



Technical Specifications for

WHITE BEANS

Commodity code:

Version: **V16.0**

Date of issue: **22 January 2016**

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This is first generic specification for white beans which replaces all older similar specifications.

1. SCOPE

This specification applies to **White beans** purchased and/or distributed by WFP.

2. DEFINITION

White beans are dry seeds of leguminous plants of Navy beans or Haricot beans, a class of common beans *Phaseolus vulgaris*.

Damaged beans are sprouted, frost damaged, heated, damaged by insects, distinctly deteriorated or discoloured by weather or by disease, or that are otherwise damaged in a way that seriously affects their quality.

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

Mouldy beans are grain with visible mycelial growth on their surface

Broken beans are beans in which the cotyledons are separated or one cotyledon has been broken.

Split beans are beans without their seedcoat, 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 is 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 white beans or part of white beans.

Inorganic matter includes metallic pieces, shale, 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 etc.

Filth: impurities of animal origin, including dead insects.

Dead insect: two half of dead insect are considered at 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 —dhatūra (*D. fastuosa* Linn and *D. stramonium* Linn.) corn cokle (*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 colour grains is defined as all sound white beans grains whose colour is different than colour of designated white beans.

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. REFERENCE

Codex Standard for certain pulses grains (Codex Stan 171-1989, rev. 1-1995).

Canada Grain Commission: Official grain grading guide- 19- Beans, 2015.

(<http://www.grainscanada.gc.ca>).

East Africa standard, dry beans specification, EAS 46, 2013.

4. PRODUCT SPECIFICATION

4.1 General requirements

4.1.1 Toxic or noxious seeds

The product covered by the provisions of this specification 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* L.), Castor bean (*Ricinus communis* L.), Jimson weed (*Datura* spp.), Akra (*Vicia* species), *Argemone mexicana*, Khesari and other seeds that are commonly recognized as harmful to health.

4.1.2 Contaminants

4.1.2.1 Heavy metals

The product shall be free from heavy metals in amounts which may represent a hazard to health.

4.1.2.2 Pesticide residues

The product shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

4.1.2.3 Mycotoxins

The product shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity.

4.1.3 Hygiene

4.1.3.1 It is recommended that the product covered by the provisions of this specification be prepared and handled in accordance with the appropriate sections of the *Recommended International Code of Practice – General Principles of Food Hygiene* (CAC/RCP 1-1969), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to these products.

4.1.3.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

4.1.3.3 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.

4.2 Specific requirements

The product covered by the provision of this specification shall be fresh, free from abnormal flavours, odours, colour and live insects. The product must be fit for human consumption.

The product must also comply with other requirements specified in table 2.

5. PACKAGING

The product covered by the provisions of this specification must be packed in appropriate packaging which safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product. The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

Unless otherwise specified in the contract, the product covered by this specification must be packed in new uniform strong polypropylene (PP) bags. The specific requirements for the bags are:

- Bags made of woven PP are to be given special food grade “ultraviolet” treatment.
- Bags have a heat cut mouth to prevent fibrillation and have sewn single folder bottom.
- Bags must be closed by double stitching with suitable thread.
- Bags must be clean, sound and free from insect, fungal infestation.
- Bags must be new, uniform, strong, fit for export and multiple handing.
- Construction of fabric must be solid to sustain harsh handling.
- Density (grammage): minimum 92 g/square meter (gsm).
- Dimension and weight: must be suitable and fit to the net weight of product. Example for 5 and 50 kg bags is shown in table 1.

Table 1: Packaging 5 and 50 kg bags of white beans

Net weight	PP density (gsm)	Dimension		Weight of a piece (g)
		W (cm)	L (cm)*	
5 kg	92	35	48	33
50 kg	92	55	105	110

* Including on top and folds

The fully packed bags must pass the drop test (after each drop, there shall be no rupture or loss of contents) following the principles of the drop test standard (EN 277, ISO 7965-2 or equivalent) with following sequence:

- Butt dropping: Bag is dropped from a height of 1.20m on the bottom and the top of the bag.
- Flat dropping: Bag is dropped from a height of 1.60m twice on one flat face and twice on the opposite flat face.

Two percent marked bags (included in the price) must be sent with the lot.

Note: For shipping containers, unless otherwise specified in the contract, kraft paper must be adhered to all internal sides, door, and floor of container. Kraft paper also needs to be placed on the top of packaging. Desiccant needs to be placed/laid in container as appropriate location

in order to absorb moisture. Supplier needs to use high quality desiccant and calculate the quantity of desiccant based on:

- *Efficiency of desiccant*
- *Length of time in transit in container*
- *Container capacity*

Supplier needs to provide in the offer the type of desiccant and quantity to be used for the consignment. If silica gel is used, 15 bags of at least 1 kg each must be placed in each 20 feet container.

6. MARKING

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
- Net content
- Name and address of the supplier (including country of origin)
- Crop year

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 contaminations.

8. ANALYTICAL REQUIREMENTS

Unless otherwise specified in the contract, the principal tests in table 2 must be performed in order to check if the quality of product meets above requirements. Additional analyses shall be defined in case of further quality assessment is required.

Table 2: List of 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	Other colour beans	MAX. 2.0 %, m/m	Visual examination
4	Insect damaged beans	MAX. 1.0 %, m/m	ISO 605
5	Other damaged beans (Peeled, split, broken, immature, discoloured. mouldy...)	MAX. 4.0 %, m/m	
6	All damaged beans (Insect damaged grains+ other damaged grains)	MAX. 4.0 %, m/m	
7	Inorganic matter	MAX. 0.2 %, m/m	
8	Filth	MAX. 0.1 %, m/m	
9	Live insect	Nil	
10	Dead insect (whole or fragment)	MAX. 5 insect/kg	
11	Toxic-noxious seeds	Free	
12	Total foreign matter (Organic matter+ Inorganic matter+ Insects+ other impurities of animal origin)	MAX. 1.0 %, m/m	
13	Size of sound beans: ≥ 6 mm diameter	MIN. 90.0 % m/m	
14	Size of sound beans: < 6 mm diameter	MAX. 10.0 % m/m	
15	Total aflatoxin (B1+B2+G1+G2) (<i>only if required</i>)	MAX. 15.0 ppb	ISO 16050
16	Aflatoxin B1 (<i>only if required</i>)	MAX. 5.0 ppb	
17	Varieties (<i>only if required</i>)	As per contractual agreement	ISO 605
18	GMO (<i>only if required</i>)	Negative (< 0.9% of GMO material)	ISO 21570