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

GB/T 31753-2026

Replacing GB/T 31753-2015

Technical code of practice for commercial potato production

马铃薯商品薯生产技术规程

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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 31753-2015 "Technical Specifications for Commercial Potato Production". Compared with GB/T 31753-2015, except for the following. Aside from structural adjustments and editorial changes, the main technical changes are as follows:

a) The term and definition "accumulated temperature" have been removed (see

3.1 in the 2015 edition);

b) Added site selection criteria, including "topsoil salinity below 0.25%, suitable pH range 5.5-7.5" and "suitable site selection criteria". Choose plants that have not been affected by diseases and pests such as scab, powdery scab, Verticillium wilt, potato nematode, Colorado beetle, and potato tuber moth. "Plot of land" (see 5.1.4, 5.1.5);

c) The phrase "For characteristics of potato planting areas in my country, please refer to Appendix A" (see section

4.3.1 of the 2015 edition) has been removed from the section on variety and seed potato selection.

d) The soil preparation indicators were modified, changing "After the previous crop is harvested, soil samples are taken to test soil nutrient content and determine the fertilization

plan" to... Revised to "Before sowing, test the soil nutrient content and pH value to determine the fertilization and soil improvement plan" (see 5.4.1,.2015 version). 4.4.1);

e) Added "deep translation" and removed "fine translation" (see 5.4.2,.2015 version 4.4.2);

f) The seed potato removal time before planting has been changed from "10d~15d" to "7d~15d" (see 5.5.1,

4.5.1.1 in the.2015 version);

g) The germination temperature and sprout length were changed; "around 15°C" was changed to "12°C~20°C"; "0.5cm~1cm" was changed to... "Approximately 0.2cm" (see 5.5.1,

4.5.1.2 in the.2015 edition);

h) The phrase "disinfection by soaking in 0.4% potassium permanganate solution" has been deleted (see

5.1 Site Selection

5.1.1 The soil shall meet the requirements for agricultural land use and shall not contain the pollution risks specified in GB 15618.

5.1.2 The terrain should be flat or gently sloping, with convenient transportation. It is not advisable to choose a low-lying area or wetland with poor drainage.

5.1.3 The soil should be loose and have a deep topsoil layer. Sandy loam, light loam or loam with good air permeability should be selected.

5.1.4 The topsoil salt content is less than 0.25%, and the suitable pH range is 5.5~7.5.

5.1.5 Plants free from herbicide damage should be selected where scab, powdery scab, Verticillium wilt, potato nematode, Colorado beetle, and potato scab disease have not occurred. Fields infested with diseases and pests such as tuber moths.

5.1.6 Irrigation water quality indicators shall comply with the provisions of GB 5084.

5.2 Reasonable crop rotation Implement a 2-3 year crop rotation system. Avoid crop rotation with solanaceous crops such as eggplant, pepper, tomato, and tobacco, as well as sweet potatoes, carrots, and sugar beets. Crop rotation of root crops.

5.3 Variety and Seed Potato Selection

5.3.1 Select varieties with suitable growth period and good economic benefits.

5.3.2 Seed potatoes should meet or exceed the grade of field seed potatoes (G3) in GB/T 29377.

5.4 Pre-planting preparation for the plot

5.4.1 Test the soil nutrient content and pH value before sowing to determine the fertilization and soil improvement plan.

5.4.2 Deeply plow, rotary till, and level the land before sowing.

5.5 Seed potato treatment

5.5.1 Pre-sowing treatment and germination The pre-sowing treatment and germination procedures are as follows:

- a) Take the seed potatoes out of storage (cellar) 7-15 days before planting, and remove diseased or rotten potatoes;
- b) After the seed potatoes that have passed their dormancy period are taken out of storage (cellar), they are sprouted under diffused light, ventilation, and a temperature of 12°C~20°C until the sprouts reach a length of 0.2cm. Sowing can be carried out in about two hours.

5.5.2 Cutting into pieces Seed potatoes weighing less than 50g should be planted whole; each tuber should weigh 30g-50g and have 1-2 eyes. When cutting a seed potato, use a cutting knife... Disinfect by soaking in 75% ethanol solution; rotate the disinfection process for multiple knives.

5.5.3 Seed dressing with pesticides The procedure for seed treatment is as follows:

- a) Select the appropriate pesticide based on the pest or disease being prevented; refer to the product instructions for dosage.
- b) Dry mixing. First, mix the selected wettable powder with talcum powder in a certain proportion, and then mix it with the seed potatoes;
- c) Wet mixing. Prepare the selected agent into a solution of a certain concentration, spray it evenly on the seed potatoes, and let them dry;
- d) The seed potatoes after being treated with the seed should be transported in well-ventilated mesh bags.

5.6 Sowing

5.6.1 Sowing conditions. The soil temperature 10cm below the surface must be stable above 8°C; in autumn and winter planting areas, the soil temperature 10cm below the surface must not exceed 20°C.

5.6.2 Sowing depth. 6cm~12cm.

5.6.3 Sowing density. Determine the appropriate planting density based on the variety's intended use and maturity period.

5.6.4 Sowing method. The following two sowing methods are recommended.

- a) Ridge cultivation. Ridge cultivation is suitable for areas with abundant rainfall or irrigation conditions, and can be covered with plastic film.
- b) Flat planting. Flat planting is suitable for areas with low rainfall and no irrigation conditions, and can be covered with mulch.

5.7 Field Management

5.7.1 Intertillage The inter-row cultivation process is as follows:

- a) Pre-emergence cultivation. Cultivation and topdressing should be completed before the seedling emergence rate reaches 10%. The thickness of the hilling should be determined according to the planting depth, and the distance from the seed potato to the top of the ridge should be... The distance is 12cm~18cm;
- b) Post-emergence cultivation. Cultivation and topdressing can be carried out when the seedlings are 15cm to 20cm tall, as needed.

5.7.2 Fertilization The fertilization process is as follows:

- a) Generally, for every 1000kg of potato tubers produced, 4kg~5kg of pure nitrogen (N), 2kg~4kg of pure phosphorus (P₂O₅), and 1kg of pure potassium (K₂O) need to be applied. 8kg~12kg. The total fertilizer application amount is calculated based on soil testing and fertilizer recommendations. Generally, the base fertilizer should account for 50%~70% of the total fertilizer application (by weight). Topdressing should account for 30% to 50% of the total fertilizer application (by mass). The amount of nitrogen fertilizer (pure nitrogen) used in a single topdressing application should not exceed [a certain percentage]. For a yield of 45 kg/hm², potassium sulfate-based potato fertilizer is recommended.
- b) It is advisable to apply more than 3000 kg/hm² of commercial organic fertilizer as base fertilizer.
- c) Based on soil test results, apply appropriate amounts of medium and trace elements as base fertilizer or top dressing.

5.7.3 Irrigation Irrigation should be carried out according to the relative moisture content (volume fraction) of the soil. The reference standards for different growth stages are as follows:

- a) The relative moisture content of the soil during the seedling stage should be maintained at 65%~70%;
- b) The relative moisture content of the soil during the tuber formation period should be maintained at 70%~80%;
- c) The relative moisture content of the soil during the tuber enlargement period should be