

D3 - Annex 2

Malys Angkor Product QUALITY CONTROL - Method of
Rice quality control

5/4/2016

Component #2: Development and promotion of Cambodian Rice quality and labels

Request for proposals No.: CKH . 1077 - C#2 . C . 15 . 01

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ITEMS	REQUIREMENTS	INSPECTION METHODS
<p>1. Pre-shipment inspection.</p>	<p>1.1. Premium rice quality as per branding standard/specification. 1.2. The process of milled rice production shall comply with Cambodian standard CS 084:2010 on ASEAN General Principal and Requirements for food hygiene. 1.3. Rice analysis and inspection report shall be issued.</p>	<ol style="list-style-type: none"> 1. 1000g of the sample will be drawn out from the processing line randomly. 2. The sample will be drawn out every 1 hr. of the processing line randomly to analyze the quality. 3. Total number of sample and result of analysis will be the same as packing hour within a day; i.e <ul style="list-style-type: none"> - Packing process 8 hours. 8 samples will be drawn and analyze. 4. 1000g of the sample to check moisture contains m14% with calibrated moisture meter. 5. 250g of working sample to analyze the quality (Please see specification of Cambodian Premium Jasmine Rice on Table 1) 6. Analysis report and Photo report.

<p>2. Final Inspection</p>	<p>2.1. Premium rice quality as per branding standard/specification. 2.2. The process of milled rice production shall comply with Cambodian standard CS 084:2010 on ASEAN General Principal and Requirements for food hygiene. 2.3. Quality certificate shall be issued.</p>	<ol style="list-style-type: none"> 1. 3000g of the sample will be drawn out from the packed rice randomly. 2. The sample will be drawn out as per ISO 950 "Cereals - Sampling (as grain) table below; <table border="1" data-bbox="1061 368 2042 754"> <thead> <tr> <th data-bbox="1061 368 1491 437">Number of bags in consignment</th> <th data-bbox="1498 368 2042 437">Number of bags to be sampled</th> </tr> </thead> <tbody> <tr> <td data-bbox="1061 442 1491 521">Up to 10</td> <td data-bbox="1498 442 2042 521">Every bags</td> </tr> <tr> <td data-bbox="1061 526 1491 560">11 to 100</td> <td data-bbox="1498 526 2042 560">10, drawn at random</td> </tr> <tr> <td data-bbox="1061 564 1491 754">More than 100</td> <td data-bbox="1498 564 2042 754">Square root (approximately) of the total number of bags drawn at random according to a suitable scheme.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. 250g of working sample to analyze the quality (Please see specification of Cambodian Premium Jasmine Rice on Table 1) 4. 3000g of the sample to check moisture contains m14% with calibrated moisture meter. 5. Sampling qty from 2.1.2: Checking include labels, marking, CRF seal, other requirement on bag and weigh and hiding insect. (Annex 6) 6. The sample will be separated in to 2 sealed samples <ol style="list-style-type: none"> 6.1 2000g of working sample for lab testing. 6.2 1000g of working sample keep at Surveyor Company as reference sample of the shipment. 7. Analysis report and Photo report. 	Number of bags in consignment	Number of bags to be sampled	Up to 10	Every bags	11 to 100	10, drawn at random	More than 100	Square root (approximately) of the total number of bags drawn at random according to a suitable scheme.
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<p>3. Domestic market/ Rice quality Inspection</p>	<p>3.1. Premium rice quality as per branding standard/specification. 3.2. The process of milled rice production shall comply with Cambodian standard CS 084:2010 on ASEAN General Principal and Requirements for food hygiene. 3.3. Rice analysis and inspection report shall be issued.</p>	<ol style="list-style-type: none"> 1. 3000g of the sample will be drawn out from the packed rice randomly. 2. The sample will be drawn out as per ISO 950 "Cereals - Sampling (as grain) table below; <table border="1" data-bbox="1061 454 2042 842"> <thead> <tr> <th data-bbox="1061 454 1491 523">Number of bags in consignment</th> <th data-bbox="1491 454 2042 523">Number of bags to be sampled</th> </tr> </thead> <tbody> <tr> <td data-bbox="1061 523 1491 608">Up to 10</td> <td data-bbox="1491 523 2042 608">Every bags</td> </tr> <tr> <td data-bbox="1061 608 1491 644">11 to 100</td> <td data-bbox="1491 608 2042 644">10, drawn at random</td> </tr> <tr> <td data-bbox="1061 644 1491 842">More than 100</td> <td data-bbox="1491 644 2042 842">Square root (approximately) of the total number of bags drawn at random according to a suitable scheme.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. 250g of working sample to analyze the quality (Please see specification of Cambodian Premium Jasmine Rice on Table 1) 4. 3000g of the sample to check moisture contains m14% with calibrated moisture meter. 5. Sampling qty from 2.1.2: Checking include labels, marking, CRF seal, other requirement on bag and weigh and hiding insect. (Annex 6) 6. The sample will be separated in to 2 sealed samples <ol style="list-style-type: none"> 6.1 2000g of working sample for lab testing. 6.2 1000g of working sample keep at Surveyor Company as reference sample of the shipment. 7. Analysis report and Photo report. 	Number of bags in consignment	Number of bags to be sampled	Up to 10	Every bags	11 to 100	10, drawn at random	More than 100	Square root (approximately) of the total number of bags drawn at random according to a suitable scheme.
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<p>4. Foreign matters and Hiding insect check</p>	<p>3.1 The rice must be free from stone, sand&eath, convolvulaceous seed, Organoleptic and alive&death insects and mite.</p>	<p>1. The rice container will be opened as per ISO 950 "Cereals - Sampling (as grain) table below;</p> <table border="1" data-bbox="1061 488 2040 924"> <thead> <tr> <th data-bbox="1061 488 1491 560">Number of bags in consignment</th> <th data-bbox="1491 488 2040 560">Number of bags to be sampled</th> </tr> </thead> <tbody> <tr> <td data-bbox="1061 560 1491 655">Up to 10</td> <td data-bbox="1491 560 2040 655">Every bags</td> </tr> <tr> <td data-bbox="1061 655 1491 762">11 to 100</td> <td data-bbox="1491 655 2040 762">10, drawn at random</td> </tr> <tr> <td data-bbox="1061 762 1491 924">More than 100</td> <td data-bbox="1491 762 2040 924">Square root (approximately) of the total number of bags drawn at random according to a suitable scheme.</td> </tr> </tbody> </table> <p>2. Inspector will spread the rice out on a flat, clean and dry surface on the floor and check for hidden inspects one by one.</p>	Number of bags in consignment	Number of bags to be sampled	Up to 10	Every bags	11 to 100	10, drawn at random	More than 100	Square root (approximately) of the total number of bags drawn at random according to a suitable scheme.
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<p>5. Sensory Test before and after cooking.</p>	<p>4.1 Sensory test of Cambodian Premium Jasmine rice; - Water absorption (after cooking) - Color (before / after cooking) - Hardness (after cooking) - Stickiness (after cooking) - Texture (after cooking) - Fragrant of rice typical (before / after cooking) 4.2 Sensory test by inspector of the Inspection body. Witnessing and confirm the finding result by representative of the brand user.</p>	<ol style="list-style-type: none"> 1. 500g of composite sample will be prepared as working sample. 2. Check parameters of Milled rice during inspection; <ol style="list-style-type: none"> 1.1 Cleanliness of milled rice. 1.2 Color of rice typical. 1.3 Free of any smell, Free from Stale, Musty. 1.4 Milled Rice should maintain the fragrant of its natural as fresh and clean without alien smell such as warehouse smell, odours, chemical smell, and animal smell. Other not typical for rice is not acceptable. 3. Cooking test by calibrated rice cooker at inspection site; <ol style="list-style-type: none"> 2.1 Minimum working sample size: ½ cup (120mL rice or around 140-150g rice) will be cooked with 210 mL of pure water. (White, long grain 1 3/4 cups of water per 1 cup of rice (420 mL water per 240 mL rice) 2.2 Soak the rice is not required. 2.3 Speed the rice and ensure the rice is proper cover by water. 2.4 After the rice cooked, allow the rice to "rest" for 10-15 minutes before removing the lid. 4. Check parameters of Cooked rice; <ol style="list-style-type: none"> 3.1 Free of any smell, Free from Stale, Musty. 3.2 Cooked Rice should maintain the fragrant of its natural as fresh and clean without alien smell such as warehouse smell, odours, chemical smell and animal smell. Other not typical for rice is not acceptable. 3.3 Colour of rice typical. 3.4 Fluff, soft and contain stickiness of its natural of rice typical. 3.5 Taste of its natural of rice typical. Mouldy, sour and other not typical for rice is not acceptable.
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6. Boiling Test	5.1 Containing not less than 90% of Cambodian Jasmine rice.	<ol style="list-style-type: none"> 1. 100g of composite sample will be prepared to 25g of working sample. Then select 100 grains of whole grain in order to analyze impurity in percentage. 2. 100 grains of whole grain will cook with drinking water in a calibrated boiler 16 minutes open the lid. (according to specification of boiler) 3. Then cooled down cooked rice in room temperature water. 4. Prepare rice on the proper mirror for pressing process. 5. After pressing the fragrant rice with 13-18% amylose contain will has no resistant starch content appear. 6. Inspector counts the grain with resistant starch content as impurity of fragrant rice.
7. Amylose test	<p>6.1 Amylose means a kind of starch in rice kernels. When cooked, the texture of the rice kernels varies according to the content of amylose.</p> <p>6.2 Starch of Cambodian Jasmine Rice contains 13-18 % of amylose.</p>	<ol style="list-style-type: none"> 1. 1000g of the sample will be drawn out from the packed rice randomly at the time of inspection. 2. Seal sample to an independent ISO/IEC 17025 accredited testing laboratory to analyze.

Table 1: Cambodian Premium Jasmine Rice standard.

Grade	Classification of Grain Length (%)				Grain Composition (%)			Number of paddy rice /Kg	Other Composition (%)	Number of all other types of rice kernel, not exceeding (%)				Milling Degree	Purity (%)
	ELG	LG	MG	SG	Whole kernel	Broken kernel	Small broken kernel			Damage kernel	Red Streaked kernel	Chalky kernel	Yellow kernel		
100% A	≥ 70	-	-	≤ 5	≥ 70	≤ 3	≤ 0.1	1	≤ 0.1	≤ 0.1	≤ 0.1	≤ 3.0	≤ 0.1	Extra Well Milled	≥ 92

TYPES OF MILLED RICE:

Premium Aromatic Rice: Types of rice having a strong natural scent such as Phka Rumduol, Phka Rumdeng, and Phka Romeat. Aromatic photo sensitive

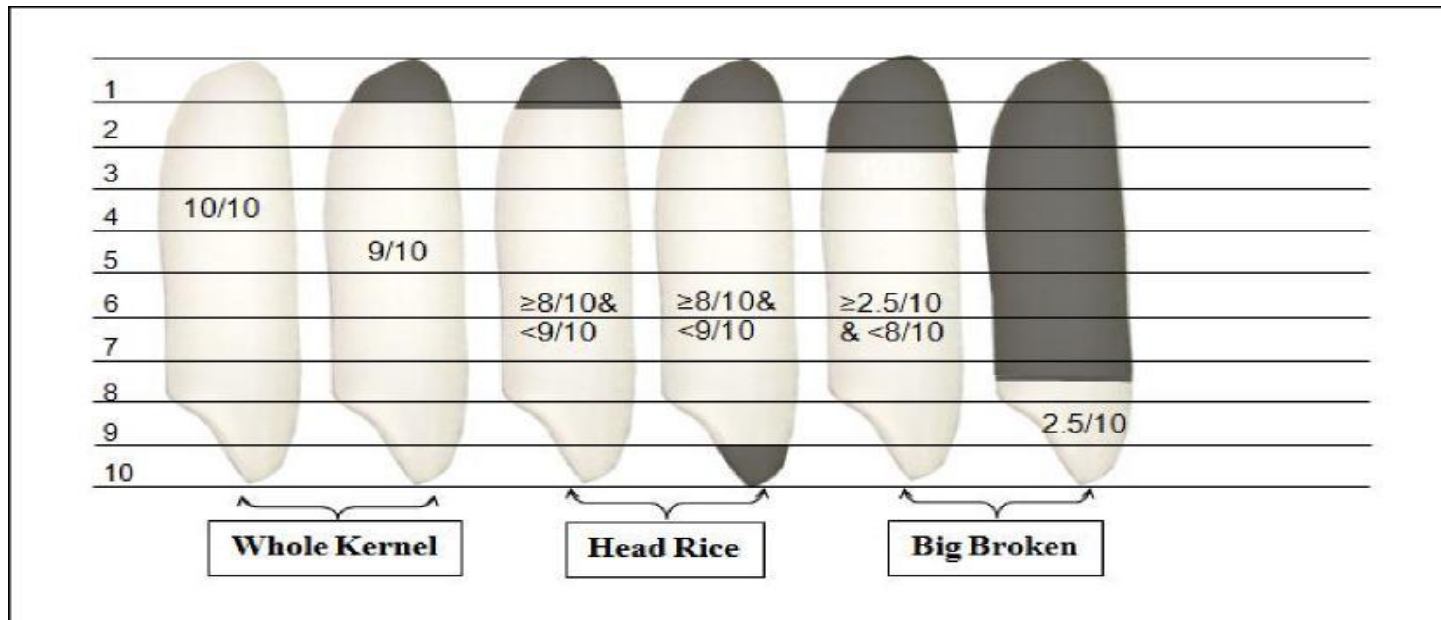
Organic rice: means the produce and products of rice derived from organic rice production system.

GRADES AND TYPES OF MILLED RICE:

1. Extra-long grain: rice kernel that is equal to or longer than 7 mm.
2. Long grain: rice kernel that is longer than 6.6 mm but shorter than 7 mm.
3. Medium grain: rice kernel that is longer than 6.2 mm but equal to or shorter than 6.6 mm.
4. Short grain: rice kernel that is shorter than 6.2 mm.

DEFINITIONS:

1. Chalky kernel: Rice kernel with opaque surface more than 5/10 of the whole kernel.
2. Red kernel: Whole or broken kernel of which more than 3/10 of its surface is red-colored.
3. 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.
4. Immature kernel: Rice kernel, appearing light green as a result of milling immature paddy rice.
5. 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.
6. Moisture content: Percentage of moisture of the rice kernel m14%
7. Extra well milled: Milled rice that has the entire husk, germ and bran layer removed.



8. Whole kernel: Milled rice with no cracked kernel and not shorter than 9/10 of the kernel. (Figure 2.25)
9. Head rice: Milled rice with a length equals to or more than 8/10 but shorter than the whole kernel.
10. Big broken: Fragment of the rice kernel, which is greater than 2.5 portions of whole kernel but shorter than head rice.
11. Small broken: Fragment of the rice kernel, which can pass through a sieve with round perforations of 1.75 mm in diameter.
12. Per cent: percentage by weight.