

## CUMIN PACKAGING



**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.



# PACKAGING

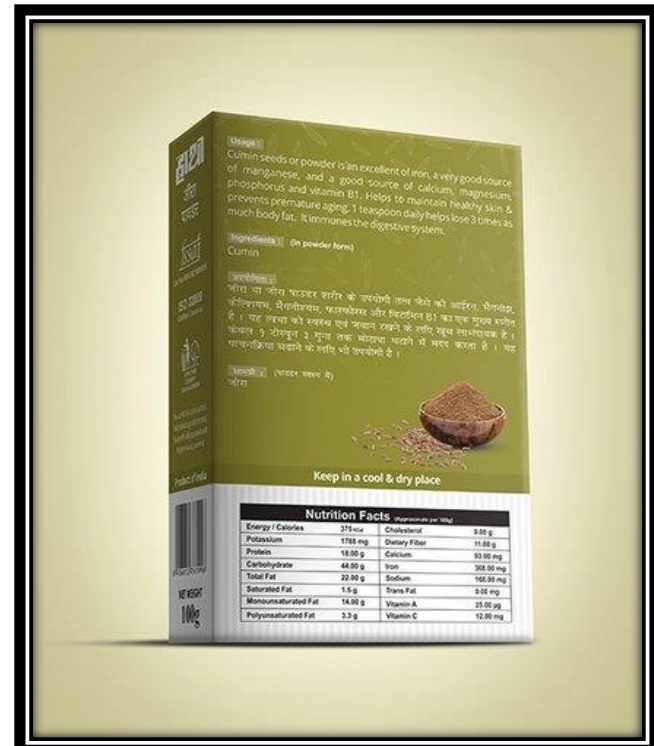
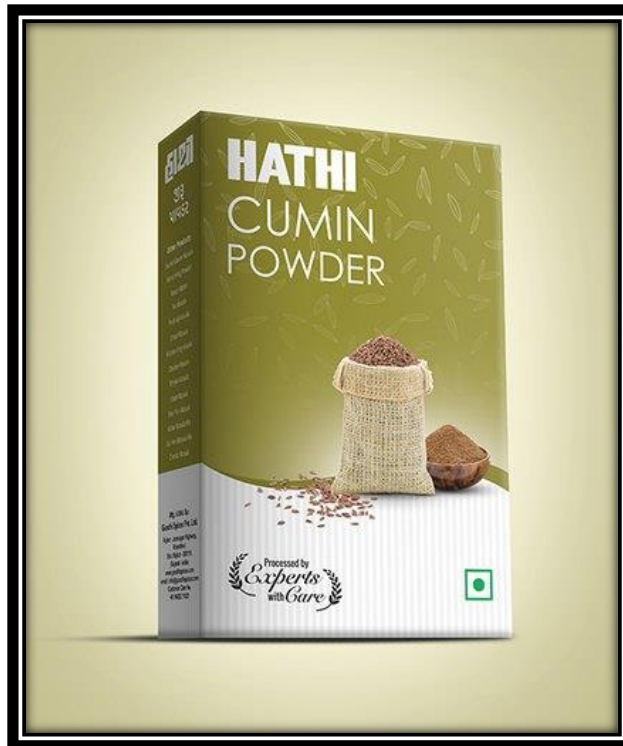
- Packaging is an important part of food manufacturing process. It protect the food products from physical ,chemical, biological damages.
- Without packaging, materials handling would be a messy, inefficient and costly exercise and modern consumer marketing would be virtually impossible.
- Packaging Institute International defined packaging as the enclosure of products, items or packages in a wrapped pouch, bag, box, cup, tray, can, tube, bottle or other container form to perform one or more of the following functions: containment, protection, preservation, communication, utility and performance. If the device or container performed one or more of these functions, it was considered a package.

# NEED OF PACKAGING

- **CONTAINMENT** : protecting the environment from the myriad of products that are moved from one place to another.
- **PROTECTION** : to protect its contents from outside environmental influences such as water, water vapor, gases, odors, microorganisms, dust, shocks, vibrations and compressive forces.
- **CONVENIENCE** : Products designed to increase convenience include foods that are prepared and can be cooked or reheated in a very short time, preferably without removing them from their primary package.

# NEED OF PACKAGING

- COMMUNICATION** : Packaging contains a lot of information such name of its manufacturer, product name, terms and uses, date of manufacturing, best before. nutritional information thus helping the consumer to be more informed.





# TYPES OF PACKAGING

- **PRIMARY PACKAGING** : Primary package are those package which directly came into contact with food products. It provides first or initial layer of protection to the food products. Examples of primary packaging includes Metal cans, tea bag, paperboard cartons, glass bottles and plastic pouches.
- **SECONDARY PACKAGE** : Secondary package are those package which surrounds or contains the primary package. Ex. Corrugated case, Boxes
- **TERTIARY PACKAGE** : It contains number of secondary package together. Mainly used for bulk handling of food products.

# SELECTION OF PACKAGING MATERIAL

- ❖ **Tensile Strength & Elongation:** Tensile Strength and Elongation properties of materials need to be studied as their running on high-speed machines should be suitable.
- ❖ **Tear Strength:** For a cumin processed product, tear strength is of importance as low tear values are necessary and useful for opening packages by hands.
- ❖ **Heat Seal Strength:** The performance of a finished package is determined by the effectiveness of the package seal i.e. the permeability to water vapor, gases and volatiles increase if the seal is not perfect. Thermoplastic films such as polyethylene give excellent heat seals.

# SELECTION OF PACKAGING MATERIAL

- ❖ **Performance Properties** : Apart from the above mentioned important properties, a material has to perform well on machines; therefore knowledge of physical properties like slip, stiffness, blocking resistance is also necessary.
- ❖ Twist retention for twist wrap is also of importance. The initial function of packaging is to protect. However, the emotional role played by packaging is also of importance, especially when the confection is a gift. A sophisticated packaging using deluxe materials is often used as a way of expressing feelings.

# PACKAGING MATERIAL

## 1. LDPE :

- Low-density polyethylene is heat sealable, inert, odour free and shrinks when heated.
- It act as a barrier to moisture and has high gas permeability
- It is less expensive, therefore widely used.
- Has ability of fusion welded to itself to give good, tough, liquid-tight seals.



# PACKAGING MATERIAL

## 2. PET :

- PET can be made into film by blowing or casting.
- Melting point of PET is higher than PP which is around 260°C and due to the manufacturing conditions does not shrink below 180°C.
- PET is ideal for high-temperature applications.
- It also act as good barrier of oxygen and water vapor.



# PACKAGING MATERIAL

## 3. POLYPROPYLENE :

- Polypropylene films have better clarity than polyethylene and enjoy superior machinability due to stiffness.
- Lack of good salability has been a problem; however, PVDC and vinyl coating have been used to overcome this problem.
- Some varieties of PP have been specially developed for twist-wrap applications as they have the ability to lock in position after twisting.

# PACKAGING MATERIAL

## 5. PAPER BAG :

- The paper bag form an excellent packaging material for cumin. They may be kraft paper, plastic coated, solid fiber board, linear board, box board etc.
- The advantages of using of paper is that it is weightless, capability for printing on the surface, low cost and easy disposability.
- The disadvantage include low wet and tear strength.



# PACKAGING MATERIAL

**6. GLASS :** Now a day glass container has been also used for packaging the cumin. It has following advantages:

- act as strong barrier to moisture, gases, odours and micro-organisms.
- do not react with food products.
- suitable for heat processing when hermetically sealed
- glass are re-useable and recyclable
- they are transparent to display the contents
- they are rigid, to allow stacking without container damage.





# PACKAGING MACHINES



# **SOME RECENT TRENDS IN PACKAGING :**

## **MODIFIED ATMOSPHERE PACKAGING:**

- MAP can be defined as packaging of food items where atmosphere inside the packet has been modified to increase the shelf life of food products. It involves active modification or passive modification.
- In active modification air is displaced with a controlled, desired mixture of gases, and the process is called as gas flushing.
- Passive modification occurs due to respiration and the metabolism of microorganisms associated with the food.

# **SOME RECENT TRENDS IN PACKAGING :**

## **ACTIVE AND INTELLIGENT PACKAGING :**

- Active packaging is defined as packaging in which subsidiary constituents have been deliberately included in or on either the packaging material or the package headspace to enhance the performance of the package system.
- Intelligent packaging is defined as packaging that contains an external or internal indicator to provide information about the history of the package and/or the quality of the food.
- Various functions performed by intelligent packaging includes: Oxygen absorber, Carbon dioxide absorber or emitter, Ethylene absorber, Ethanol emitter, Moisture absorber.

# SOME RECENT TRENDS IN PACKAGING :

## ASEPTIC PACKAGING :

- Aseptic packaging is the filling of sterile containers with a commercially sterile product under aseptic conditions, and then sealing the containers so that reinfection is prevented; that is, so that they are hermetically sealed.
- **Active packaging are used for :**
  - ✓ To take advantage of high temperature.
  - ✓ Increase shelf life of food products at normal temperature.
  - ✓ In package sterilization.

# LABELING

- Labeling is a means of performing the communication function of packaging, informing the consumer about nutritional content, net weight, product use and so on. Labeling acts as a silent salesman through distinctive branding, as well as facilitating identification at check-outs through the Universal Product Code (UPC).



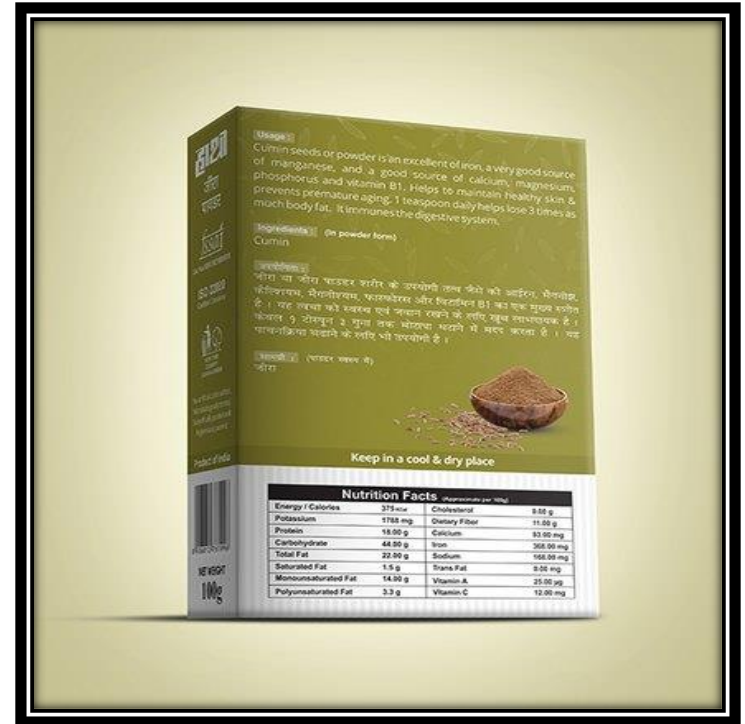
# PACKAGING & LABELING LAWS - FSSAI

## General requirement for packaging:

- A utensil or container made of the following materials or metals, when used in the preparation, packaging and storing of food shall be deemed to render it unfit for human consumption:—
  - (a) containers which are rusty;
  - (b) enameled containers which have become chipped and rusty;
  - (c) copper or brass containers which are not properly tinned
  - (d) containers made of aluminium not conforming in chemical composition to IS:20 specification for Cast Aluminium & Aluminium Alloy for utensils or IS:21 specification for Wrought Aluminium and Aluminium Alloy for utensils.

# PACKAGING & LABELING LAWS - FSSAI

- Labeling should contain following information:
  - ✓ Name of the food product.
  - ✓ List of ingredients.
  - ✓ Nutritional information.
  - ✓ Declaration of VEG and NON VEG.
  - ✓ Declaration of added food additives.
  - ✓ Name and address of manufacturer.



# PACKAGING & LABELING LAWS - FSSAI

- ✓ Net quantity
- ✓ Code number
- ✓ Lot number/ Batch number.
- ✓ Date of manufacturing.
- ✓ Best before date
- ✓ Country of origin.
- ✓ Instruction for uses.





# QUALITY CONSIDERATIONS DURING PACKING

Quality control of packed products is the last time the product is checked before reaching the customer.

❖ ***Documented checking of the packages entails:***

- ✓ Weight of the package
- ✓ Weight of the cumin
- ✓ Arrangement of the cumin
- ✓ Defects; and Moisture content

# QUALITY CONSIDERATIONS DURING PACKING

- ❖ ***The surrounding area is also checked:***
- ✓ Cleanliness of the handling equipment during processing
- ✓ Calibration of the scales (automatic or manual);
- ✓ Writing on the packages;
- ✓ Satisfactory working of the metal detector (installed on every retail packing line);
- ✓ Repackaging installations and marking; and
- ✓ Qualification for international standards such as ISO and HACCP



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