



# CUMIN PROCESSING

## Introduction

Cumin is a small annual herbaceous plant (*Cuminum cyminum*) that is a member of the parsley family (*Umbelliferae*). It is a native of the Eastern Mediterranean countries and Upper Egypt, but is now cultivated in Morocco, Iran, Turkey, India, China and the Americas. The seeds of the plant are used to add flavour to spicy dishes. They are also used as an appetite stimulant and to ease several stomach disorders.

This brief outlines the important steps that should be taken pre-harvest and post-harvest to ensure that the dried cumin is of top quality for the market.



Figure 1: Cumin seed.  
Photo Practical Action / Neil Noble

## Types of cumin

There are two main types of cumin:

- White cumin seeds which are the most common type.
- Black cumin seeds that are popular in Iran. The seeds of black cumin are smaller and have a sweeter aroma than the white seeds. They are sometimes confused with nigella, another seed that is used in Indian cookery.

They both come from the *Umbelliferae* family of plants.

## Cumin production

Cumin is an annual herb that grows best in sunny climates with some rainfall (over 2000mm a year). It can grow at elevations up to 1000m above sea level. The plants grow to about 25cm in height. They should be planted at intervals of about 0.75m. The small white or pink flowers grow in clusters on short stems, looking like small umbrellas.

## Harvesting

The seeds are harvested about 4 months after planting when the plant begins to wither and the seeds change from dark green to a brown-yellow colour. The seed is small and boat shaped with nine ridges along the length. The seeds are harvested by removing the whole plant from the ground.

## Drying

The plants are dried in the sun or in the partial sun

## Threshing and winnowing

The cumin seeds are beaten out by threshing the dried plants with sticks. The seeds are then further dried to 10% moisture content, either by placing on mats or trays in the sun or by using a drier if the conditions are too humid. The dried seeds are winnowed using a traditional winnowing basket to remove the dirt, dust, leaves and twigs.

## Grinding

Grinding can be a method of adding value to a product. However, it is not advisable to grind spices. After grinding, spices are more vulnerable to spoilage. The flavour and aroma compounds are not stable and will quickly disappear from ground products. The storage life of ground spices is much less than for the whole spices. It is very difficult for the consumer to judge the quality of a ground spice. It is also very easy for unscrupulous processors to contaminate the ground spice by adding other material. Therefore most consumers, from wholesalers to individual customers, prefer to buy whole spices.

Cumin seeds are available as whole seeds and ground powder.

## Packaging

Cumin seeds can be packaged in polythene bags of various sizes according to the market demand. The bags should be sealed to prevent moisture entering. Sealing machines can be used to seal the bags. Attractive labels should be applied to the products. The label needs to contain all relevant product and legal information – the name of the product, brand name (if appropriate), details of the manufacturer (name and address), date of manufacture, expiry date, weight of the contents, added ingredients (if relevant) plus any other information that the country of origin and of import may require (a barcode, producer code and packer code are all extra information that is required in some countries to help trace the product back to its origin).

See the Practical Action Technical Brief on labelling for further information on labelling requirements.

## Storage

Dried cumin seeds must be stored in moisture-proof containers away from direct sunlight. The stored seeds should be inspected regularly for signs of spoilage or moisture. If they have absorbed moisture, they should be re-dried to a moisture content of 10%.

The storage room should be clean, dry, cool and free from pests. Mosquito netting should be fitted on the windows to prevent pests and insects from entering the room. Strong smelling foods, detergents and paints should not be stored in the same room as they will spoil the delicate aroma and flavour of the cumin.

## Standards

The Indian standard for dried cumin is as follows:

|                                    | Special | Standard | General |
|------------------------------------|---------|----------|---------|
| Moisture (%) (wet basis)           | <10     | <10      | <10     |
| Damaged seeds (% by weight)        | 2       | 4        | 6       |
| Extraneous matter (% by weight)    | 2       | 5        | 7       |
| Shrivelled, immature (% by weight) | 1.5     | 3.0      | 4.0     |

## Equipment suppliers

This is a selective list of suppliers of equipment and does not imply endorsement by Practical Action.

This website includes lists of companies in India who supply food processing equipment.

[http://www.niir.org/directory/tag/z,,1b\\_0\\_32/fruit+processing/index.html](http://www.niir.org/directory/tag/z,,1b_0_32/fruit+processing/index.html)

## Dryers

### Acufil Machines

S. F. No. 120/2, Kalapatty Post Office  
Coimbatore - 641 035  
Tamil Nadu  
India  
Tel: +91 422 2666108/2669909  
Fax: +91 422 2666255  
Email: [acufilmachines@yahoo.co.in](mailto:acufilmachines@yahoo.co.in)  
[acufilmachines@hotmail.com](mailto:acufilmachines@hotmail.com)  
<http://www.indiamart.com/acufilmachines/#products>

### Bombay Engineering Works

1 Navyug Industrial Estate  
185 Tokersey Jivraj Road  
Opposite Swan Mill, Sewree (W)  
Mumbai 400015  
India  
Tel: +91 22 24137094/24135959  
Fax: +91 22 24135828  
[bomeng@vsnl.com](mailto:bomeng@vsnl.com)  
<http://www.bombayengg.com/contact.html>

### Premium Engineers Pvt Ltd

Plot No 2009, Phase IV, GIDC  
Vatva, Ahmedabad 382445  
India  
Tel: +91 79 25830836  
Fax: +91 79 25830965

### Rank and Company

A-p6/3, Wazirpur Industrial Estate  
Delhi – 110 052  
India  
Tel: +91 11 7456101/ 27456102  
Fax: +91 11 7234126/7433905  
[Rank@poboxes.com](mailto:Rank@poboxes.com)

### Industrias Technologicas Dinamicas SA

Av. Los Platinos 228  
URB industrial Infantas  
Los Olivios  
Lima  
Peru  
Tel: +51 14 528 9731  
Fax: +51 14 528 1579

### Ashoka Industries

Kirama  
Walgammulla  
Sri Lanka  
+94 71 764725

### Kundasala Engineers

Digana Road  
Kundasala  
Kandy  
Sri Lanka  
Tel: +94 8 420482

### Alvan Blanch

Chelworth, Malmesbury  
Wiltshire  
SN16 9SG  
UK  
Tel: +44 1666 577333  
Fax: +44 1666 577339  
[enquiries@alvanblanch.co.uk](mailto:enquiries@alvanblanch.co.uk)  
[www.alvanblanch.co.uk](http://www.alvanblanch.co.uk)

### Mitchell Dryers Ltd

Denton Holme, Carlisle  
Cumbria  
CA2 5DU  
UK  
Tel: +44 1228 534433  
Fax: +44 1228 633555  
[webinfo@mitchell-dryers.co.uk](mailto:webinfo@mitchell-dryers.co.uk)  
<http://www.mitchell-dryers.co.uk/>

## Packaging and labelling machines

### [Acufil Machines](#)

India (See above)

### Gardners Corporation

158 Golf Links  
New Delhi 110003  
India  
Tel: +91 11 3344287/3363640  
Fax: +91 11 3717179

### Gurdeep Packaging Machines

Harichand Mill compound  
LBS Marg, Vikhroli  
Mumbai 400 079  
India  
Tel: +91 22 2578 3521/577 5846/579  
5982  
Fax: +91 22 2577 2846

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Mumbai  
India  
Tel: +91 22 2344 2902  
Fax: +91 22 2345 2532  
[yusufs@vsnl.com](mailto:yusufs@vsnl.com); [mmmb@vsnl.com](mailto:mmmb@vsnl.com);  
[yusuf@mmb.in](mailto:yusuf@mmb.in)

**Narangs Corporation**

India  
P-25 Connaught Place  
New Delhi 110 001  
India  
Tel: +91 11 2336 3547  
Fax: +91 11 2374 6705

**Orbit Equipments Pvt Ltd**

175 - B, Plassy Lane  
Bowenpally  
Secunderabad - 500011, Andhra Pradesh  
India  
Tel: +91 40 32504222  
Fax: +91 40 27742638  
<http://www.orbitequipments.com>

**Pharmaco Machines**

Unit No. 4, S.No.25 A  
Opp Savali Dhaba, Nr.Indo-Max  
Nanded Phata, Off Sinhagad Rd.  
Pune – 411041  
India  
Tel: +91 20 65706009  
Fax: +91 20 24393377

**Rank and Company**

India (see above)

**Banyong Engineering**

94 Moo 4 Sukhaphibaon No 2 Rd  
Industrial Estate Bangchan  
Bankapi  
Thailand  
Tel: +66 2 5179215-9

**Technology and Equipment Development Centre (LIDUTA)**

360 Bis Ben Van Don St  
District 4  
Ho Chi Minh City  
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<http://www.iisr.org/package/index.php?spice=Cumin&body=Overview>

**Indian Institute of Technology (IIT) Bombay**

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Mumbai 400076  
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Tel: +91 22 2572 2545  
Fax: +91 22 2572 3480  
<http://www.ircc.iitb.ac.in/webnew/>

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## Further reading

[Drying of Foods](#) Practical Action Technical Brief  
[Spice Processing](#) Practical Action Technical Brief  
[Food Labelling](#) Practical Action Technical Brief  
[Drying](#) selection of Practical Action Technical Briefs  
[Herbs and Spices](#) selection of Practical Action Technical Briefs  
[Drying](#) UNIFEM Practical Action Publishing 1995

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Website: <http://practicalaction.org/practicalanswers/>

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