



Technical Specifications for: WHOLE LENTILS

Version: 2

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Key updates:

- Specification aligned with new template

1. Introduction

Product name (hereafter called the product):

Whole lentils

General description:

This specification applies to the product distributed generically by WFP.

Definitions and other introductory details:

- TOTAL DAMAGED: damaged lentils may be peeled, split, sprouted, distinctly green, frost damaged, distinctly deteriorated or discoloured by weather or disease, insect damaged (excluding those grains decayed with holes), heat damaged or otherwise damaged in a way which materially affects quality. Broken lentil is not included as damaged seeds.
- SEEDS WITH SERIOUS DEFECTS: seeds in which the cotyledons have been affected or attached by pests; seeds with very slight traces of mould or decay; or slight cotyledon staining.
- INSECT DAMAGED (DECAYED): any whole lentil seeds which has been damaged by insects and pests and consequently got decayed and shows holes.
- BROKEN: any lentil seeds which are broken (including split) in any size above 1/3 of one cotyledon.
- FILTH: impurities of animal origin, including dead insects.
- TOXIC-NOXIOUS SEEDS: any seeds which if present in quantities in amount which may have damaging or dangerous effect on health, organoleptic properties or technological performance such as Jimson weed —*Datura* (*D. fastuosa* Linn and *D. stramonium* Linn.) corn cokle (*Agrostemma githago* L., *Machai Lallium remulenum* Linn.) Akra (*Vicia* species), *Argemone mexicana*, Khesari, *Crotolaria* (*Crotolaria* spp.) , Castor bean (*Ricinus communis* L.) ,*Bellardia* spp. (except *Bellardia Trixago*), *Coronopus Didymus*, *Solanum Carolinense*, *Solanum Heterodoxum*, *Solanum Rostratum*, *Striga* spp., and other seeds that are commonly recognized as harmful to health.
- INORGANIC MATTER: includes metallic pieces, shale, glass, dust, sand, gravel, stones, dirt, pebbles, lumps or earth, clay, mud.
- FOREIGN METTER: mineral or organic matter (dust, twigs, seedcoats, seeds of other species, dead insects, fragments, or remains of insects, other impurities of animal origin) other than lentil or part of lentil.
- MOULDY AND SPROUTING SEEDS: lentils are considered sprouted when the seed coat splits, and the primary root emerges from between the cotyledons. Lentils are considered mouldy when visible mycelial growth is seen on their surface and have bad smell.
- OTHER EDIBLE SEEDS (FOREIGN SEEDS): edible seeds from other plants (wheat, barley, corn, chickpeas, peas, etc.).

- IMMATURE SEEDS (WRINKLED/SHRUNK): lentils that are immature which are hard and have wrinkled surface and low water absorbance.
- DISCOLOURED: includes lentils which are distinctly blemished and/or off colour from the characteristic colour of the predominating class.
- OTHER COLOURED SEEDS: all lentil grains whose colour is different than colour of the designated lentil.
- HEAT-DAMAGED: heated-damaged lentils are usually dark tan to black in appearance. If the sample contains lentils with tan-coloured cotyledons and a distinct heated odour, then the grading factors is heated.

The following aspects are as per contract:

- Type of lentils
- Colour of lentils
- Seed size
- GMOs-related requirements
- Shelf-life
- Specific labelling requirements
- Specific product net weight
- Specific packaging type selected from options in applicable packaging specification only
- Radiation requirements

2. Standards

Except when specified otherwise in the contract, the raw materials, the manufacture, testing, packaging and labelling, of the product shall be in strict compliance with the specifications set forth herein, and with the latest edition of the following standards/guidelines (whichever is stricter). Supplier shall not deviate in any way from the specifications without WFP's prior written consent.

Codex Texts can be found in the following webpages:

- Standards: <https://www.fao.org/fao-who-codexalimentarius/codex-texts/list-standards/tr/>;
- Codes of practice: <https://www.fao.org/fao-who-codexalimentarius/codex-texts/codes-of-practice/en/>;
- Guidelines: <https://www.fao.org/fao-who-codexalimentarius/codex-texts/guidelines/tr/>;
- Maximum Residue Limits (MRLs) and Extraneous Maximum Residue Limits (EMRLs) for pesticides: <https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/en/>;
- Additionally, Guidelines of International Commission on Microbiological Specifications for Foods can be found here: <https://www.icmsf.org/publications/books/>.

Applicable Standards

- CODEX GENERAL PRINCIPLES OF FOOD HYGIENE (CXC 1-1969)
- CODEX GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOOD AND FEED (CXS 193-1995)
- CODEX MAXIMUM RESIDUE LIMITS (MRLs) AND CODEX EXTRANEEOUS MAXIMUM RESIDUE LIMITS (EMRLs) FOR PESTICIDES
- RECOMMENDED METHODS OF SAMPLING FOR THE DETERMINATION OF PESTICIDE RESIDUES FOR COMPLIANCE WITH MRLS (CXG 33-1999)
- CODEX STANDARD FOR CERTAIN PULSES (CXS 171-1989)
- Product destined to Syria shall comply with the national Decree # 158 dated 25/4/2017 by Syrian Ministry of Agriculture, including the annexes (e.g. requirements for quarantine and nonquarantine pests and weed seeds).
- Product destined to Sudan shall comply with SDS 4843-2-2015 Legumes Contaminant (Pesticides Residues).

3. Product Specifications

- The product's organoleptic characteristics shall be characteristics of the designated product.
- The product shall meet the testing requirements stated in this document.
- Unless otherwise specified, the product quality shall be uniform and practically free of foreign materials, non-target grains/seeds (especially toxic seeds) and soil residues. This is typically accomplished using validated and maintained mechanical cleaning processes such as sieving, gravity separation, aspiration and others (as appropriate). Using of sorted waste materials and residuals resulting from cargo manipulation/cleaning, which can contain pockets of

concentrated defective products, filth, and/or toxic seeds, is prohibited (e.g., tailings, sweepings, sorted wastes).

- The producer shall be authorized by competent governmental authorities to process products for human consumption and to export. The authorization of export is only required when the producer supplies WFP internationally.
- Unless otherwise specified in the contract, unhusked lentil is required for Syria, husked lentil is required for Yemen.
- GMOs-related requirements shall be as per contract. When non-GMOs or GMOs-free requirements are made in the contract without specifying a maximum limit, the product is considered as acceptable if it contains, consists of or is produced from materials with traces of authorized GMOs in a proportion no higher than 0.9% (if the product is not consisting of a single ingredient the limit shall be applied to each ingredient considered individually), provided that GMOs presence is adventitious or technically unavoidable, in accordance with Regulation (EC) No 1829/2003 (the latest version in force). Operators must be in a position to supply evidence to satisfy the competent authorities that they have taken appropriate steps to avoid the presence of such material. The EU register of authorised GMOs is available at <https://webgate.ec.europa.eu/dyna2/gm-register/>.

4. Product Safety

- The product shall not contain any harmful substances including, but not limited to, micro-organisms, heavy metals, pesticides, mycotoxin, foreign matter or anti-nutritional factors, in amounts that may represent a hazard to health. Where there is no applicable standard available, The Joint FAO/WHO Expert Committee on Food Additives (JECFA) and The European Food Safety Authority (EFSA) evaluations shall be considered for guidance limits.
- Fit for human consumption guarantee: Suppliers shall manage the quality of their product and guarantee that the product is 'fit for human consumption' and in line with TIC Council/IFIA Guidelines*.
- The product shall comply strictly with Codex General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995), Codex Maximum Residue Limits (MRLs) and Codex Extraneous Maximum Residue Limits (EMRLs) for Pesticides and Guidelines of International Commission on Microbiological Specifications for Foods**.
- The product shall be free from toxic or noxious seeds in amounts which may represent a hazard to human health. This includes *Crotalaria* (*Crotalaria* spp.), Corn cockle (*Agrostemma githago* L.), Castor bean (*Ricinus communis* L.), Jimson weed (*Datura* spp.), and other seeds that are commonly recognized as harmful to health. A non-exhaustive list of these seeds can be found in ISO 7970.

Link of references mentioned above:

*http://www.ifia-federation.org/content/wp-content/uploads/Fit_for_Human_Consumption_Bulletin_Rev_4.pdf.

**<https://www.icmsf.org/publications/books/>.

5. Shelf life

- When shelf life is requested in the contract, products shall have a minimum of 80% of shelf-life remaining when presented to WFP for inspection, unless otherwise authorized by WFP.

Shelf-Life Duration: n/a months

6. Packaging and Marking

When a WFP contract requires break-bulk delivery and/or empty packaging to be delivered with food, the product packaging, marking and stuffing of containers shall comply with the following specification:

<https://docs.wfp.org/api/documents/WFP-0000140775/download/>

Templates for packaging artwork are available in the specification above and additional labelling requirements shall be as per contract.

Other information on packaging and labelling:

- The applicable packaging is without PE inner liner, unless otherwise specified in the contract.
- The following sentence shall be labelled in bold letters: "Allergen statement: may contain wheat, soybeans, barley, oats and rye."

7. Technical document requirements

When required, suppliers shall submit a Certificate of Analysis of the final product to WFP, along with other documents for payment. Additionally, suppliers shall provide other technical documents upon request from WFP.

8. Analytical Requirements

Suppliers shall follow their own food safety and quality management plan. WFP can conduct tests on products as per the Table below. Additionally, WFP reserves the rights to change this testing plan at any time.

Any products taken for the purpose of weight check and lab testing (including retention samples) shall be replenished by the suppliers. The shipment quantity shall not be less than the purchased quantity. Where non-destructive inspection is done, suppliers shall close the package or replace it.

In addition to the pre-delivery Q&Q inspection, WFP can also perform prior-assessment (e.g., documentation check, production monitoring, audits, assessment of raw materials, etc.).

Suppliers acknowledge that any prior-assessment by WFP or its designated inspection agents does not constitute a determination whether the specifications for the foods set out in this document or any purchase order (including mandatory technical requirements) have been met. Suppliers will be required to comply with their warranty and other contractual obligations whether or not WFP carries out such prior assessment.

The prior-assessment undertaken by WFP or its designated inspection agents will not substitute for the pre-delivery Q&Q inspection and testing of the goods upon delivery to WFP.

The body of the specification shall be considered in order to verify if any additional requirement is applicable to the specific purchase.

Unless otherwise specified, all analysis requirements refer to the product as sold.

Quantitative Requirements

Test Name	Unit	Min	Max	Reference methods (latest versions) *	Test Type
Aflatoxin B1	ppb	0	2	ISO 16050	Type A
Aflatoxins total (B1+B2+G1+G2)	ppb	0	4	ISO 16050	Type A
Broken seeds	%	0	3	ISO 605	Type A
Cadmium (Cd)	ppm	0	0.1	AOAC 2013.06	Type A
Dead insects (whole or fragment)	%	0	0.02	ISO 605	Type A
Discoloured seeds	%	0	1	Visual examination	Type A
Filth	%	0	0.1	ISO 605	Type A
Seeds from other kinds of lentils	%	0	0.5	Visual inspection	Type A
Immature seeds (wrinkled/shrunk)	%	0	2	ISO 605	Type A
Inorganic matter	%	0	0.2	ISO 605	Type A
Insect damaged seeds	%	0	0.5	ISO 605	Type A
Lead (Pb)	ppm	0	0.1	AOAC 2013.06	Type A
Live insects	%	0	0	ISO 605	Type A
Moisture	%	0	14	ISO 24557	Type A
Mouldy and sprouting seeds	%	0	0	ISO 605	Type A
Other colour seeds (other than discolored seeds)	%	0	2	ISO 605	Type A
Other edible seeds	%	0	0.5	Visual inspection	Type A
Protein (N x 6.25)	%	20	100	ISO 20483	Type A
Seed size (over 3.5mm sieve)	%	80	100	ISO 605	Type A
Seeds with serious defects	%	0	1	Visual inspection	Type A
Total damaged seeds	%	0	2	ISO 605	Type A
Total foreign matter	%	0	0.5	ISO 605	Type A
Toxic-noxious seeds	%	0	0	Visual examination on 3 kg sample	Type A

