MINISTRY OF FOOD PROCESSING INDUSTRIES
GOVERNMENT OF INDIA

सत्यमेव जयते

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Reading Material for

Basil Processing

Under PMFME Scheme

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CHAPTER – 1

RAW MATERIAL

1.1 INTRODUCTION

Basil is an herb in the mint family. It adds flavor to meals, and its nutrients may provide health benefits. Scientific namen : *Ocimum basilicum* (sweet basil) Indian variety : holy basil *Ocimum sanctum* also known as Tulsi. Provide vitamins, minerals, and a range of antioxidants. Essential oil may also have medicinal benefits.

It is rich in secondary metabolites and essential oils. Safe to use, economical, effective and easy availability. Rich in phenolic compounds and useful for therapeutic potentials. Used in both Unani and Ayurvedic system of medicine. Rich and spicy, mildly peppery flavour with a trace of mint and clove. It is used widely as a flavouring confectionary, baked foods and meat products, culinary and an ornamental herb.

O. sanctum is an erect, herbaceous, bi & triennial plant with height upto 30-75 cm. Leaf structure is serrate, pubescent on both sides. Flowers are purplish or crimson. Its fruits are ellipsoid, slightly compressed, pale brown or reddish.

1.2 IMPORTANT CHEMICAL COMPOUNDS IN BASIL

The plant contains mainly phenols, aldehydes, tannins, saponin and fats. The essential oil components are Eugenol - 71%, Eugenol methyl ether - 20%, Carvacrol - 3% and minor portions - Nerol, Caryophyllene, Selinene, α-pinene, ß-pinene and other chemicals found are Camphor, Cineole, Linalool.

1.3 NUTRITIONAL COMPOSITION / 100 G OF FRESH BASIL

Basil is wonderful plant in terms of its medicinal value. Since it is available in india very easily its household use is already present in traditional Indian culture. It is worshipped in houses and consumed raw also. Its nutritional value is present in below table:

Nutritive elements	**Content**
Fat	0.64 g
Protein	3.15 g
Water	92.06 g
Vitamins & Minerals	**Content**
Vitamin A	264 µg
β-Carotene	3142 µg
Calcium	177 mg
Iron	3.17 mg
Magnesium	64 mg
Mangenese	1.148 mg
Phosphorus	56 mg
Potassium	295 mg
Sodium	4 mg
Zinc	0.81 mg

1.4 CULTIVATION METHODS –

1.4.1 SOIL

There are three types of soil which should be taken into consideration while cultivating Basil:

1. Rich loam, poor laterite, saline and alkaline to moderately acidic soils
2. Well drained soil - better vegetative growth.
3. Water logged conditions can cause root-rot and results in stunted growth.

RICH LOAMY

WELL DRAINED

WATER LOGGED

Basil flourishes under fairly high rainfall and humid conditions. Long days and high temperatures are favourable for plant growth and oil production. It can grow up to an altitude of 900 m. Moderately tolerant to drought and frost. Under partially shaded conditions Basil gives low oil contents

1.4.2 PLANTING AND NURSERY

Planting time - third week of February and transplanting done in the middle of April. In nursery raised seed beds size suitable is of 15 × 4 × 9 ft size. Farm yard manure addition should be 10 kg per bed. Seeds of approx 200-300 g enough to raise the seedlings in one hectare of land. Sown depth should be 2 cm after mixing with sand and seed germination time is usually 8-12 days .

1.4.3 LAND PREPARATION AND TRANSPLANTATION

Recommended farm yard manure addition is 15 t/ha approx and transplantation seedlings with six weeks old have 4-5 leaves only. For high herbage and oil yield preferred spacing is normally 40 × 40 cm, 40 × 50 cm and 50 × 30 cm. Seedlings are ready for transplanting

within 6 weeks time. For healthy seedlings a spray of 2% urea solution for15 to 20 days before transplanting is enough.

1.4.4 CROP ROTATION

Before planting farm, yard manure / compost addition should be around 10 t/ha. Compost must not be of city waste and human excreta. Optimum fertilizer dose recommended is 120 kg N, 60 kg of P2 O5 and K2 O per hectare. Basal dose is usually half the dose of N and the entire dose of P2 O5 and K2 O. Micronutrients increase the oil yield significantly. Cobalt and Manganese at concentration of 50 and 100 ppm can be added for this. For saline and alkaline soils addition of 120 kg N, 105 kg each of P2 O5 and K2 O per hectare is recommended.

1.4.5 DISEASES AND CONTROL

1. Powdery mildew by Oidium spp. controlled by spraying wettable sulphur 4 g/I water.
2. Seedling blight caused by Rhizoctonia solani.
3. Root-rot caused by Rhizoctonia bataticola.

The above two diseases are managed by:

1. improved phyto-sanitary measures and,
2. by drenching the nursery-beds with a solution of mercurial fungicide.
3. Larvae of leaf-rollers sticking to the under surface of the leaves fold them backwards lengthwise, thus webbing them.
4. Malathion (0.2%) may be sprayed to control this insect.

CHAPTER – 2

PROCESSING

2.1 BASIL SEEDS

Below are few important uses of Basil seeds :

1. Seeds are mucilaginous and demulcent used in disorders of the genito-urinary system.
2. The seeds rubbed in water are given for irritation coughs, gonorrhea, labour pains and dysentery.
3. The seeds rubbed with cow's milk are given for vomiting and diarrhea.
4. The juice of the fresh leaves, flower-tops and the slender roots are considered to be good antidotes for snakebite and scorpion sting.

2.2 BASIL USES

Below are few important uses of Basil :

1. Tribals use the plant in cholera, cough, postnatal complaints, hemorrhagic septicemia and dog bite.
2. The volatile oil possess antibacterial and insecticidal properties.
3. It inhibits the in vitro growth of Mycobacterium tuberculosis and Micrococcus pyrognes var. aureus.
4. It has marked insecticidal activity against mosquitoes.

2.3 DRYING OF BASIL LEAVES

In many rural locations, grid electricity and supply of other non-renewable sources of energy are too expensive, unavailable or unreliable and drying systems that use mechanical fans and electric heating are inappropriate. The high capital- and running-costs of fossil fuel-powered dryers presents an economic barrier to use by small-scale farmers. Solar-energy drying systems are put forward as technology for small rural farmers and enterprises in developing countries. Solar dryers can be classified into two generic groups, passive or natural air circulation solar dyers and active or forced convection solar-energy dryers. Forced convective dryers employ motorised fans for circulation of the drying air. The electricity for the fan can

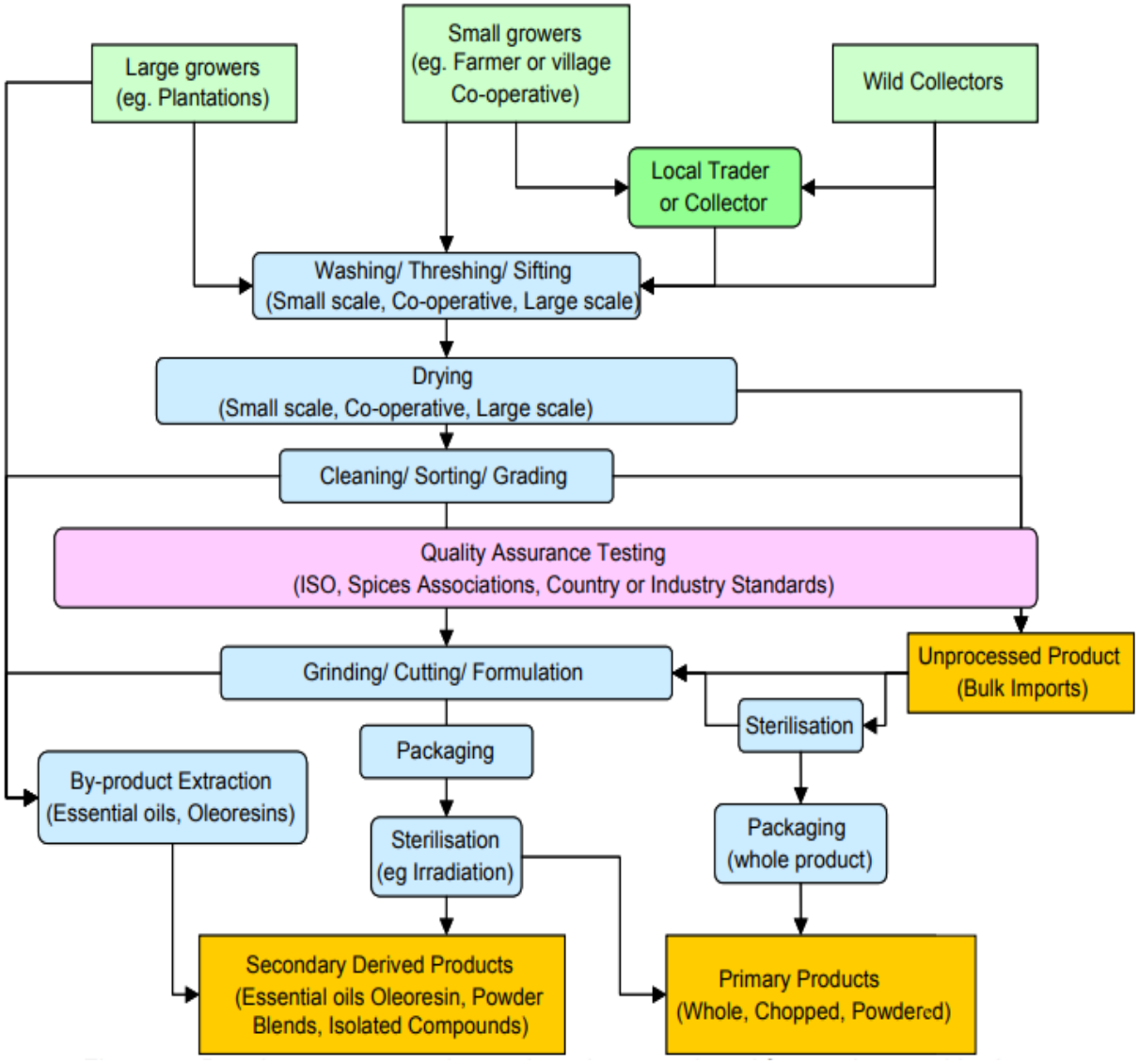
come from a solar photoelectric panel and battery. Each group can also be sub-divided into three subgroups:

i) Integral types (direct solar dryers where the crop is placed in a drying chamber with transparent walls, and the solar radiation falls directly on the crop, coupled with convection air flow from the heated surrounding air),

ii) ii) Distributed type (indirect heating, where solar radiation heats a solar collector external to the drying chamber),

iii) iii) A mixed type where there is both direct and indirect heating.

The general postharvest operations in developing countries as per FAO is given in below flow chart:



2.4 BASIL OIL PRODUCTION

HARVESTING YIELD AND OIL YEILD PROCESSING

Harvesting should be done in full bloom state. First harvest should be done 90-95 days after planting. Afterwards it can be harvested at every 65-75 days, intervals. Harvesting done on bright, sunny days gives good quality oil-yield. It is not desirable to harvest the crop if it has rained the previous day. The crop should be cut 15-20 cm above ground-level. The harvested allowed to wilt for 4-5 hours in the field itself to reduce the moisture content and the bulkiness. About 5 ton/hectare of fresh herbage can be obtained 2 to 3 times a year.

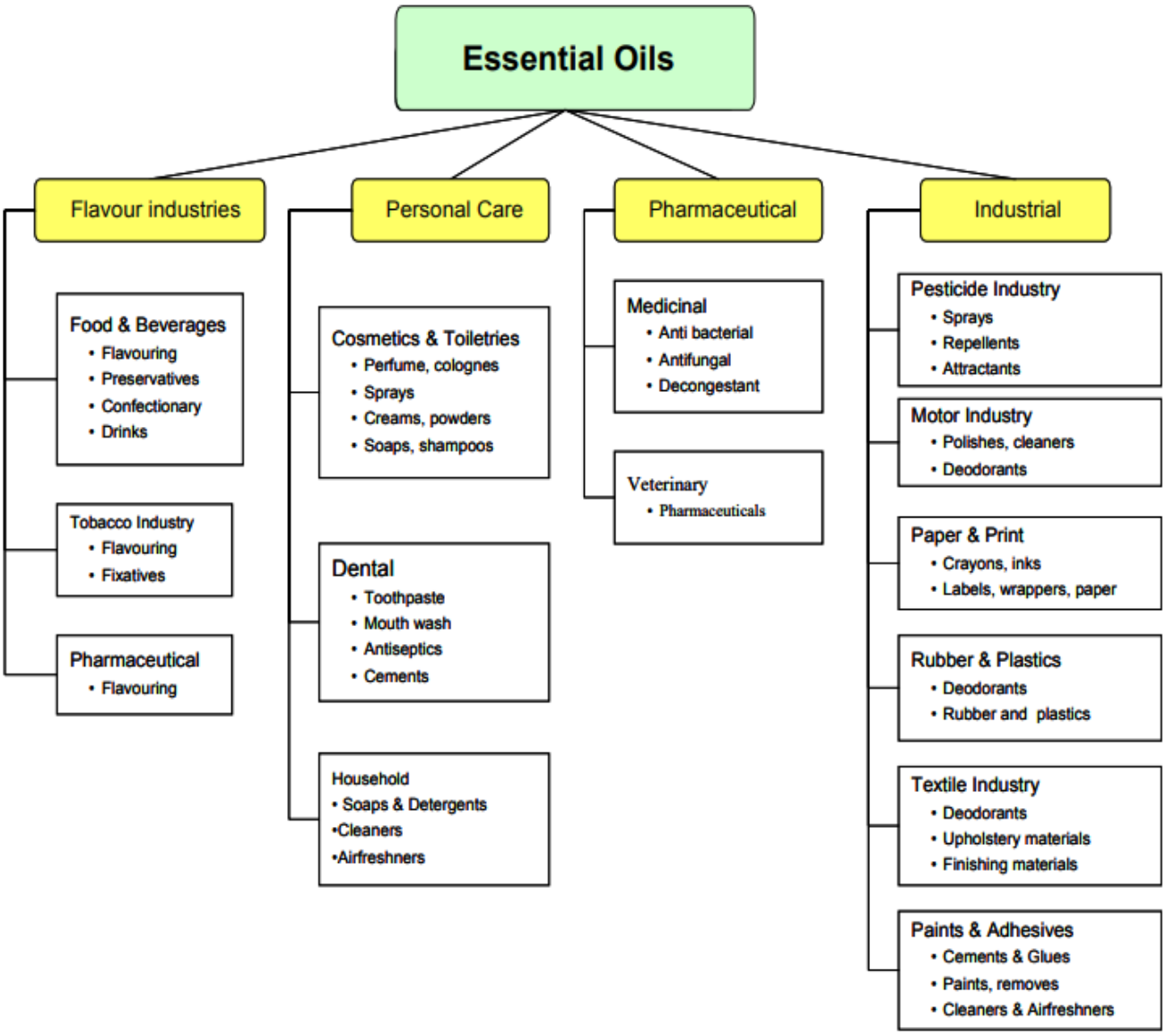


Figure 3: Industries and product categories that use essential oils. Source - FAO

2.5 DISTILLATION PROCESS

- Distillation should be done in fresh form. Oil quality and yield maintained up to 6-8 hours after harvest, if delayed may result in gradual loss of quality. Steam-distillation is superior to water distillation. Whole herb contains 0.1 to 0.23% essential oil. The oil yield depend upon type, season and place of origin. The oil-yield is 10-23 kg/ha approx.

- Distillation is the process of separating the components or substances from a liquid mixture by using selective boiling and condensation.

- Distillation may result in essentially complete separation (nearly pure components), or it may be a partial separation that increases the concentration of selected components in the mixture. In either case, the process exploits differences in the volatility of the mixture's components.

- In industrial chemistry, distillation is a unit operation of practically universal importance, but it is a physical separation process, not a chemical reaction.

- Steam distillation is a special type of distillation (a separation process) for temperature sensitive materials like natural aromatic compounds.

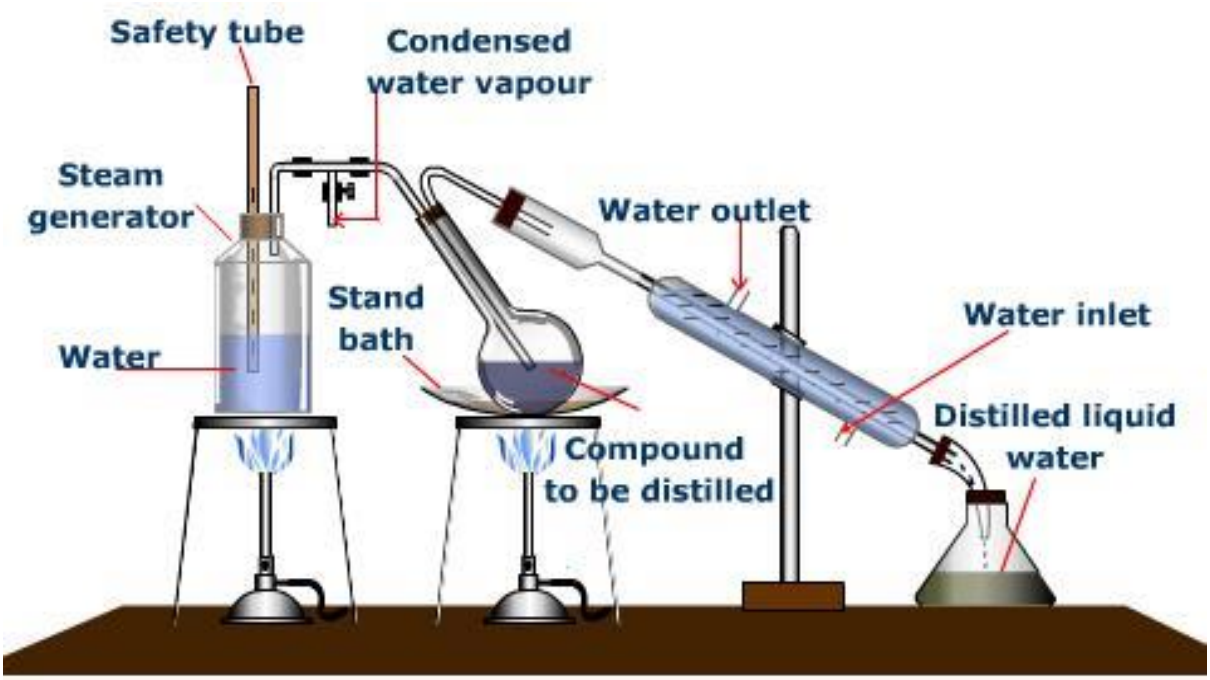
- It once was a popular laboratory method for purification of organic compounds, but has become less common due to the proliferation of vacuum distillation.

- This process effectively enables distillation at lower temperatures, reducing the deterioration of the desired products.

- If the substances to be distilled are very sensitive to heat, steam distillation may be applied under reduced pressure, thereby reducing the operating temperature further.

- After distillation the vapours are condensed. Usually the immediate product is a two-phase system of water and the organic distillate, allowing separation of the components by decantation, partitioning or other suitable methods.

- It is employed in the manufacture of essential oils, for use in perfumes for example. In this method, steam is passed through plant material containing desired oils.



STEAM DISTILLATION UNIT

- Eucalyptus oil and orange oil are also obtained by this method in the industrial scale.
- Steam distillation is also used to separate intermediate or final products during synthesis of complex organic compounds.
- Also widely used in petroleum refineries and petrochemical plants.

CHAPTER – 3

PACKAGING

3.1 INTRODUCTION

The selection of packaging materials should take care of functional as well as market requirements.

For bulk packaging, there are no specifications. Commonly, jute fabrics such as hessian, light weight DW, A-twill, heavy Cee, Jumbo bags (Flexible Intermediate Bulk Containers) (FIBCs) are used for bulk packaging.

3.2 PACKAGING MATERIALS USED FOR BASIL PRODUCTS

According to Food Safety and Standards (Packaging) Regulation, 2018, the following packaging materials are recommended for spices:

- Glass bottle with metal lid or plastic (polypropylene (PP) or Highdensity polyethylene (HDPE) caps
- Plastic based rigid container with Plastic cap (Polyethylene terephthalate (PET) and High-density polyethylene (HDPE) Containers)
- Paper & Paper board or Aluminium foil or Plastic Film based Composite Container
- Folding cartons with Plastic based flexible laminated structure (heat sealed) pouch placed inside
- Plastic based multi-layered layered laminated pouch (heat sealed)(FSSAI, 2018).
- Glass bottles

2.3 STORAGE OF BASIL

Sugar if properly stored may last for year under room temperature.

Following steps needs to be taken care while storing fennel seeds:

- Containers should be kept away from sun, rain and moist conditions in covered premises.
- The room where the sugar is to be stored should have dry atmosphere, free from unwanted odour as well as proofed against insects and vermin entry.

- The room should have controllable ventilation where it could be able to give good ventilation in dry conditions and should have fully closed ventilation in damp conditions. Fumigation facilities should also be there.

Chapter – 4

Food Safety Regulations and Standards

4.1 REGISTRATION AND LISCENSING OF FOOD BUSINESS

All Food Business Operators in the country will be registered or licensed in accordance with the procedures laid down

Registration of Petty Food Business

a. Every petty Food Business Operator shall register themselves with the Registering Authority by submitting
b. An application for registration in Form A under Schedule 2 of these Regulations along with a fee as provided in Schedule 3.
c. The petty food manufacturer shall follow the basic hygiene and safety requirements provided in Part I of Schedule 4 of these Regulations and provide a self-attested declaration of adherence to these requirements with the application in the format provided in Annexure-1 under Schedule 2.
d. The Registering Authority shall consider the application and may either grant registration or reject it with reasons to be recorded in writing or issue notice for inspection, within 7 days of receipt of an application for registration.
e. In the event of an inspection being ordered, the registration shall be granted by the Registering Authority after being satisfied with the safety, hygiene and sanitary conditions of the premises as contained in Part II of Schedule 4 within a period of 30days.
f. If registration is not granted, or denied, or inspection not ordered within 7 days as provided in above sub regulation (3) or no decision is communicated within 30 days as provided in above sub regulation (4), the petty food manufacturer may start its business, provided that it will be incumbent on the Food Business Operator to comply with any improvement suggested by the Registering Authority even later.
g. Provided that registration shall not be refused without giving the applicant an opportunity of being heard and for reasons to be recorded in writing.
h. The Registering Authority shall issue a registration certificate and a photo identity card, which shall be displayed at a prominent place at all times within the premises or

vehicle or cart or any other place where the person carries on sale/manufacture of food in case of Petty Food Business.

i. The Registering Authority or any officer or agency specifically authorized for this purpose shall carry out food safety inspection of the registered establishments at least once in a year. Provided that a producer of milk who is a registered member of a dairy Cooperative Society registered under Cooperative Societies Act and supplies or sells the entire milk to the Society shall be exempted from this provision for registration.

4.2 STANDARDS FOR BASIL PRODUCTS

Basil comes under "Seasoning" i.e. ingredients such as :

- Spices, condiments and herbs including their extracts, salt,
- Fruits and vegetables or their products or extracts,
- Dry fruits, nuts and raisins or their products,
- Edible starches, yeast and its product including yeast extract, soya and its products,
- Hydrolyzed protein or their products, meat, poultry ,marine, aquatic and their products,
- Edible vegetable oils and fats, cereal and cereal products, milk and milk products,
- Nutritive sweeteners or any other suitable ingredient whose standards are prescribed in Food Safety and Standards(Food Product Standards and Food Additives) Regulations, 2011
- The product shall also conform to the following requirements, namely:-
- 1. *Moisture % (by weight) (Maximum) - 10.0
- 2. Acid Insoluble Ash in dilute HCl % (on dry basis) - (Maximum) 2.0

Spice Oleoresin shall meet the below requirements for sweet basil:

- Must contain E-Beta Caryophyllene (BCP) as active component
- Volatile Oil Content (VOC in ml/100g of oleoresin) value must not be less than 4

4.3 HYGIENIC, SANITARY AND GOOD MANUFACTURING PRACTICES (GMP/GHP) AND HACCP

Cleaning and Sanitation

i. Cleaning and sanitizing programmes shall be established at facility to ensure that the food-processing equipment and environment are maintained in a hygienic condition to prevent contamination of food, such as from metal shards, flaking

plaster, food debris and chemicals and records of the same shall be maintained. The programme should ensure that all parts of the establishment are appropriately clean, and shall include the cleaning of cleaning equipment.

ii. Master sanitation schedule shall be maintained for overall facility through checklists

which includes:

- Areas, items of equipment and utensils to be cleaned;
- Responsibility for particular tasks;
- Cleaning method and frequency of cleaning; and
- Monitoring arrangements for checking effectiveness of cleaning
- Person responsible for cleaning
- Persons responsible for monitoring & verification of effectiveness of cleaning
- In case of any deviation what correction & corrective actions being taken.
- Where ever chances of microbial risk with product air count & swab test being recommended.

iii. Cleaning and disinfection chemicals shall be food grade wherever chances of it may come in direct or indirect contact through equipment's or plant surfaces, handled and used carefully and in accordance with manufacturers' instructions, for example, using the correct dilutions, and stored, where necessary, separated from food, in clearly identified containers to avoid the risk of contaminating food.

iv. Cleaning shall remove food residues and dirt and it can be carried out by the separator the combined use of physical methods, such as heat, scrubbing, turbulent flow and vacuum cleaning or other methods that avoid the use of water, and chemical methods using appropriate cleaning agents.

v. These facilities should be constructed of corrosion resistant materials, be easy to clean and shall have adequate supply of hot and cold potable water, where appropriate. It is recommended to have different colour for hot and cold pipes. A validation mechanism should be in place for all cleaning programme.

Cleaning procedure should generally involve;

- Removing gross visible debris from surfaces.
- Applying a detergent solution to loosen soil and bacterial film (cleaning)

- Rinsing with water (hot water where possible) to remove loosened soil and residues of detergent.
- Dry cleaning or other appropriate methods for removing and collecting residues and debris and
- Where necessary, cleaning should be followed by disinfection with subsequent rinsing.

Designated area with lock & key provision should be allocated for cleaning equipment's &

Chemicals where ever necessary & applicable CIP procedure should be defined for equipment's cleaning.

House keeping

i. A housekeeping schedule covering manufacturing and storage areas shall be maintained.
ii. The surrounding areas including roads, parking lots and drains should be well maintained.
iii. Walls and floors should be maintained neat and clean. Ceilings and light fixtures should be easy to clean.
iv. Drains should be sufficiently sized and well sloped. Drains should have removable grates installed for ease of cleaning.
v. For 3rd party (contract) cleaning companies, the supplier should define clear scope, details of services and responsibilities.
vi. Waste storage areas should be clearly marked and waste shall be disposed of in a timely manner.

4.4 **HACCP PROCEDURE**

According to the nature and size of the operation and sufficient to assist the business to verify that the HACCP controls are in place and being maintained.

Documentation shall include (as a minimum) the following:

- HACCP team composition;
- Product description;
- Intended use;

- Flow chart;
- Hazard analysis;
- CCP determination;
- Critical limit determination;
- Validation process; and
- HACCP plan

The HACCP plan shall include the following information for each identified CCP:

- Food safety hazard(s) to be controlled at the CCP;
- Control measure(s);
- Critical limit(s);
- Monitoring procedure(s);
- Corrections and corrective action(s) to be taken if critical limits are exceeded;
- Responsibilities and authorities for monitoring, corrective action and verification;
- Record(s) of monitoring.

Records to include

- CCP monitoring activities;
- Deviations and associated corrective actions;
- Disposition of non-conforming products;
- Verification procedures performed;
- Modifications to the HACCP plan;
- Validation record;Product release recordsand Testing records.

4.5 **PACKAGING AND LABELLING**

General Requirements for Packaging

1. 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.

2. Containers made of plastic materials should conform to the following Indian Standards Specification, used as appliances or receptacles for packing or storing whether partly or wholly, food articles namely;
   i. IS : 10146 (Specification for Polyethylene in contact with foodstuffs)
   ii. IS : 10142 (Specification for Styrene Polymers in contact with foodstuffs);
   iii. IS : 10151 (Specification for Polyvinyl Chloride (PVC), in contact with foodstuffs);
   iv. IS : 10910 (Specification for Polypropylene in contact with foodstuffs);
   v. IS : 11434 (Specification for Ionomer Resins in contact with foodstuffs); (vi) IS: 11704 Specification for Ethylene Acrylic Acid (EAA) copolymer. (vii) IS: 12252 - Specification for Poly alkylene terephathalates (PET).
   vi. IS: 12247 - Specification for Nylon 6 Polymer; (ix) IS: 13601 - Ethylene Vinyl Acetate (EVA);
   vii. IS: 13576 - Ethylene Metha Acrylic Acid (EMAA);
   viii. Tin and plastic containers once used, shall not be re-used for packaging of edible oils and fats;

Provided that utensils or containers made of copper though not properly tinned, may be used for the preparation of sugar confectionery or essential oils and mere use of such utensils or containers shall not be deemed to render sugar confectionery or essential oils unfit for human consumption.

3. General packaging requirements for Canned products,
   i. All containers shall be securely packed and sealed.
   ii. The exterior of the cans shall be free from major dents, rust, perforations and seam distortions.
   iii. Cans shall be free from leaks.

General Requirements for Labelling

1. Every pre packaged food shall carry a label containing information as required here under unless otherwise provided, namely;

2. The particulars of declaration required under these Regulations to be specified on the label shall be in English or Hindi in Devnagri script: Provided that nothing herein contained shall prevent the use of any other language in addition to the language required under this regulation.
3. Pre-packaged food shall not be described or presented on any label or in any labelling manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character in any respect;
4. Label in pre-packaged foods shall be applied in such a manner that they will not become separated from the container;
5. Contents on the label shall be clear, prominent, indelible and readily legible by the consumer under normal conditions of purchase and use;
6. Where the container is covered by a wrapper, the wrapper shall carry the necessary information or the label on the container shall be readily legible through the outer wrapper and not obscured by it;

License number shall be displayed on the principal display panel in the following format, namely:-

Declaration regarding Food Additives-

i. For food additives falling in the respective classes and appearing in lists of food additives permitted for use in foods generally, the following class titles shall be used together with the specific names or recognized international numerical identifications:

Acidity Regulator, Acids, Anticaking Agent, Antifoaming Agent, Antioxidant, Bulking Agent, Colour, Colour Retention Agent, Emulsifier, Emulsifying Salt, Firming Agent, Flour Treatment Agent, Flavour Enhancer, Foaming Agent, Gelling Agent, Glazing Agent, Humectant, Preservative, Propellant, Raising Agent, Stabilizer, Sweetener, Thickener:

ii. Addition of colours and/or Flavours—

a. Extraneous addition of colouring matter to be mentioned on the label – Where an extraneous colouring matter has been added to any article of food, there shall be displayed one of the following statements in capital letters, just beneath the list of the ingredients on the label attached to any package of food so coloured, namely:

CONTAINS PERMITTED NATURAL COLOUR(S)

OR

CONTAINS PERMITTED SYNTHETIC FOOD COLOUR(S)

OR

CONTAINS PERMITTED NATURAL AND SYNTHETIC FOOD COLOUR(S)

Provided that where such a statement is displayed along with the name or INS no of the food colour, the colour used in the product need not be mentioned in the list of ingredients.

b) Extraneous addition of flavouring agents to be mentioned on the label.

Where an extraneous flavouring agent has been added to any article of food, there shall be written just beneath the list of ingredients on the label attached to any package of food so flavoured, a statement in capital letters as below:

CONTAINS ADDED FLAVOUR (specify type of flavouring agent as per Regulation 3.1.10(1) of Food Safety and Standards (Food product standards and food additive) Regulation, 2011

c) In case both colour and flavour are used in the product, one of the following combined statements in capital letters shall be displayed, just beneath the list of ingredients on the label attached to any package of food so coloured and flavoured, namely:

CONTAINS PERMITTED NATURAL COLOUR(S) AND ADDED FLAVOUR(S)

OR

CONTAINS PERMITTED SYNTHETIC FOOD COLOUR(S) AND ADDED FLAVOUR(S)

OR

CONTAINS PERMITTED NATURAL AND SYNTHETIC FOOD COLOUR(S) AND ADDED FLAVOUR(S)

Provided that in case of artificial flavouring substances, the label shall declare the common name of the flavours, but in case of the natural flavouring substances or nature identical flavouring substances, the class name of flavours shall be mentioned on the label and it shall comply with the requirement of label declaration as specified under the regulation 2.2.2 (5) (ii)

Note: — When statement regarding addition of colours and/or flavours is displayed on the label in accordance with regulation 2.2.2(5)(ii) and regulation 3.2.1 of Food Safety and Standards (Food Product Standards and Food Additive) Regulation, 2011, addition of such colours and/or flavours need not be mentioned in the list of ingredients. Also, in addition to above statement, the common name or

Name and complete address of the manufacturer

(i) The name and complete address of the manufacturer and the manufacturing unit if these are located at different places and in case the manufacturer is not the packer or bottler, the name and complete address of the packing or bottling unit as the case may be shall be declared on every package of food;

(ii) Where an article of food is manufactured or packed or bottled by a person or a company under the written authority of some other manufacturer or company, under his or its brand name, the label shall carry the name and complete address of the manufacturing or packing or bottling unit as the case may be, and also the name and complete address of the manufacturer or the company, for and on whose behalf, it is manufactured or packed or bottled;

(iii) Where an article of food is imported into India, the package of food shall also carry the name and complete address of the importer in India.

Provided further that where any food article manufactured outside India is packed or bottled in India, the package containing such food article shall also bear on the label, the name of the country of origin of the food article and the name and complete address of the importer and the premises of packing or bottling in India.

Net quantity

i. Net quantity by weight or volume or number, as the case may be, shall be declared on every package of food; and

ii. In addition to the declaration of net quantity, a food packed in a liquid medium shall carry a declaration of the drained weight of the food.

Explanation – 1: For the purposes of this requirement the expression “liquid medium” include water, aqueous solutions of sugar and salt, fruit and vegetable juices or vinegar, either singly or in combination.

Explanation – 2: In declaring the net quantity of the commodity contained in the package, the weight of the wrappers and packaging materials shall be excluded:

iii. Where a package contains a large number of small items of confectionery, each of which is separately wrapped and it is not reasonably practicable to exclude from the net weight of the commodity, the weight of such immediate wrappers of all the items of the confectionery contained in the package, the net weight declared on the package containing such confectionary or on the label thereof may include the weight of such immediate wrapper if the total weight of such immediate wrapper does not exceed –

a) eight per cent, Where such immediate wrapper is a waxed paper or other paper with wax or aluminium foil under strip; or
b) six per cent. In case of other paper of the total net weight of all the items of confectionery contained in the package minus the weight of immediate wrapper.

4.6 EXEMPTIONS FROM LABELLING REQUIREMENTS

Where the surface area of the package is not more than 100 square centimetres, thelabel of such package shall be exempted from the requirements of list of ingredients, Lot Number or Batch Number or Code Number, nutritional information and instructions for use, but this information shall be given on the wholesale packages or multi piece packages, as the case may be.

1. The date of manufacture' or 'best before date' or 'expiry date' may not be required to be mentioned on the package having surface area of less than 30 square centimetres but this information shall be given on the wholesale packages or multipiece packages, as the case may be;

2. In case of liquid products marketed in bottles, if such bottle is intended to be reused for refilling, the requirement of list of ingredients shall be exempted, but the nutritional information specified in regulation.
3. “To make a fluid not below the composition of toned milk or skimmed milk (as the case may be) with the contents of this package, add (here insert the number of parts) of water by volume to one part by volume of this condensed milk or desiccated (dried) milk”.
4. In case of food with shelf-life of not more than seven days, the 'date of manufacture may not be required to be mentioned on the label of packaged food articles, but the 'use by date' shall be mentioned on the label by the manufacturer or packer.
5. In case of multi piece packages the particulars regarding list of ingredients, nutritional information, Date of manufacture/ packing, best before, expiry date labelling of irradiated food and, vegetarian logo/non vegetarian logo, may not be specified.

4.7 DATE OF MANUFACTURE OR PACKING

The date, month and year in which the commodity is manufactured, packed or pre-packed, shall be given on the label:

Provided that the month and the year of manufacture, packing or pre-packing shall be given if the “Best Before Date” of the products is more than three months:

Provided further that in case any package contains commodity which has a short shelf life of less than three months, the date, month and year in which the commodity is manufactured or prepared or pre-packed shall be mentioned on the label.

Best Before and Use By Date

i) the month and year in capital letters upto which the product is best for consumption,in the following manner, namely:

“BEST BEFORE ..... MONTHS AND YEAR

OR

“BEST BEFORE ..... MONTHS FROM PACKAGING

OR

"BEST BEFORE .....MONTHS FROM MANUFACTURE

(Note: — blank be filled up)

ii) In case of package or bottle containing sterilised or Ultra High Temperature treated milk, soya milk, flavoured milk, any package containing bread, dhokla, bhelpuri, pizza, doughnuts, khoa, paneer, or any uncanned package of fruits, vegetable, meat, fish or any other like commodity, the declaration be made as follows

"BEST BEFORE ……DATE/MONTH/YEAR"

OR

"BEST BEFORE.....DAYS FROM PACKAGING"

OR

"BEST BEFORE ……..DAYS FROM MANUFACTURE"

Note:

a) blanks be filled up
b) Month and year may be used in numerals
c) Year may be given in two digits

iii. On packages of Aspartame, instead of Best Before date, Use by date/recommended last consumption date/expiry date shall be given, which shall not be more than three years from the date of packing;

iv. In case of infant milk substitute and infant foods instead of Best Before date, Use by date/ recommended last consumption date/expiry date shall be given ,Provided further that the declaration of best before date for consumption shall not be applicable

4.8 DOCUMENTATION AND RECORD KEEPING

Every organization has to maintain records of raw material procurement, production processes, and sales. This is to ensure that the business runs effectively and is profitable. Listed below are some reasons why there is a need for documentation:

1. It gives detailed knowledge about running the business.
2. It helps to control product quality.
3. It helps to keep track of the money invested in the business.
4. It helps to identify the separate costs of raw material or product ingredients.
5. It helps to identify the production cost of a particular process.
6. It helps to make sure that all the quality assurance practices were followed during the production.
7. It helps to make sure that the production equipment is running smoothly/effectively.
8. It works as an evidence for legal procedures.
9. It helps to set an appropriate product price.
10. It helps to take corrective measures at the right time.

4.9 RECORD MAINTAINENCE?

Every food processing organization follows a more or less similar way of keeping records. Production records keep a log of the following:

- The quantity and type of raw materials received
- The quantity and type of ingredients used during processing
- The processing conditions in which production took place (e.g. the temperature set or the air pressure applied)
- The product quality produced

Product quality can be maintained only when:

- The same quantity and quality of ingredients and raw materials are mixed in every batch
- A standard formulation is used for every batch
- Standard process parameters are applied for every batch

Every batch of food is given a batch number. This number is recorded in:

- Stock control books (where raw material procurement is noted)
- Processing logbooks (where production process is noted)
- Product sales records (where sales and distribution is noted)

The batch number must correlate with the product code number, which is printed on labels. This helps the processor to trace any fault found in a batch back to the raw material used or the production process.