



THAI AGRICULTURAL STANDARD

TAS 1512-2011

SWEET CORN

National Bureau of Agricultural Commodity and Food Standards

Ministry of Agriculture and Cooperatives

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National Bureau of Agricultural Commodity and Food Standards

Ministry of Agriculture and Cooperatives

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Technical Committee on the Elaboration of Thai Agricultural Standards for Sweet Corn

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(3)

Sweet corn is an agricultural commodity that Thailand has the potential to produce for fresh consumption and raw material in the food processing industry with high volume of export. The establishment of the standard for sweet corn is important to develop and promote the quality and safety as well as to gain the recognition from both domestic and international markets. Thus, the Agricultural Standards Committee deems it necessary to establish an agricultural standard on Sweet Corn.

This standard is based on the information of the following document:

Proposed ASEAN Stan 28:2011. DRAFT ASEAN STANDARD FOR SWEET CORN. The 7th Meeting of ASEAN Standard for Horticultural Produce and Other Food Crops (MASHP), Phuket, Thailand. 25-27 April 2011.



NOTIFICATION OF THE MINISTRY OF AGRICULTURE AND COOPERATIVES

SUBJECT: THAI AGRICULTURAL STANDARD:

SWEET CORN

UNDER THE AGRICULTURAL STANDARDS ACT B.E. 2551 (2008)

Whereas the Agricultural Standards Committee deems it necessary to establish an agricultural standard on sweet corn as a voluntary standard in accordance with the Agricultural Standards Act B.E. 2551 (2008) to promote such agricultural commodity to meet its quality, standard and safety.

By virtue of Section 5, Section 15 and Section 16 of the Agricultural Standards Act B.E. 2551(2008), the Minister of Agriculture and Cooperatives hereby issues this Notification on the Establishment of Agricultural Standard: Sweet Corn (TAS 1512-2011) as a voluntary standard, details of which are attached herewith.

Notified on B.E. 2554 (2011)
(Mr. Theera Wongsamut)
Minister of Agriculture and Cooperatives

THAI AGRICULTURAL STANDARD

SWEET CORN

1 SCOPE

This standard applies to sweet corn which is commercially grown from *the Zea mays* L. in the family of Poaceae for fresh consumption or industrial processing.

2 DEFINITIONS

Sweet corn means corn with sweetness that the total soluble solids content shall not be less than 9 degree Brix. Sweet corn shall be whole with or without husk and the kernel shall be on the cob.

3 QUALITY

3.1 Minimum requirements

3.1.1 In all classes, subject to the special provisions for each class and the tolerances allowed, the sweet corn shall be as follows:

- (1) whole with or without husk; if with husk, the husk shall be fresh;
- (2) kernel of sweet corn shall be fresh;
- (3) not rotten or deteriorated that may make it unfit for consumption;
- (4) clean and practically free of any visible foreign matter;
- (5) practically free of pests and damage caused by them affecting the general appearance of quality of kernel;
- (6) practically free from physical damage caused by harvest and post-harvest handlings;
- (7) no added moisture to increase freshness of sweet corn;
- (8) free of abnormal odour and/or taste;

3.1.2 Sweet corn shall be picked at appropriate degree of ripening development¹ and carefully post-harvest handled, packed and transported, so that the sweet corn is acceptable at the destination.

3.2 Classification

Sweet corn is classified into 3 classes as follows:

¹ Appropriate degree of ripening development for sweet corn means mature sweet corn with fully formed kernel, silk's end beginning to be dry. When the kernel is punctured, the liquid inside has creamy white appearance. Degree of ripening development depends on the variety, the area, season and/or climate.

3.2.1 “Extra” Class

Sweet corn in this class shall be of superior quality. They shall be characteristic of the variety and/or commercial type and shall be as follows:

- (1) free of abnormality in cob shape and kernel colour ;
- (2) regular arrangement of kernels and kernels are fully formed around the cob;
- (3) free of defect with the exception of very slight superficial defects.

The abnormality or defects shall not affect the general appearance of the kernels, the keeping quality and presentation in the package.

3.2.2 Class I

Sweet corn in this class shall be of good quality. The following slight defects or abnormality may be allowed:

- (1) slight abnormality in cob shape and kernel colour;
- (2) irregular arrangement of kernels;
- (3) slight defects on the kernel skin due to scratches, abrasion or other mechanical damage not exceeding 5% of the total surface area of the sweet corn.

The abnormality or defects shall not affect the general appearance of kernels, the keeping quality and presentation in the package.

3.2.3 Class II

Sweet corn in this class includes sweet corn which does not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 3.1. The following defects or abnormality may be allowed:

- (1) abnormality in cob shape and kernel colour;
- (2) irregular arrangement of kernels;
- (3) defects on the kernel skin due to scratches, abrasion or other mechanical damage not exceeding 10% of the total surface area of the sweet corn.

The abnormality or defects shall not affect the general appearance of kernels, the keeping quality and presentation in the package.

4 SIZING

Sweet corn size is determined either by the length of the cob with or without husk as the followings:

Table 1 Size of Sweet corn ear with husk
(Section 4)

Size Code	Length of sweet corn ear with husk ² (cm)
1	> 25
2	> 20 to 25
3	≥15 to 20

Table 2 Size of Sweet corn ear without husk
(Section 4)

Size Code	Length of sweet corn ear without husk ³ (cm)
1	> 20
2	> 15 to 20
3	≥10 to 15

Note

Provisions concerning classification and sizing of this standard are normally combined for commercial purpose. Trading partners may name the trade classification differently depending on their requirements or seasonal limitations.

5 TOLERANCES

Tolerances according to quality and size shall be allowed in each package for sweet corn not satisfying the requirements of the class indicated as follows:

5.1 Quality tolerances

5.1.1 “Extra” Class

Five percent by number or weight of sweet corn not satisfying the requirements of “Extra” Class (Section 3.2.1), but meeting those of Class I (Section 3.2.2) or, exceptionally, coming within the tolerances of Class I (Section 5.1.2)

5.1.2 Class I

Ten percent by number or weight of sweet corn not satisfying the requirements of Class I (Section 3.2.2), but meeting those of Class II (Section 3.2.3) or, exceptionally, coming within the tolerances of Class II (Section 5.1.3)

² Length of sweet corn ear with husk measured from the cut at the base to the tip of the ear.

³ Length of sweet corn ear without husk measured from the base to the tip of the cob where kernel is formed.

5.1.3 Class II

Fifteen percent by number or weight of sweet corn satisfying neither the requirements of Class II (Section 3.2.3) nor the minimum requirements (Section 3.1), with the exception of produce affected by rotting, bruising or any other deterioration rendering it unfit for consumption or use as raw material for industrial processing

5.2 Size tolerances

For all size codes, ten percent by number or weight of sweet corn corresponding to the size code immediately above or below that indicated on the package.

6 PACKAGING

Sweet corn for fresh consumption shall be complied with Sections 6.1 to 6.3. Sweet corn for industrial processing shall be complied with Section 6.1.

6.1 Uniformity

The contents of each package or lot shall be uniform and contain only sweet corn of the same variety, quality, size, colour and production origin. The visible part of sweet corn shall represent the entire package or lot.

6.2 Packaging

Sweet corn shall be packed in such a way as to store the produce properly. The materials used for packaging shall be clean, and of a quality such as to prevent any damage that affects the produce quality. The use of materials particularly paper or stamps bearing trade specification is allowed, provided that the printing or labelling has been done with non-toxic ink or glue.

6.3 Description of containers

The containers shall meet the quality and hygiene, be well aerated and free of any foreign matter and abnormal odour. They shall have resistance characteristics to ensure suitable handling, shipping and preserving produce quality at the destination.

7 MARKING AND LABELLING

7.1 Sweet corn for fresh consumption

The following information shall appear on the package for sweet corn in a manner that is legible and clear without false or deceptive information:

(1) Type of produce

Indicate the word “Sweet corn” or “Sweet corn and variety”.

(2) Class

(3) Size code (optional)

(4) Net weight in gram or kilogram

(5) Information of producer, importer and distributor.

Indicate name and address of production or repacking or distribution. If sweet corn is for non-retail, produce code (if any) may be indicated. Name and address of head office of producer or re-packer may be given. If the produce is imported, importer's name and address shall be given.

(6) Production origin

Indicate country of origin, except the sweet corn domestically produced for local market.

(7) Language

Label of produce for domestic market shall be in Thai. Label of produce for export can be in foreign language.

7.2 Sweet corn for industrial processing

Each lot shall bear the following particulars in the documents accompanying the shipment in a manner that is legible, indelible and without false or deceptive information:

- (1) Name and address of the producer or collector or country of origin;
- (2) Class;
- (3) Size code (optional);
- (4) Farm record on agricultural practices or certificate of Good Agricultural Practices (optional).

8 OFFICIAL INSPECTION MARK OR CERTIFICATION MARK

This produce shall be complied with the requirements of the Agricultural Standards Committee or the criteria of inspection body or certification body.

9 CONTAMINANTS

The sweet corn shall be in compliance with relevant laws and regulations.

10 PESTICIDE RESIDUES

The sweet corn shall be in compliance with the relevant laws and the requirements under the Thai Agricultural Standard on Pesticide Residues: Maximum Residues Limits (TAS 9002) and Pesticide Residues: Extraneous Maximum Residue Limits (TAS 9003).

11 HYGIENE

11.1 Sweet corn shall be harvested, handled, stored and transported in compliance with hygienic practices so as to prevent contamination that may be harmful to consumers.

11.2 Raw material receiving, sorting, dressing, grading, storage, packing and transporting shall be in compliance with the requirements under the Thai Agricultural Standard on Good Manufacturing Practices for Packing House of Fresh Fruits and Vegetables (TAS 9035).

12 METHODS OF ANALYSIS AND SAMPLING

12.1 This provision shall be complied with relevant laws and regulations and the requirements under the Thai Agricultural Standards on Methods of Analysis and Sampling.

12.2 The determination of total soluble solids content is done by squeezing kernels, centrifuging and measuring the degree Brix by a refractometer.

APPENDIX A**PHOTOS OF SWEET CORN**

(Section 3.2)



(a) Regular arrangement



(b) Irregular arrangement

Figure A.1 Arrangement of kernels



(a) Well-developed ear and well-filled kernels



(b) Poorly-developed ear and poorly-filled kernels

Figure A.2 Appearance of the ear



(c) Abnormality in shape

Figure A.2 Appearance of the ear (cont.)



(a) Damaged by rodents

Figure A.3 Defects



(b) Damaged by pests

Figure A.3 Defects (cont.)



(c) Infected by diseases



(d) Incomplete development of husk



(e) Dried husk

Figure A.3 Defects (cont.)