



Technical Specifications for MIXED BEANS

This is first specification for Mixed Beans

Version: 1

Date of issue: 09/07/2021

1. SCOPE

This specification applies to **Mixed Beans** purchased and/or distributed by WFP. It specifies requirements for mixed dry common beans (*Phaseolus vulgaris* L.) intended for human consumption.

2. DEFINITIONS

Mixed beans: are dry beans produced from different varieties characterized by difference in colour, shape, size and appearance free from any foreign matter (organic and inorganic), seeds or plant material.

Dry beans are: dry threshed field and garden beans of the variety *Phaseolus vulgaris*.

Damaged beans: are sprouted, frost damaged, heat damaged, deteriorated by insects, distinctly deteriorated or discoloured by weather or by disease, immature, shrivelled.

Insect damaged beans: are any beans grains which have been damaged by insects or pests.

Mouldy beans: are grains with visible mycelial growth on their surface.

Broken beans: are beans in which the cotyledons are separated, one or both cotyledons have been broken.

Split beans are beans without their seed coat, with the two cotyledons separated one from the other.

Sprouted beans: Beans are considered sprouted when the seed coat splits and the primary root emerges from between the cotyledons.

Foreign matter: This consists of organic and inorganic matter other than beans or part of beans.

Inorganic matter: includes metallic pieces, glass, dust, sand, gravel, stones, dirt, pebbles, lumps or earth, clay, mud.

Organic matter: consisting of detached seed coats, straws, weeds and other inedible grains. Will also include dust, twigs, seeds of other species, dead insects, fragments, or remains of insects, other impurities of animal origin)

Filth: impurities of animal origin, including dead insects.

Dead insect: two halves of dead insect are considered as one dead insect.

Poisonous, toxic and/or harmful seeds: any seed 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 cokerel (*Agrostemma githago* L., *Machai Lallium remulenum* Linn.) Akra (*Vicia* species), *Argemone mexicana*, Khesari and other seeds that are commonly recognized as harmful to health.

Other edible grains: other than common bean (*Phaseolus vulgaris*), whole or broken such as maize, sorghum, wheat, etc that are naturally comestible.

Total defective: Rotten and diseased, pest damage, discoloured, heat damaged, sprouted, mouldy, immature and shrivelled, broken.

Food grade material: is packaging material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product.

3. NORMATIVE REFERENCES

Except when specified otherwise in the contract, the product shall comply with the latest versions of the following standards/guidelines, the applicable laws and regulations in the food originating and recipient countries, and other requirements specified in this document (whichever is stricter).

- CODEX STANDARD FOR CERTAIN PULSES GRAINS (CXS 171-1989).
- EAST AFRICA STANDARD, DRY BEANS SPECIFICATION, EAS 46, 2017 RECOMMENDED INTERNATIONAL CODE OF PRACTICE – GENERAL PRINCIPLES OF FOOD HYGIENE (CAC/RCP 1-1969).
- CODEX GENERAL PRINCIPLES OF FOOD HYGIENE (CXC 1-1969)
- RECOMMENDED METHODS OF SAMPLING FOR THE DETERMINATION OF PESTICIDE RESIDUES FOR COMPLIANCE WITH MRLS (CXG 33-1999)

4. PRODUCT SPECIFICATION

General requirements

Mixed beans shall be:

- Dried and mature.
- Well-filled.
- Safe and suitable for human consumption.
- Free from abnormal flours, odours and live insects.
- Mixed beans may contain any number of wholesome varieties blended together.
- 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.

Product Safety

- Shall not contain any harmful substances including micro-organisms, heavy metals, pesticides, mycotoxin, foreign matter, toxic or noxious seeds or anti-nutritional factors, in amounts that may represent a hazard to health.
- Contaminant: Shall comply with Codex General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995) and Codex Maximum Residue Limits for pesticide residues.
- 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.

5. PACKAGING

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>. (Without inner liner for mixed beans).

Weight and quantity tolerance must meet The International Organization of Legal Metrology International Recommendation OIML R 87¹.

¹ OIML R 87 Quantity of commodity in prepackages https://www.oiml.org/en/files/pdf_r/r087-e04.pdf (latest edition)

6. MARKING²

Unless otherwise specified in the contract, the following information should be available on the packaging of the product covered by the provisions of this specification:

- Name of the product as Mixed Beans
- Net content
- Batch number.
- Name and address of the supplier (including country of origin)
- Country of origin
- Crop year
- Date marking (Date packed)
- Not for sale

Additional marking is as per contractual agreement.

7. STORING

The product must be stored under cool, dry, ventilated, hygienic conditions and free from insect infestation and all other sources of contamination.

8. ANALYTICAL REQUIREMENTS

Unless otherwise specified in the contract, the principal tests in table 1 can be performed to check if the quality of product meets above requirements. Additional analyses shall be defined in case of further quality assessment is required.

² Replace marking paragraph of the specification "4.5 to 90 kg PP woven bag specification with or without PE inner liner"

Table 1: List of mandatory tests and reference methods

No	Tests	Requirements	Reference methods (or equivalent- Latest version)
1.	Organoleptic characteristic	Bright and clear appearance, Normal smell and colour	Organoleptic examination
2.	Moisture	MAX. 14.0 %, m/m	ISO 24557
3.	Insect damaged beans	MAX. 1.0 %, m/m	ISO 605
4.	Broken grains	2%, m/m	
5.	Other damaged beans (immature, discoloured, heat damage, mouldy, germinated, rotten and diseased)	MAX. 3.0 %, m/m	
6.	Total defectives	MAX. 4.0%, m/m	
7.	Inorganic matter	MAX. 0.2 %, m/m	
8.	Organic matter	Max 0.1%, m/m	
9.	Filth	MAX. 0.1 %, m/m	
10.	Live insect	Nil	
11.	Other edible grains	MAX. 0.2 %, m/m	
12.	Toxic-noxious seeds	Free	
13.	- Crotonia (Crotonia spp.) - Jimson weed (Datura spp.) - Castor bean (Ricinus communis L.) - Corn cockle (Agrostemma githago L.)	Max. 1 seed per 1kg (each)	
14.	- Mexican Poppy (Argemone mexicana) - Cocklebur (Xanthium species) - Field bindweed (Convolvulus spp.) - Darnel Ryegrass (Lolium temulentum) - Morning glory (Ipomoea purpurea)	Max. 7 seeds per 1kg (each)	
15.	Total aflatoxin (B1+B2+G1+G2)	MAX. 10.0 ppb	ISO 16050
16.	Aflatoxin B1	MAX. 5.0 ppb	
17.	Cooking tests (12-hour soaking)	Max. 90 minutes	Cooking
18.	GMO (<i>only if required</i>)	As per contract	ISO 21570