THAI AGRICULTURAL STANDARD

TAS 5002-2011

ORNAMENTAL CURCUMA RHIZOMES

National Bureau of Agricultural Commodity and Food Standards
Ministry of Agriculture and Cooperatives
50 Phaholyothin Road, Ladyao, Chatuchak, Bangkok 10900
Telephone: 02 2561 2277, Fax: 0 2561 3357
www.acfs.go.th

Published in the Royal Gazette, Announcement and General Publication Volume 128,
Special Section 131 ง (Ngo),
Dated 4 November 2011
Technical Committee on the Elaboration of Thai Agricultural Standard on Ornamental Curcuma

1. Mrs. Jongwantana Pumhirun Chairperson
   Horticulture Research Institute, Department of Agriculture

2. Mr. Setapong Lekawatana Member
   Department of Agricultural Extension

3. Mr. Bundit Mongkolvirapun Member
   Office of Agricultural Economics

4. Ms. Tasanee Pradyabumrung Member
   National Bureau of Agricultural Commodity and Food Standards

5. Mrs. Wipada Tongtaksin Member
   Horticulture Research Institute, Department of Agriculture

6. Mrs. Nattima Kositchareongkul Member
   Plant Protection Research and Development Office, Department of Agriculture

7. Associate Professor Surawit Wannakrairoj Member
   Faculty of Agriculture, Kasetsart University

8. Associate Professor Soraya Rumrasmi Member
   Faculty of Agriculture, Chiangmai University

9. Assistant Professor Teeranut Charengkit Member
   Faculty of Agricultural Production, Maejo University

10. Mr. Teerapun Totirakul Member
    Mae Fah Luang Foundation, Doi Tung Development Project

11. Mrs. Sutum Wirunhaman Member
    Chiangmai Sedcon Co., Ltd.

12. Mrs. Kanoknard Chawanapong Member
    Dynamic Seed Co., Ltd.

13. Ms. Chedsuda Kaha Member

14. Mr. Niwat Ubolrat Member

15. Ms. Sangrawee Kaursakul Member and Secretary
    Office of Commodity and System Standards,
    National Bureau of Agricultural Commodity and Food Standards

For further development on ornamental curcuma standards, The Agricultural Standards Committee deems it appropriate to establish a standard on ornamental curcuma rhizomes so as to provide good quality requirements for the selection of rhizomes suitable for export as well as to promote and increase recognition of ornamental curcuma production.

This standard is based on TAS. 5503-2010. Good Agricultural Practices for Ornamental Curcuma.
NOTIFICATION OF MINISTRY OF AGRICULTURE AND COOPERATIVES
ON THE ESTABLISHMENT OF THAI AGRICULTURAL STANDARD:
ORNAMENTAL CURCUMA RHIZOMES
UNDER THE AGRICULTURAL STANDARDS ACT B.E. 2551 (2008)

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

By virtue of Sections 5, 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: Ornamental Curcuma Rhizomes (TAS 5002-2011) as a voluntary standard, the details of which are attached herewith.

Notified on 2 September 2011

(Mr. Theera Wongsamut)
Minister of Agriculture and Cooperatives
1. SCOPE

This agricultural standard applies to ornamental curcuma rhizomes in packages for commercial distribution.

2. DEFINITIONS

For the purpose of this standard:

2.1 Ornamental curcuma means all species of plants in genus Curcuma (turmeric) and the hybrids obtained from cross-species or cross-subgenera Curcuma whose pedunculate inflorescences are used for decoration. The ornamental curcuma is classified into two subgenera, namely:

2.1.1 Paracurcuma has compact spikes that only emerging from the top of pseudostem without spur on the anther base. The underground stems generally emerge from the side eye buds of the original rhizome forming cluster branches with numerous storage roots.

2.1.2 Eucurcuma has compact spikes emerging from side or top of pseudostem with spur on the anther bases in general. The underground stems often branch out and grow in a horizontal manner. However, some species form underground stems vertically with few or no storage roots.

2.2 Rhizome means part of propagated ornamental curcuma which is the underground stem with or without the storage root.

2.3 Pest means living organisms i.e. pathogenic agent, insect, animal and weed that are injurious to plants

3. TYPE

In this standard, ornamental curcuma rhizomes are classified into two subgenera as follows:

3.1 Paracurcuma rhizome

3.2 Eucurcuma rhizome

4. QUALITY

Ornamental curcuma rhizomes shall have the following qualities:
4.1 Minimum requirements
4.1.1 Well-formed eye buds.
4.1.2 True to characteristics of the variety.
4.1.3 Practically free of pest or damage caused by pest.
4.1.4 Clean without soil and planting materials.

4.2 Classification (For Paracurcuma rhizomes)
Paracurcuma rhizomes are classified into three classes as follows:

4.2.1 Extra Class
There shall be characteristics as of Section 4.1 and has four storage roots or more.

4.2.2 Class I
There shall be characteristics as of Section 4.1 and has three storage roots.

4.2.3 Class II
There shall be characteristics as of Section 4.1 and has less than three storage roots.

5. SIZING
Sizes of ornamental curcuma rhizomes are determined by the maximum diameter of the equatorial section of rhizome as shown in Table 3.

<table>
<thead>
<tr>
<th>International Size Code</th>
<th>Rhizome Size Code</th>
<th>Diameter (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>&gt;4.0</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>&gt;3.0 to 4.0</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>&gt;2.0 to 3.0</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td>&gt;1.8 to 2.0</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>&gt;1.5 to 1.8</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>&gt;1.2 to 1.5</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
<td>&gt;1.0 to 1.2</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>&lt;1.0</td>
</tr>
</tbody>
</table>

Note: The classification of quality and sizing according to this standard may be combined to stipulate trade classification. Trading partners may name the trade classification differently depending on their requirements or seasonal limitations.
6. TOLERANCES

6.1 Quality tolerances (For Paracurcuma rhizomes)

6.1.1 Extra Class

Five per cent by number of rhizomes not satisfying the requirements of Extra Class (Section 4.2.1) but meeting those of Class I (Section 4.2.2).

6.1.2 Class I

Ten per cent by number of rhizomes not satisfying the requirements of Class I (Section 4.2.2) but meeting those of Class II (Section 4.2.3).

6.1.3 Class II

Ten per cent by number of rhizomes not satisfying the requirements of Class II (Section 4.2.3) and no sign of rotting.

6.2 Size tolerance

For all classes of ornamental curcuma rhizomes, ten per cent by number permitted to be above or below that of size code.

7.1 Uniformity

1) The contents of each package shall be uniform and contain only Paracurcuma rhizome of the same variety, quality and size.
2) The contents of each package shall be uniform and contain only Eucurcuma rhizomes of the same variety, quality and size.

7.2 Packing and package

1) Ornamental curcuma rhizomes shall be packed in such a manner that they are well protected from any damage.

2) Materials used inside the package shall be clean. They shall be able to protect ornamental curcuma rhizomes from damage affecting the quality.

3) Packages shall be clean, ventilated and free of any foreign matter. The packages shall also withstand during the transportation.

8. LABELLING

The following information shall, at least, appear on the label of the package of ornamental curcuma rhizomes. The label shall be readily legible, clear, and indelible without false or deceptive.
8.1 Type of rhizome;
To be indicated as “Paracurcuma rhizomes” or “Eucurcuma rhizomes”.

8.2 Name of variety; sub genus, common name

8.3 Class (only for Paracurcuma rhizome);

8.4 Size code, (if sized);

8.5 Number or weight of ornamental curcuma rhizomes per package;

8.6 Information of producer or distributor;
Indicate name and address of the producer or re-packer or distributor.

8.7 Source of Production;
Indicate country or area of production with the exception of ornamental curcuma rhizomes which are produced for domestic distribution.

9. OFFICIAL INSPECTION MARK OR CERTIFICATION MARK
Marks shall be comply with the criteria and conditions either stipulated by the Agricultural Standards Committee or the inspection or certification bodies.

10. SAMPLING
Sampling methods shall be in accordance with the relevant laws or standards related to the method of sampling.
Appendix A

Illustration

(Sections 4.1, 4.2 and 5)

**Figure A.1** Rhizome with well-formed eye buds

**Figure A.2** Rhizome with damaged eye buds

A 3.1 Damage caused by nematodes

A 3.2 Damage caused by bacterial wilt

**Figure A.3** Damaged ornamental curcuma rhizomes caused by pests
**Figure A.4** Classes of Paracurcuma rhizome

| Size codes | 40 | 30 | 20 | 18 | 15 | 12 | 10 | 8 |

**Figure A.5** Size codes of Ornamental curcuma rhizomes
Appendix B

Unit

The unit and abbreviation of measurement used in this standard as well as the applicable International System of Units (SI) (or Le Système International d'Unités in French) are as follows:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Unit</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>centimeter</td>
<td>cm</td>
</tr>
</tbody>
</table>