CAMBODIA
Milled Rice Standards
CS053:2014-Rev.1
1. SCOPE

This standard prescribes specifications, required criteria, hygiene, packaging, labeling, sampling and testing methods for milled rice. This standard does not however apply to other products derived from rice (*Oryza sativa* L.) or glutinous rice.
2. DEFINITIONS

For the purpose of this standard, the following definitions shall apply:

2-1 Paddy rice: Rice kernels obtained after threshing.

2-2 Specification: Detailed features of rice (milled) rice products

2-3 Brown rice: Husked rice obtained by removing the outermost layer (husk) of paddy. It’s called Loozain rice, husked rice or cargo rice.

2-4 Milled rice: Rice kernel obtained from removing bran layer and germ of the brown rice.

2-5 Germ: A reproductive organ that can germinate and grow into a rice plant. It is located at one end of the grain near the pedicel.

2-6 Whole kernel: Milled rice with no cracked kernel and not shorter than 9/10 of the kernel. (Figure 2.25)

2-7 Head rice: Milled rice with a length equals to or more than 8/10 but shorter than the whole kernel.

2-8 Big broken: Fragment of the rice kernel, which is greater than 2.5 portions of whole kernel but shorter than head rice.

2-9 Small broken: Fragment of the rice kernel, which can pass through a sieve with round perforations of 1.75 mm in diameter.

2-10 Chalky kernel: Rice kernel with opaque surface more than 5/10 of the whole kernel.
2-11 Red kernel: Whole or broken kernel of which more than 3/10 of its surface is red-colored.
2-12 Red streaked kernel: Whole kernel or part of it with red streaks covering at least 5/10 of the average length of the whole kernel.
2-13 Yellow kernel: Whole or broken kernel that appears yellow if compared to the original features of any relevant variety.
2-14 Immature kernel: Rice kernel, appearing light green as a result of milling immature paddy rice.
2-15 Damaged kernel: Whole or part of kernel that is damaged or discolored due to heat, moisture, insects, fungi, or other factors.
2-16 Foreign matter: Substances or materials other than rice or paddy, such as soil, gravel, fragments of panicle, dirt, husk and insect.
2-17 Foreign odor: Smell that is not the natural scent of the specified variety.
2-18 Moisture content: Percentage of moisture of the rice kernel.
2-19 Chemical residues: Traces of chemicals that remain in the rice kernel at any step of rice production, processing and packaging.
2-20 Aromatic rice: Types of milled rice that exhibit a natural aroma such as of Phka Rumduol, Phka Rumdeng, Phka Romeat, Sen Pidao...etc.
2-21 Extra well milled: Milled rice that has the entire husk, germ and bran layer removed.
2-22 Well milled: Milled rice that has husk, germ and bran layer removed but not to the extent as the “Extra well milled rice”.
2-23 Reasonably milled: Milled rice that has husk and much of the germ removed but not to the extent as “well milled rice”.
2-24  Ordinary milled: Milled rice that is obtained by removing husk, part of the germ and the outer layer of bran.

2-25  Figure of milled rice features:
3. GRADES AND TYPES OF MILLED RICE

3-1 GRADES OF MILLED RICE BY GRAIN LENGTH

3-1-1 Extra long grain: Rice kernel that is equal to or longer than 7 mm.
3-1-2 Long grain: Rice kernel that is equal to or longer than 6.2 mm but shorter than 7 mm.

There are two grades:
- Long grain grade 1: Rice kernel that is equal to or longer than 6.6 mm, but shorter than 7 mm
- Long grain grade 2: Rice kernel that is equal to or longer than 6.2 mm, but shorter than 6.6 mm

3-1-3 Medium grain: Rice kernel that is equal to or longer than 5.4 mm but shorter than 6.2 mm.
3-1-4 Short grain: Rice kernel that is shorter than 5.4 mm.

3-2 GRADES OF MILLED RICE BY DEGREE OF PROCESSING

3-2-1 rice 100% -grade A
3-2-2 rice 100%-grade B
### TYPES OF MILLED RICE

3-3-1 **Premium aromatic rice:** Types of milled rice with strong natural scent such as Phka Rumduol, Phka Rumdeng, and Phka Romeat.

3-3-2 **Aromatic rice:** Types of milled rice having a mild natural scent such as Sen Pidao.

3-3-3 **Premium white rice:** Rice kernel with a translucent endosperm and soft consistency when cooked such as of Phka Chan Sen Sar, Riang Chey, CAR 4, and CAR 6...etc

3-3-4 **White rice:** Rice kernel with firm consistency when cooked such as IR 66, and Chuls...etc
### 4. CRITERIA

4-1 Criteria of milled rice can be determined by the specifications listed in the tables attached.

#### TABLE 1: PREMIUM AROMATIC RICE

<table>
<thead>
<tr>
<th>Grade of processing</th>
<th>Classification of grain length (%)</th>
<th>Classification of grain length (%)</th>
<th>Grain composition (%)</th>
<th>Purity (%)</th>
<th>Number of paddy rice /kg</th>
<th>Other composition (%)</th>
<th>Number of other types of rice kernel, not exceeding (%)</th>
<th>Milling degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELG</td>
<td>LG</td>
<td>MG</td>
<td>Whole kernel</td>
<td>Big Broken</td>
<td>Small broken kernel</td>
<td>Damage kernel</td>
<td>Red streaked kernel</td>
<td>Chalky kernel</td>
</tr>
<tr>
<td>100% A</td>
<td>≥70</td>
<td>≤5</td>
<td>≥60</td>
<td>≤3</td>
<td>≤0.10</td>
<td>1</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>100% B</td>
<td>≥60</td>
<td>≤5</td>
<td>≥60</td>
<td>≤4</td>
<td>≤0.15</td>
<td>1</td>
<td>0.15</td>
<td>0.30</td>
</tr>
<tr>
<td>5%</td>
<td>≥40</td>
<td>≤10</td>
<td>≥60</td>
<td>≤7</td>
<td>≤0.20</td>
<td>1</td>
<td>0.30</td>
<td>0.50</td>
</tr>
<tr>
<td>10%</td>
<td>≥40</td>
<td>≤10</td>
<td>≥50</td>
<td>≤12</td>
<td>≤0.30</td>
<td>2</td>
<td>0.40</td>
<td>1.50</td>
</tr>
<tr>
<td>15%</td>
<td>≥40</td>
<td>≤10</td>
<td>≥45</td>
<td>≤17</td>
<td>≤0.50</td>
<td>3</td>
<td>0.50</td>
<td>2.00</td>
</tr>
</tbody>
</table>

REMARK: ELG = Extra long grain, LG = Long grain, MG = Medium grain, SG = Short grain
### TABLE 2: AROMATIC RICE

<table>
<thead>
<tr>
<th>Grade of processing</th>
<th>Grade of grain length (%)</th>
<th>Grain composition (%)</th>
<th>Number of paddy rice /kg</th>
<th>Other composition (%)</th>
<th>Number of other types of rice kernel, not exceeding (%)</th>
<th>Milling degree</th>
<th>Purity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ELG</td>
<td>LG</td>
<td>MG</td>
<td>Whole kernel</td>
<td>Big Broken kernel</td>
<td>Small broken kernel</td>
<td></td>
</tr>
<tr>
<td>100% A</td>
<td>≥70</td>
<td>-</td>
<td>≤5</td>
<td>≥60</td>
<td>≤4</td>
<td>≤0.15</td>
<td>1</td>
</tr>
<tr>
<td>100% B</td>
<td>≥60</td>
<td>-</td>
<td>≤5</td>
<td>≥60</td>
<td>≤4</td>
<td>≤0.15</td>
<td>1</td>
</tr>
<tr>
<td>5%</td>
<td>≥40</td>
<td>-</td>
<td>≤10</td>
<td>≥60</td>
<td>≤7</td>
<td>≤0.20</td>
<td>1</td>
</tr>
<tr>
<td>10%</td>
<td>≥40</td>
<td>-</td>
<td>≤10</td>
<td>≥50</td>
<td>≤12</td>
<td>≤0.30</td>
<td>2</td>
</tr>
<tr>
<td>15%</td>
<td>≥40</td>
<td>-</td>
<td>≤10</td>
<td>≥45</td>
<td>≤17</td>
<td>≤0.50</td>
<td>3</td>
</tr>
<tr>
<td>Grade of processing</td>
<td>Median grain length (mm)</td>
<td>Classification of grain length (%)</td>
<td>Grain composition (%)</td>
<td>Number of paddy rice /kg</td>
<td>Other composition (%)</td>
<td>Number of all other types of rice kernel, not exceeding (%)</td>
<td>Milling degree</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
<td>-----------------------</td>
<td>----------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td>LG</td>
<td>MG</td>
<td>Whole kernel</td>
<td>Big Broken kernel</td>
<td>Small broken kernel</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>100% A</td>
<td>≥60</td>
<td>≤30</td>
<td>≥60</td>
<td>≤3</td>
<td>≤0.15</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>100% B</td>
<td>≥60</td>
<td>≤40</td>
<td>≥60</td>
<td>≤4</td>
<td>≤0.15</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>5%</td>
<td>≥60</td>
<td>≤40</td>
<td>≥55</td>
<td>≤7</td>
<td>≤0.20</td>
<td>1</td>
<td>0.15</td>
</tr>
<tr>
<td>10%</td>
<td>≥40</td>
<td>≤60</td>
<td>≥40</td>
<td>≤12</td>
<td>≤0.30</td>
<td>2</td>
<td>0.30</td>
</tr>
<tr>
<td>15%</td>
<td>≥40</td>
<td>≤60</td>
<td>≥40</td>
<td>≤17</td>
<td>≤0.50</td>
<td>3</td>
<td>0.50</td>
</tr>
</tbody>
</table>

**Table 3: Premium White Rice**
### Table 4: Long Grain White Rice Grade 1

<table>
<thead>
<tr>
<th>Grade of processing</th>
<th>Long grain grade 1 (mm)</th>
<th>Grain composition (%)</th>
<th>Number of paddy rice /kg</th>
<th>Other composition (%)</th>
<th>Number of all other types of rice kernel, not exceeding (%)</th>
<th>Milling degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Whole kernel</td>
<td>Big Broken kernel</td>
<td>Small broken kernel</td>
<td>Number of paddy rice /kg</td>
<td>Other composition (%)</td>
</tr>
<tr>
<td>100% A</td>
<td>≥60</td>
<td>≤3</td>
<td>≤0.15</td>
<td>1</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>100% B</td>
<td>≥60</td>
<td>≤4</td>
<td>≤0.15</td>
<td>1</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>5%</td>
<td>≥60</td>
<td>≤7</td>
<td>≤0.20</td>
<td>1</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>10%</td>
<td>≥45</td>
<td>≤12</td>
<td>≤0.30</td>
<td>4</td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>15%</td>
<td>≥40</td>
<td>≤17</td>
<td>≤0.50</td>
<td>4</td>
<td>0.5</td>
<td>1.5</td>
</tr>
<tr>
<td>25%</td>
<td>≥35</td>
<td>≤28</td>
<td>≤1</td>
<td>5</td>
<td>1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>35%</td>
<td>≥30</td>
<td>≤40</td>
<td>≤2</td>
<td>10</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Grade of processing</td>
<td>Long grain grade 2 (mm)</td>
<td>Grain composition (%)</td>
<td>Number of paddy rice /kg</td>
<td>Other composition (%)</td>
<td>Number of other types of rice kernel, not exceeding (%)</td>
<td>Milling degree</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
<td>-----------------------</td>
<td>------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td>Whole kernel</td>
<td>Big Broken kernel</td>
<td>Small broken kernel</td>
<td></td>
<td>Damage kernel</td>
<td>Red streaked kernel</td>
</tr>
<tr>
<td>100%</td>
<td>≥60</td>
<td>≤3</td>
<td>≤0.15</td>
<td>1</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>5%</td>
<td>≥50</td>
<td>≤7</td>
<td>≤0.20</td>
<td>1</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>10%</td>
<td>≥45</td>
<td>≤12</td>
<td>≤0.30</td>
<td>4</td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>15%</td>
<td>≥40</td>
<td>≤17</td>
<td>≤0.50</td>
<td>4</td>
<td>0.5</td>
<td>1.5</td>
</tr>
<tr>
<td>25%</td>
<td>≥35</td>
<td>≤28</td>
<td>≤1</td>
<td>5</td>
<td>1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>35%</td>
<td>≥30</td>
<td>≤40</td>
<td>≤2</td>
<td>10</td>
<td>2.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>

**Table 5: Long Grain White Rice Grade 2**
<table>
<thead>
<tr>
<th>Grade of processing</th>
<th>Medium grain (mm)</th>
<th>Grain Composition (%)</th>
<th>Number of paddy rice /kg</th>
<th>Other composition (%)</th>
<th>Number of all other types of rice kernel, not exceeding (%)</th>
<th>Milling Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Whole kernel</td>
<td>Big Broken kernel</td>
<td>Small broken kernel</td>
<td>Damage kernel</td>
<td>Red streaked kernel</td>
</tr>
<tr>
<td>100%</td>
<td>≥5.4 - &lt;6.2</td>
<td>≥60</td>
<td>≤3</td>
<td>≤0.15</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>5%</td>
<td></td>
<td>≥50</td>
<td>≤7</td>
<td>≤0.2</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>10%</td>
<td></td>
<td>≥45</td>
<td>≤12</td>
<td>≤0.3</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>15%</td>
<td></td>
<td>≥40</td>
<td>≤17</td>
<td>≤0.5</td>
<td>4</td>
<td>0.5</td>
</tr>
<tr>
<td>25%</td>
<td></td>
<td>≥35</td>
<td>≤28</td>
<td>≤1</td>
<td>5</td>
<td>1.0</td>
</tr>
<tr>
<td>35%</td>
<td></td>
<td>≥30</td>
<td>≤40</td>
<td>≤2</td>
<td>10</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**TABLE 6: MEDIUM GRAIN WHITE RICE**
## TABLE 7: 100% BROKEN AROMATIC RICE

<table>
<thead>
<tr>
<th>Grade of processing</th>
<th>Broken and small broken kernel</th>
<th>Number of all other types of rice kernel, not exceeding (%)</th>
<th>Milling Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grain composition (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total quantity (including broken kernel that can’t pass through a sieve with round perforation 7 size: diameter of 1.75mm)</td>
<td>Base of broken kernel size</td>
<td>Small broken kernel</td>
</tr>
<tr>
<td>100% Broken A1-Extra Super</td>
<td>≤10</td>
<td>obtained from 100% or 5% milling</td>
<td>≤1.00</td>
</tr>
<tr>
<td>100% Broken A1-Super</td>
<td>-</td>
<td>obtained from 100% or 5% or 10% milling</td>
<td>≤5.00</td>
</tr>
</tbody>
</table>
### TABLE 8: 100% BROKEN WHITE RICE

<table>
<thead>
<tr>
<th>Grade of processing</th>
<th>Grain composition (%)</th>
<th>Number of All Other Types of Rice Kernel, Not Exceeding (%)</th>
<th>Milling Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Whole kernel</td>
<td>Broken kernel</td>
<td>Small broken kernel</td>
</tr>
<tr>
<td>100% Broken A1-Extra Super</td>
<td>≤10.00</td>
<td>-</td>
<td>≤1.0</td>
</tr>
<tr>
<td>100% Broken A1-Super</td>
<td>-</td>
<td>-</td>
<td>≤5.0</td>
</tr>
</tbody>
</table>

4-2 The moisture content of milled rice of all grades should not exceed 14%.
4-3 Rice shall be free from any unpleasant odor and insects (dead or alive) as prescribed in Appendix A.
4-4 Rice shall not contain pesticide residues and/or heavy metal that can be harmful to human health as prescribed by the Codex Alimentarius Commission.
5. HYGIENE

5-1 The process of milled rice production shall comply with Cambodian standard CS 084:2010 on ASEAN General Principal and Requirements for food hygiene.

5-2 All milled rice products shall not contain microorganism, parasites or any substance originated from microorganism including mold in an amount that may be harmful to human health.
6. PACKAGING AND LABELING

6-1 Packaging

Milled rice shall be packaged in a type of container that preserves the hygiene, the nutritional properties and the high quality of food. The container including all types of packaging materials shall be made of substances that are safe and suitable for their use, handling and transportation. The packaging materials shall not contain any toxic substances or have undesired odor that can affect the quality of the product. The packing bag and/or sack must be clean, sturdy, and strongly sealed when packed.

6-2 Labeling

Labeling of milled rice products shall comply with the Cambodian Industrial Standard CS001:2000 for food products and CS085:2010 on ASEAN General Principle and Requirements for pre-packaged foods. Each package shall be labeled and clearly display the following information:

- a. Name of ‘milled rice’ product
- b. Trade mark, if any
- c. Net weight in gram or kilogram
- d. Type
- e. Grade
- f. Name and address of producer or distributor
- g. Milling date and date of expiry
- h. Lot number
7. SAMPLING AND CRITERIA FOR CONFORMITY
As described in chapter 7 in the full version of this Standard

8. TESTING METHODS
All tests shall be carried out as described in Appendixes A to L in the full version of this Standard.
Cambodian Rice
(INDICA TYPE) COMPRISES OF INDIGENOUS VARIETIES

FRAGRANT RICE

**Premium Fragrant**
Jasmine (Wet Season, photosensitive period)

Extra-long grain, strong natural scent, soft texture, tender-fluffy when cooked with tantalizing aroma.

Phka Malis (Jasmine):
Phka Rumduol
Phka Romeat
Phka Rumdeng
Somali, Neang Malis™

**Fragrant Rice**
(Dry Season)
mild natural scent

Long grain with similar Jasmine fragrance and characteristics, soft texture, tender when cooked, full of flavor.

Sen Kra Ob
Sen Pidao

WHITE RICE

**Premium White**
(Wet Season)

Medium-length grain, kernel w/ translucent endosperm, white color, distinct scent. Soft after cooking, a versatile tasty variety.

Ginger Rice:
Phka Knhey
Phka Chan Sen Sar
CAR 4, CAR 6, Riang Chey

**White Rice**
(All Seasons)

Medium-length and long grain varieties, kernel w/ white endosperm, firm texture also after cooking.

Pearl Rice
Neang Khon
Ponla Pdao
Neang Minh
IR 66
Chulsa

Grades: Milled and polished, 100% A, 100% B, 5%, 10%, 15%, 20%, 25%, 35%, 100% broken, A1 Super, A1 Extra Super;
Premium Fragrant Organic, Organic Brown, Organic Red rice
Cambodian Rice
White Gold

Produced by

Supported by

European Union
International Finance Corporation