M.E.S. ASMABI COLLEGE, P. VEMBALLUR

DEPARTMENT OF FISH PROCESSING TECHNOLOGY

INDUSTRIAL VISIT REPORT

An industrial visit was organized by the Department of Fish Processing Technology for the sixth semester students to enhance their practical understanding of food processing and preservation technologies. The visit took place at Ennyescee Food Factory, Thiruvaniyoor, Kochi—an established food dehydration and freeze-drying unit known for producing high-quality dehydrated vegetables, fruits, and masala powders.

A total of 19 students, accompanied by two faculty members, participated in the visit. The primary objective was to provide students with real-time exposure to industrial food drying systems, freeze-drying technology, production workflows, and quality assurance practices in a food processing unit.

About the Industry

Ennyescee Food Factory is a leading food delivery service that specializes in premium dehydrated food and fresh vegetables and fruits. Their company is committed to providing customers with top-quality dehydrated food products that retain their nutrients, flavors, and textures. They are trustworthy to the customers by providing premium quality convenient foods with maintained nutritive value and fast delivery procedures.

Their varied product list includes

- Dehydrated Vegetables
- Dehydrated fruits
- Curry Masalas
- Snacks

- Juice powders
- Easy to cook Curry Mixes

The unit follows a made-to-order production model, ensuring that raw materials are procured fresh according to customer requirements. This helps maintain product quality, consistency, and customer satisfaction.

The factory's facility includes:

- 4 Dehydration (Drying) Units
- 1 Freeze-Drying Unit
- Dedicated Packaging Section
- Storage Areas for Raw Materials and Finished Products

All laboratory testing is conducted through external accredited agencies, ensuring compliance with food safety and quality standards.

Process Flow Observed

During the visit, students were guided through each section of the plant by the Quality Assurance In-Charge, Ms. Sobhana, and other experienced staff members.

Raw Material Procurement: Raw Materials are procured based on specific customer orders. Materials are inspected for freshness, quality, and suitability for dehydration. Only fresh raw materials are accepted to ensure superior product output.

Pre-Processing steps of Washing, sorting, trimming, peeling, and cutting of raw materials removal of damaged or unsuitable pieces are done either by manually or in machine.

Students observed the working of four hot-air drying/dehydration units, where 3 are loaded in trays and the one which is used for the bulk quantity. Cleaned raw materials are loaded onto trays, Temperature and airflow are controlled based on product type, Moisture is reduced to the desired level to ensure shelf stability and the entire drying cycle maintains product colour, flavour, and nutrient retention as far as possible.

Freeze-Drying Unit

The factory also operates one freeze-dryer, a modern unit used for premium products. The unit consists of a 10 kg capacity Freezer and two drying equipment out of which one is completely automatic where the machine senses the level of moisture content of the loaded material and it adjusts the time and temperature accordingly

The process includes:

- Pre-freezing of raw materials at 27ºC for 20 hours
- Sublimation drying under vacuum.
- Vacuum packing of the products

Students were able to see the machine setup, vacuum drying process, packing and the final freeze-dried products.

Curry Powder Unit

Since production was in progress, the students were not permitted to enter the unit. However, they were given the opportunity to observe the operations through the glass doors, while the staff explained each step of the process in detail. The steps involved in the preparation of masala powder include:

- Dried spices are pulverized into fine powders.
- Custom spice blends are prepared based on client requirements.
- Care is taken to avoid heat-induced flavour loss during grinding.

Quality Assurance

Although the unit does not have an in-house laboratory, all product samples are sent to external accredited testing labs for:

- Microbiological analysis
- Moisture content
- Shelf-life verification
- Chemical safety parameters
- Compliance with customer specifications

Packaging Unit

A dedicated area is allocated for product packaging, equipped with both a standard sealing machine and a vacuum packing unit. Packaging is carried out strictly according to customer specifications. The primary packages are labelled with a QR code that provides information on intended use and links to recipe videos. The secondary packaging is visually appealing and contains all the required information as per regulatory guidelines.

Finished Products

Students were introduced to a wide range of products manufactured by the unit, such as:

- Dehydrated carrot, beetroot, drumstick, onion, garlic, ginger
- Dehydrated leafy greens
- Dehydrated mango, banana, pineapple, and other fruits
- Freeze-dried fruit cubes and vegetable slices
- Masala powders and customized spice blends
- Ready-to-cook dehydrated vegetable mixes

The staff eagerly displayed the products and explained their uses in domestic and industrial food applications.

Learning Experience and Outcome of the Visit

The industrial visit provided students with firsthand exposure to practical food processing operations. The key outcomes include:

- Understanding of hot air drying and freeze-drying technology.
- Knowledge about raw material handling, hygiene practices, and workflow in a dehydration unit.
- Insights into customer-driven production models.
- Awareness of vacuum packaging and its importance in shelf-life extension.
- Exposure to real-world challenges in procurement, processing, quality assurance, and storage.
- Familiarity with industry standards, documentation, and third-party laboratory testing procedures.
- Improved understanding of career opportunities in food dehydration, spice processing, and quality assurance sectors.
- The experience greatly contributed to strengthening the industry readiness of the students, enriching their academic knowledge with real-life industrial insights.

Acknowledgement

The Department of Fish Processing Technology expresses sincere gratitude to The Principal, Dr. Sanand C Sadananda Kumar for granting permission and continuous support to organize the industrial visit. Mr. Bijoy Syriac, Owner of Ennyescee Food Factory, for allowing the students to explore the facility and learn from the operations. Ms. Sobhana, Quality Assurance In-Charge, for her detailed and insightful explanation of each processing step. All staff members of Ennyescee Food Factory, who enthusiastically guided the students, explained the machinery, and showcased the wide range of products.

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