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FOOD SAFETY AND FSSAI REGULATIONS ON BYADGI CHILLI PRODUCTS



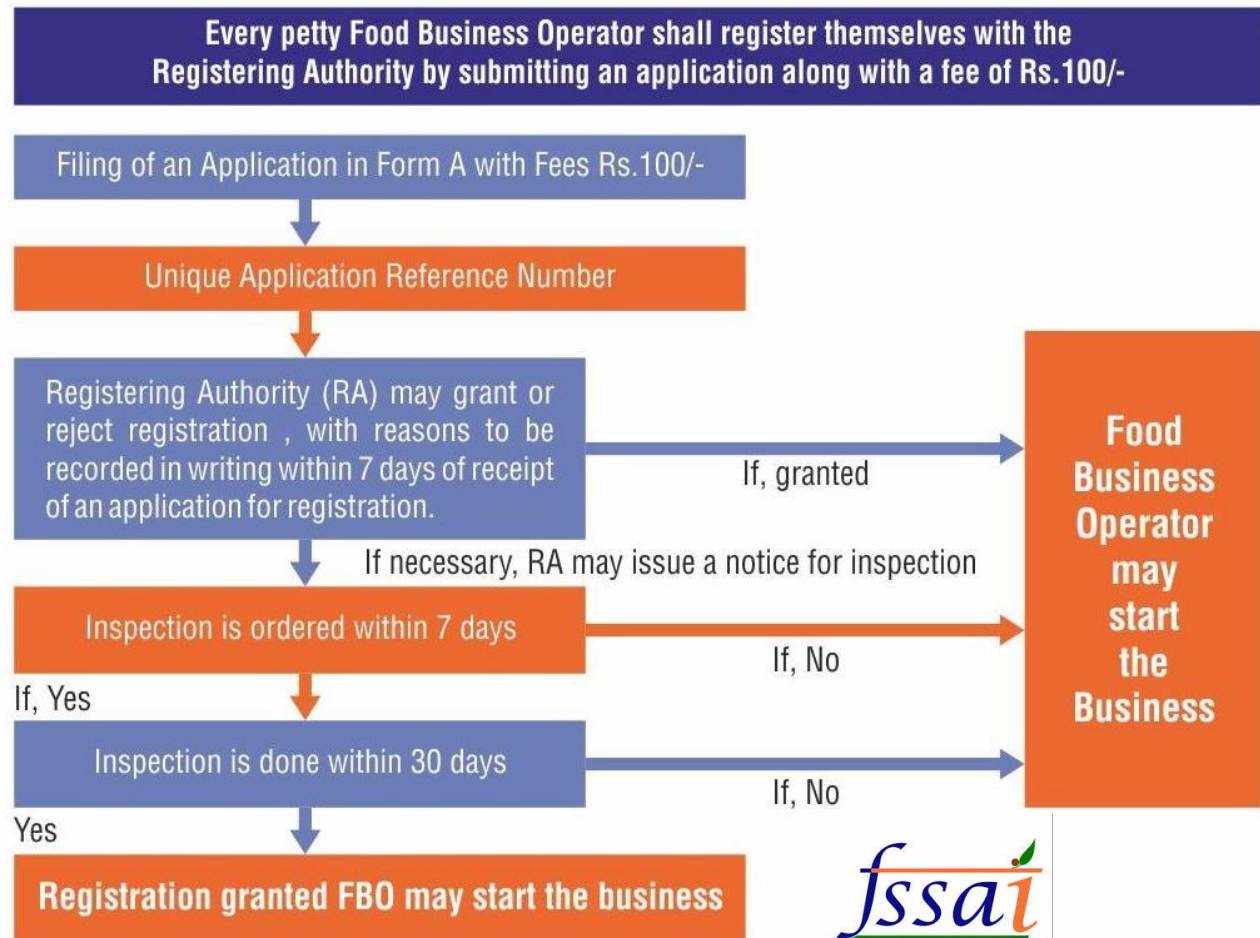
AATMANIRBHAR BHARAT

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

- ❑ Food Safety and Standards Authority of India (FSSAI) lay down science based standards for articles of food and regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.
 - FSSAI has its main office in Delhi, and regional offices in Delhi, Guwahati, Mumbai, Kolkata, Cochin and Chennai. Each Indian state has its own State FSSA.
 - Every FSSAI registration and State FSSAI license are issued by the state FSSA. The central FSSAI license is issued by the main FSSA authority.
- ❑ Every Food Business Operator in the country is required to be licensed/registered under the FSSAI.
 - **Registration** is meant for petty food manufacturers (petty retailer, hawker, itinerant vendor or a temporary stall holder or small or cottage scale industry) having annual turnover up to Rs. 12 lacs.
 - All food businesses having income more than this limit are required to take a **license**.

- ❑ FSSAI has launched Food Safety Compliance System (FoSCoS) in the States/UTs of Tamil Nadu, Puducherry, Gujarat, Goa, Odisha, Manipur, Delhi, Chandigarh and Ladakh with effect from 1st June 2020.

Registration Process



FoSCoS
Food Safety Compliance System

FSSAI registration gives a 14-digit license number



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FSSAI QUALITY STANDARDS OF BYADGI CHILLI

- ❑ Chillies and Capsicum (Lal Mirchi) whole - means the dried ripe fruits or pods of the *Capsicum annum* L & *Capsicum frutescens* L.
- ❑ The pods shall be free from mould, living and dead insects, insect fragments, rodent contamination.
- ❑ The product shall be free from extraneous colouring matter, coating of mineral oil and other harmful substances.





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FSSAI QUALITY STANDARDS OF BYADGI CHILLI

- ❑ Dried Byadgi chilli shall conform to the following standards:
 - (i) Extraneous matter : Not more than 1.0 percent by weight
 - (ii) Unripe and marked fruits : Not more than 2.0 percent by weight
 - (iii) Broken fruits, seed & fragments : Not more than 5.0 percent by weight
 - (iv) Moisture : Not more than 11.0 percent by weight
 - (v) Total ash on dry basis : Not more than 8.0 percent by weight
 - (vi) Ash insoluble in dilute HCl on dry basis : Not more than 1.3 percent by weight
 - (vii) Insect damaged matter : Not more than 1.0 percent by weight

Microbiological parameter for dry chilli fruits : Salmonella should be absent in
25 g sample.

FSSAI QUALITY STANDARDS OF BYADGI CHILLI POWDER

- ❑ Chillies and Capsicum (Lal Mirchi) powder means the powder obtained by grinding clean ripe fruits or pods of *Capsicum annum* L and *Capsicum frutescens* L.
- ❑ It shall be free from mould, living and dead insects, insect fragments, rodent contamination.
- ❑ The powder shall be dry, free from dirt, extraneous colouring matter, flavouring matter, mineral oil and other harmful substances.
- ❑ The chilli powder may contain any edible vegetable oil to a maximum limit of 2.0 percent by weight under a label declaration for the amount and nature of oil used.



FSSAI QUALITY STANDARDS OF BYADGI CHILLI POWDER

- ❑ Byadgi chilli powder shall conform to the following standards:
 - (i) Moisture : Not more than 11.0 percent by weight
 - (ii) Total ash on dry basis : Not more than 8.0 percent by weight
 - (iii) Ash insoluble in dilute HCl on dry basis : Not more than 1.3 percent by weight
 - (iv) Crude fibre : Not more than 30.0 percent by weight
 - (v) Non-volatile ether extract on dry basis : Not less than 12.0 percent by weight





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FSSAI QUALITY STANDARDS OF BYADGI CHILLI PASTE

- ❑ Byadgi chilli paste is a culinary paste, which means a culinary preparation used as an adjunct to food, prepared from edible portion of any suitable fruit/vegetable including, roots, tubers & rhizomes, their pulps/purees, dried fruits, singly or in combination by blending with nutritive sweeteners, salt, spices and condiments and other ingredient appropriate to the product.
- ❑ The product may contain food additives permitted in Appendix A of Food Safety and Standards (Food products standards and food additives) Regulations, 2011.
- ❑ It may contain caramel but shall not contain any other added colour whether natural or synthetic.





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FSSAI QUALITY STANDARDS OF BYADGI CHILLI PASTE

- ❑ The product shall conform to the microbiological requirements given in Appendix B of Food Safety and Standards (Food products standards and food additives) Regulations, 2011.
- ❑ It shall meet the following requirements:
 - Total soluble solids (salt free basis), m/m : Not less than 8.0 percent
 - Acidity percentage : Not less than 1.0 percent
- ❑ 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.



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FSSAI QUALITY STANDARDS OF BYADGI CHILLI PASTE

List of additives for use in Byadgi chilli paste

Additive		Quantity
Acidifying agents		
	Acetic acid	GMP
	Citric acid	GMP
	Fumaric acid	0.3% maximum
	Lactic acid	GMP
	L-Tartaric acid	GMP
	Malic acid	GMP
Anti-foaming agent		
	Dimethyl polysyloxane	10 ppm maximum
	Mono and diglycerides of fatty acids of edible oils	10 ppm maximum

FSSAI QUALITY STANDARDS OF BYADGI CHILLI PASTE

List of additives for use in Byadgi chilli paste

Additive		Quantity
Antioxidants		
	Ascorbic acid	GMP
	BHA	200 ppm maximum
Colours		
	Natural chlorophyll	GMP for Caramel only
Flavours		
	Natural and artificial flavouring substances	GMP
Flavour enhancer		
	MSG enhancer	
Preservatives		
	Benzoic acid and its sodium and potassium salt	750 ppm maximum
	Sorbic acid and its Cal., Sod., Pot. salt	1000 ppm maximum

FSSAI QUALITY STANDARDS OF BYADGI CHILLI PASTE

List of additives for use in Byadgi chilli paste

Additive		Quantity
Thickening agent		
	Modified starches	0.5% max. With declaration lable
	Carrageenan	GMP
	Guar gum	GMP
	Carobbean gum	GMP
	Xanthan gum	0.5% maximum
	Calcium alginates	GMP
Microbiological requirements		
	Yeast and mould count	Positive in not more than 100 count/g





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FSSAI QUALITY STANDARDS OF BYADGI CHILLI CHUTNEY

- ❑ Byadgi chilli chutney is a vegetable chutney which means the product prepared from washed, clean, sound raw fruit(s) and / or vegetable(s) of any suitable variety, which have been peeled, sliced or chopped or shredded or comminuted and cooked with nutritive sweetener.
- ❑ It may contain salt, spices and condiments and any other ingredients suitable to the product and preserved by thermal processing or other means.
- ❑ The product may contain food additives permitted in Appendix A of Food Safety and Standards (Food products standards and food additives) Regulations, 2011.
- ❑ The product shall conform to the microbiological requirements given in Appendix B of Food Safety and Standards (Food products standards and food additives) Regulations, 2011.



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FSSAI QUALITY STANDARDS OF BYADGI CHILLI CHUTNEY

- ❑ It shall meet the following requirements :
 - (i) Total soluble solids (m/m)
 - (a) Fruit Chutney : Not less than 50.0 percent
 - (b) Vegetable Chutney : Not less than 25.0 percent
 - (c) Hot and Sour (Spicy Chutney) : Not less than 25.0 percent
 - (ii) Fruits and Vegetable content (m/m) : Not less than 40.0 percent
 - (iii) pH : Not more than 4.6
 - (iv) Total ash (m/m) : Not more than 5.0 percent
 - (v) Ash insoluble in hydrochloric acid (m/m) : Not more than 0.5 percent.
- ❑ 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. This requirement shall not be applicable for bulk packs for industrial use.



FSSAI QUALITY STANDARDS OF BYADGI CHILLI CHUTNEY

List of additives for use in Byadgi chilli chutney

Additive		Quantity
Acidifying agents		
	Acetic acid	GMP
	Citric acid	GMP
	Lactic acid	GMP
	L-Tartaric acid	GMP
	Malic acid	GMP
	Phosphoric acid	GMP
Anti-foaming agents		
	Dimethyl polysiloxane	10 ppm maximum
	Mono and di-glycerides of fatty acids and edible oils	10 ppm maximum
Antioxidants		
	Ascorbic acid	GMP

FSSAI QUALITY STANDARDS OF BYADGI CHILLI CHUTNEY

List of additives for use in Byadgi chilli chutney

Additive		Quantity
Colours		
	Natural Chlorophyll	GMP
	Synthetic	100 ppm maximum
Firming agents		
	Calcium chloride	350 ppm maximum only on chilli pieces
	Calcium Lactate	-do-
	Calcium Gluconate	-do-
	Calcium carbonate	-do-
	Calcium bisulphite	-do-
Preservatives		
	Benzoic acid and its sodium and potassium salts	250 ppm maximum
	Sulphur dioxide	100 ppm maximum
	Sorbic acid, Calcium sorbate and Potassium sorbate	500 ppm maximum



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FSSAI QUALITY STANDARDS OF BYADGI CHILLI CHUTNEY

List of additives for use in Byadgi chilli chutney

Additive		Quantity
Thickening agent		
	Xanthan gum	0.5% maximum
	Ammonium alginates	GMP
	Calcium alginates	GMP
Softening agents		
	Sodium bi-carbonate	GMP
	Sodium citrate	GMP
Microbiological requirements		
	Yeast and mould count	Positive in not more than 100 count/g



FSSAI STANDARDS FOR QUALITY ANALYSIS



Characteristics	Method of test
Extraneous matter	4 of IS: 1797-1985
Total ash	6 of IS: 1797-1985
Acid insoluble ash	8 of IS: 1797-1985
Moisture content	9 of IS: 1797-1985
Crude fibre	13 of IS: 1797-1985
Non-volatile ether extract	14 of IS: 1797-1985
Volatile oil	15 of IS: 1797-1985
Salmonella	IS 5887 (Part 3)
Total soluble solids	Clause 1.6 of FSSAI manual of methods
Acidity	Clause 2.4 of FSSAI manual of methods
pH	Clause 2.3 of FSSAI manual of methods
Fruits and vegetable content	Clause 2.11 of FSSAI manual of methods
Unripe and marked chilli fruits	Physical separation and weighing
Broken fruits, seed & fragments	Physical separation and weighing
Insect damaged matter	Physical separation and weighing



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SANITARY AND HYGIENIC REQUIREMENTS

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

- 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.
- The premises to conduct food business for manufacturing should have adequate space for manufacturing and storage to maintain overall hygienic environment.
- The premises shall be clean, adequately lighted and ventilated and sufficient free space for movement.
- 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.
- The floor and skirted walls shall be washed as per requirement with an effective disinfectant the premises shall be kept free from all insects.



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SANITARY AND HYGIENIC REQUIREMENTS

- Continuous supply of potable water shall be ensured in the premises.
- Equipment and machinery when employed shall be of such design which will permit easy cleaning.
- 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.
- 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.
- All equipments shall be placed well away from the walls to allow proper inspection.
- There should be efficient drainage system and there shall be adequate provisions for disposal of refuse.
- The workers working in processing and preparation shall use clean aprons, hand gloves, and head wears.



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SANITARY AND HYGIENIC REQUIREMENTS

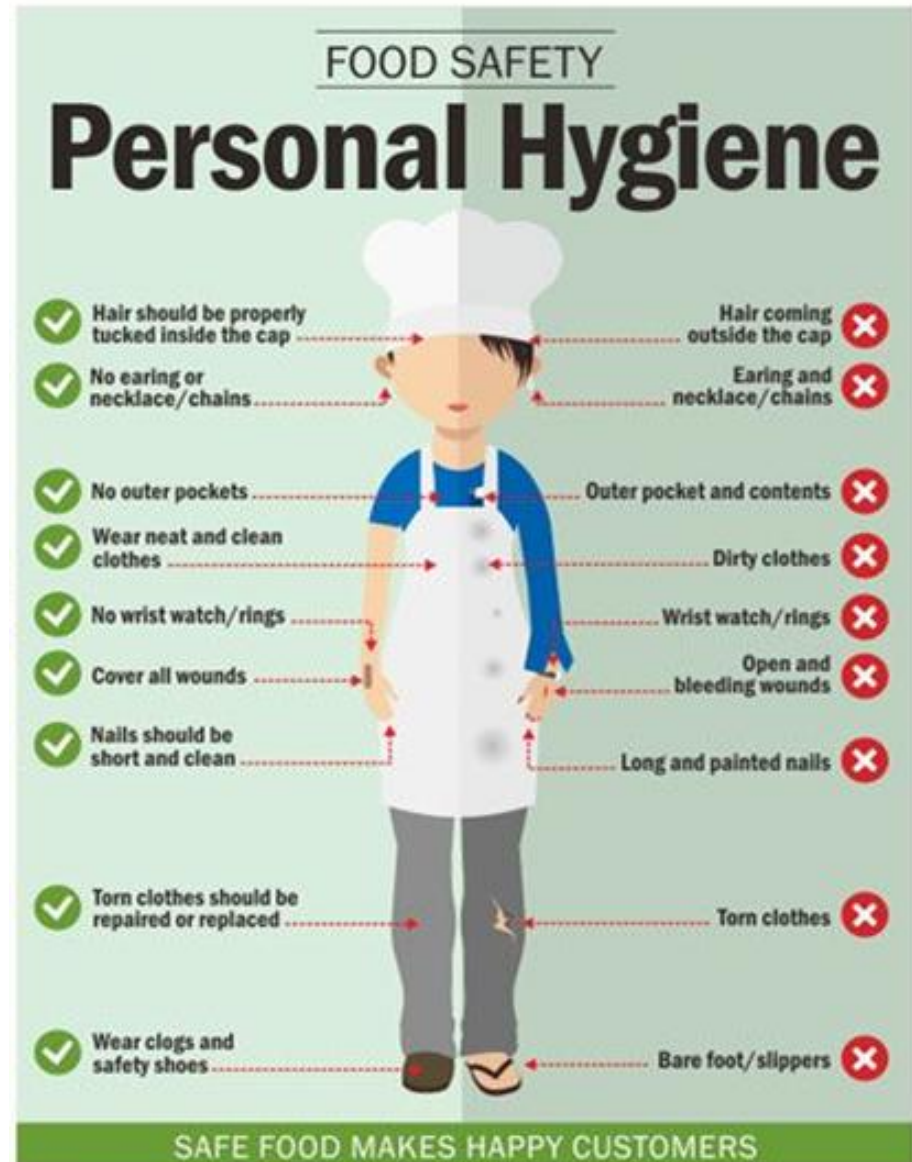
- All food handlers shall keep their finger nails trimmed, clean and wash their hands with soap, or detergent and water before commencing work and every time after using toilet.
- Eating, chewing, smoking, spitting and nose blowing shall be prohibited within the premises especially while handling food.
- All articles that are stored or are intended for sale shall be fit for consumption and have proper cover to avoid contamination.
- The vehicles used to transport foods must be maintained in good repair and kept clean.
- Foods while in transport in packaged form or in containers shall maintain the required temperature.
- Insecticides / disinfectants shall be kept and stored separately and `away from food manufacturing / storing/ handling areas.

Mask - To avoid microbial contamination through mouth.

Cap - To avoid hair fall in to the food material

Coat - To avoid dust particle and other unwanted material entering in to the food material

Shoes - To avoid contamination from the legs

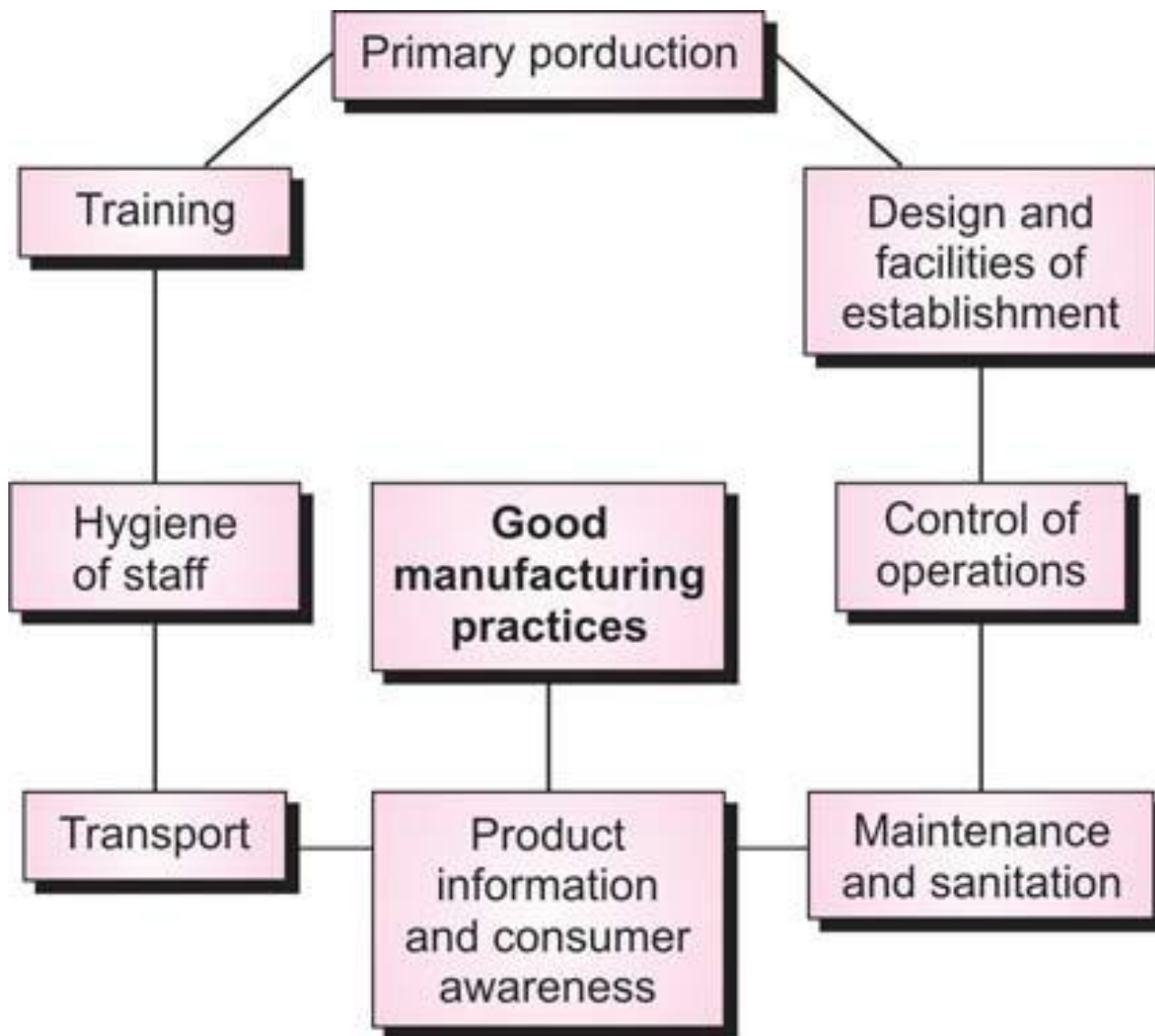


- ❑ Good Manufacturing Practices (GMPs) are referred to as practices and procedures performed by a food processor which can affect the safety food product.
- ❑ GMPs refer to the people, equipment, process and the environment in the production process.
- ❑ GMP is recognized for the control and management of manufacturing, testing and overall quality control of food products.
- ❑ The focus of GMP is primarily at diminishing the risks inherent in any food production.
- ❑ The design, documentation and implementation of GMP system of an industry is influenced by the specific needs of the products provided and the processes employed.



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COMPONENTS OF GMP



- ❑ HACCP is the acronym for Hazard Analysis Critical Control Point. It is an analytical tool that enables management to introduce and maintain a cost-effective, ongoing food safety program.
- ❑ HACCP involves the systematic assessment of the steps involved in a food manufacturing operation and the identification of those steps that are critical to the safety of the product.
 - The analysis allows management to concentrate resources into those manufacturing steps that critically affect product safety.
- ❑ A Hazard analysis will produce a list of Critical Control Points (CCPs), together with control parameters (with critical limits), monitoring procedures and corrective actions for each CCP.
 - For continuing safety and effectiveness of the plan, records must be kept of each analysis and the efficacy of the study must be verified on a regular basis, and when aspects of the operation change.

- ❑ HACCP is applicable to the identification of microbiological, chemical, and physical hazards affecting product safety. It may be applied equally to new or existing products.
- ❑ Effectiveness of HACCP is achieved through the use of multidisciplinary team of experts.
 - The team should have members from microbiology, chemistry, production, quality assurance, food technology, and food engineering.
- ❑ HACCP consists of 5 initial steps and 7 major principles:

Steps

1. Assemble HACCP team
2. Describe the product
3. Document intended use of product
4. Construct process flow diagram
5. Onsite confirmation of flow diagram

Principles

1. Identify hazards
2. Identify critical control points (CCPs)
3. Establish critical limits for each CCP
4. Establish monitoring action
5. Establish corrective action
6. Establish verification process
7. Establish record keeping procedure



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