
INTERNATIONAL STANDARD**1673**

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Onions – Guide to storage

Oignons – Guide pour l'entreposage

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 1673 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in February 1977.

It has been approved by the member bodies of the following countries :

| | | |
|---------------------|----------------|-----------------------|
| Austria | Ireland | Romania |
| Czechoslovakia | Israel | South Africa, Rep. of |
| Egypt, Arab Rep. of | Korea, Rep. of | Thailand |
| France | Mexico | Turkey |
| Ghana | Netherlands | U.S.A. |
| Hungary | Poland | Yugoslavia |
| India | Portugal | |

The member body of the following country expressed disapproval of the document on technical grounds :

Australia

Onions — Guide to storage

1 SCOPE AND FIELD OF APPLICATION

This International Standard describes methods for obtaining conditions for the successful keeping, with or without the use of artificial refrigeration, of onions of the species *Allium cepa* Linnaeus, intended for direct consumption.

The limits of application of this guide are given in the annex.

Attention is also drawn to the document AGRI/WP.1/EUR.STAN.4 (see clause 2).

2 REFERENCES

ISO 2169, *Fruits and vegetables — Physical conditions in cold stores — Definitions and measurement.*

AGRI/WP.1/EUR.STAN.4, *Onions* — European Standard recommended by the Working Group "Standardization of perishable products" of the United Nations Economic Commission for Europe.

3 CONDITIONS OF HARVESTING AND PUTTING INTO STORE

3.1 Cultivars

For storage it is necessary to choose onions of cultivars recognized as well suited for keeping.

NOTE — Onions of late cultivars are generally chosen.

3.2 Harvesting

The moment of harvesting is decided on the basis of the degree of drying out of the green leaves (approximately 50 %). The onions should be harvested in such a way that they are neither bruised nor otherwise damaged.

3.3 Quality characteristics for storage

The onions should be sound, whole, with closed necks, firm, mature, and undamaged by frost. The first two outer scales, the neck, base plate and rootlets should be

sufficiently dry (see 3.4). The onions shall be free from foreign odour and flavour.

Double or triple bulbs are not desirable for storage.

3.4 Various treatments before storage

Before storage, irrespective of the technique which is to be employed (natural cooling or artificial refrigeration), it is necessary to dry out the bulbs, to rid them not only of their excess moisture on the outside but also of the moisture of the inner scales, of the rootlets, etc.

If natural drying is not possible, a suitable method of artificial drying should be used, for example exposure to a current of air for a period of two days up to a maximum of seven days, depending on the moisture level. The air temperature may be from 25 °C up to a maximum of 38 °C, and the relative humidity, if possible, shall be 60 %. The rate of air flow may be from 2 to 8 m³/min per cubic metre. The relative humidity depends mainly on outside conditions. The drying has been satisfactorily carried out when the moisture level of the scales reaches 12 to 14 %.

To avoid risk of damage to the onions in transport, it is recommended that drying be carried out at the place where they are to be stored, in a room specially equipped to carry out this treatment.

3.5 Putting into store

The onions should be put into store as soon as possible after drying, if this has not been carried out in the store.

3.6 Method of storage

The onions may be stored in bulk, in box pallets, in crates or sacks, or in containers.

In the case of storage in bulk, if no way of avoiding the crushing of the bottom layers by the top ones is used, and in the case of storage in sacks, when these are stacked without using box pallets, the maximum storage level should be 2,5 to 4 m (depending on the resistance of the bulbs to crushing).

Storage of onions with other agricultural food products which readily absorb odours is not recommended.