

PM Formalisation of Micro Food Processing Enterprises Scheme

HANDBOOK OF GINGER MURABBA PROCESSING



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CHAPTER 1

1.1 Ginger (*zingiber officinale*)

Ginger (*zingiber officinale*), Roscoe belonging to the Family Zingiberaceae, is a Perennial herb with thick tuberous rhizomes. Its roots are used as spice in cooking throughout the world. Ginger contains up to 3% of an essential oil that causes the fragrance of the spice. The pungent taste of ginger is due to gingerol, zingerone and shogool. It is one of the earliest known treasured spices esteemed for its pungency and aroma, viewed as a healing gift from God by Indian Ayurvedic systems.

1.2 Status of ginger production

India is the largest producer and consumer of ginger contributing about 31% of total global production followed by China, Nepal, Indonesia, Nigeria, and Thailand. In the countries such as Canada, U.K, U.S.A. ginger is used in soft drink manufacturing industry, baking industry and meat processing industry up to a great extend but it rarely used for cooking. Ginger brine is most popular in Japan.

Orissa, Kerala, Karnataka, Arunachal Pradesh, West Bengal, Sikkim and Madhya Pradesh are the major ginger producing states in India. Among which Kerala contribute 33 per cent to the total production by which it has prove to be the largest ginger producing state in India.

Cochin ginger and Calicut ginger are the popular Indian ginger varieties in the world market. India produces 6,83,000 tons of ginger per annum that is almost 1/3rd of world's total production (FAO). 30 per cent of total production of ginger in India is transferred to dry ginger, 50 per cent is taken as fresh or green ginger and the rest part is used as seed materials. Kerala is the largest producer of dry ginger in India, which has taken a major share in export.

Nutrient composition

Protein (2.3%), Fat (0.9%), carbohydrates (12.3%), mineral (1.2%), fiber (2.4%) and moisture (80.9%) are the main constituents of fresh ginger. Minerals like phosphorous, calcium, and iron present in ginger are iron, calcium and phosphorous. It also contains vitamins such as thiamine, riboflavin, niacin and vitamin C. The composition varies with the type, variety, agronomic conditions, curing methods, drying and storage conditions

1.3 Health benefits

Gingerol increase the motility of the gastrointestinal tract and have analgesic, sedative and antibacterial properties. Now a day ginger there is a great importance of the consumption of ginger due to its medicinal property. Ginger stimulates the production of saliva It promotes the release of bile, It is used as a stimulant and carminative and also for dyspepsia and colic. Ginger may also decrease joint pain from arthritis, may have blood thinning and cholesterol lowering properties and may be useful for the treatment of heart diseases and lungs diseases.

Ginger is effective for treating nausea caused by seasickness, morning sickness and chemotherapy. It is also effective for the treatment of inflammation, rheumatism, cold, heat cramps, and diabetes. The consumer attracted nutritious and healthy product, as the consumer behavior is 13.79% influenced by healthy factor. The market for nutritional product is expected to expand further due to the trend toward lifestyle diseases. Although products from ginger are being processed at home scale or cottage scale level, however utilization of ginger at commercial scale is very scare.

CHAPTER 2

PREPARATION OF GINGER MURABBA

2.1 Processing of Ginger

Two important factors must be considered at the time of choosing ginger rhizomes for further processing or for development of secondary products from ginger rhizome.

- ☐ Maturity stage at the time of harvest
- ☐ Native properties of the type grown

The maturity stage at the time of harvest

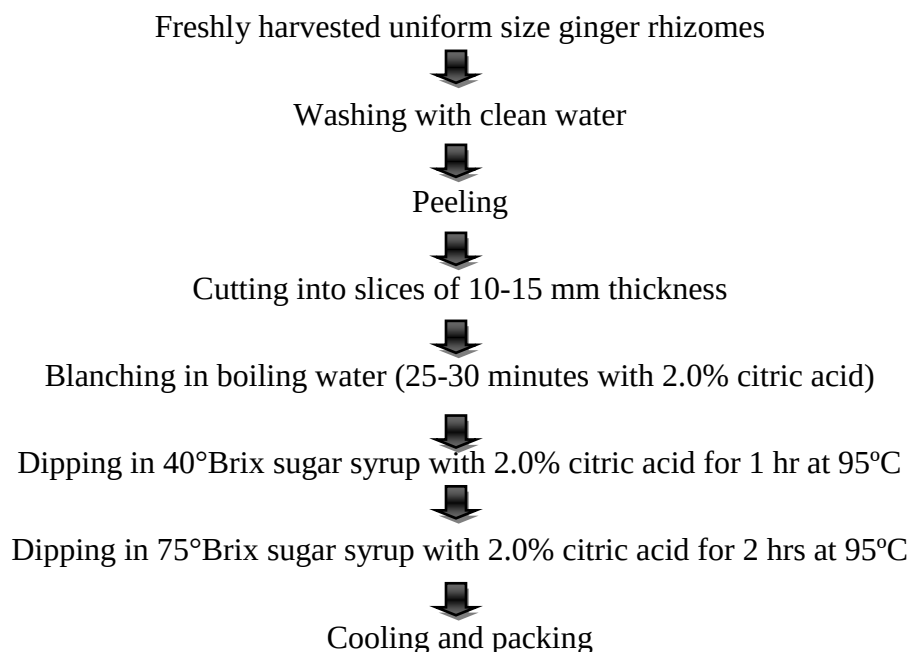
Age of the leaves and bulb size are two principal measurements used to determine harvesting time. Harvesting of ginger begin, as soon as the leaves become yellow and initiate to turn dry. This physical process generally best seen during 5th month after planting so this period is considered as typical harvesting time for ginger.

- o For fresh consumption: 5 months
- o For preserved ginger: 5-7 months
- o -For dried ginger: 8-9 months, when leaves start yellowing

2.2 Value addition of ginger

Ginger is valued for the dried ginger spice and preserved, crystallised ginger. For preparation of murabba (murabba), ginger was washed thoroughly in several changes of water and Peels were removed by scrubbing. Then the ginger was sliced crosswise according to its shape to a thickness of 0.5 cm. The ginger was soaked in clean water to prevent browning. The pieces of ginger were boiled for about for three minutes and set aside the boiled water. And it was done several times until the desired spiciness obtained. Finally, these pieces of ginger were ready to make preserve and murabba.

2.3 Flow chart for preparation of ginger murabba



Cleaning

Cleaning of harvested rhizomes should be necessary to remove debris, shoots and roots. Thorough cleaning of rhizome required immediately after harvest if ginger intended for export or for long-term storage. It is recommended to wash the rhizome in clean sanitized water with 150 ppm hypochlorous acid either by scrubbing with hands or with a brush. Killing of rhizome was being followed by traditional method, in which rhizomes were dipped in boiling water for 10 min. This method is useful in inactivation of enzymatic processes. Optimum sanitization by hypochlorous acid has found to be possible at a water pH of 6.5. It has also recommended to apply fungicidal treatment which can be done by adding fungicides either in to the water at the time of washing or it may have sprayed separately. Fungicides like benomyl (500 ppm active ingredient) or thiabendazole (1000 ppm) are recommended for this treatment.

Another mode of washing is pressure washing which tends to reduce the microbial load more efficiently so it is preferred when available.

Sorting

Sorting is the process of grouping according to size, shape, weight, image and color. So in this process all the damaged and injured rhizomes got separated and the rhizomes are kept separated depending upon the similarity in size and shape. Clean, brown-yellow and bright colored ginger should prefer. Ruptured or blot skin with bacterial or fungal infected rhizome are not recommended.

Peeling

Peeling is the process of scrapping or slicing. Generally ginger peeling is done before drying for better result in moisture content reduction in short time. Reduction of drying time is essential to reduce mould growth and fermentation. Peeling of ginger is also a very important and sensible operation as there is a chance of decreasing the percentage of oil constituent which is present more in its peel. There is also a chance of oleoresin reduction which is found near to the skin of ginger. So maximum care should be taken at this process generally it is done with bamboo splits having pointed ends.

Slicing

Slicing of ginger prior to drying is most important unit operation as large size of ginger rhizome will be difficult to process in to dried ginger due to high moisture content.

Blanching

In which rhizomes are dipped in boiling water added with 2% citric acid for 20-25 min. This method is useful in inactivation of enzymatic processes.

Sugar concentration

The cubes were steeped in sugar syrup having 40% total soluble solids (TSS) for a day. Then the cubes were removed from the syrup and increased consistency of syrup to 60% TSS by boiling. The cubes were steeped in 60%TSS syrup for a day. Then the process was repeated to raise the strength of syrup from 60% and finally to 70% TSS. The cubes were steeped in 70% TSS for a week.

The candied fruit is usually coated with a thin transparent layer of heavy syrup and dried to a more or less firm texture. In the preparation of murabba osmotic dehydration step prior to drying was used.

Packaging

Packaging of final processed product is done according to the homogeneity in size and quality. The prepared ginger murabba can be packed in polyethylene (HDGP) and other appropriate packages and they can be stored in room temperature ($30\pm 3^{\circ}\text{C}$).

CHAPTER 3

PACKAGING OF GINGER MURABBA

3.1 Characteristics of Ginger murabba

Ginger murabba is hygroscopic in nature and requires protection against the ingress of moisture, and exposure to high temperature (as far as possible). A murabba or confectionery product may be adversely affected by many things. Hard murabba, brittles and crunch products are most sensitive to moisture and absorb water vapour fairly rapidly from the atmosphere. Various gums are less sensitive while some creams tend to lose moisture considerably.

The factors that lead to spoilage of confectionery are highlighted as below:

Crystallisation

The sugar component of most of the candies is in a soluble form and it is essential that this form be maintained, since crystallisation of the sugar alters the taste and texture giving impression of an old product. Moisture interchanges play a major decisive role in deciding the shelf-life of confectionery items. The Equilibrium Relative Humidity (ERH) of a confection during its life determines its sensitivity towards all physico-chemical changes that occur due to environmental conditions. Data on moisture sorption characteristics of a candies are very important in understanding the storage stability as regards its chemical and physical changes, growth of microorganisms and also drying characteristics and product formulation and package selection.

Oxidation

If the confectionery contains fat, then rancidity can occur as a result of oxidation. Fat containing confectionery will also react with moisture to produce fatty acids and their degradation products. Being high in fat, candies is likely to absorb odours from the surrounding atmosphere.

Sugar Bloom

Candies can be affected by condensation giving sugar bloom, in which a fine layer of sugar crystals form on the surface of the product. This renders it un-saleable and if left unchecked can lead to mould growth.

Odour Absorption

Odour absorption by oils and fats can also be a problem. Odourous compounds are often very soluble in oils and fats and can be readily absorbed from materials such as paints, printing inks, petroleum oils and disinfectants. When the product is eaten, the odours are released in the mouth producing objectionable flavours. Confectionery can also deteriorate in other ways including exposure to heat, light, moulds, yeast, foreign odours and mechanical damage.

Water Vapour Transmission Rate (WVTR)

Knowledge of WVTR of packaging materials and the effect of folding, creasing, crumpling of materials on papers and aluminium foil show considerable effect during storage of murabba.

Gas Transmission Rate

Permeability to gases like oxygen decides the shelf-life of oxygen sensitive confectionery items. The oxygen transmission rates (OTR) of some plastic materials and the effect of folding and Crumpling affects the shelf life of murabba.

Grease Resistance

Grease Resistance of the packaging material is important to avoid seepage of oils and fats and smudging of the print.

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 confectionery film, 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 permeabilities to water vapour, gases and volatiles increase if the seal is not perfect. Thermoplastic films such as polyethylene give excellent heat seals.

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.

Murabba packaging must also be specialised for specific target groups. Children's sweets are to be packed differently from adult sweets and chocolate bars for adolescents should look different from expensive chocolates for discerning consumers. A different pack size is required for quick impulse buys at petrol stations and roadside shops than for the super markets selling predominantly family sized packs.

3.2 Selection of Packaging Material

Factors to consider include product damage, fines, stickiness, bag opening size, re-closure among other things. For sugar confectionery items and chocolates, the major functional packaging requirements include protection from: In selection of packaging materials for murabba the following need to be considered:

- a) Dust, dirt and other contaminating agents
- b) Moisture/water vapour pickup or loss resulting in sugar and fat bloom, stickiness, hardening and desiccation.
- c) Rancidity due to interaction with moisture and oxygen.
- d) Colour and aroma loss and tainting.
- e) Physical damages like dusting, breakage and loss of shape.

Role of Water Activity (a_w) in Confectionery Products

The end of shelf life due to moisture loss or gain, with subsequent changes in textural and other properties, is often the main problem in confections. Thus, an understanding of water activity is important for control of shelf life and stability. Water activity in confections generally falls below the critical values for microbial growth, with few exceptions. Water activity is

influenced by the presence of dissolved sugars, other sweeteners (e.g. polyols), salts (e.g., caramel), and humectants in confections.

Growth of microorganism's dependent on water activity (a_w)

Microbial growth also decreases with reduction in water activity. Majority of bacteria and many yeasts stop growing below water activity of 0.88. Only few osmophilic yeasts and molds grow below water activity of 0.7 and no microorganisms can grow below the water activity of 0.6.

Packaging Materials used for Murabba Items

A very high quantum of polymeric materials, besides cellulose and aluminium foil are used for murabba items. Paper board and metal containers are also used for certain applications. Although a variety of packaging materials are available, the ultimate choice of the wrapper depends upon the required shelf-life, performance on the wrapping machine and the cost which is purely based on the segment of the market targeted by the manufacturer. The most common choice of packaging medium is plastic (generally flexible) as it provides the required protection and preservation, grease resistance, physical strength, machinability and printability. Plastics being lighter in weight are, therefore, the most preferred material for packaging of confectionery.

There are many changing trends in the packaging of confectionery. Plastic films and their laminates are increasingly replacing waxed papers due to better properties and aluminium foil laminates due to price and better flex crack property. Depending on the type of package i.e. twist wrap, pillow pack and vertical flow pack or roll pack, the plastic based packaging films used for confectionery are listed below.

Polyethylene (PE)

It is considered to be the backbone of packaging films. Since one of the greatest threats to the integrity of confectionery products comes from moisture, polyethylene with its low water vapour transmission is of definite interest. Polyethylene films are fairly free of plasticizers and other additives and are quite extensively used as a part of lamination. Its ability to heat seal increases its value.

Low Density Polyethylene (LDPE) is an economical material with low WVTR, however, it has high permeabilities to flavours/volatiles, poor grease resistance and are limp. High-density

polyethylene (HDPE) is stiffer, more translucent and has better barrier properties but needs higher temperature for sealing.

Later additions include high molecular weight high-density polyethylene (HM HDPE) and linear low-density polyethylene (LLDPE). HM HDPE is a paper like film with high physical strength and barrier properties, but is less transparent than ordinary polyethylenes. HM HDPE is available in twist-wrap grades. Polyethylene films are also suitable for making bags and pouches. A copolymer of polyethylene and poly vinyl alcohol, and EVOH has outstanding gas barrier properties specially when dry.

Polypropylene

Polypropylene films are undergoing a growth trend in the confectionery industry. They have better clarity than polyethylenes and enjoy superior machineability due to stiffness. Lack of good sealability 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. Pearlsided polypropylene with an opal finish and attractive gloss is also used. Both as laminates and overwraps, PP film is now widely used for all types of confectionery packaging applications.

Poly Vinyl Chloride (PVC)

PVC is a stiff and clear film having low gas transmission rate. PVC can be used as small wraps, bags and pouches. PVC when co-polymerised with polyvinylidene chloride is known as Saran. Since it is a costly material, it is only used as a coating to obtain barrier properties and heat sealability. PVC film is also used for twist wraps, as it has twist retention properties and is excellent on high-speed machines.

Polyesters (PET) and Polyamide (PA)

Polyethylene terephthalate film has high tensile strength, gloss and stiffness as well as puncture resistance. It has moderate WVTR, but is a good barrier to volatiles and gases. To provide heat seal property, PET is normally laminated to other substrates. Nylons or polyamides are similar to PET, but have high WVTR.

Metallised Films

When polymeric films are metallised there is an improvement in their barrier properties. Metallisation is also used for decorative purposes and aesthetics. The films, which are used for metallisation are PVC, PET, PP and polyamides.

To safeguard the interest of the consumer the Standards of Weights & Measures (Packaged Commodities) Rules, have imposed a limit on the weight of the wrapper. Under this, it is essential that in the case of twist wrap and pillow wrap confectionery, where the weight of the individual pieces is less than 10 grams, the size of the wrapper and the type of wrapping material selected is such that it meets the limit on weight of wrapper, under the above rules.

3.3 Packaging Forms

Hanging Bags

Hanging bags are frequently seen in grocery stores and other retail locations. They are a type of plastic bag that is sealed on both ends and sometimes with a back-middle seam as well. Hanging bags have a pre-cut hole that allows them to hang easily from hooks, so they can be displayed in an attractive way. These bags hold multiple pieces of murabba, which can be pre-wrapped inside the bag to preserve freshness.

Pillow Bags and Pouches

Another common type of murabba packaging is a pillow pouch or bag. These are often used to hold pre-wrapped candies in bundles, so you can buy more than one piece at a time. The bags get their name from their shape, which resembles a pillow. They are found lying flat on grocery store shelves and have been known to hold mini chocolate bars and individually wrapped gummy candies.

Gusseted Poly Bags

Gusseted bags are often called flat-bottom bags because they feature a tucked in pleat that's been pressed flat. It allows the bag to expand for greater carrying capacity and to keep the shape of a box if necessary. These types of poly bags can be heat sealed, tied, stapled, or taped shut. They're the perfect poly bag for anyone looking to get more murabba in a single bag. You will often see gusseted poly bags next to a pick-n-mix station where you fill up a bag full of different candies to take home.

Reclosable Zipper Bags and Pouches

Reclosable bags and pouches are essential for murabba products because they give customer convenient access to their goodies while preserving freshness. Zipper closures let customers use portion control or take their murabba on the go.

Murabba Trays

Murabba trays can be ordered in bulk in multiple sizes, or they can be custom molded to your products. These are the plastic trays you find inside deluxe two-piece boxes or gift boxes that hold individual candies in place. They are popular in assorted chocolate gift boxes where manufacturers like to display each individual chocolate separately for a clean appearance.

Twist Ties or Heat Sealers

With any poly bag application, you need a way to close the bag of murabba to keep everything from falling out. That's where twist ties and heat sealers come in handy. For simple applications that don't require much travel time, twist ties are an inexpensive option for closing your poly bag. For murabba applications that require longer shelf lives, you would want to use a heat sealer to create a durable, air-tight seal in the bag. This helps preserve the freshness and taste of your murabba for longer.

Flexible Pouches

Flexible pouches are a great option for holding murabba pieces and other sweet treats. They can be manufactured with zipper-seal closures, which help keep the interior contents fresh for use. Flexible pouches offer amazing printing capabilities, so you can add your attractive murabba branding to the pouch itself. Many pouches stand up on their own, which helps you improve your shelf appearance.

Future Trends in murabba packaging

The confectionery market is one of the most competitive in the FMCG area. Major companies continuously battle to entice sweet-toothed consumers from competing brands. A strong brand

The developing trends in murabba packaging are:

- Widespread and increasing use of cold seal

- Use of laminated structures and cold seals for premium products
- Increasing use of opaque multi-packs for grocery outlets
- Switch over to higher yield opaque films for cost reduction
- Replacement of Al foil / paper wraps by OPP laminates
- Developments in low temperature heat seal packs

Conclusion

Emerging trends in the confectionery packaging industry have given wide scope for development of a variety of innovative packaging media depending on the required shelf life and performance of wrapping machines. Plastic films and laminates are the most popular choice as a packaging media, replacing traditional waxed paper and aluminium foil. Polyethylene is considered as the backbone of packaging films along with other polymers like PP, PVC, PET and PA. The ability of plastics to pass all selection criteria as an effective packaging media has led to very high quantum of polymeric material used for confectionery items.

CHAPTER 4

FSSAI STANDARDS AND FOOD SAFETY

4.1 Fssai Standards for Ginger Murabba

Category 2.3.25 Murabba Under Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011

1. Murabba means the product, prepared from suitable, sound whole or cut grated fruits, rhizome or vegetables, appropriately prepared, suitable for the purpose, singly or in combination, by impregnating it, with nutritive sweeteners to a concentration adequate to preserve it.

2. The product may contain food additives permitted in these regulations. The product shall conform to the microbiological in these regulations. The product shall conform to the following composition:

(i) Total soluble solids (m/m) Not less than 65.0 percent

(ii) Fruit contents (m/m) Not less than 55.0 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

Food category System	Food Category Name	Food Additive	INS No	Recommended Maximum Level	Note
4.1.2.7	Candied / glazed / crystallised fruit including murrabba*	Allura red AC	129	100 mg/kg	
		Annatto	160b	200 mg/kg	
		Aspartame	951	2,000 mg/kg	191
		BENZOATES		1,000 mg/kg	13
		Brilliant blue FCF	133	200 mg/kg	

		Canthaxanthin	161g	200 mg/kg	
		CAROTENOID S		200 mg/kg	
		CHLOROPHY LLS AND CHLOROPHY LLINS, COPPER COMPLEXES	150c	200 mg/kg	

Food category System	Food Category Name	Food Additive	INS No	Recommended Maximum Level	Note
4.1.2.7	Candied / glazed / crystallised fruit including murrabba*	Caramel III - ammonia Caramel	150d	7,500 mg/kg	
		Beta-Carotenes, Vegetable	160a(ii)	1,000 mg/kg	
		Curcumin	100	200 mg/kg	
		HYDROXYBE NZOATES, PARA		250 mg/kg	27
		Neotame	961	100 mg/kg	
		PHOSPHATES		2,200 mg/kg	

		Polydimethylsiloxane	900a	10 mg/kg	
		SACCHARINS		160 mg/kg	144

Food category System	Food Category Name	Food Additive	INS No	Recommended Maximum Level	Note
4.1.2.7	Candied / glazed / crystallised fruit including murrabba*	SORBATES		1,000 mg/kg	42
		SULFITES		100 mg/kg	44
		Sucralose (Trichlorogalactosucrose)	955	180 mg/kg	144
		Sunset yellow	110	200 mg/kg	
		FCF			
		Tartrazine	102	200 mg/kg	
		Acesulfame Potassium	950	500 mg/kg	118
		Tartaric acid	334	GMP	
		*No sweeteners and colours permitted in murrabba			

4.2 Food Safety

Part I - General Hygienic and Sanitary practices to be followed by Petty Food Business Operators applying for Registration (See Regulation 2.1.1(2))

SANITARY AND HYGIENIC REQUIREMENTS FOR FOOD MANUFACTURER/PROCESSOR/HANDLER

The place where food is manufactured, processed or handled shall comply with the following requirements:

1. The premises shall be located in a sanitary place and free from filthy surroundings and shall maintain overall hygienic environment. All new units shall set up away from environmentally polluted areas.
2. The premises to conduct food business for manufacturing should have adequate space for manufacturing and storage to maintain overall hygienic environment.
3. The premises shall be clean, adequately lighted and ventilated and sufficient free space for movement.
4. Floors, Ceilings and walls must be maintained in a sound condition. They should be smooth and easy to clean with no flaking paint or plaster.
5. The floor and skirted walls shall be washed as per requirement with an effective disinfectant the premises shall be kept free from all insects. No spraying shall be done during the conduct of business, but instead fly swats/ flaps should be used to kill spray flies getting into the premises. Windows, doors and other openings shall be fitted with net or screen, as appropriate to make the premise insect free The water used in the manufacturing shall be potable and if required chemical and bacteriological examination of the water shall be done at regular intervals at any recognized laboratory.
6. Continuous supply of potable water shall be ensured in the premises. In case of intermittent water supply, adequate storage arrangement for water used in food or washing shall be made.

7. Equipment and machinery when employed shall be of such design which will permit easy cleaning. Arrangements for cleaning of containers, tables, working parts of machinery, etc. shall be provided.

8. No vessel, container or other equipment, the use of which is likely to cause metallic contamination injurious to health shall be employed in the preparation, packing or storage of food. (Copper or brass vessels shall have proper lining).

9. All equipments shall be kept clean, washed, dried and stacked at the close of business to ensure freedom from growth of mould/ fungi and infestation.

10. All equipments shall be placed well away from the walls to allow proper inspection.

11. There should be efficient drainage system and there shall be adequate provisions for disposal of refuse.

12. The workers working in processing and preparation shall use clean aprons, hand gloves, and head wears.

13. Persons suffering from infectious diseases shall not be permitted to work. Any cuts or wounds shall remain covered at all time and the person should not be allowed to come in direct contact with food.

14. All food handlers shall keep their finger nails trimmed, clean and wash their hands with soap, or detergent and water before commencing work and every time after using toilet. Scratching of body parts, hair shall be avoided during food handling processes.

15. All food handlers should avoid wearing, false nails or other items or loose jewellery that might fall into food and also avoid touching their face or hair.

16. Eating, chewing, smoking, spitting and nose blowing shall be prohibited within the premises especially while handling food.

17. All articles that are stored or are intended for sale shall be fit for consumption and have proper cover to avoid contamination.

18. The vehicles used to transport foods must be maintained in good repair and kept clean.

19. Foods while in transport in packaged form or in containers shall maintain the required temperature.

20. Insecticides / disinfectants shall be kept and stored separately and away from food manufacturing / storing/ handling areas.

4.3 LABELLING

Labeling Requirements

All food products sold in India that are prepackaged are required to comply with the Food Safety and Standards (Packaging and labelling) Regulations, 2011. The Food Safety and Standards Regulation, 2011 is a notification issued by the Food Safety and Standards Authority of India under the Ministry of Health and Family Welfare. In this article, we look at the regulations pertaining to food labelling in India.

Applicability of Food Labelling Regulations

The food labelling regulations require all “Prepackaged” or “Pre-packed food” to comply with the labelling regulations in India. As per the rules, prepackaged food means food, which is placed in a package of any nature, in such a manner that the contents cannot be changed without tampering it and which is ready for sale to the consumer.

General Labelling Requirements

The following labelling requirements must be complied with by all prepackaged food sold in India:

- The label must be in English or Hindi or Devnagri language. In addition to the above, the label can contain information in any other language, as required.
- The label must not contain information about the food that could be deemed to be false, misleading, deceptive or otherwise create an erroneous impression regarding the product.

- The label must be affixed to the container in such a manner that it would not easily be separated from the container.
- The contents or information presented in the label should be clear, prominent, indelible and readily legible by the consumer.
- If the container is covered by a wrapper, then the wrapper must contain necessary information or make the label of the product inside readily legible by not obscuring.
- The name of the food must be mentioned along with the trade name and description of the food contained. In case the food contains more than one ingredient, then a list of ingredients must be presented in descending order of their composition by weight or volume, as the case may be, at the time of its manufacture;

Nutritional Information

Nutritional Information or nutritional facts per 100 gm or 100ml or per serving of the product must be given on the label along with the following information:

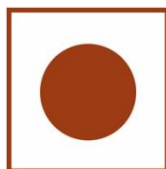
- energy value in kcal;
- the amounts of protein, carbohydrate (specify the quantity of sugar) and fat in gram (g) or ml;
- the amount of any other nutrient for which a nutrition or health claim is made:
- It is important to note that any “health claim” or “nutrition claim” or “risk reduction” claim made in the label will be thoroughly scrutinized by the FSSAI authorities. Hence, any such claim must be validated by test data. As per the rules, the following is the definition for “health claim”, “nutrition claim” and “risk reduction” claim:
- “Health claims” means any representation that states, suggests or implies that a relationship exists between a food or a constituent of that food and health and include nutrition claims which describe the physiological role of the nutrient in growth, development and normal functions of the body, other functional claims concerning specific beneficial effect of the consumption of food or its constituents, in the context

of the total diet, on normal functions or biological activities of the body and such claims relate to a positive contribution to health or to the improvement of function or to modifying or preserving health, or disease, risk reduction claim relating to the consumption of a food or food constituents, in the context of the total diet, to the reduced risk of developing a disease or health-related condition;

- “Nutrition claim” means any representation which states, suggests or implies that a food has particular nutritional properties which are not limited to the energy value but include protein, fat carbohydrates, vitamins and minerals;
- “Risk reduction” in the context of health claims means significantly altering a major risk factor for a disease or health-related condition;

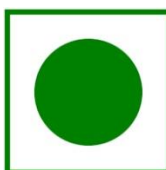
Veg or Non-Veg Symbol

All packaged food that is “Non-Vegetarian” must have a symbol that is a brown colour filled circle inside a square with a brown outline. If a food contains only egg as a non-vegetarian ingredient, then the manufacturer may provide a declaration that the product contains only egg and add the non-vegetarian symbol.



Non-Veg Symbol

Packaged vegetarian food should have a symbol that consist of green colour filled circle inside a square with green.



Veg Symbol

Information Relating to Food Additives, Colours and Flavours

Food additives contained in the food product must be mentioned along with class titles along with the specific names or recognized international numerical identifications. Addition of colouring matter should be mentioned on the label along with certain statements like “CONTAINS PERMITTED NATURAL COLOUR(S)”, just beneath the list of the ingredients on the label. In case of addition of extraneous flavouring agent, then it should be mentioned in a statement like “CONTAINS ADDED FLAVOUR” just beneath the list of ingredients on the label.

Name and Complete Address of the Manufacturer

The name and complete address of the manufacturer must be mentioned on every package of food. In the case of imported food, the package must contain the name and complete address of the importer in India.

Net Quantity

All packaged food must carry the net quantity by weight or volume or number, as the case may be. The net quantity of the commodity contained in the package must exclude the weight of the wrappers and packaging materials.

Lot Number of Batch Identification

A lot number or batch number or code number must be mentioned on all packaged food so that it can be traced while manufacturing and distribution. Only bread and milk including sterilised milk are not required to comply with this regulation.

Date of Manufacture or Packing

The date, month and year in which the commodity is manufactured, packed or pre-packed must be mentioned on the label. In the case of food products having a shelf life of more than three months, then the month and the year of manufacture can be given with the “Best Before Date”. In case of products having a shelf life of fewer than three months, the date, month and year in

which the commodity is manufactured or prepared or pre-packed must be mentioned on the label with best before date.

Country of Origin for Imported Food

For imported food, the country of origin of the food should be declared on the label of the food. In case a food product undergoes processing in a second country which changes its nature, the country in which the processing is performed should be considered to be the country of origin for the purposes of labelling.

Instructions for Use

Instructions for use, including reconstitution, should be included on the label, if necessary, to ensure correct utilization of the food



Contact Us

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