

# PACKAGING OF HONEY



**AATMANIRBHAR BHARAT**

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

# INTRODUCTION

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Honey must comply basic composition and quality standards

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Packaging industry must conduct tests like pollen count and physicochemical parameters like HMF, moisture, and color on obtaining lots of raw honey.

Promotion of classification of botanical sources of honeys

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Compliance with the required mandatory standards during sales

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Uni-floral honey has a higher commercial value than multi-floral honey.



# Contd...

- Honey's shelf life is largely determined by packaging.
- Honey packaging plants need to be cautious about HMF content and moisture content of raw honey.
- Honey may be directly bottled into small retail containers or into large drums for storage or export, depending on the intended market.

**Glass bottles/jars, followed by plastic bottles/jars or stainless steel drums (in case of large quantity) and squeezable jugs or bottles are the most common ways to pack honey.**



# DIFFERENT CONTAINERS USED DURING SUPPLY CHAIN OF HONEY



Harvesting/collection



Processing



Storage



Distribution



# CREATIVE SHAPES OF HONEY BOTTLES/JARS USED IN RETAIL OUTLETS



# PACKAGING: PRINCIPLES AND FUNCTIONS

Packaging is a necessity for maintaining the quality; safety and integrity of raw as well as processed products from the farm or plant to consumption.



- Honey without a package is unimaginable.
- Packaging facilitates honey to retain its goodness and freshness.
- Predominant factors that decide the quality, safety and shelf-life of honey include: temperature, relative humidity and moisture content.
- Packaging of honey requires their own specific packaging materials as per the usages.
- Storage containers for honey should be made either of glass, plastic, and stainless steel or metal coated with food approved plastic, paint or beeswax to make air tight

Innovative packaging must meet the development of various novel packaging techniques and advanced inter-disciplinary applications.

# FEATURES OF PACKAGING

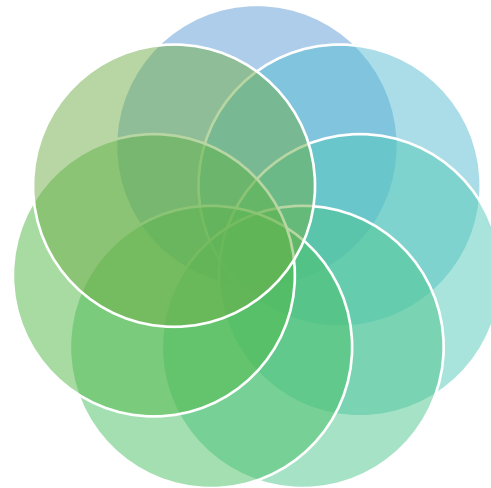
Odorless

Protect from  
chemicals, toxic  
agents and other  
external hazards

Facilitate easy  
removal of  
honey

Strong barrier to  
water vapor  
transfer

Absence of  
metal  
exposure



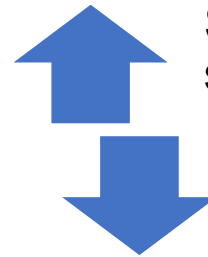
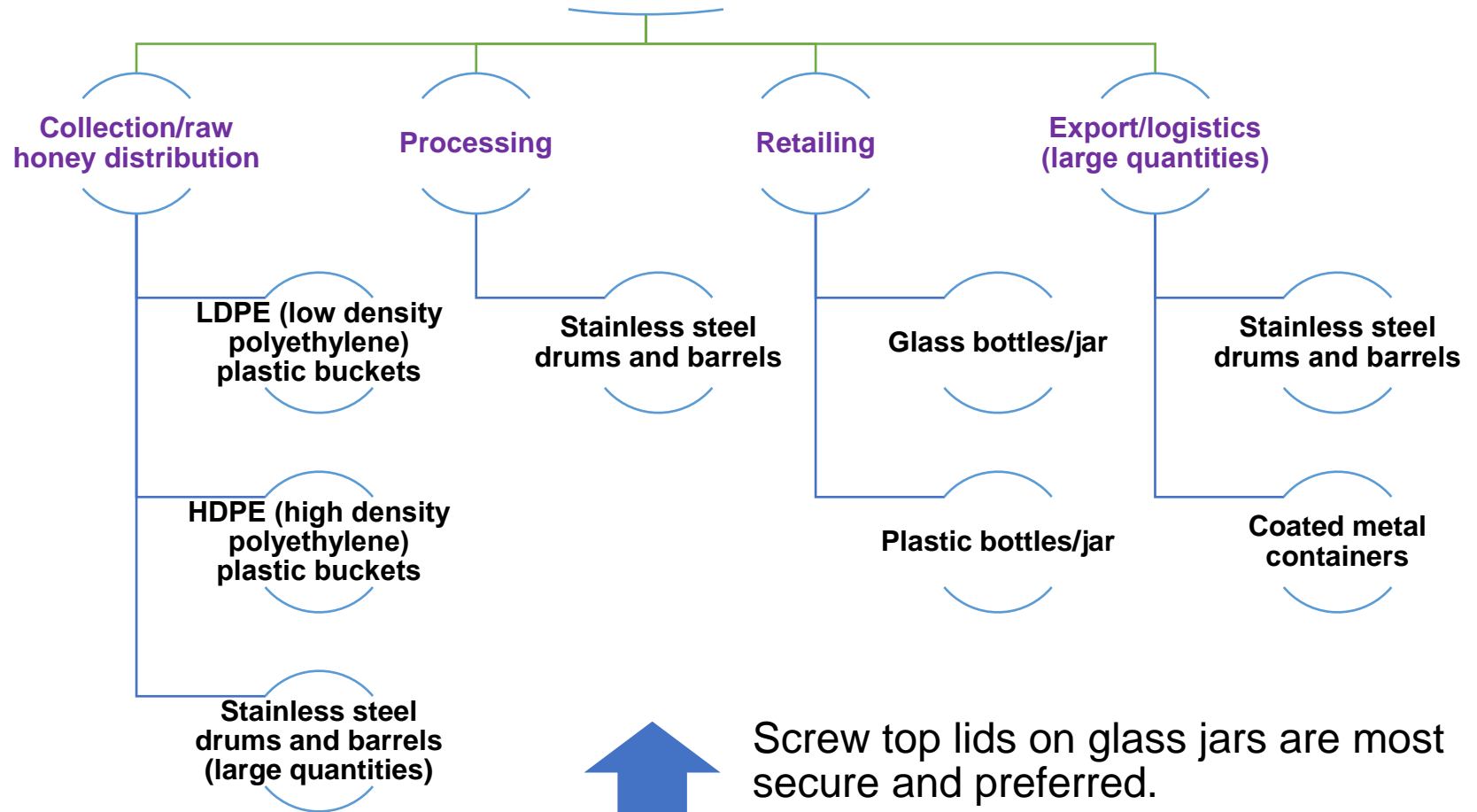
Airtight

Leak-proof

Package choice should however also consider recyclability, disposability and environmentally friendly manufacturing of the packaging materials



# TYPES OF PACKAGING



Screw top lids on glass jars are most secure and preferred.

Heat-sealed plastic and aluminum lids on plastic cups are fairly safe as well.

# FACTORS AFFECTING PACKAGING CHOICE



Major local form of use

Length of time between processing, retailing and consumption

Potential appeal to consumers

Honey characteristics (like crystallization, fermentation and color)

Availability and cost of filling technologies and packaging materials

Environmental compatibility of materials

Recyclability and reusability



# GLASS AS PACKAGING MATERIAL



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Chemically inert

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Impermeable to gases and water vapours

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Odorless

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Absolute barrier against chemicals

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Better appearance and attractiveness

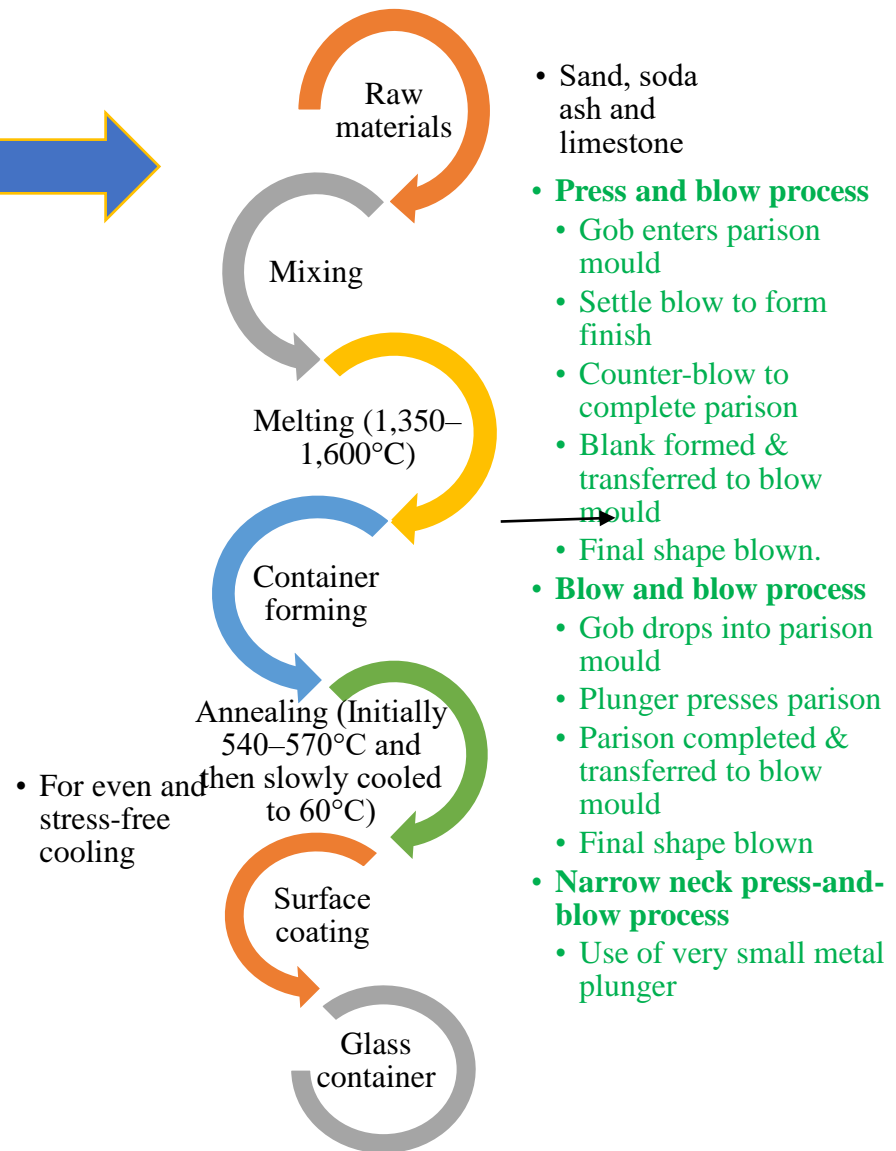
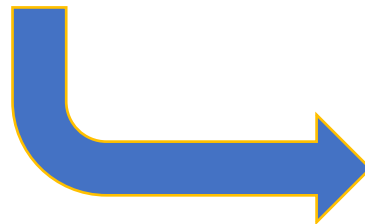
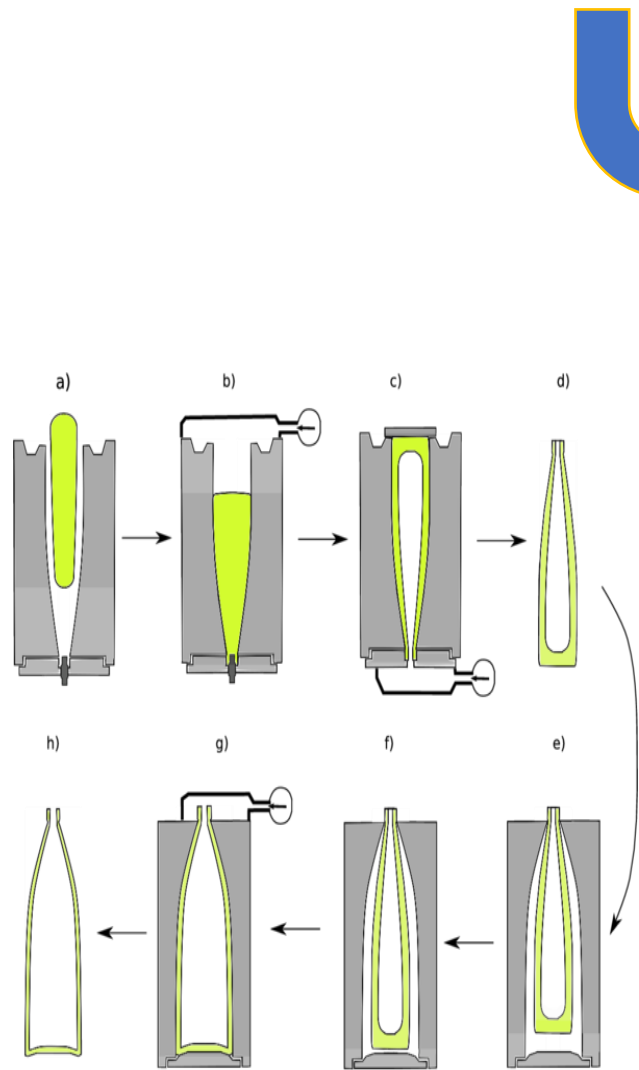
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Square and round glass bottles are commonly found in honey market

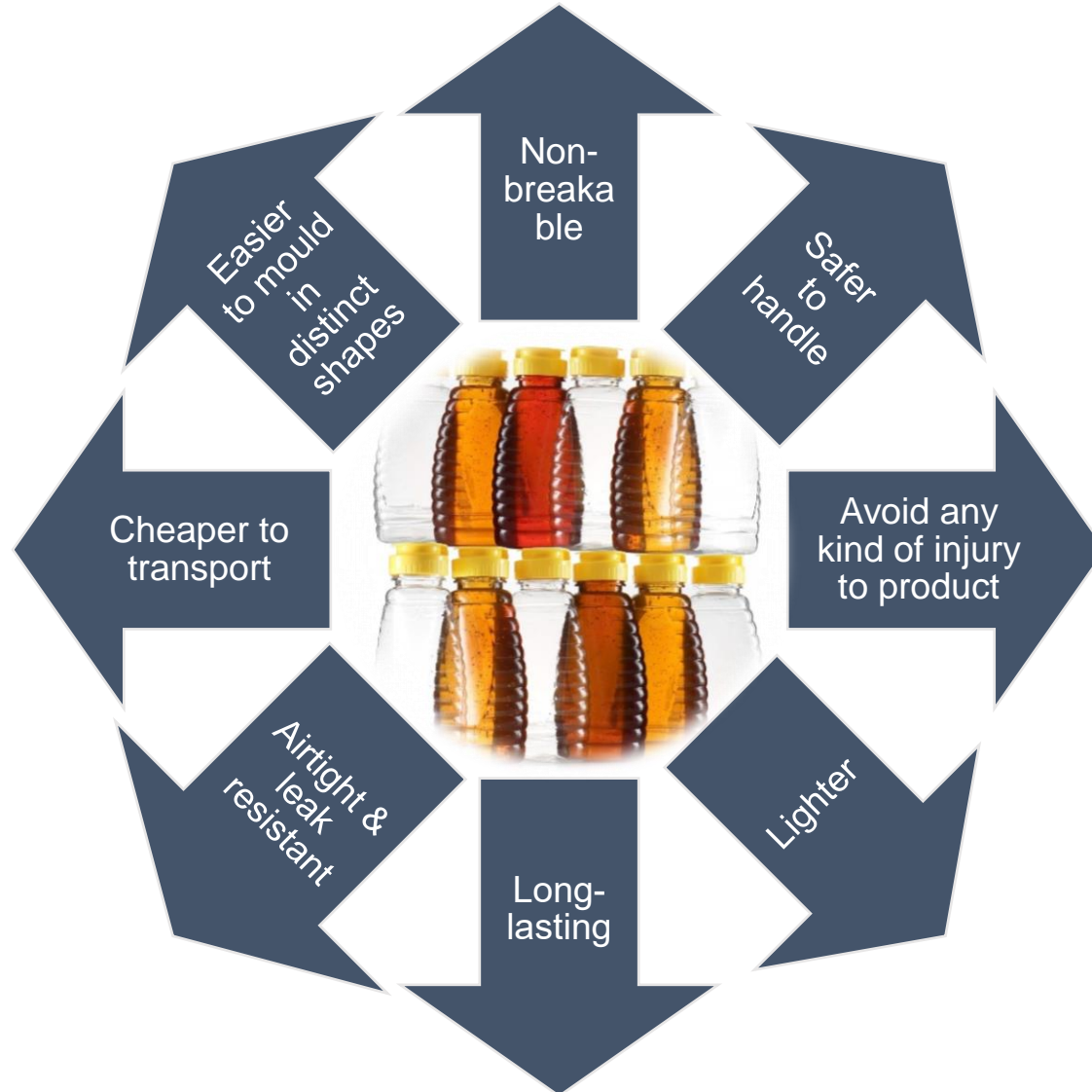
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High gas and moisture barrier properties in glass bottles/jars make them as a right option to pack honey

# Process Flow Diagram of Glass Manufacturing



# PLASTIC AS PACKAGING MATERIAL





# PLASTIC BOTTLES OR JARS



## Polyethylene terephthalate (PET)

High tensile strength, strong chemical resistance, light weight, low moisture and gas permeability, higher melting point 260°C and elasticity  
Suitable for applications of high temperature

## Polypropylene (PP)

Lowest density (900 kg/m<sup>3</sup>), fairly high melting point (160°C) and relatively lower cost

## LDPE (low density polyethylene) and HDPE (high density polyethylene)

High impact strength, resistance to chemicals, water vapor, and weathering, high recyclability, low manufacturing and fabrication cost, melt temperatures (180-280 °C and fast injection speeds

# CREATIVE SHAPES IN PLASTIC PET BOTTLES



Square PET Bottles  
(250–1000g)



Wide Hex/hexagonal  
PET Jars (125-1000g)



Lava PET Bottles  
(250-500g)

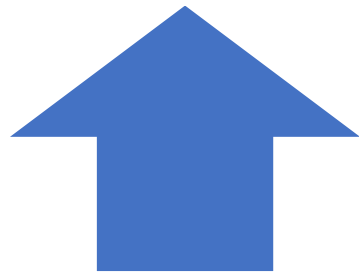


Squeeze Pet Bottles (250-500g)



Apple Pet Jars (200-  
1000g)

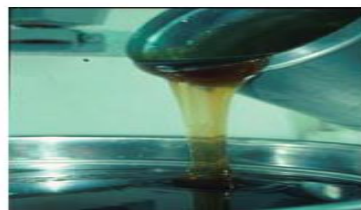
# OTHER PACKAGING MATERIALS USED



Stainless steel, aluminum or metal coated with food-grade plastics



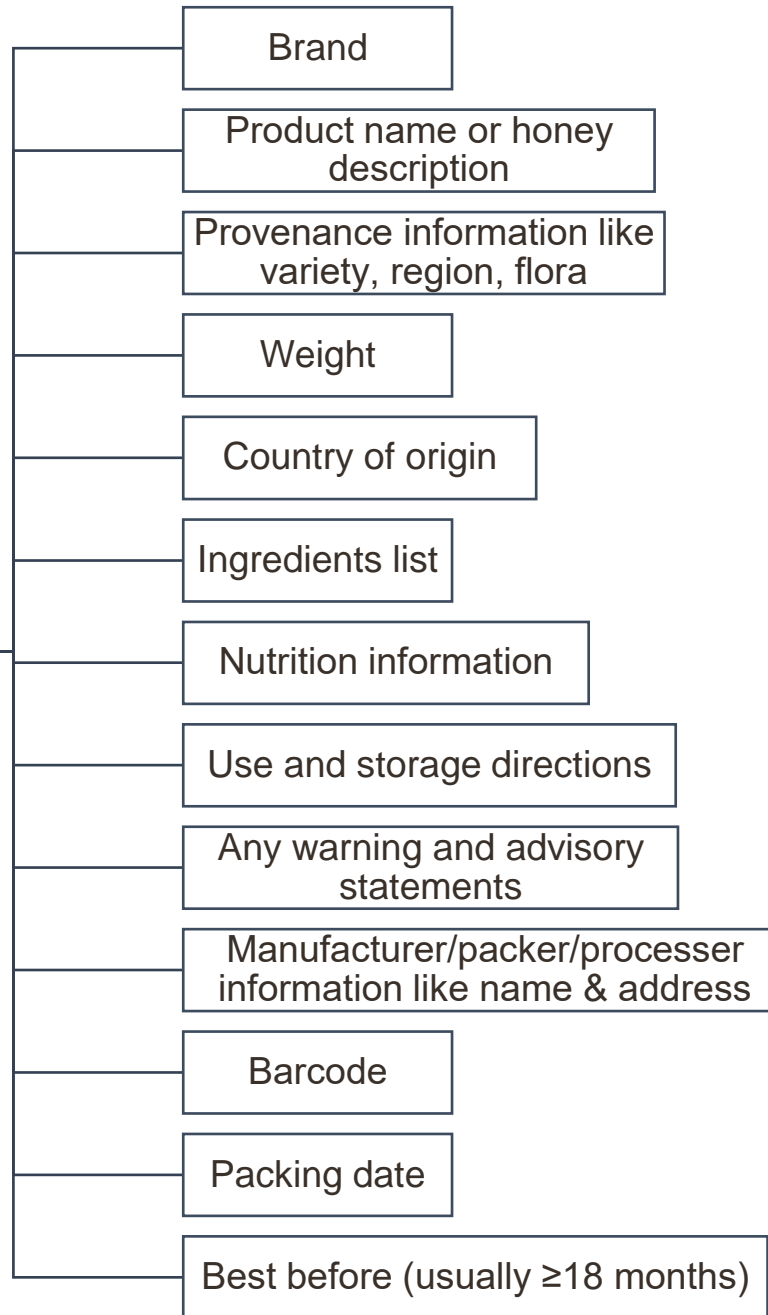
Used during transportation, storage and processing



# LABELLING OF HONEY

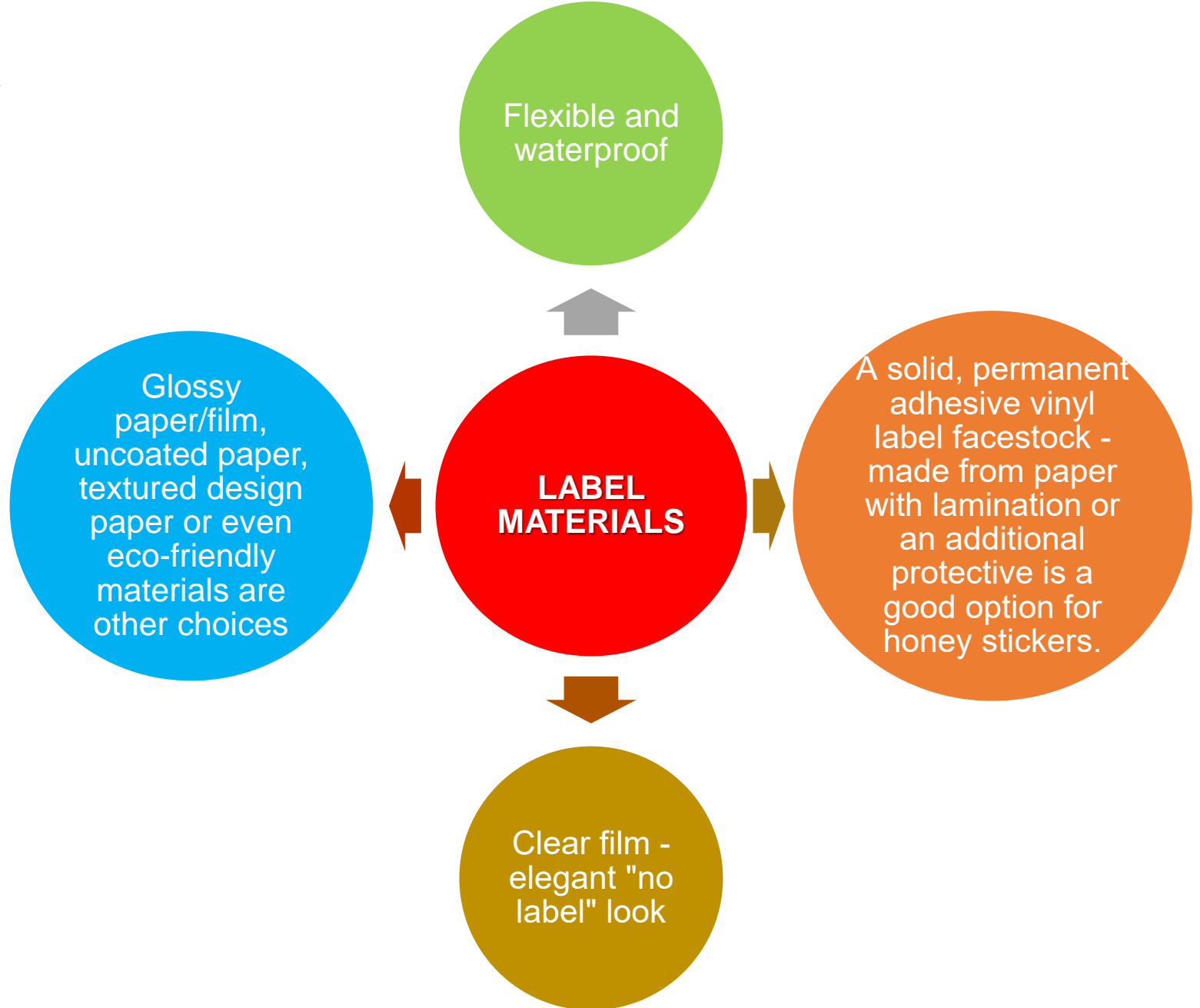
- Labels must carry all the details about product and preferably a lot number to help the manufacturer to track issues.
- Positioning of label is important.
- Size, color and contrast of product information must be







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# GUIDELINES FOR HONEY LABELLING

- The honey package label should be referred to as the "honey" label or perhaps must give a floral source indication, such as "Rapeseed honey" or "Multifloral honey".
- Net weight, name and address of honey dealer, packer's registration number and the nutrition facts table should also be given.
- Honey can be labelled as:
  - (i) Honeydew honey,
  - (ii) Blend of Honeydew Honey and Blossom Honey – If the product is mixture of Blossom or Nectar Honey and Honeydew honey
  - (iii) *Carviacallosa* Honey – If the honey is derived from flower of *Carviacallosa* plant

## **FOOD SAFETY AND STANDARDS (PACKAGING AND LABELLING) REGULATIONS, 2011**

**Divided into**



- (i) Food Safety and Standards (Packaging) Regulations, 2018
- (ii) Food Safety and Standards (Labelling and Display) Regulations, 2020

However, there are no separate labelling guidelines for honey particularly that require an attention because of growing cases of honey adulteration and fraudulent.

# FOOD SAFETY AND STANDARDS (PACKAGING) REGULATIONS, 2018

## **General requirements for packaging materials**

- Any material which comes in direct contact with food or likely to come in contact with food during supply chain shall be of food grade quality.
- Packaging materials shall be suitable for product type, storage conditions and equipment for filling, sealing and packaging of food.
- Packaging materials shall be able to withstand mechanical, chemical or thermal stresses encountered during normal transportation.
- Food products shall be packed in clean, hygienic and tamper-proof package or container.

- The sealing material shall be compatible with the product and the containers as well as the closure systems used for the containers.
- Plastic containers of capacity 5 liter and above and Glass bottles, which are reused for packaging of food, shall be suitably durable, easy to clean or disinfect.
- Printing inks for use on food packages shall conform to IS: 15495.
- Printed surface of packaging material shall not come into direct contact with food products.



# **SPECIFIC REQUIREMENTS FOR PACKAGING MATERIALS**

- **Glass containers intended to come in contact with food products**
  - Free from blisters, mold marks, stones, chippings, cords, seeds, and other visible defects.
  - Smooth surface without cracks, pinholes, and sharp edges.
  - Sealing surface shall be free from hairline cracks and prominent seam marks.

- **Plastic materials intended to come in contact with food products**

- Plastic materials used - conform to Indian Standards specifications (Schedule – III)
- All plastic packaging materials shall pass the prescribed overall migration limit of 60mg/kg or 10mg/dm<sup>2</sup> when tested as per IS 9845 with no visible color migration.
- Pigments or Colorants for use in plastics in contact with food products shall conform to IS: 9833.
- Products made of recycled plastics shall not be used for packaging, storing, carrying or dispensing articles of food.

## **SUGGESTED PACKAGING MATERIALS FOR HONEY IN SCHEDULE -IV**

- Glass bottle with Metal Caps or Plastic (polypropylene (PP) or High-density polyethylene (HDPE) Caps.
- Plastic-based Thermoformed container.
- Blister Pack with foil or polyethylene lid.
- Polyethylene Terephthalate (PET) container with Plastic Caps.
- Plastic laminated Tube.

# FOOD SAFETY AND STANDARDS (LABELLING AND DISPLAY) REGULATIONS, 2020

- Name of the food
  - List of ingredients, nutritional information, and declaration of vegetarian logo or non-vegetarian logo
  - Declaration regarding food additive
  - Name and complete address of concerned brand owner, manufacturer, marketer, packer, and bottler
  - FSSAI logo with license number
- Net quantity
  - Retail sale prices
  - Consumer care details
  - Lot /code/batch number
  - Date marking
  - “Date of manufacture or packaging” and “Expiry/Use by”

# STORAGE OF HONEY



Shelf life – 1.5 or 2 years

Storage of honey in air-tight glass/plastic (PET) containers

Store below 37°C temperatures

Optimum storage temperature: 10-25°C

Keep in cool dry places away from direct sunlight

## 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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