

CUMIN SEEDS

SCOPE

This Sudanese standard applies uncrushed green cumin seeds, and this does not apply to other products

DEFINITIONS

Cumin seeds refer to the ripe and dried green cumin seed obtained from the cumin plant (*Cuminum L. cuminum*), apiaceae (Umbelliferae) family

DESCRIPTION

It is made up of two elongated lobes that are divided with their presence connected, their dimensions according to their origin; 3-6 mm in length and 3 mm in width. Its color ranges from green to greenish-brown or yellowish-gray. Each cotyledon is made up of four smaller and wider secondary sides

ANATOMICAL DESCRIPTION

- The secondary ribs of the cumin fruit from the cotyledon are characterized by the presence of abundant numbers of multicellular and rows of coarse-textured filaments with tapered ends called stray hairs, each of which ranges between 200 – 120 microns in length, and the outer seed skin contains many stomata
- The vascular bundles that extend into the major rib regions are accompanied by a very limited amount of fibers, and on the outer side of each there is a small oil channel
- In the middle of the seed crust, beneath the main ribs small clusters of stone ascorbids, vertically extended, with thick and furrowed walls. The oil channels extend in the tangential direction, each with a width of 300 microns. Their contents are clear as wide strips of oily resin. The secretory cells in these oil ducts are characterized by being multifaceted, and their broad side is characterized by a very accurate grafting system
- The cells of the cross-layer of the inner seed region are narrow, with a height ranging from 8- 12 microns with thick and straight crust. These cells at the upper end of the fruit appear to be arranged, somewhat, or micronized, to fill, and on the middle plate is rather wide
- The endosperm cells contain a stable oil and aleron granules, each of which stores a number between 1 - 3 stellate calcium oxalate crystals

REQUIREMENTS

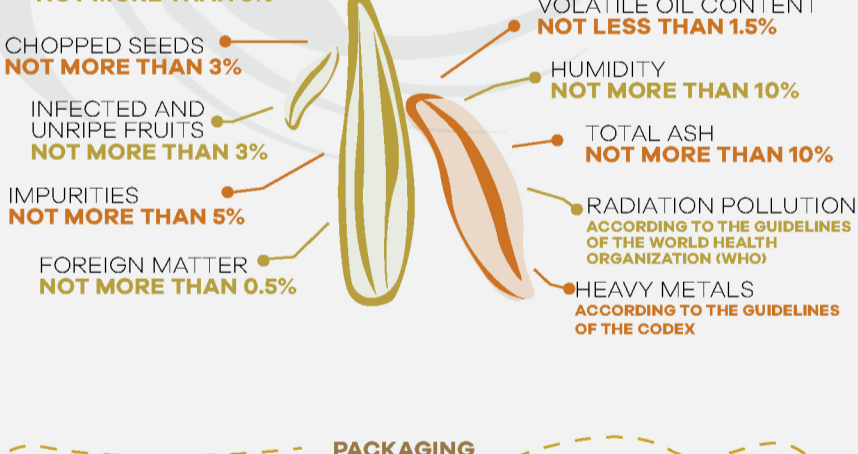
GENERAL REQUIREMENTS:

The green cumin seeds must meet the following requirements:

- It should have a distinct aromatic flavor
- It shall be Clean and free from foreign odor and colors
- It shall be free from insects and their all stages, rodents and their residues filth.
- It should be free of fungi and Escherichia coli and salmonella bacteria.
- It shall be free from pesticide residues, fertilizers and harmful chemicals.
- It shall be free from pollutants and mycotoxins such as aflatoxins.
- It shall be clean and free from foreign matter.
- It shall be free from insect infestations.
- It shall be free from caking and traces of mold

TECHNICAL REQUIREMENTS

The cumin seeds must meet the following requirements



PACKAGING

Pack the green cumin seeds in suitable packages by the recommended material for packing the product that's keep it's properties and doesn't affect it or be affected by it.

It should be clean, dry and sealed.

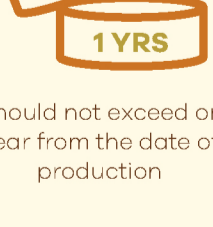
The product identification label must clarify the handling and storage conditions

LABELLING

Should be clear and indicates

NAME OF CROP CUMIN SEEDS	DATE OF PRODUCTION & EXPIRATION (MONTH/YEAR) DATE	COUNTRY OF ORIGIN	NET WEIGHT (KG) KG
NET PACKAGING IN METRIC SYSTEM	THE NAME OF THE PRODUCER, PACKER OR DISTRIBUTOR AND HIS ADDRESS OR TRADEMARK TRADEMARK	THE CODE NUMBER, IF ANY	CLEAR AND IRREMOVABLE WRITING

SHELF LIFE



It should not exceed one year from the date of production

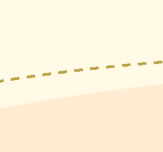
SAMPLING

Samples are taken according to the Arab Standard No. (307) Spices and Spices

TESTING

All necessary tests for AOAC shall be carried out on the sample taken in accordance with Article (10) and approved upon the Sudanese Standards and Metrology Organization to conduct examination and testing

STORAGE



Cumin seeds are stored in a clean, low-moisture and low temperature degree place, protected from light and dust

REFERENCES

- ICS:17.22.1. المواصفة القياسية السورية م ق س 307/2010 م الكمنون الكامل والمطحون
- د. عرفه أحمد عرفه : (مورفولوجيا نباتات التوابل) المكتبة العصرية – المنصورة 2004م.
- International Standard (ISO 6465). Cumin (*Cuminum cyminum* L.) Specification, second edition 2009-07-01.
- British herbal pharmacopoeia. Exeter, British herbal Medicine Association, 1996.
- European pharmacopoeia 3rd ed. Strabourg, Council of Europe, 1996.
- WHO monographs on selected medicinal plants, containing 28 monographs, 1999, Volume 2.