

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

E-mail: codex@fao.org - www.codexalimentarius.org

STANDARD FOR WHEAT AND DURUM WHEAT

CXS 199-1995

Adopted in 1995. Amended in 2019.

1. SCOPE

This Standard applies to wheat grains and durum wheat grains as defined in Section 2 intended for processing for human consumption. It does not apply to club wheat (*Triticum compactum* Host.), red durum wheat, durum wheat semolina or products derived from wheat.

2. DESCRIPTION

2.1 Wheat is the grains obtained from varieties of the species *Triticum aestivum* L.

2.2 Durum wheat is the grains obtained from varieties of the species *Triticum durum* Desf.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality and safety factors – general

3.1.1 Wheat and durum wheat shall be safe and suitable for processing for human consumption.

3.1.2 Wheat and durum wheat shall be free from abnormal flavours, odours, living insects and mites.

3.2 Quality factors – specific

3.2.1 Moisture content

| | Maximum level |
|-------------|---------------|
| Wheat | 14.5% m/m |
| Durum Wheat | 14.5% m/m |

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage.

3.2.2 Ergot

Sclerotium of the fungus *Claviceps purpurea*

| | Maximum level |
|-------------|---------------|
| Wheat | 0.05% m/m |
| Durum Wheat | 0.5% m/m |

3.2.3 **Extraneous matter** are all organic and inorganic materials other than wheat and durum wheat, broken kernels, other grains and filth.

3.2.3.1 Toxic or noxious seeds

The products covered by the provisions of this Standard 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.), and other seeds that are commonly recognized as harmful to health.

3.2.3.2 Filth

Impurities of animal origin, (including dead insects) 0.1% m/m maximum

3.2.3.3 Other Organic extraneous matter which is defined as organic components other than edible grains of cereals (foreign seeds, stems, etc.):

| | Maximum level |
|-------------|---------------|
| Wheat | 1.5% m/m |
| Durum Wheat | 1.5% m/m |

3.2.3.4 Inorganic extraneous matter which is defined as any inorganic component (stones, dust, etc.):

| | Maximum level |
|-------------|---------------|
| Wheat | 0.05% m/m |
| Durum Wheat | 0.05% m/m |

4. CONTAMINANTS

4.1 Heavy metals

The products covered by the provisions of this Standard shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide residues

Wheat and durum wheat shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

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

5.3 When tested by appropriate methods of sampling and examination, the product, after cleaning and sorting, and before further processing:

- 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, including fungi, in amounts which may represent a hazard to health.

6. PACKAGING

6.1 Wheat and durum wheat shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 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.

6.3 When the product is packaged in sacks, these must be clean, sturdy, and strongly sewn or sealed.

7. LABELLING

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985), the following specific provisions apply:

7.1 Name of the product

The name of the product to be shown on the label shall be "wheat" or "durum wheat" as applicable.

7.2 Labelling of non-retail containers

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

For checking the compliance with this standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999) relevant to the provisions in this standard, shall be used.

ANNEX

In those instances where more than one factor limit and/or method of analysis is given it is strongly recommended that users specify the appropriate limit and method of analysis.

| Factor/Description | Limit | | Method of analysis |
|--|-----------------|-----------------|---|
| | Wheat | Durum Wheat | |
| 1. Minimum test weight: the weight of a hundred litre volume expressed in kilograms per hectolitre. | 68 | 70 | The test weight shall be the weight per ISO 7971-1986 expressed in kilograms per hectolitre as determined on a test portion of the original sample. |
| 2. Shrunken and broken kernels: broken or shrunken wheat or durum wheat which will pass through a 1.7 mm x 20 oblong-holed metal sieve for wheat and through a 1.9 mm x 20 oblong-holed metal sieve for durum wheat. | 5.0% m/m max | 6.0% m/m max | ISO 5223-1983 "Test sieves for cereals". |
| 3. Edible Grains other than wheat and durum wheat (whole or identifiably broken) | 2.0% m/m max | 3.0% m/m max | ISO 7970-1987: (Annex C) |
| 4. Damaged kernels (including pieces of kernels that show visible deterioration due to moisture, weather, disease, mould, heating, fermentation, sprouting, or other causes.) | 6.0% m/m max | 4.0% m/m max | ISO 7970-1987: (Annex C) |
| 5. Insect bored kernels: kernels which have been visibly bored or tunnelled by insects | 1.5% m/m | 2.5% m/m | To be developed |