



**SLOVENSKI STANDARD**  
**SIST ISO 7970:2013**

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**Pšenica (*Triticum aestivum* L.) - Specifikacija**

Wheat (*Triticum aestivum* L.) - Specification

**iTeh STANDARD PREVIEW**  
Blé tendre (*Triticum aestivum* L.) - Spécifications  
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**ICS:**

67.060	Žita, stročnice in proizvodi iz njih	Cereals, pulses and derived products
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**SIST ISO 7970:2013**

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# INTERNATIONAL STANDARD

**ISO  
7970**

Third edition  
2011-11-01

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## **Wheat (*Triticum aestivum* L.) — Specification**

*Blé tendre (Triticum aestivum L.) — Spécifications*

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## ISO 7970:2011(E)

**Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 7970 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 4, *Cereals and pulses*.

This third edition cancels and replaces the second edition (ISO 7970:2000), which has been technically revised.

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# Wheat (*Triticum aestivum* L.) — Specification

## 1 Scope

This International Standard establishes minimum specifications for wheat (*Triticum aestivum* L.) intended for human consumption and which is the subject of international trade.

## 2 Normative references

The following normative documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of referenced document (including any amendments) applies.

ISO 712, *Cereals and cereal products — Determination of moisture content — Reference method*

ISO 3093, *Wheat, rye and their flours, durum wheat and durum wheat semolina — Determination of the falling number according to Hagberg-Perten*

ISO 6639-3, *Cereals and pulses — Determination of hidden insect infestation — Part 3: Reference method*

ISO 6639-4, *Cereals and pulses — Determination of hidden insect infestation — Part 4: Rapid methods*

ISO 7971-1, *Cereals — Determination of bulk density, called mass per hectolitre — Part 1: Reference method*

ISO 7971-3, *Cereals — Determination of bulk density, called mass per hectolitre — Part 3: Routine method*

ISO 24333, *Cereals and cereal products — Sampling*  
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## 3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

### 3.1

#### impurities

all the elements which are conventionally considered as undesirable in a sample or batch of cereals

[ISO 5527:1995<sup>[5]</sup>, 1.4]

NOTE In wheat, impurities comprise four main categories: damaged wheat grains (3.1.1), other cereals (3.1.2), extraneous matter (3.1.3), and harmful and/or toxic matter (3.1.4). (See also Table C.1.)

#### 3.1.1

##### damaged wheat grains

all the matter of a sample of grain other than the basic cereal which comprises the following fractions: broken grains, wheat of decreased value, grains attacked by pests, unsound grains and sprouted grains

##### 3.1.1.1

###### broken grains

grains in which part of the endosperm is exposed, or grains without germ

[ISO 5527:1995<sup>[5]</sup>, 1.4.9]

##### 3.1.1.2

###### wheat of decreased value

grains, not fully developed or with discoloration in germ and its surrounding area, which are less valuable in end-use performance due to external factors

**ISO 7970:2011(E)****3.1.1.2.1****shrivelled grains****shrunken grains**

grains which are poorly filled, light and thin, whose build-up of reserves has been halted due to physiological or pathological factors

[ISO 5527:1995<sup>[5]</sup>, 1.4.7]

**3.1.1.2.2****immature grains**

grains which are unripe and/or badly developed

**3.1.1.2.3****black point grains**

grains have a distinct dark brown or black discoloration of the whole germ and surrounding area

**3.1.1.3****grains attacked by pests**

grains which show damage owing to attack by rodents, insects, mites or other pests

NOTE Adapted from ISO 11051:1994<sup>[6]</sup>, 3.2.4.

**3.1.1.4****unsound grains**

grains with certain degree of discoloration on surface of the kernel which may be caused by microorganisms or abnormal heating

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**3.1.1.4.1****mouldy grains**

grains which have moulds visible to the naked eye on 50 % of the surface and/or in the kernel

[ISO 11051:1994<sup>[6]</sup>, 3.2.3.1] <https://standards.iteh.ai/catalog/standards/sist/80c0135e-e0a7-4f4d-9b84-25c5ae6fb8dc/sist-iso-7970-2013>

**3.1.1.4.2****heat-damaged grains**

grain whose external appearance has been changed or which have undergone modifications of functional properties due to spontaneous heating or drying at an excessively high temperature

[ISO 5527:1995<sup>[5]</sup>, 1.4.10]

**3.1.1.5****sprouted grains**

grains in which the radicle or plumule is clearly visible to the naked eye

NOTE Sprouted grains are not taken into account as such, but according to the  $\alpha$ -amylase activity which results from their presence and which is expressed as the falling number (see 4.3.4).

**3.1.2****other cereals**

grains belonging to cereal species other than the main cereal in the sample or batch under consideration

[ISO 5527:1995<sup>[5]</sup>, 1.4.1]

NOTE For the purposes of this International Standard, the "main cereal" is wheat (*Triticum aestivum* L.)

**3.1.3****extraneous matter**

fraction consisting of inorganic extraneous matter and organic extraneous matter



**3.1.3.1****inorganic extraneous matter**

stones, glass, pieces of soil and other mineral matter from the fraction retained by a sieve with long rounded apertures 3,55 mm wide and from the fraction retained by a sieve with long rounded apertures 1,00 mm wide and all the components which pass through a sieve with long rounded apertures 1,00 mm wide (by convention, the latter are considered to be inorganic)

**3.1.3.2****organic extraneous matter**

any animal or plant matter other than grains of wheat, damaged wheat grains (3.1.1), other grains (3.1.2), inorganic extraneous matter (3.1.3.1) and harmful and/or toxic matter (3.1.4)

**3.1.4****harmful matter****toxic matter**

any substances in wheat bulk that can have a damaging or dangerous effect on health

**3.1.4.1****harmful seeds**

seeds which, if present in quantities above a certain limit, can have a damaging or dangerous effect on health, sensory properties or technological performance

NOTE An indicative list of these seeds is given in Annex A.

**3.1.4.2****bunted grains**

fungal structures which approximate the shape of normal grain, filled with fetid-smelling spores of the bunts *Tilletia caries*, *Tilletia controversa*, *Tilletia foetida*, *Tilletia intermedia*, *Tilletia triticooides*, *Neovossia indica*

NOTE Adapted from ISO 5527:1995<sup>[5]</sup>, 1.4.12.

**3.1.4.3****Fusarium damaged grains**

grains typically characterized by thin or shrunken chalk-like kernels caused by *Fusarium* head blight

**3.1.4.4****rotten grains**

grains which are discolored, swollen and soft as a result of decomposition by fungi or bacteria

**3.1.4.5****ergot**

sclerotium of the fungus *Claviceps purpurea*

[ISO 11051:1994<sup>[6]</sup>, 3.7]

**4 Requirements****4.1 General characteristics and sensory properties**

Wheat grains shall be sound, clean, and have no foreign odours or odours indicating any deterioration.

**4.2 Health characteristics**

**4.2.1** Wheat grains shall not contain added compounds, heavy metals, mycotoxins, pesticides residues or other contaminants which can affect human health. The maximum levels authorized are laid down by national regulation, or the joint FAO/WHO Codex Alimentarius Commission (see References [7] to [14]).

**4.2.2** Wheat shall be free from the living insects listed in Annex B, when determined in accordance with ISO 6639-3 or ISO 6639-4, and of mites when determined by the sieving method.