



Technical Specifications for the manufacture of:

RICE - IRAN

Updates:

- Testing requirements of aflatoxins total

Version: 2

Replacing Version: 1, 2022

Date of issue: 5th July 2022

1. Introduction

This specification applies to milled white **Rice** that WFP purchases for Iran.

2. Definition

Rice: means non-glutinous and glutinous rice (*Oryza sativa* L.) in whatever form.

Paddy: means rice that is not yet dehusked.

Cargo rice: (Loonzain rice, Brown rice, Husked rice) means rice that is dehusked only.

White rice: means rice that is obtained by removing bran from cargo non-glutinous rice.

Part of rice kernels: means each part of the whole kernel that is divided lengthwise in to 10 equal parts.

Yellow kernel: Yellow kernels mean rice kernels that have some parts of the kernels turn yellow obviously. This includes parboiled rice kernels that are light brown partly or wholly.

Chalky kernel: are whole or broken kernels except for glutinous rice, of which at least three-quarters of the surface has an opaque and floury appearance.

Cultivar: is a distinct, uniform and stable collection of plants that form a subset of a species.

Chip: part of a kernel that passes through a laboratory sieve with round springs of 1.4 mm in diameter.

Extraneous matter: anything other than whole or broken rice kernels.

Inorganic extraneous matter: edible and non-edible mineral compounds. Non-edible inorganic extraneous matter include: rock, sand and soil.

Organic extraneous matter: edible and non-edible organic compounds. Edible organic extraneous matter include: bran, non-toxic foreign seeds, flour lumps and other foodstuff.

Immature / malformed kernel: whole kernel, head rice or broken kernel that is immature or malformed and abnormal during growth.

Red kernels: are whole or broken kernels with a red-coloured pericarp covering more than one-quarter of their surface.

Broken kernels: means broken kernels that have the length less than 7.5 parts (or 75.0%) of whole rice kernel. Large broken kernel – a part of a kernel whose length is between $\frac{1}{2}$ and $\frac{3}{4}$ of the average of the test samples. Medium broken kernel – length between $\frac{1}{4}$ to $\frac{1}{2}$. Small – less or equal to $\frac{1}{4}$.

Damaged kernels: mean kernels that are obviously damaged as can be seen by the naked eyes due to moisture, heat, fungi, insects or other.

Heat damaged kernels: whole kernel, head rice or broken kernel whose natural colour changes as a result of heat from microbial reactions.

Waxy kernel: it is a variety of rice whose grains are completely opaque white and almost all of its endosperm starch is from amylopectin and after cooking, it causes adhesion.

Foreign material: means other matter than rice. This includes rice husk and bran detached from rice kernels.

3. Standards and references

Except when specified otherwise in the contract, the product shall comply with latest versions of recognized international standards and best practices and/or guidelines:

- CODEX GENERAL PRINCIPLES OF FOOD HYGIENE INCLUDING ANNEX "HAZARD ANALYSIS AND CRITICAL CONTROL POINT (HACCP) SYSTEM AND GUIDELINES FOR ITS APPLICATION" (CXC 1-1969)
- CODEX GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOOD AND FEED (CXS 193- 1995)
- CODEX STANDARD FOR RICE (CXS 198-1995)
- THAI RICE STANDARDS, 1997
- VIETNAM WHITE RICE STANDARDS, TCVN 5644:2008 AND TCVN 5643:1999
- IRAN STANDARD, INSO /127/2021

4. Product Specifications

4.1 General requirements

The commodity shall meet following quality characteristic requirements:

- Shall be safe and suitable for human consumption.
- Shall be free from abnormal flavours, odours, and living insects.
- Shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.
- Shall be stored under dry, ventilated and hygienic conditions. Only authorized insecticides (e.g. phosphine) may be used for fumigation control. Where needed, fumigation shall be performed by certified operators and as specified in the GAFTA Standard for Fumigation.
- Shall comply with other requirements specified in this document.

4.2 Contaminants

The product shall be free from contaminants in amounts which may represent a hazard to health. The product shall comply with those maximum contaminant limits established by the Codex Alimentarius for this commodity. This includes compliance with Codex General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995) and Codex Maximum Residue Limits for pesticide residues. Additionally, the product shall meet the requirements stated in Table 2.

4.2.1 Toxic or noxious seeds

The commodity shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

– *Crotalaria (Crotalaria spp.)*, Corn cockle (*Agrostemma githago* Linn., *Machai Lallium remulenum* Linn.), Castor bean (*Ricinus communis* L.), Jimson weed (*Datura fastuosa* Linn and *Datura stramonium* Linn.), Mexican Prickly Poppy (*Argemone mexicana*), and other seeds that are commonly recognized as harmful to health.

4.3 Hygiene

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CXC 1-1969), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to these products. To the extent possible in good manufacturing practice, the products shall be free from objectionable matter. When tested by appropriate methods of sampling and examination, the product:

- shall be free from micro-organisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and

- shall not contain any substance originating from micro-organisms in amounts which may represent a hazard to health.

4.4 Fit for human consumption guarantee

Suppliers shall have to check the quality of their products and guarantee that the product is 'fit for human consumption', in line with International Federation of Inspection Agencies requirements.

4.5 Shelf life

As per contract.

5. Packaging and Marking

Food shall be packed in a suitable container complying with the packaging and marking requirements separately available under "4.5 to 90 kg PP woven bag specification with or without PE inner liner" on <http://foodqualityandsafety.wfp.org/specifications>. The applicable packaging is PP woven bag without inner liner.

Weight and quantity tolerance must meet The International Organization of Legal Metrology International Recommendation OIML R 87².

Two percent marked bags (included in the price) requirement: as per contract.

6. Storing

The product shall be stored under dry, ventilated and hygienic conditions and away from direct sunlight.

7. Analytical Requirements

As per contractual agreement, WFP can appoint an inspection company to check that the food matches requirements of this specification. Analytical tests in table 1 are usually utilized, and additional tests might be performed. Suppliers shall follow its own food safety and quality management plan. WFP reserves the rights to change the testing plan at any time.

Table 1: List of compulsory tests and reference method

No	Tests	Requirements	Reference methods (latest versions) ¹
1	Organoleptic quality	Natural odour, colour, bright appearance	ISO 7301
2	Moisture	Max. 13.5 % (m/m)	ISO 7301
3	Red kernels, and red barred	Max. 1.0 % (m/m)	ISO 7301
4	Immature and malformed kernels	Max. 1.0 % (m/m)	ISO 7301
5	Broken kernels- Small kernel	Max. 0.2 % (m/m)	ISO 7301
6	Broken kernels- Medium and large	Max. 4.0% (m/m)	ISO 7301
7	Paddy kernels	Max. 5 units/kg	ISO 7301
8	Heat damaged kernels	Max. 0.5 % (m/m)	ISO 7301

¹ or equivalent validated methods

9	Organic extraneous matter	Max. 0.25 % (m/m)	ISO 7301
10	Inorganic extraneous matter	Max. 0.25 % (m/m)	ISO 7301
11	Brown kernels	Max. 0.2% (m/m)	ISO 7301
12	Chalky kernels	Max. 5 % (m/m)	ISO 7301
13	Waxy kernels	Max. 1 % (m/m)	ISO 7301
14	Chip	Max. 0.1% (m/m)	ISO 7301
15	Other cultivars	Max. 7.0% (m/m)	ISO 7301
16	Live insect	Nil	ISO 7301
17	Arsenic (inorganic)	Max.0.2 ppm	AOAC 986.15
18	Cadmium	Max. 0.4 ppm	AOAC 986.15
19	Lead	Max. 0.2 ppm	AOAC 986.15
20	Ochratoxin A	Max. 5.0 ppb	AOAC 2000.3
21	Average kernel length (only if required)	As per contractual agreement	ISO 7301
22	Aflatoxins Total ²	Max. 20 ppb	ISO 16050

² WFP or any appointed agent/inspection company will take samples of the Commodity from the Seller and will carry out, through a laboratory of its choice, an analysis of the level of Total Aflatoxins contained in the Commodity. The maximum acceptable limit is 20 ppb. Any analysis result above this limit will be binding on the Seller and, as the case may be, will entitle WFP to reject the Commodity before or at the time of delivery, which must then be entirely replaced by the Seller at its own risks and costs. All additional expenses and/or consequences resulting from non-compliance of the Commodity with the aforementioned maximum authorized Total Aflatoxins level will be borne by the Seller.