

5.5.2 Work should not be carried out in seed production fields after working in infected fields.

5.5.3 Staff should be disinfected before entering the seed potato production field.

5.5.4 Irrigate rationally according to soil moisture conditions and water requirements at each growth stage.

5.5.5 Apply fertilizer according to soil testing and formula at the time of sowing, and apply topdressing fertilizer in a timely manner after the tubers have formed.

5.5.6 During the seedling and budding stages, hilling and weeding should be carried out in conjunction with inter-row cultivation.

5.5.7 Conduct three rounds of field weeding and removal during the seedling stage, budding stage, and full bloom stage.

5.5.8 Monitor for diseases such as late blight, black shank, and ring rot in the field, promptly remove diseased plants and tubers, and disinfect the affected areas.

5.5.9 Disease, pest and weed control is discussed in Chapter 7.

5.6 Killing seedlings Use mechanical or chemical pesticides to kill the seedlings 7 to 10 days before harvest; if a sudden increase in the number of winged aphids is found on the

yellow plates, it should be done within 5 days.

5.7 Harvest

5.7.1 Prevent mixing and damage during harvesting.

5.7.2 After harvesting, spread the crops out to dry, remove soil and other impurities, and sort and bag them.

5.7.3 Protect the crops from rain, sun exposure, and frost during the harvest period.

6 Field seed potato (G3) production

6.1 Selection of breeding fields Follow the provisions of 5.1.

6.2 Soil Tillage Follow the provisions of 5.2.

6.3 Original Seed (G2) Treatment

6.3.1 Pre-broadcast processing Two to four weeks before sowing, the original seeds are carefully selected after being taken out of storage, and then germinated under diffused light, ventilation, and a temperature of 10°C~15°C until the sprouts reach a length of 0.5cm. Sowing can begin around

6.3.2 Seed potato treatment The seed potato processing procedure is as follows:

a) Seed potatoes weighing less than 50g should be planted whole; seed potatoes weighing more than 50g should be cut into pieces, each piece weighing 25g to 50g, ensuring that each piece has 1 to 2 buds. The cutting blade should be sterilized in accordance with GB 7331;

b) After cutting the seed potatoes into pieces, treat them with pesticides immediately, place them in a well-ventilated and cool place, and plant them after the cuts have healed.

6.4 Sowing Follow the provisions of 5.4.

6.5 Field Management Follow the provisions of 5.5.

6.6 Killing seedlings Follow the provisions of 5.6.

6.7 Harvest Follow the provisions of 5.7.

7.1 Physical prevention and control

7.1.1 Reasonable planting density and scientific water and fertilizer management.

7.1.2 Use physical and biological barriers to prevent the invasion of harmful organisms and protect and increase the number of natural enemies of pests.

7.1.3 Artificial trapping of pests.