



# Basil Packaging

## Under PMFME Scheme



**National Institute of Food Technology and Entrepreneurship and Management**

Ministry of Food Processing Industries

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4. Characteristics of packaging.
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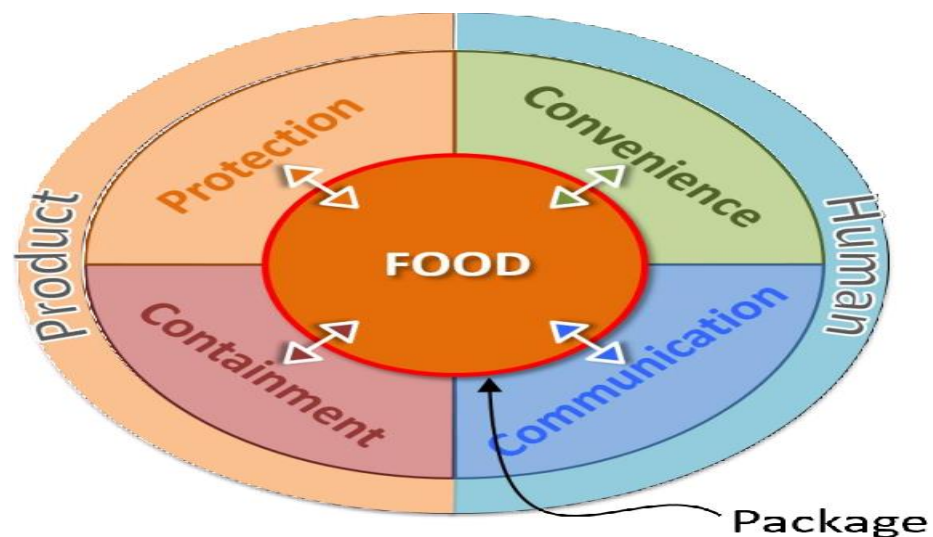


## WHY PACKAGING?

- Packaging is the science, art and technology of enclosing or protecting products for distribution, storage, sale, and use.
- Packaging also refers to the process of designing, evaluating, and producing packages.
- The wrapping material around a consumer item that serves to contain, identify, describe, protect, display, promote and otherwise make the product marketable and keep it clean

Plays an important role as :

- Medium in the marketing mix
- Promotion campaigns
- Pricing criterion
- Defining the character of new products
- Setter of trends
- Brand identity
- Shelf impact in all product groups



## ADVANTAGE AND FUNCTIONS OF PACKAGED PRODUCTS

1. Easy to carry, labelling, customer appealing, marketing.
2. Avoid physical and microbial cross contamination.
3. Increase shelf life of product.
4. Helps in maintaining the quality of the product.
5. Attractive appearance and consumer acceptance.
6. Also avoids insect or pest penetration in to the product.



## SELECTION CRITERIA FOR PACKAGING

- Product or pack contents.
- Application of the product.
- Content stability.
- Need of protection from environmental factors.
- Content reactivity.
- Acceptability to the consumer.
- The packaging process regulatory, legal and quality issue.



## CHARACTERISTIC OF PACKAGING

- It should be Tamper resistant in nature.
- Should be approved by regulatory authorities.
- Most essentially must be Non-toxic .
- Must not impart odor/taste to the product.
- Must not react with the product .
- Protect the preparation from environmental conditions.



## METALLIZED PACKED PRODUCTS

1. Metals are chemically reactive and can be readily oxidized.
2. It can form corrosion products with acidic or non compatible chemicals.
3. This may change the quality, taste and appearance of product.
4. Factors affecting rate of corrosion :
  - (a) Oxygen supply
  - (b) Temperature
  - (c) Passivity



## METALLIZED PACKED PRODUCTS

Food Cans with enamel (lacquer) coatings are used to protect:

- (a) Excessive dissolution of tin
- (b) Sulfide staining
- (c) Local etching
- (d) Change in color of pigmented products.

Enamel effectiveness depends on its ability to act as an impermeable barrier to gases, liquids and ions





## SELECTION OF METALLIZED PACKED PRODUCTS

Most common metals used for packaging are Steel, Aluminium, Tin and Chromium.

Different alloying elements affects aluminium corrosion behaviour

1. Copper – reduces corrosion resistance.
2. Manganese – increased corrosion resistance.
3. Magnesium – good corrosion resistance.
4. Chromium – increases corrosion resistance.



Manganese



Magnesium

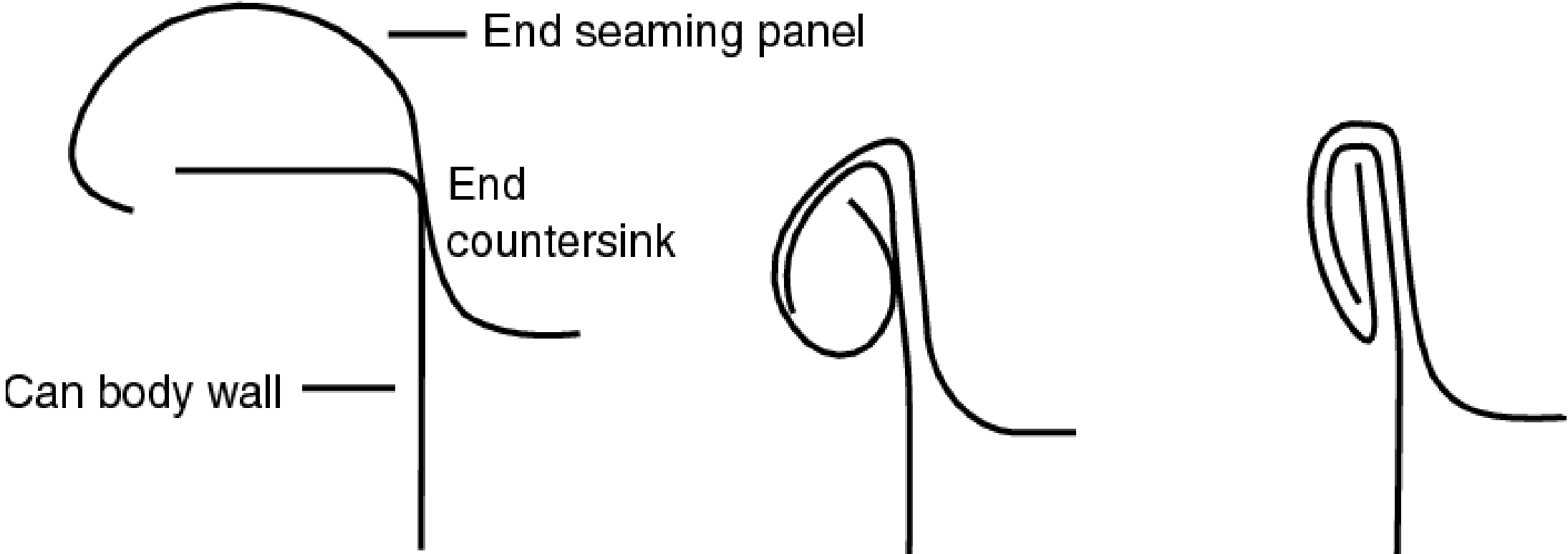


Copper



Chromium

CAN SEAMING



End placed over  
body flange

After first roller  
operation

After second roller  
operation

## EQUIPMENTS FOR CAN MANUFACTURING AND FILLING



Can making machine



Can filling and seaming equipment

## GLASS PACKAGING

Properties of glass used for packaging:

1. It has high strength and can resist internal/external pressure.
2. It has high vertical load strength.
3. Glass fragility can be reduced with energy absorbing coating surface treatments.
4. It has good resistance to abrasions and scratches.
5. Can be used at high and low temperatures not suitable for paper or plastics.



## PLASTIC PACKAGING

Various types of plastic packaging materials:

1. PET – strong abrasion resistant.
2. LDPE – plastic pouches, squeezable plastic bottles.
3. PVC – plastic bottles, cups.

Plastic bottles/cups are :

- (a) aesthetically attractive and easily to open.
- (b) Hot fill capable for juices and other liquid packaging.



## SHELF LIFE OF PACKAGED PRODUCTS

Shelf life of packaged processed Basil leave/oil can be increased provided proper storage conditions.

Basil leave/oil after processing can be filled in :

1. Plastic bottles.
2. Plastic cups.
3. Glass bottles.
4. LDPE pouches.
5. HDPE pouches
6. HDPE boxes.



## SHELF LIFE OF PACKAGED PRODUCTS

Basil leaves can be dried in powdered form.

In this way shelf life of Basil leaves can be increased.

Basil leaf powder can be reconstituted with water/honey or added in tea for daily consumption.

Any type of packaging under maintained aseptic condition while processing and packaging result in good shelf life.



## PLASTIC POUCH/BOTTLE FILLING MACHINERY



Bottle filling, capping machine



Form Fill Seal machine



## PACKAGING

Basil oil is majorly packaged in glass and plastic containers.

Major content of Basil is taken as Beta Caryophyllene.

Basil oil obtained by steam distillation method is having good quality and medicinal value.

Because of their high medicinal usage, these oils are mostly packed in glass bottles and plastic bottles to avoid any microbial deterioration.



## BASIL OIL PACKAGING

Oil is sensitive to flavor deterioration due to oxidation and therefore mostly air tight packing is preferred.

The minimum head space in container help to preserve the flavor.

The amount of oxygen entered during packaging can lead to degradation of color, appearance and flavor with reduced shelf life.

Basil oil can also be packed in glass vials with rubber dropper.



## EQUIPMENTS



Manual bottle crown capping machine



Automatic bottle filling machine

## GLASS BOTTLE SECONDARY PACKAGING

Glass bottles are fragile hence for transportation, it is further packaged in corrugated boxes.

Shock absorbing material like straw, paper etc are provided below and between bottles.

The quality and strength of boxed depends on the GSM of paper and no. of flutes present for corrugation.

These fibre boards or boxes can also a product that is derived from sugarcane industry.



## OIL PRODUCTION AND PACKAGING UNIT



Steam distillation unit



Oil filling machine

## BASIL PACKAGING MATERIAL

Dried leaves/powder of basil can be packed in :

1. Paper bag – water and moisture proof, environment friendly
2. Plastic bag – water and moisture proof, attractive.
3. HDPE –Hard plastic can be used with good durability, reusability , good sealing strength.

Main concern of basil powder is it absorbs moisture and form lumps hence packaging material must be a good moisture barrier.

All above materials are good packaging material as per requirement.



## SUGAR PACKAGING EQUIPMENTS



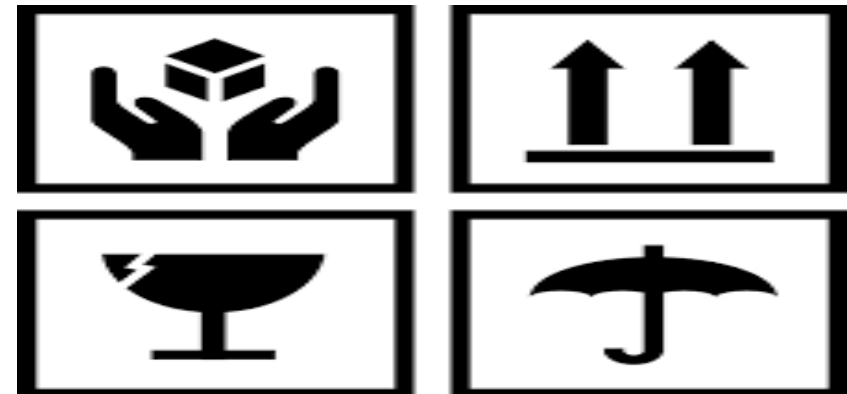
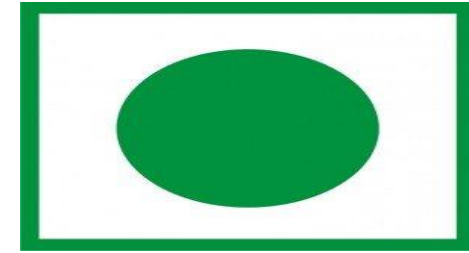
powder pouch filling machine



Powder sachet filling machine

## FSSAI GUIDELINES FOR PACKAGING

- Label information shall not be false, misleading or deceptive.
- Veg. Food Symbol
- Symbol of Handling
- Brand Name/Logo
- Commodity Name
- Grade
- Method of Preparation
- Manufactured By Declaration located at different places.
- FSSAI Logo





## FSSAI GUIDELINES FOR PACKAGING CONTD..

- FSSAI License. No
- Net Weight Declaration including Pack Config.
- Manufacturing Date/Packaging Date
- Best before Declaration
- Storage Condition
- Nutritional Information (per 100g per serving size)
- Packed at
- MRP
- Lot No. & Batch No.
- Ingredient List

*fssai*

LIC NO. 12216017000287

Registration Status  
State Code  
Year  
Quantity  
Permit



## BASIC GMP REQUIRED

1. Design and construct the facilities and equipments properly
2. Follow written procedures and Instructions
3. Document work
4. Validate work
5. Monitor facilities and equipment
6. Write step by step operating procedures and work on instructions
7. Design ,develop and demonstrate job competence
8. Protect against contamination
9. Control components and product related processes
10. Conduct planned and periodic audits



# PM FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME (PMFME)

## TOTAL OUTLAY: **RS.10,000 CRORE**

- **2,00,000** FPOs/SHGs/Cooperatives and working micro enterprises to be directly benefitted
- Expected to generate **9 lakh** skilled and semi-skilled jobs
- To be implemented over a **5-yr period from 2020-21 to 2024-25**
- Cluster approach
- Focus on Perishables.

**Helpline Number**  
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