

UNOFFICAL TRANSLATION



THAI AGRICULTURAL STANDARD

TAS 27-2017

LIME

**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

50 Phaholyothin Road, Chatuchak, Bangkok 10900

Tel. (662) 561 2277 Fax. (662) 561 3357

www.acfs.go.th

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Technical Committee on the Elaboration of the Thai Agricultural Standard for Lime

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| 14. | Mr. Prasert Tragooldumronglit
Expert in Crop Production | Member |
| 15. | Representative of the Office of Standard Development
National Bureau of Agricultural Commodity and Food Standards
Ms. Torporn Sattabus | Member and Secretary |

Lime is an important economic commodity which has widely been consumed. Lime trees can be grown in every region of the country and the fruits are demanded for both domestic and foreign markets. The establishment of a standard for lime in respect of its quality and food safety is essential for the development of safe produce, consumer recognition and fair practices in trade. Therefore, the Agricultural Standards Committee deems it necessary to establish the Agricultural Commodity Standard for Lime.

This standard is based on the following documents:

National Bureau of Agricultural Commodity and Food Standards. B.E. 2557. The Study on Characteristic Identification of Limes for the Determination of Quality, Classification and Sizing, National Bureau of Agricultural Commodity and Food Standards, Bangkok. (Unpublished)

CXS 213-1999. Standard for Limes.

CXS 217-1999. Standard for Mexican Limes.

UNECE STANDARD FFV-14. 2012. Concerning the marketing and commercial quality control of CITRUS FRUIT.



**NOTIFICATION OF THE MINISTRY OF AGRICULTURE AND COOPERATIVES
ON THE ESTABLISHMENT OF THAI AGRICULTURAL STANDARD: LIME
UNDER THE AGRICULTURAL STANDARDS ACT B.E. 2551 (2008)**

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

By virtue of Sections 5, 15 and 16 of the Agricultural Standards Act B.E. 2551 (2008) and the decision of the Agricultural Standards Committee at the Fourth Session on 7 August B.E. 2560 (2017), the Minister of Agriculture and Cooperatives hereby issues this Notification on the Establishment of Thai Agricultural Standard: Lime (TAS 27-2017) as a voluntary standard, details of which are attached herewith.

This notification shall come into force after the date of publication in the Royal Gazette.

Notified on 15 September B.E. 2560 (2017)

(General Chatchai Sarikulya)
Minister of Agriculture and Cooperatives

THAI AGRICULTURAL STANDARD

LIME

1. SCOPE

- 1.1 This Thai agricultural standard applies to commercial varieties of limes grown from the genus citrus of the Rutaceae family to be supplied fresh to the consumer, after preparation and packaging, as follows:
- *Citrus aurantifolia* (Christm.) Swingle, with the common names known as Mexican lime or Key lime and hybrids thereof, covering Thai limes such as Manow Paen, Manow Khai, Manow Nhung;
 - *Citrus latifolia* (Yu. Tanaka) Tanaka, with the common names known as Persian lime, Bearss lime or Tahiti lime (called in Thai as “Manow Tahiti”) and hybrids thereof.
- 1.2 This standard does not apply to limes for industrial processing.

2. QUALITY

2.1 Minimum Requirements

- 2.1.1 In all classes, subject to the special provisions for each class and the tolerances allowed, limes shall be:
- a) whole; with or without peduncle, in case without peduncle, the detached area shall not be ripped;
 - b) fresh;
 - c) sound, free of bruises, sunburn or rotting such as to make it unfit for consumption;
 - d) clean, free of any visible foreign matter;
 - e) free of pests;
 - f) free of damage caused by pests affecting the flesh quality;
 - g) free of abnormal external moisture, excluding condensation following removal from cold storage;
 - h) free of damage caused by low and/or high temperature;
 - i) free of any foreign smell and/or taste.
- 2.1.2 Limes shall have reached an appropriate degree of development and ripeness at the time of harvest to enable them to arrive in satisfactory condition at the place of destination. The appropriate degree of development and ripeness shall depend on variety, season, planting location or market requirement.
- 2.1.3 The juice content shall not be less than 40% calculated in relation to the total weight of the fruit.

2.1.4 The fruit should be green but may show yellow patches not exceeding 30% of the total surface area.

2.2 Classification

Limes in this standard are classified into three classes defined as follows:

2.2.1 Extra Class

Limes in this class shall be of superior quality with characteristic of the variety. They shall be green, free of defects in shape, colour, and skin with the exception of very slightly superficial defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

2.2.2 Class I

Limes in this class shall be of good quality with characteristic of the variety. The slight defects in shape, colour or skin may be allowed, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package. Those allowed defects are as follows:

- a) slight defects in shape;
- b) slight defects in colouring such as pale colour due to shading from sunlight;
- c) slight skin defects such as healed lesions, scratches, shallow scars and traces of pest damages. The skin defects shall not exceed 5% of the total area of the fruit.

2.2.3 Class II

This class includes limes which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1. The defects in shape, colour or skin may be allowed, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package. Those allowed defects are as follows:

- a) defects in shape;
- b) defects in colouring such as pale colour due to shading from sunlight;
- c) skin defects such as healed lesions, scratches, shallow scars and traces of pest damages. The skin defects shall not exceed 10 % of the total area of the fruit.

3. SIZING

Size of lime is determined by the maximum diameter of the equatorial section of the fruit, in accordance with the following table:

Size code	Diameter (mm.)	
	<i>Citrus aurantiifolia</i> (Christm.) Swingle	<i>Citrus latifolia</i> (Yu. Tanaka) Tanaka
1	> 49	> 55
2	> 46 - 49	> 50 - 55
3	> 43 - 46	> 45 - 50
4	> 40 - 43	40 - 45
5	> 37 - 40	-
6	35 - 37	-

Note:

Classification (Section 2.2) and sizing (Section 3) in this standard are used in commercial consideration. The two provisions are combined to stipulate trade classification. Trading partners may name trade classification differently depending on their requirements or limitation due to seasonal conditions.

4. TOLERANCES

Tolerances in respect of quality and size shall be allowed in each package or lot for produce not satisfying the requirements of the class indicated.

4.1 Quality tolerances

4.1.1 Extra Class

Five percent by number or weight of limes not satisfying the requirements of the Extra Class (Section 2.2.1), but meeting those of Class I (Section 2.2.2) or, exceptionally, coming within the tolerances of Class I (Section 4.1.2).

4.1.2 Class I

Ten percent by number or weight of limes not satisfying the requirements of Class I (Section 2.2.2), but meeting those of Class II (Section 2.2.3) or, exceptionally, coming within the tolerances of Class II (Section 4.1.3).

4.1.3 Class II

Ten percent by number or weight of limes satisfying neither the requirements of Class II (Section 2.2.3), nor the minimum requirements (Section 2.1), with the exception of produce affected by bruising, rotting or any other deterioration rendering it unfit for consumption.

4.2 Size tolerances

For all classes, if sized, ten percent by number or weight of limes corresponding to the size immediately above or below that indicated on the package.

5. PACKAGING

5.1 Uniformity

The contents of each package shall be uniform and contain only limes of the same variety, quality, size and origin. For “Extra” Class, the colour shall be uniform. The visible part of the contents of the package shall be representative of the entire contents.

5.2 Package

Containers shall be clean and be of quality so as to protect the produce from damage, able to withstand transportation and shall not cause any contamination. The materials used inside the package shall be clean and free of foreign matter. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed, provided that printing or labelling has been done with non-toxic ink or glue.

6. MARKING AND LABELLING

6.1 Consumer packages

The detailed information shall appear on packages, wrapping materials, attached tags or stickers on the produce in a manner that is legible, clear, and indelible, not false or deceptive or misleading. At least the following information shall be provided:

- a) Name of the produce
“limes” and/or “name of the variety”
- b) Net weight in metric system or number by count
- c) Class (optional)
- d) Size code and/or size (optional)
- e) Date of production and/or packaging (optional)
- f) Information of producer, packer, distributor, importer or exporter

Indicate the name and address of producer, packer, distributor, importer or exporter.

g) Country of origin

Indicate country of origin, except limes grown for domestic market.

h) Language

For domestic market, label shall be in Thai, however, a foreign language may also be added. For export, label can be in a foreign language.

6.2 Non-retail containers

The following information shall be shown on the accompanying documents, label, or the container in a manner that is legible, clear, and indelible, not false or deceptive.

a) Name of the produce

“limes” and/or “name of the variety”

b) Net weight in metric system or number by count

c) Class (optional)

d) Size code and/or size (optional)

f) Information of producer, packer, distributor, importer or exporter

Indicate the name and address of producer, packer, distributor, importer or exporter.

g) Country of origin

Indicate country of origin, except limes grown for domestic market.

h) Language

For domestic market, label shall be in Thai, however, a foreign language may also be added. For export, label can be in a foreign language.

6.3 Certification mark

The use of a certification mark shall comply with the Ministerial Regulation of B.E. 2553 (2010) on Provisions Concerning Characteristics of Mark, Application and Display, and the related notification of the National Bureau of Agricultural Commodity and Food Standards.

7. CONTAMINANTS

Maximum levels of contaminants in limes shall be in compliance with the relevant laws or provisions of Thai Agricultural Standard.

8. PESTICIDE RESIDUES

Maximum residue limits of pesticide in limes shall be in compliance with the relevant laws and regulations and the requirements under the Thai Agricultural Standards on Pesticide Residues: Maximum Residue Limits (TAS 9002) and Pesticide Residues: Extraneous Maximum Residue Limits (TAS 9003).

9. HYGIENE

- 9.1 Production and handling of limes at every stage including storing, packing and transporting shall be under good hygienic practices in order to prevent contamination that may be harmful to consumers. Otherwise, they shall be certified in accordance with Thai Agricultural Standard on Good Agricultural Practices for Food Crop (TAS 9001) or any other equivalent standards.
- 9.2 In case where limes are packed in a packing house, the packing house shall be certified in accordance with Thai Agricultural Standard on Good Manufacturing Practices for Packing House of Fresh Fruits and Vegetables (TAS 9035) or any other equivalent standards.

10. METHODS OF ANALYSIS AND SAMPLING

Methods of analysis and sampling shall be in compliance with the relevant laws or provisions of Thai Agricultural Standards.

ANNEX A
PHOTOS OF LIMES



Figure A.1 Examples of commercial varieties of *C. aurantifolia* (Christm.) Swingle (Section 1.1)



Manow Tahiti

Figure A.2 An example of commercial variety of *C. latifolia* (Yu. Tanaka) Tanaka (Section 1.1)

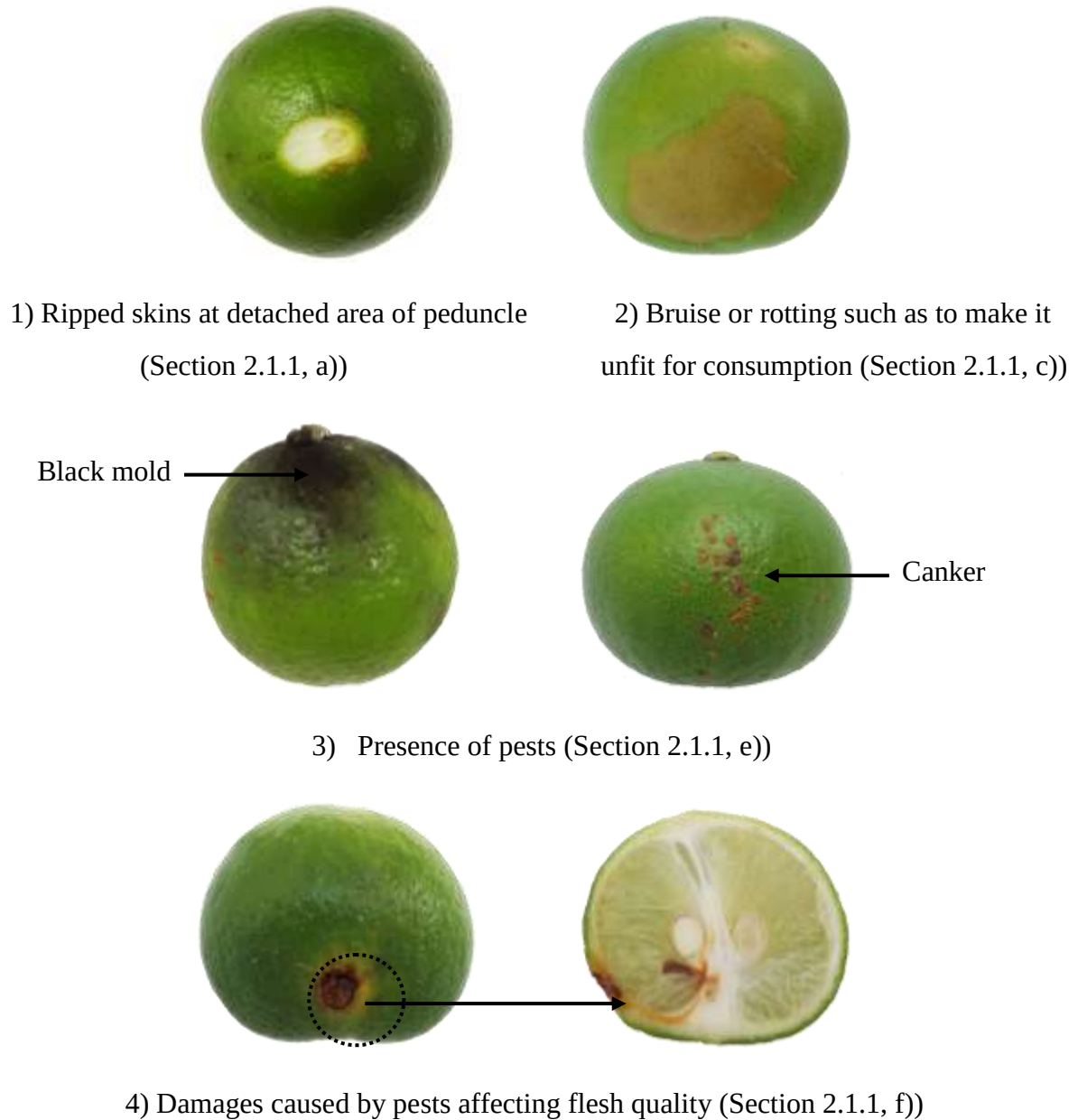


Figure A.3 Examples of lime characteristics not satisfying minimum requirements
(Section 2.1.1)



Figure A.4 Examples of skin colours having yellow patches not exceeding 30% of the total surface area (Section 2.1.4)



1) Scratch



2) Healed lesion



3) Damages caused by pest (thrips)

Figure A.5 Examples of skin defects (Section 2.2.2 c) and 2.2.3 c))



1) not exceeding 5%



2) not exceeding 10%



3) exceeding 10%

Figure A.6 Examples of percentages of total area of skin defects (Sections 2.2.2 c) and 2.2.3 c))