



BESANT WOMEN'S COLLEGE MANGALURU

M.G. ROAD, KODIALBAIL, MANGALORE-575003

DEPARTMENT OF PG STUDIES IN FOOD SCIENCE AND NUTRITION INDUSTRIAL VISIT

DATE: 11/06/2022

VENUE: Campco Chocolate Factory, Puttur

STAFF IN CHARGE

1. Mrs. Indira Badya
2. Ms. Nireeksha V
3. Ms. Shahda Firhath

TOTAL NUMBER OF STUDENTS PARTICIPATED: 44

OBJECTIVE OF THE ACTIVITY

- To help the students to get an interesting first-hand experience of the industrial process
- To develop the technical knowledge in a realistic and practical way.

OUTCOME OF THE ACTIVITY

- Familiarization with the different processing stages in manufacturing of chocolates.
- Knowledge gain practically through interaction, working methods and employment practices.

DESCRIPTION OF THE ACTIVITY

The Department of P.G Studies in Food Science and Nutrition had organised an industrial visit for the M.Sc students on 11th June 2022 to Campco Chocolate Factory situated at Puttur. The students were accompanied by the M.SC Faculty. The visit was undertaken to provide the students with visuals of various stages of chocolate processing. The Campco chocolate factory is equipped with the most modern machinery and the plant produces cocoa mass, cocoa butter, and chocolates all in one place.

The industry personnel guided the students through the various processing units which are involved in the making of chocolate. The personnel explained that the manufacturing of chocolate initially begins with harvesting of the ripe cocoa pods and removal of the wet beans. The wet beans are fermented to enhance the flavor and are dried to reduce the moisture content. The fermented and dried beans undergo quality checks before further processing. The quality checks include cut test to grade the cocoa beans, flavor test to detect any off flavors. The beans that have moldy, earthy flavor, acid taste, excessive bitterness and astringency are rejected. The beans that have passed the quality checks are then sent to the processing unit. The dried beans are cleaned and roasted to further reduce the moisture content and improve the flavor, aroma and color. The beans are sent through winnowing machine for removal of the shells and get cocoa nibs. The personnel showed the students the unit wherein after winnowing the cocoa nibs undergo the process of alkalisation. The process of alkalisation is done to bring the pH of the acidic cocoa nibs to 7 which helps in improving the color and flavor. The cocoa nibs are milled to get cocoa liquor-a dark liquid mass. The cocoa liquor is sent through hydraulic press to get cocoa butter and hydraulic press cake. The cocoa butter is filtered, deodorized, tempered and cooled and packed. The personnel informed the students that the products which contain cocoa butter in requirements as per the FSSAI is considered to be as chocolate and products which contain vegetable oils as source of fat are termed as compound chocolates. The personnel showed the students the mixing equipment where the required amount of cocoa liquor, cocoa butter are mixed with other raw ingredients such as sugar, flavors, milk powder etc. The mixed ingredients undergo the process of conching – process of heating for hours to several days to develop taste, texture, smell and flavor. The personnel showed the students the moulding machines which are used for moulding of the chocolates. The students were also shown units wherein the chocolate wafers and caramel filled chocolates are made.

The chocolate mass prepared are also shaped in chips form, which are then sent to industries manufacturing biscuits and ice creams. The chocolates prepared are packed in packaging materials with suitable labelling for the specific type of chocolate. In addition to preparation of chocolates, the industry also exports cocoa liquor, cocoa butter as raw materials to other industries within the country and overseas.

The students gained knowledge on the different aspects of chocolate processing, quality checks done at each step in the manufacture of the chocolate.



