JAWAHARLAL NEHRU
HOMOEOPATHIC MEDICAL COLLEGE

VISIT TO BARODA DAIRY

GENERAL DETAILS:

COURSE/DEPARTMENT: COMMUNITY MEDICINE DEPARTMENT

YEAR: 4TH YEAR BHMS

DATE OF VISIT: 20/10/16

NO. OF STUDENTS VISITED: 85

TIME: 10.00 AM TO 2.00 PM

NAME OF ACCOMAPNYING TEACHER: DR. ZANKHANA DESAI

NAME & ADDRESS OF COMPANY: Baroda Dairy, VADODARA-390019

Fourth BHMS students at Baroda Dairy

Packaging Department

Milk Pasteurization Unit

Fourth BHMS students with Dr. Zankana desai(H.O.D., Com. Med.) at Baroda Dairy

GENERAL OUTLINE OF BARODA DAIRY PLANT:

- The Baroda District Co-operative Milk Producers Union Limited, known as the Baroda Dairy, was set up on the city outskirts in 1959.
- Baroda Dairy's average daily procurement of milk has crossed the 5 lakh-litre mark, setting a new record since 54 years of its inception. This growth resulted from comprehensive steps taken to increase milk collection from 1,400 village-level milk co-operative societies located in districts of Vadodara.
- The procurement of milk from village-level cooperative societies has gone up to 5.50 lakh litres per day. Last year, the average procurement stood at 3.79 lakh litres per day (LLPD) whereas the peak procurement on a single day was at 4.7 LLPD during January this year.
- About 2.95 lakh members supplying milk to Baroda Dairy get a good price which the private players find it difficult to match. In addition, the milk producers get to purchase cattle feed from Baroda Dairy's cattle feed plant at subsidized rates, a benefit which will not be available to them on selling milk to private parties.
- It is a district level milk processing industry established in the year 1957 registered under Gujarat state co-operative societies act.
- The farmers own the dairy; their elected representatives manage the village societies and the district union. They employ professionals to operate the dairy and manage its business.
- From 1957 to 1970 the sangh distributed loose milk in cans among the consumers of the city. In 1970, as our nation made progresses in the field of science and Technology, a new bottling plant was set up. The introduction of bottled milk increased the average daily sales up to 64,000 liters of milk. Production of polythene film became easy in the later part of the 70s decade. Keeping the ease of customers in mind packaging of milk in polythene pouches has been started. The capacity of the Dairy plant has also been increased along with the increase in the production of milk & increase in the demand. Modern equipments have been installed and today the plant can process up to 5 lakh liters of milk per day.
- The main process of the plant – pasteurization is done with the help of HTST (High Temp Short Time) Pasteurization. This process destroys the pathogenic

bacteria present in the milk and thus ensures that it is fit to drink. According to the demand of customers milk is also standardized in various Fat/SNF contents and packed.

TYPE OF MILK	FAT %	S.N.F. %
Amul Gold Milk	6.0	9.0
Amul Shakti Milk	4.5	8.5
Amul Cow Milk	3.5	8.5
Amul Slim N Trim Milk	1.5	9.0

TYPE OF PRODUCTS	VOLUME
Amul Butter	100 gm
Sugam White Butter	500 gm
Goras Chhas	500 ml/lts
Jeera Chhas	200 ml
Stery Flavour	200 ml
Flavoured Milk	200 ml
Surabhi Ghee, Cow Ghee	200 ml/500 ml /15 ltr
Sugam Masti Dahi	200 gm

Milk Pasteurization Method

- Name of method: HTST(High Temp Short Time)
- Time: 15 sec.
- Temperature: 80° C.

The milk is pumped from the raw milk silo to a holding tank that feeds into the continuous pasteurization system.

Milk continuously flows from tank through a series of thin plates that heat up the milk to the appropriate temperature (80° C.).

Milk flow system is setup to make sure that milk stays at the pasteurization temperature for appropriate time (15 sec) before it flows to the cooling area of pasteurization (4° C.).

The cooled milk then flows to rest of the processing line e.g. packaging station.

Laboratory Test for Pasteurisation:

- Methylene Blue test
- Alkaline phosphatase Test.
- Standardized plate count.