FOOD PROCESSING UNIT UNDER DIRECTORATE OF HORTICULTURE & F.P. ASSAM, KHANAPARA, GUWAHATI-22

Introduction :-

The diverse climatic condition of North-East is suitable for producing all types of Horticultural crops. Horticultural produce of Assam have high demand at national and international markets. Now, Farmers are aware that they can earn more profit in Horticultural crops rather than in other crops. The demand of horticultural products also equally rising day by day. It is therefore necessary that farmers as well as entrepreneurs may be trained on process food products in order for livelihood generation and to improve economic growth.

Keeping this in mind, the Directorate of Horticulture, & FP has set up a food processing unit at Khanapara Campus within the Horticulture Growth Centre with the aim to impart training different categories of participants to make them aware of the nutritional value of the varied food products. The Unit started functioning from 20th February, 2016. The unit mainly concentrating on baked food items trying to eliminate synthetic additives from all food products by introducing low fat, low salt and sugar free in all food products thereby uplifting the food market keeping it safe and flavorful.

What is Food Processing?

It is a procedure in which food is prepared for consumption. It is a way and technique implemented to convert raw food staff into well cooked, well preserved eatables for human consumption. Good quality constituents are used by food processing industry to manufacture easy to cook food products. Following are some of the techniques to convert food to processed food.

1. Preservation Process :-

This includes heating or boiling which destroy microorganisms, oxidation, dehydration, osmotic inhibition freezing a sort of cold pasteurization which destroy pathogen.

2. Druing :-

This is probably the most ancient method used by humans to preserve or process their food. It is the most common technique to preserve or process cereals like maize, oats, rice, barley, rye etc.

3. Vacuum packs :-

In this method food is packed in air tight bags and bottles in a vacuum area. This method is used in processing the food in an air tight environment. It does not provide oxygen needed by germ specially bacteria to survive. This then prevent food from getting rotten. Other methods include salting, sugaring pickling used in case of fruit preservation.

Benefits and Drawback :-

Benefits of food processing including toxin removal, preservation, easing marketing and distribution tasks and increasing food consistency. It enables transportation of perishable foods along long distances and makes many foods safe to eat by deactivating spoilage and pathogenic microorganisms.

The extremely varied modern diet is only possible on a wide scale because of food processing.

The act of processing can often improve the taste of food significantly. Mass production of food is much cheaper overall then the individual production of meals from raw ingredients. There is a large profit potential for manufacturing units and suppliers of processed food.

Modern food processing also improves the quality of life for people with allergies, diabetes and other. People who cannot consume some common elements, food processing also add extra nutrients such as vitamins and minerals.

The ministry of Food Processing industries decided to launch new centrally sponsored schemes titled National / Mission on Food Processing (FP) w.e.f. 1st April 2012 in co-operation with State Government during the 12th Five years plan. This aimed at ensuring better outreach of various schemes/programs of the Ministry and provides more flexibility to suit local needs.

Trends in modern Food Processing :

The following trends are to be observed in modern food processing. They are -

1. **Health:** Reduction of fat content in the final product by using baking instead of deep frying in all food products. Maintaining the natural taste of the products by using less artificial sweetener that was used before.
2. **Hygiene:** The rigorous application of industry and govt. endorsed

standard to minimize possible risks and hazards. For this the international standard had been adopted as HACCP (Hazard analysis and critical control point).

3. **Efficiency:** Rising energy costs leads to increasing usage of energy saving technologies eg. Frequency converters on electrical drives, heat insulation in the laboratory building and heated vessels and energy systems.

Myths and Facts

1. **Myths:** Processed food offers no benefit.

   Facts: Food processing makes many foods available that we could not otherwise eat.

Without Food Processing we certainly could not buy a variety of food products we see at Super Market and Store shelves. Food processing enable years round availability of food that have limited growing season. Processing extends the shelf life of foods: pizzas and straw berry cheese cake are the examples of nutrition food that are readily available.

Processing provides food safety by a variety of methods for example heating to a sufficiently high temperature (180 in an oven) which destroys harmful bacteria, certain additives prevent fats going off (rancid) and prevent the growth of funguses and bacteria.

Convenience is another benefit of food that have been processed.

2. Myths: Processed food is not as nutritious as fresh food

Facts: Many processed food are just as nutritious or in some cases even more nutritious than fresh food that have been stored depending on the manner in which they are processed.

Frozen vegetables are usually processed within a few hours of harvest. There is little nutrient loss in the freezing process, so frozen

vegetables retain their high vitamins and minerals contents (frozen baby corn, mushroom, cheese used in the preparation of pizzas). In contrast fresh vegetables are picked transported in market. It can take days and even weeks before they reach the dinner table and vitamins are gradually lost over time, no matter how carefully vegetables are stored and transported.

3. Myths: The additives in processed food are not necessary.

Facts: Food Additives plays an important role in preserving the freshness, safety, taste, appearance and texture of processed food. Food additives are added for particular purposes, whether it is to ensure food safety or to maintain food quality during the shelf life of the product. For example ant-oxidants prevents fats and oils from becoming rancid while preservatives prevent or reduce the growth of microbes (eg. Mould in breed)

Conclusion:

Food processing uses the creative potential of the processor to convert basic raw materials into varieties of tasty attractive products that provide assortness in the diets of consumers.

Food processor takes raw vegetables or marine materials and transform them into edible products through the application of labour, machinery, energy and scientific knowledge.

Raw fruits, vegetable and uncooked meats are preserved by cold storage, refrigeration which slows down the micro-organism and delay deterioration. Cold storage and remigration will preserve only raw foods for only a few weeks at most. If food are to be preserved for a longer period they must undergo special treatment such as freezing or heating. The science of preserving food for more than a few days is called food processing. Since microorganisms need water to grow drying the food

slows down the rate at which it spoils. Today food processors provide a diet richer and more varied than ever before.

Many governments promote the development of small scale food processing enterprises because

- They have the potential to create significant levels of employment.
- Increase food security for growing urban population as well as rural families
- Produced products that can substitute for imported foods or have import potential and thus help reduce balance of payments problems and thereby improve the overall prosperity of the country.

Training conducted at USTM (University of Science & Technology of Meghalaya)

Food processing Unit had conducted one day training Class and Practical Class in USTM. The student were made aware of the utilization of processed food its preparation, advantages and effects of it in the food system in the modern food market.

The main theme of the training is to :-

- To impart knowledge and develop capacities through food processing.
- To develop trainees an participants to become professional in these and related areas. (Food Processing who can work effectively and efficiently in food industries and community service)
- To develop their capacities and abilities and enable them to pursue higher techniques in food processing.

Practical classes along with theory were conducted among the various students, groups and also other participants and at the end booklets and leaflets were distributed among them. Advantages of food processing and of varied food products had been discussed.

Food processing must be promoted because

- ❖ To developed trainees/ Participants to become professional in these and related areas.
- ❖ They have the potential to create significant levels of employment.
- ❖ Increase food security for growing urban population as well as rural families.
- ❖ Produced products that can substitute for imported food and have export potential thereby improving the overall prosperity of the country.

Recipes of some processed food:

1) Bread:

i) Maida
ii) Sugar
iii) Salt
iv) Milk Powder
v) Calcium powder
vi) Yeast
vii) Oil
viii) Vanilla Powder

2) Cake:

i) Maida
ii) Sugar
iii) Egg
iv) Salt
v) Cake margarine
vi) Baking powder
vii) Milk powder
viii) Orange/vanilla/lemon/Essence

3) Pizza:

i) Maida

ii) Sugar

iii) Salt

iv) Yeast

v) Vanilla

vi) Milk powder

vii) Oil

viii) Gluten

ix) Improver

x) Water

4) For topping

i) Mushroom

ii) Baby corn

iii) Capsicum

iv) Onion

v) Tomato

vi) Butter

vii) Mazrella Cheese

viii) Pizza Sauce

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