

CUMIN PROCESSING



AATMANIRBHAR BHARAT

PM Formalisation of Micro Food Processing
Enterprises Scheme (PM FME Scheme)

INTRODUCTION

- ❖ Indian spices include a variety of spices grown across the Indian subcontinent (a sub-region of South Asia). With different climates in different parts of the country, India produces a variety of spices, many of which are native to the subcontinent.
- ❖ Others were imported from similar climates and have since been cultivated locally for centuries. Pepper, turmeric, cardamom, and cumin are some example of Indian spices.
- ❖ Spices are used in different forms: whole, chopped, ground, roasted, sautéed, fried, and as a topping. They blend food to extract the nutrients and bind them in a palatable form.

INTRODUCTION

- ❖ Some spices are added at the end as flavouring — those are typically heated in a pan with ghee or cooking oil before being added to a dish. Lighter spices are added last, and spices with strong flavour should be added first.
- ❖ Each spice has a different texture, unique aroma, and enhancing features that bring out the best of the ingredients and make food delectable.
- ❖ India, known as the home of spices, boasts a long history of trading with the ancient civilizations of Rome and China.
- ❖ Today, Indian spices are the most sought-after globally, given their exquisite aroma, texture, taste and medicinal value.

CUMIN

- ❖ Cumin Powder or ground cumin (also known as Jeera Powder) is made by powdering dry roasted cumin seeds in a grinder.
- ❖ Known as Cuminum Cyminum, cumin is obtained from a flowering plant that is majorly grown in India, North Africa, and the Middle East.
- ❖ These cumin seeds are then dried and powdered just like chilli powder is made from dried red chillies and then used in various cuisines.
- ❖ Cumin is rich in Vitamin E and hence it has anti-aging properties.
- ❖ Research shows that Homemade Cumin Powder just like cumin essential oil is very digestive, antiseptic, and diuretic. Not only is it good for your taste buds but it also helps you when you want to lose weight.

CUMIN

- ❖ The flavoring property of cumin is due to aromatic essential oil, which can be easily steam distilled. Oil can be fractionated if necessary to improve the quality.
- ❖ The main constituent of cumin oil is cumin aldehyde, which shows strong antifungal activity.



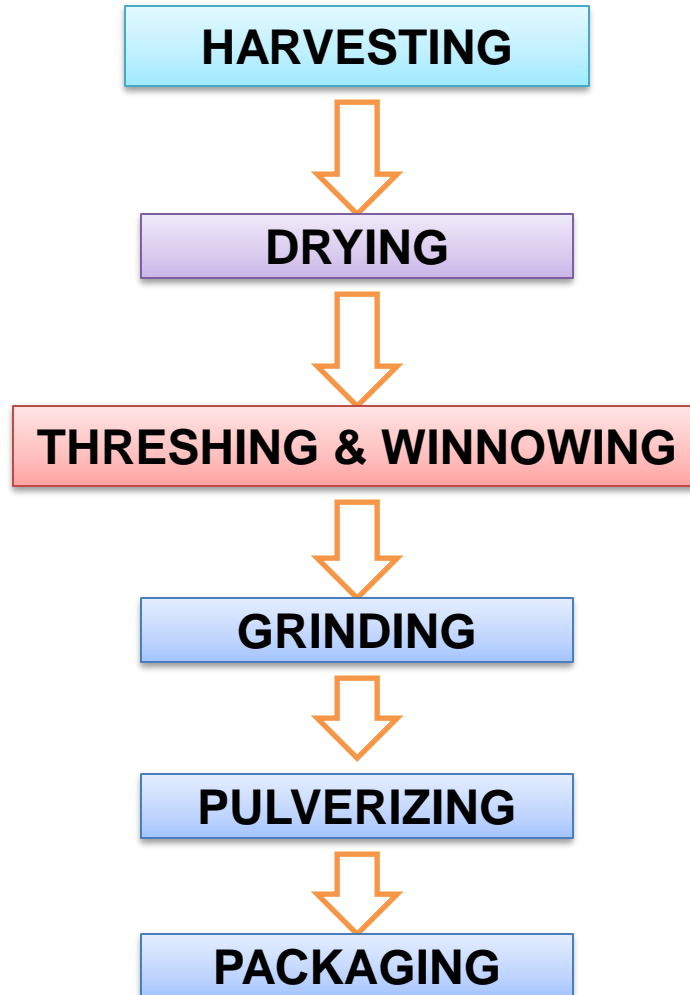
THE PHYSICO- CHEMICAL COMPOSITION OF CUMIN SEEDS

Moisture	6.2%
Protein	17.7%
Fat	23.8%
Carbohydrate	35.5%
Crude fibre	9.1%
Mineral matters	7.7%
Calcium	0.9%
Phosphorus	0.45%
Sodium	0.16%
Iron	0.048%
Vitamin B-1	0.73mg
Vitamin B-2	0.38mg
Vitamin C	17.2mg

PROCESSING OF CUMIN POWDER

- ❖ In Sanskrit, cumin is known as Jiraka “that which helps digestion” and is called zira in Persian/Urdu. In the Ayurvedic system, dried cumin seeds are believed to have medicinal purposes.
- ❖ These seeds are powdered and used in different forms like kashaya (decoction), arishta (fermented decoction), vati (tablet/pills), and processed with ghee (a semifluid clarified butter)
- ❖ In southern Indian states, such as Kerala, Andhra Pradesh and Tamil Nadu, a popular drink called Jira water is made by boiling cumin seeds. Jeera is stimulant, antispasmodic and carminative.

PROCESSING OF CUMIN POWDER



PROCESSING OF CUMIN POWDER

- ❖ **HARVESTING :** The seeds are harvested about 4 months after planting when the plant begins to wither and the seeds change from dark green to brown-yellow colour. The whole plant is removed from the ground. 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.
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PROCESSING OF CUMIN POWDER

- ❖ **Drying** : The plants are dried in the sun or in the partial sun. Mechanized drying could enhance the quality and post harvest losses.
- ❖ **Threshing & Winnowing seed spices** : 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.

PROCESSING OF CUMIN POWDER

- ❖ **Grinding** : Various machines are used for special functions. 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. Cumin seeds are available as whole seeds and ground powder.
- ❖ **Pulverizing** : A dust collector is provided in the system for ensuring dust less operation and for no loss of ground powder.

PROCESSING OF CUMIN POWDER

- **Packaging & Storage** : Dried cumin seeds powder must be stored in moisture-proof containers away from direct sunlight. The stored seeds powder 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%.



EQUIPMENT FOR DALIA BEAN PROCESSING

- **Powder grinding machine** is mainly used for food, spices, cumin powder, resin powder, powder, chemicals, pharmaceuticals and other weak electrical substances and high temperature substances. It is a new advanced crushing and vacuuming smashing equipment. It is necessary machinery to process coriander powder, chili powder and other spice.



EQUIPMENT FOR DALIA BEAN PROCESSING

- **Drum Sieve:** A quality drum sieve machine is used for removing large impurities from coriander seeds at high capacities. Careful preliminary cleaning reduces the wear and tear on the downstream equipment in the production process.



EQUIPMENT FOR DALIA BEAN PROCESSING

- **De-Stoner :** This machine is applied for the efficient separation of stones and metal, glass, and other high- density impurities from a stream of grain. An efficient machine ensures a mud-ball less and stone-less output. Quality machine also ensures that there will be negligible loss of wheat and a process of self-cleaning system for maximum operating efficiency.



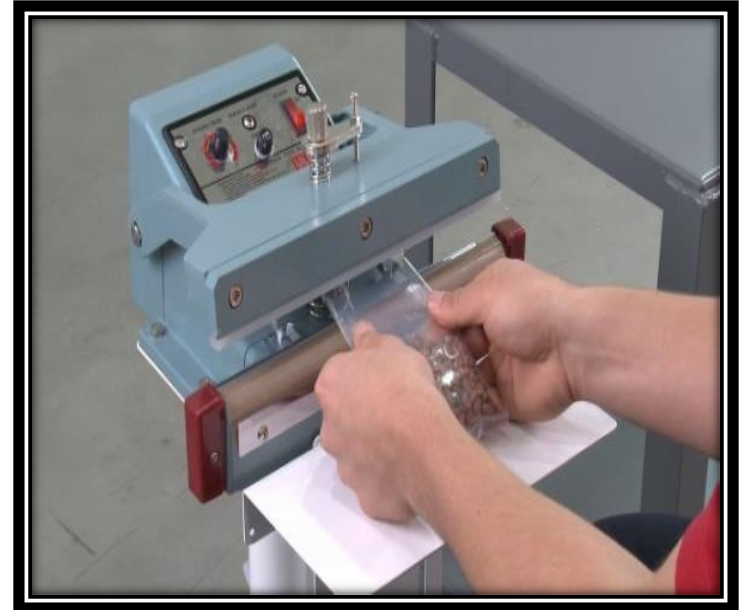
EQUIPMENT FOR DALIA BEAN PROCESSING

- **Automatic Powder Filling :** The offered product range is inclusive of Gram Masala Powder Filling Machines, Turmeric Powder Auto Filling Machines and Coriander Powder Auto Filling Machines. Owing to the hassle free installation and automated operation, these machines are highly demanded in the market.



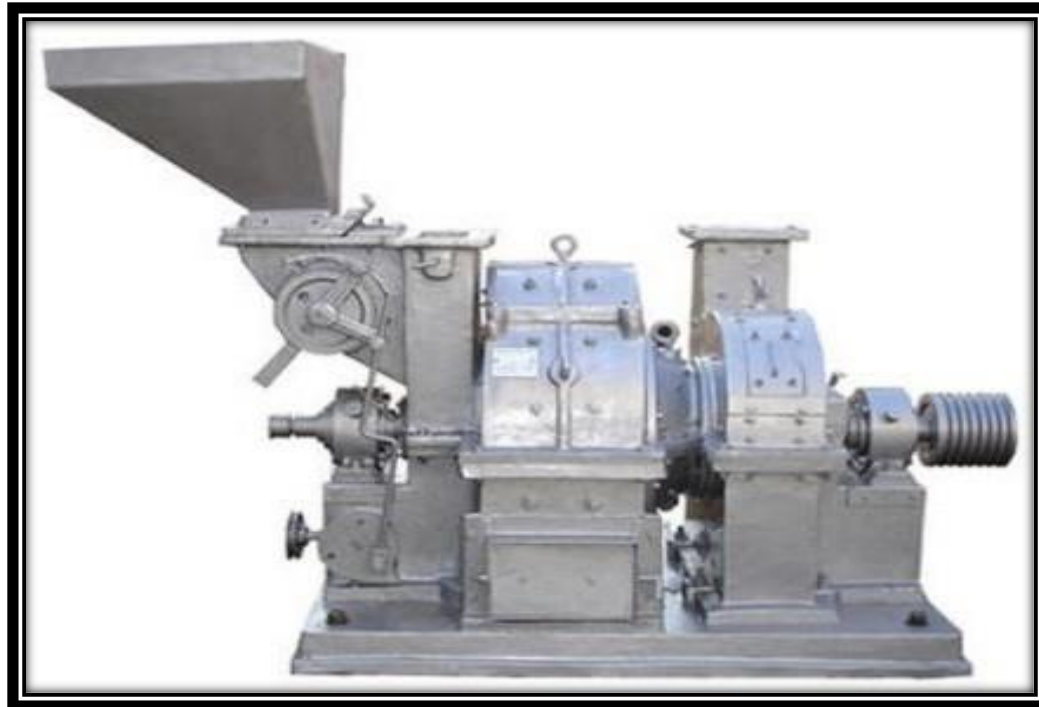
EQUIPMENT FOR DALIA BEAN PROCESSING

- **Impulse sealer-** Impulse heat sealing is commonly used for joining thermoplastic materials such as Polyethylene and Polyurethane that require a moderate temperature to establish an effective seal. This versatile method may also be used for sealing a wide variety of other bag, pouch and tube materials.



EQUIPMENT FOR DALIA BEAN PROCESSING

- **Pulverizer**- A pulverizer or grinder is a mechanical device for the grinding of many different types of materials.



EQUIPMENT FOR DALIA BEAN PROCESSING

- **Aspirator/vibro separator-** Aspirator Separator is a machine designed for the removal of fine and coarse impurities from cereal kernel by sifting action.



MARKET POTENTIAL

- ❖ Cumin is one of the most extensively used seed spices and is used by people all over the world. It is the second most popular spice in the world after black pepper.
- ❖ Cumin seeds are used as a spice for their distinctive aroma, popular in Indian, Pakistani, North African, Middle Eastern, Sri Lankan, Cuban, Northern Mexican cuisines, and the Western Chinese cuisines of Sichuan and Xinjiang.
- ❖ In the Indian systems of medicine, cumin finds a very important role. Cumin has been cultivated since ancient times; it is difficult to determine its original home.

MARKET POTENTIAL

- ❖ The plant is cultivated in many parts around the world. It is grown widely in China, India, Indonesia, Iran, Japan, Morocco, Southern Russia, Syria and Turkey.
- ❖ In India Cumin is cultivated in Rajasthan and Gujarat and in some part of M.P. and U.P. as a Rabi crop.
- ❖ Gujarat is the second largest cumin seed producer in India. Rajasthan and Gujarat together contribute approximately 90 per cent of the production of the country.
- ❖ India's production of cumin sums up to 100 to 200 thousand tones per year, which makes it the leading producer in the world.

MARKET POTENTIAL

- ❖ From India 45500 MT of cumin seed of worth was exported during 2011-12. The value added products of cumin such as cumin oil and oleoresins exported in quantity was 2.64 and 23.43 MT and earned value of Rs. 92.94 and 223.23 lakh, respectively during 2008-09.
- ❖ U.A.E. was the largest importer of cumin with its share 23% followed by U.S.A., Egypt, U.K, and Bangladesh.
- ❖ In India, cumin is mainly used for domestic consumption and only about 10 per cent of the produce is exported. The main competitor countries to India with respect to cumin export are Turkey, Iran, Syria.

IMPORTANCE

- ❑ It is a major ingredient of mixed spices powder and curry powder mixes. It is an ingredient of pickles and chutney mixes. Cumin seeds have an aromatic fragrance due to an alcohol, cuminol. The aromatic oil of cumin seeds is also used for flavouring curries, liquor, cordials and has great use in perfumery industries.
- ❑ It has medicinal properties and is used in many Ayurvedic and veterinary medicines as carminative, stomachic, astringent and is useful against diarrhea and dyspepsia. Cumin seeds are very useful in digestive disorders like biliousness, morning sickness, indigestion, atonic dyspepsia, diarrhea, malabsorption syndrome and flatulent colic.

IMPORTANCE

- ❑ Cumin is valuable in relieving sleeplessness. Dilute cumin water is an antiseptic beverage and very useful in common cold and fevers, which is associated with sore throat.





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