

ICS 67.060

CCS B 23



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

GB/T 24712-2009

Product of geographical indication - Baoqing pumpkin seed

地理标志产品 宝清大白板南瓜籽

Issued on: November 30, 2009

Implemented on: May 1, 2010

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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1 Scope

This standard specifies the terms and definitions, the scope of protection, the biological conditions, the quality requirements, the test methods, the inspection rules and the labelling, marking, packaging, storage and transport of the geographical indication product Baoqing pumpkin seed.

This standard applies to the inspection, assessment and appraisal of the quality of Baoqing pumpkin seed in the course of production, processing, purchase, sale, export trade and similar activities within the administrative area of Baoqing County.

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Baoqing pumpkin seed. Pumpkin seed managed and produced in accordance with this standard within the area specified in Clause 4, whose quality meets the requirements of this standard.

3.2 Faultiness seed. Defective pumpkin seeds, including warped seeds (seeds bent and warped by a congenital malformation), scratched seeds (seeds whose skin has been damaged when the seeds were taken out mechanically) and dirty seeds (seeds soiled by earth and dust during washing and drying and not washed clean).

3.3 Inorganic impurity. Soil, sand, stones and other inorganic matter.

3.4 Organic impurity. Pumpkin shell, shrivelled seeds, mouldy seeds, frost damaged seeds

(seeds damaged by frost during drying and dehydration), water washed seeds (seeds from rotten fruit whose skin has lost its lustre but whose kernel is undamaged), the material passing a sieve with round holes 8.0 mm in diameter, and other organic matter.

3.5 Kernel ratio. The percentage that the mass of the shelled kernels (imperfect seeds counted as one half) represents of the mass of the test sample.

3.6 Pure seed ratio. The percentage that the mass of the test sample, after impurities and imperfect seeds have been removed (imperfect seeds counted as one half), represents of the mass of the test sample.

4 Scope of protection of the geographical indication product

The scope of protection of Baoqing pumpkin seed as a geographical indication product is limited to the area approved by the administrative department in charge of quality supervision, inspection and quarantine under the Provisions for the Protection of Products of Geographical Indication, that is, the administrative area at present under Baoqing County, Heilongjiang Province, as shown in Annex A.

5 Biological conditions

5.1.1 Climate. Mean annual precipitation 550 mm to 650 mm; mean annual air temperature 2.4 degrees Celsius to 4.1 degrees Celsius; mean annual sunshine 2 450 h to 2 550 h; annual accumulated active temperature 2 300 degrees Celsius to 2 600 degrees Celsius; frost-free period 135 d to 145 d.

5.1.2 Soil. Light clay or upland sandy loam, well drained; organic matter content greater than 3 %; plough layer more than 30 cm thick, loose and well aerated; pH 6.2 to 6.7; free of residues of bensulfuron, imazethapyr, atrazine and similar pesticides.

5.2 Ambient air. This conforms to grade two of GB 3095.

5.3.1 The plant. The vine is somewhat hard, cylindrical and covered with coarse down; the leaves are nearly round, heart-shaped or kidney-shaped, without incisions or with very shallow ones, and entire at the margin; the flower bud is cylindrical, the floral tube cylindrical, and the lobes of the corolla are soft and droop downwards, the flowers being mostly yellow; the fruit stalk is short, corky or spongy and cylindrical, and its base is not swollen or slightly swollen into an arc.

5.3.2 The fruit. The flesh has a high water content and a bland taste and is not suitable for eating directly.

5.3.3 Growth period. 105 d to 115 d.

5.3.4 Growth temperature. The suitable temperature during flowering and fruit set is not less than 15 degrees Celsius, and during fruit development 25 degrees Celsius to 27 degrees

Celsius.

5.4.1 Seed. A white-shelled seed pumpkin variety suited to growing in the Baoqing area shall be used.

5.4.2.1 Choice of land and of preceding crop. Land that is high lying and well drained, of slightly acid light clay or sandy loam, shall be chosen, and the preceding crop is best a cereal or an allium. A rotation of two years or more shall be practised with crops of the same family and genus and with solanaceous crops.

5.4.2.2 Fertilizing. Fertilizer is applied reasonably according to the fertility of the land. Base dressing: 20 t to 30 t of well rotted farmyard manure and 80 kg to 120 kg of nitrogen, phosphorus and potassium compound fertilizer per hectare. Top dressing: around flowering or during fruit swelling, 50 kg to 75 kg of diammonium phosphate and 50 kg to 75 kg of potassium sulfate per hectare; during fruit set, two or three foliar dressings. The principles of fertilizer use shall follow NY/T 496.

5.4.2.3 Cultivation. The crop is grown on ridges, planted in one direction on alternate ridges, one ridge planted and one left, with a plant spacing of 45 cm to 50 cm and a row spacing of 130 cm, keeping 15 000 to 18 000 plants per hectare. The best sowing time is 10 May to 15 May. Hand sowing uses 15 kg to 20 kg of seed per hectare with two or three seeds per hole; machine sowing uses 18 kg to 23 kg per hectare. The covering soil is 3 cm to 5 cm thick. Seed and fertilizer shall be kept apart when sowing.

5.4.3 Field management. One plant is kept per hole; the plant is trained to a single vine, side shoots are removed once or twice before flowering, the crop is hoed and earthed up two or three times, and the fruits set within eight nodes of the root are removed, one or two fruits being kept per plant. When the vine is 70 cm long it shall be led perpendicular to the ridge and with or across the wind and earthed up, the earth being pressed on a node. The direction in which the vines are led shall be the same for every plant, so that they do not cross and interfere with one another. The vine is pressed down at the nodes before and after the fruit. After the fruit has set, the main vine is pinched out when the fruit is ten to twelve nodes from the tip and the vine is 2 m to 2.5 m long. In rainy weather or when insects are scarce, hand pollination or the keeping of bees shall be used.

5.4.4.1 Agricultural control of pests and diseases. A rotation of two years or more is practised. Resistant good varieties are chosen, attention is paid to seed disinfection and to draining after rain to prevent waterlogging, and field management is strengthened.

5.4.4.2 Chemical control. The highly toxic, acutely toxic and highly residual pesticides banned by the State and mixtures containing them shall not be used. Where chemical control is applied, GB/T 8321 (all parts) shall be followed.

5.4.5 Harvesting. The fruit is picked when the stalk shows a net of cracks and has become woody and the shell has hardened; after picking it shall be kept for 10 d to 15 d before

being broken open and the seed taken out. The seed shall be rinsed and dried in the sun promptly after being taken out; while the skin of the seed is not yet dry it must on no account be turned, and frost damage shall be prevented.

5.4.6 Record keeping. A field production record shall be set up, recording in detail the measures taken at every stage of production technique, pest and disease control, harvesting and processing.

6 Quality requirements

6.1 Sensory indicators. Table 1 gives the sensory indicators. Basic character: large seed, thin skin, thick kernel. Colour: snow white and lustrous. Shape: oval or oblong. Odour: the normal odour, without any off odour.

6.2 Grade indicators. Table 2 gives the grade indicators. The grades are drawn on seed width: grade one, over 12.5 mm; grade two, 12.0 mm to not more than 12.5 mm; grade three, 10 mm to less than 12.0 mm; grade four, 8 mm to less than 10 mm. The remaining limits apply to all four grades alike: pure seed ratio not less than 96.5 %; imperfect seeds not more than 4.0 %; organic impurity not more than 1.5 %; inorganic impurity not to be detected; mixed grade rate not more than 10 %; moisture not more than 9.5 %.

6.3 Quality indicators. Table 3 gives the quality indicators: crude fat not less than 50 %, crude protein not less than 35 %, kernel ratio not less than 70 %.

6.4 Hygiene indicators. These are determined according to GB 19641.

7 Test methods

7.1 Sampling. Sampling is carried out according to GB 5491.

7.2.1 Colour and odour are determined according to GB/T 5492.

7.2.2 Shape. The test sample is placed under diffuse light and the shape of the whole sample is judged with the naked eye against the requirement.

7.3.1 Impurities, imperfect seeds and the pure seed ratio are determined according to GB/T 5494.

7.3.2 Moisture is determined according to GB/T 5497.

7.3.3 Seed width. Samples are drawn at random, four times, ten seeds each time. The greatest transverse diameter of the single seed is measured with a vernier caliper. The mean is calculated and kept to one decimal place.

7.3.4 Mixed grade rate. A sample of 1 000 g is drawn at random and screened thoroughly on the standard round-hole sieve for the grade concerned; the mass of the seeds not of the stated grade is weighed, and the mixed grade rate is calculated by formula (1). In formula