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

**GB/T 31784-2026**

Replacing GB/T 31784-2015

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**Code of practice for the grading and inspection of commercial  
potatoes**

马铃薯商品薯分级与检验规程

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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 31784-2015 "Grading and Inspection Procedures for Commercial Potatoes". Compared with GB/T 31784-2015, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

a) The quality grading criteria have been changed. Grade 1, " $\geq 95\%$  (150g or more)", has been changed to " $\geq 200\text{g}$ ". Grade 2, " $\geq 100\text{g}$ " has been changed... " $\geq 93\%$ " was changed to "100g~200g", and the third-level "75g or less  $\geq 90\%$ " was changed to "30g~100g"; the description of rot was also changed. The grading index for the rate has been changed, with " $\leq 3$ " for Grade 2 changed to " $\leq 1$ " and " $\leq 5$ " for Grade 3 changed to " $\leq 2$ "; the grading index for impurities has also been changed. Change Level 1 " $\leq 2$ " to " $\leq 0.5$ ", Level 2 " $\leq 3$ " to " $\leq 1$ ", and Level 3 " $\leq 5$ " to " $\leq 2$ "; the machine was changed. The grading index for mechanical injuries has been changed as follows: Grade 1 " $\leq 5$ " is changed to " $\leq 3$ ", Grade 2 " $\leq 10$ " is changed to " $\leq 5$ ", and Grade 3 " $\leq 15$ " is changed to... The standard was changed to " $\leq 10$ "; the grading criteria for abnormalities were modified, changing Level 1 " $\leq 10$ " to " $\leq 5$ ", and Level 2 " $\leq 15$ " to " $\leq 8$ ". Level 3 " $\leq 20$ " has been changed to " $\leq 10$ " (see Table 1, 2015 version);

b) The content of the defect has been expanded to include "powdery scab" in addition to scab disease (see Table 1, Table 2, Table 3, Table 4);

c) The grading criteria for size non-conformance rates have been changed. Level 1 " $\leq 3$ " has been changed to " $\leq 5$ ", Level 2 " $\leq 5$ " has been changed to " $\leq 10$ ", and Level 3... The grading criteria for mechanical damage have been changed. Level 1 " $\leq 10$ " has been changed to " $\leq 12$ "; Level 2 " $\leq 5$ " has been changed to " $\leq 3$ " and Level 3 " $\leq 10$ " has been changed to " $\leq 12$ ". The value " $\leq 10$ " has been changed to " $\leq 5$ ", and the value for Level 3 " $\leq 15$ " has been changed to " $\leq 10$ "; the total defect classification index has been changed, with Level 1 now having a value of " $\leq 7$ ". The value was changed to " $\leq 10$ ", and the value for Level 3 was changed from " $\leq 17$ " to " $\leq 15$ "; the fried product defect rate index was also changed, with Level 1's value changed from " $\leq 10$ " to... The value of " $\leq 20$ " for Level 2 has been changed to " $\leq 25$ "; the dry matter content index for Level 1 has also been modified, with "21.00~24.00" changed to... Change "22.00~24.00" to "20.00~20.99" for Level 2 and "19.00~19.99" for Level 3. "18.00~19.99" (see Table 2,.2015 edition);

d) The grading criteria for decay rate were changed. Level 1 " $\leq 1$ " was changed to " $\leq 2$ ", Level 2 " $\leq 2$ " was changed to " $\leq 4$ ", and Level 3 " $\leq 3$ " was changed to " $\leq 2$ ". Change to " $\leq 5$ "; the grading index for mechanical damage has been changed, from " $\leq 5$ " for Level 1 to " $\leq 3$ ", and " $\leq 10$ " for Level 2 to... The value of " $\leq 5$ " was changed, and the value of " $\leq 15$ " for level three was changed to " $\leq 10$ "; the internal color-changing index was changed, and the value of " $\leq 3$ " for level two was changed to " $\leq 2$ "; the value of " $\leq 5$ " for level three was changed to " $\leq 10$ "; the value of " $\leq 1$ ... The grading standard for the color defect rate of fried dough sticks has been changed from " $\leq 5$ " to " $\leq 4$ "; the grading index for the color defect rate of fried dough sticks has also been changed, with "0" for Grade 1 changed to " $\leq 10$ " and " $\leq 10$ " for Grade 2 changed to " $\leq 10$ ". The value of " $\leq 10$ " was changed to " $\leq 15$ ", and the value of " $\leq 20$ " for level 3 was changed to " $\leq 30$ "; the dry matter content index was also changed for level 3. "18.50~19.99" has been changed to "18.00~19.99" (see Table 3,.2015 version).

e) The impurity grading criteria were changed, with " $\leq 4$ " for Grade II changed to " $\leq 5$ " and " $\leq 6$ " for Grade III changed to " $\leq 8$ "; the decay rate was also changed. The grading indicators were changed as follows: Level 1 " $\leq 1$ " was changed to " $\leq 2$ ", Level 2 " $\leq 2$ " was changed to " $\leq 4$ ", and Level 3 " $\leq 3$ " was changed to " $\leq 5$ ". The grading criteria for mixed varieties have been changed. Level 1 " $\leq 5$ " has been changed to " $\leq 2$ ", Level 2 " $\leq 8$ " has been changed to " $\leq 5$ ", and Level 3... The grading criteria for green tangerine peel have been changed. " $\leq 10$ " for Grade 1 has been changed to " $\leq 3$ ", and " $\leq 3$ " for Grade 2 has been changed to... The value of " $\leq 5$ " in Level 3 has been changed to " $\leq 7$ " (see Table 4,.2015 version).

f) Added a percentage indicator for potato tubers with a diameter of 4cm or more. Level 1 is " $\geq 50\%$ ", Level 2 is " $\geq 40\%$ ", and Level 3 is " $\geq 30\%$ "; (Changed) The grading index for decay rate has been revised, changing " $\leq 1$ " for Level 1 to " $\leq 5$ ", " $\leq 3$ " for Level 2 to " $\leq 10$ ", and " $\leq 5$ " for Level 3 to... Change to " $\leq 15$ "; the impurity classification index has been changed, with " $\leq 4$ " for grade 2 changed to " $\leq 5$ " and " $\leq 6$ " for grade 3 changed to " $\leq 8$ "; changes... The grading criteria for insect bites have been revised. Level 1 " $\leq 3$ " has

been changed to " $\leq 5$ ", Level 2 " $\leq 5$ " has been changed to " $\leq 10$ ", and Level 3 " $\leq 10$ " has been changed... The grading criteria for mechanical damage have been changed from " $\leq 15$ " to " $\leq 10$ " for Level 1 and " $\leq 12$ " for Level 2. The standard for Level 3 has been changed from " $\leq 17$ " to " $\leq 20$ "; the starch content standard for Level 1 has also been changed from " $\geq 16.00$ " to... " $\geq 15.00$ ", the second level " $\geq 13.00$ " is changed to " $\geq 12.00$ " (see Table 5, 2015 version);

g) The cross-sectional area of the fries was changed from " $0.2\text{cm}^2$ " to " $0.4\text{cm}^2$ " (see D.4.1, 2015 edition). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China. This document is under the jurisdiction of the National Vegetable Standardization Technical Committee (SAC/TC467). This document was drafted by: Inner Mongolia University, Xuechuan Agricultural Group Co., Ltd., and Ningbo Municipal Agricultural Technology Extension Station (Ningbo Seed Management Center). Management Station, Ningbo Plant Protection and Quarantine Center), Zhangjiakou Academy of Agricultural Sciences (Hebei Alpine Crops Research Institute), Dingxi Potato Research Institute (General Partnership), Inner Mongolia Hongyuan Agricultural and Animal Husbandry Technology Co., Ltd., Shandong Academy of Agricultural Sciences, Crop Research Institute of Fujian Academy of Agricultural Sciences (Fujian Provincial Germplasm Resources Center), Vegetable Research Institute of Anhui Academy of Agricultural Sciences, Anshun Academy of Agricultural Sciences, Beidahuang Potato Industry Group Co., Ltd. Inner Mongolia Huaou Starch Industry Co., Ltd., Hulunbuir Jinmandi Agricultural Technology Co., Ltd., Inner Mongolia Minfeng Seed Industry Co., Ltd. Lanweston Potato Industry (Inner Mongolia) Co., Ltd., Zhengzhou Academy of Agricultural Sciences, South China Agricultural University, Chinese Academy of Agricultural Mechanization Sciences Group Co., Ltd., Ulanqab Academy of Agricultural and Forestry Sciences, Inner Mongolia Greed Potato Seed Industry Group Co., Ltd., China Standardization Research Institute Research Institute. The main drafters of this document are. Sun Qinghua, Du Milu, Wu Jian, Feng Zhiwen, Niu Lijuan, Wang Xuwei, Ma Hui, Xue Haiyong, Xu Xianghui, and Dong Daofeng. Li Huawei, Qi Jianjian, Liao Huajun, Zhang Peng, Wang Xinwei, Gao Rui, Jia Fengshou, Zhu Yanhui, Qiao Yongjun, Wu Huanzhang, Cao Xianwei, Yang Deqiu, Yin Yuhe Li Jinfu, Li Donghu, Yang Li, Zhang Ruofang. The release history of this document and the document it replaces is as follows:

---First published in 2015 as GB/T 31784-2015;

---This is the first revision. Grading and Inspection Procedures for Commercial Potatoes

1. Scope This document specifies the grades of commercial potatoes for different uses (fresh consumption, potato chip processing, French fry processing, potato flour processing, and starch processing). Technical requirements such as quality requirements, inspection methods, grade determination, packaging, and labeling. This document applies to the

grading of commercial potatoes.

4. Grading and Inspection Procedures for Commercial Potatoes The potato grading and inspection procedure consists of six stages. grading (Chapter 5), quality requirements (Chapter 6), and inspection methods. (Chapter 7), Level Determination (Chapter 8), Packaging (Chapter 8), Labeling (Chapter 9). The testing methods include sampling (7.1) and testing methods. Method (7.2).

## 5 Grading of commercial potatoes

5.1 Types. According to their uses, they are mainly divided into fresh food type, potato chip processing type, French fry processing type, whole flour processing type, and starch processing type.

5.2 Levels. Level 1, Level 2, Level 3.

## 6 Quality requirements for commercial potatoes

6.1 Fresh-eating type The grading indicators for fresh-eating commercial potatoes are shown in Table 1.

### 6.2 Potato Chip Processing Type

6.2.1 Basic Requirements The basic requirements for potato chips are as follows:

- Round or oval shape, with shallow eyes;
- Reducing sugar content is less than 0.2%;
- Sugar content is less than 0.15mg/g.

6.2.2 Grading Indicators The grading indicators for potato chips are shown in Table 2.

### 6.3 French Fry Processing Type

6.3.1 Basic Requirements The basic requirements for processed potatoes used in French fry production are as follows:

- Elongated or oblong-oval shape, shallow buds;
- Reducing sugar content (mass fraction) is less than 0.25%;
- Sugar content is less than 0.15mg/g.

6.3.2 Grading Indicators The grading indicators for processed potato products are shown in Table 3.

6.5 Starch processing type The grading indicators for starch-processed commercial potatoes are shown in Table 5.