## International Standard



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## Green coffee in bags — Guide to storage and transport

Café vert en sacs - Guide pour le stockage et le transport

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#### **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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting: TANDARD PREVIEW

International Standard ISO 8455 was prepared by Technical Committee ISO/TC 34, Agricultural food products.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other international Standard implies its -1317-40b2-ad21-latest edition, unless otherwise stated.

## Green coffee in bags — Guide to storage and transport

#### 0 Introduction

This International Standard provides guidance to all who are associated with the storage and transportation of green coffee.

The production, storage and international transport of green coffee all occur under vastly varying ecological, physical and climatic conditions. No precise criteria for storage and transport of green coffee can be universally applicable under those circumstances, but there are certain basic practices and procedures for minimizing the risks of infestation, contamination and quality deterioration which can be made to apply, whatever conditions prevail.

Application of the guidelines contained in this International Standard should (standards.

- enable waste to be avoided in storage;
- achieve satisfactory storage in most cases atalog/standards/
- help assure the compliance of exported green coffee with the laws and regulations pertaining to food supplies in the green coffee importing nations;
- help assure the green coffee product quality required by green coffee consumers.

#### 1 Scope and field of application

This International Standard gives general guidance on the conditions for minimizing the risks of infestation, contamination and quality deterioration of green coffee packaged in bags and which is the subject of international commerce, from the time of its bagging for export until the time of its arrival in the importing country.

#### 2 References

ISO 1447, Green coffee — Determination of moisture content (Routine method).

ISO 3509, Coffee and its products - Vocabulary.

ISO 4072, Green coffee in bags - Sampling.

ISO 4149, Green coffee — Olfactory and visual examination and determination of foreign matter and defects.

ISO 6666, Coffee triers.

ISO 6667, Green coffee — Determination of proportion of insect-damaged beans.

ISO 6673, Green coffee - Determination of loss in mass at 105 °C.

#### 3 Definitions

For the purpose of this International Standard, the definitions of ISO 3509 apply.

#### 4 Conditions of putting into storage

### 4.1 Quality characteristics for storage

- 4.1.1 Green coffee before bagging should be free from signs of insect infestation, rodent contamination, mould and other contamination (see ISO 4149 and ISO 6667 as necessary). Coffee beans should be sufficiently dry so as not to be unnecessarily vulnerable to subsequent moulding, yet not so dry as to cause unnecessary bean breakage. If necessary, determine the moisture content in accordance with ISO 1447 or ISO 6673.
- **4.1.2** The bags in which the green coffee is stored should be inspected before use to assure that they are odour free, free from signs of insect infestation, rodent contamination and other contamination, and physically sound.

#### 4.2 Putting bagged green coffee into storage

- 4.2.1 Green coffee intended for storage after being bagged for export should be moved with minimum delay to well-ventilated, well-maintained storage areas or facilities. The air temperatures and the relative humidities surrounding bagged coffee in store should be sufficiently constant and low enough (as determined by practical experience) to ensure that the original quality of the bagged coffee is preserved throughout the duration of storage.
- **4.2.2** During inland transport to and from storage facilities, the bagged green coffee should be protectively covered to prevent stray contamination and weather damage.
- **4.2.3** All inland transport vehicles should be inspected by a person in authority before loading green coffee to assure that they are in a sanitary condition, defined as the absence of filth (fragments of insects, hair of rodents, etc.), mould, chemical contamination or other contamination.

#### 5 Conditions for storage

## 5.1 Exterior (surrounding grounds) of storage facilities

- **5.1.1** Spills should be cleaned up promptly.
- **5.1.2** Waste, dunnage, and refuse should be removed promptly.
- **5.1.3** Equipment should be stored in a manner so as not to provide harborage for rodents, insects, or birds.
- **5.1.4** There should be no poor drainage areas which could provide a breeding place for insects or other pests.
- **5.1.5** There should be a pest-control programme for the surrounding grounds and regular inspections of the area. A recognized pest-control agency should be employed.
- **5.1.6** Hard surface areas should be kept in a broom-clean condition.

- **5.3.2** No bagged coffee should be in direct contact with the flooring; pallets or other separating devices that are used should be clean and dry throughout.
- **5.3.3** Storage of green coffee next to or in the area of potentially contaminating cargo (for example chemicals, odorous or dusty materials, green coffee triage, other commodities that might possibly be infested), should be avoided.
- **5.3.4** Storage near openings subject to effects of the weather should be avoided.
- **5.3.5** Bagged coffee and reserve pallets should be maintained in a clean condition and, if necessary, protectively covered. Covering practices and cover materials which restrict bagged coffee's ventilation or would adversely affect the coffee's quality should be avoided.
- **5.3.6** Bagged coffee in store should be sampled (see ISO 4072 and ISO 6666) and regularly inspected for evidence of damage or quality deterioration (see ISO 4149 and ISO 6667 as necessary).

## 5.2 Interior (buildings) of storage facilities ANDARD

- **5.2.1** Buildings should be structurally sound, free of leaks, rodent-proof and bird-proof.
- **5.2.2** All pipes that are subject to condensation should be standadequately insulated.

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- **5.2.3** Buildings should be kept in a broom-clean condition; there should be a clean-up programme both for spills and for routine cleaning to avoid accumulation of dirt and debris on the floor.
- **5.2.4** Cargo spillage should be removed immediately.
- **5.2.5** Rubbish should be removed and disposed of properly.
- **5.2.6** An adequate bird, rodent, insect and other pest-control programme should be maintained, supervised by a recognized pest-control agency.
- **5.2.7** There should be regular inspection of buildings in support of the clean-up programme, by a person in authority.
- **5.2.8** Any toilet facilities should be separated from the coffee storage area, totally enclosed and maintained in a sanitary condition.

#### 5.3 Storage and handling

**5.3.1** Bagged green coffee should be stored well away from outside walls, at least by a distance which allows inspection and sanitary maintenance of the floor space between the coffee and walls.

### 6 Conditions of maritime transit

#### 6.1 Ports of embarkation and disembarkation

- 6.1.1 The time during which bagged green coffee loaded onto vehicles or into freight containers is awaiting transfer to a ship should be kept to a minimum, and loaded vehicles or containers should be kept in the shade where possible. Light-coloured protective coverings should be used to minimize increases of the temperature of the coffee beans while awaiting transfer of bagged coffee from vehicle to ship.
  - **6.1.2** Green coffee should not be loaded into leaky, odorous, or unsanitary containers, nor into containers whose ceilings, walls or floor are wet or show sign of dampness. They should be inspected by a person in authority before being loaded.

Containers used to carry green coffee from tropical to temperate zones should be of the ventilated type, preferably those designed for such a purpose.

- **6.1.3** During loading and discharging of green coffee cargo it should be protected from potentially contaminating cargo.
- **6.1.4** Green coffee in bags should not be placed on an unclean or contaminated wharf surface.

#### 6.2 Maritime transport

- 6.2.1 Ships' holds should be clean prior to loading.
- **6.2.2** Only clean, dry pallets or Marino-type slings should be used if cargo is unitized. Rope-type slings, when used, should be clean.
- 6.2.3 Green coffee cargo should be protected from salt-water damage and ship sweat. Stowage of green coffee next to, or in

the area of, potentially contaminating cargo (for example chemicals, odorous or dusty materials, green coffee triage or other commodities that might possibly be infested) should be avoided.

**6.2.4** An adequate pest-control programme should be maintained.

**6.2.5** Bagged green coffee, whether containerized or not, should be stowed below deck in ventilated holds well away from heated or refrigerated areas.

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