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DEPARTMENT OF PG STUDIES IN FOOD SCIENCE AND NUTRITION
INDUSTRIAL VISIT

DATE: 12/01/2024

VENUE: Defence Food Research Laboratory (DFRL), Mysore

STAFF IN CHARGE

1. Ms. Indira Badya
2. Ms. Nireeksha V

TOTAL NUMBER OF STUDENTS PARTICIPATED: 16

OBJECTIVE OF THE ACTIVITY

- To educate the students on the working of DFRL for armed forces.
- To provide exposure to the use of technology for food preservation.

OUTCOME OF THE ACTIVITY

- The students were thorough on the nutritional needs of soldiers.
- The use of special technologies for preserving the nutritional status of food was demonstrated.

DESCRIPTION OF THE ACTIVITY

The Department of P.G Studies in Food Science and Nutrition organized an industrial visit for the M.Sc. students (16 in no) accompanied by 2 teaching faculty on 12th January 2024 to Defence Food Research Laboratory (DFRL), Mysore.

The students were first shown a video on the working of DFRL in the seminar hall by Ms. Sakshi Sharma, Scientist B who is currently working on the pulse processing unit. In the video, the students were, in brief, explained the aim of DFRL to develop food products for armed forces which provide them with high-quality nutritious food in ready-to-eat (RTE) form. The major aim of all the product development was to provide food that can withstand extremities in temperature as in Siachen without losing its palatability & composition. After explaining the video the scientist took the students to the laboratory where the samples of developed food product was displayed. They had a combo kit which was of different weights

& was called a survival kit that consisted of a cereal source like vegetable pulao, rice, noodles, paratha, and chapatti along with vegetarian (aloo, peas, dal fry, rajma, paneer) & non-vegetarian(egg, chicken, meat) curries. It also consisted of the appetizers like energy bars, chikkis, chocolates & so on. Based on the soldiers' standard weights, the standard calorie requirement is met through these kits. They have 4-5 varieties distinguished based on the calorie requirement. The components are filled in a strong back pack which the armed forces can carry in severe conditions.

Apart from this they have developed food test kits that will help the armed forces to detect adulteration, poisoning, and contamination of milk, meat, and rice products before consumption. The food testing kits available so far are meat test kits, milk adulteration test kits, E. coli detection kits, freeze meat/ poultry quality evaluation kits, pesticide detection kits, and acidity tests using strips. Along with food products, they have also developed kits for soldiers' safety like the one with the oxygen bag, and the survival bag which consists of specialized non-toxic ink that will discharge a green color in the water to indicate the fellow mates on the exact location of the soldier. The DFRL has also developed several other products like dehydrated vegetables like carrots, onion, beans, cabbage, garlic powder, and onion powder using novel food technologies like hurdle technology, ethylene absorbing formulation, dehydration method & so on. Using these techniques they have developed pre-mixes like millet kheer, millet pakoda, upma mix, squashes, ragi cookie, chicken biscuits, beverage mix, juices like brahmi drink, and tender coconut drink. On the whole, they're serving their purpose of providing nutritious food to the soldiers using various food technology. Currently, they are even working on space foods for ISRO which is under analysis. Recently DFRL has come up with specialized food storage boxes, insulated equipment of 30 kg capacity which can store foods fresh for 12-18 months. The visit to DFRL provided students with different exposure related to the use of food technology and the career opportunities after their master's.

