# INDUSTRIAL VISIT REPORT

## Department of Microbiology and Biotechnology

**Industry Visited**: Mahananda Dairy, MIDC,
Latur-413512

**Class**: B.Sc Biotechnology (1st Semester)

**Date:** 3rd December 2021

**Transportation**: Own vehicles

**Students**: 09 students (4 Girls + 5 Boys)

**Faculty Accompanied**: (01 F + 01 M)

1. Ms. Swapnali D Sawale
2. Mr. Sanket M Bansode

**Coordinator**: Dr. Komal Gomare

**Head of Dept**: Dr. R A More

**Principal**

Dr. J. S. Dargad

Principal
Dayanand Science College
LATUR 413512

**Vice Principal**

Dr. S. S. Bellale

# A REPORT ON INDUSTRIAL VISIT TO


## MAHANAND DAIRY

**ON**

3rd DECEMBER 2021

**SUBMITTED BY**

**Gavali Prakash Ashok**

**B.Sc. BT FY**

UNDER THE AGIES OF

**DAYANAND SCIENCE COLLEGE, LATUR**

**DEPARTMENT OF MICROBIOLOGY AND BIOTECHNOLOGY**

| In Charge Professor | Coordinator | Head of Department |
|---|---|---|
| **Miss. Swapnali Sawale** | **Dr.Komal Gomare** | **Dr .Rahul More** |

HEAD
Department of Microbiology
Dayanand Science College
LATUR- 413512

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# Acknowledgment

I would like tothank**The Mahanand Dairy, M.I.D.C. Latur** for allowing us to visit the dairy, and for guidingus as well as explaining the procedure and functions of machines.

I would like to thankthe**principal Dr. J.S. Dargad** and **vice-principal Dr. S.S. Bellale** for providing this opportunity to us. Also,I would like to give my special thanks to the **H.O.D. Dr. R.A. More** and**Co-OrdinatorDr. Komal S. Gomare.**

In last I would like to gratitude to **Asst. Prof. Ms. Swapnali D. Sawale** and **Asst. Prof. Mr. Sanket M. Bansode** for being with us during the whole visit and for helping us with all the queries.

I would like to express my deepest thanks to **Dayanand Science College, Latur** for allowingme to go on an Industrial visit.

# Introduction

Mahanand dairy was constructed in 1982 and was commissioned in 1983. situated at the western express highway, Goregaon (East), Mumbai. Starting capacity of dairy is 500lt/day and increased to 65000 lit daysby the end of that year with the progress over year's capacity of the plant is 8.00.000 lit/day

The Indian dairy industries scenario has made rapid progress. Since independence, a large number of modem dairy plants have been established Since the time of the white revolution, and the establishment of dairies that use modern technology, there has been a drastic rise not only in the production of milk but also in the quality of milk & milk products. Similarly, the quantity of products manufactured in Mahanand dairy has improved various organized dairies have engaged in commercial production of market milk & various western & Indian dairy products.

The quality of milk for liquid milk supplied had to be outstanding and this demands urgent attention towards the quality of raw milk collected Therefore the milk producers are being incentives for quality milk to keep pace with international standards. The adulteration is a serious impediment to the healthy growth of dairy industries and has famished his image both in India and abroad. Therefore, the raw milk is tested cleanly before accepting it. Mahanand dairy is an important part of GMMS (Govt. of Mumbai milk supply) and Govt Milk Scheme. The main purpose of GMM is to provide milk at a lower constant price in the metro city of Mumbai. Mahanand dairy provides processed and good quality milk to the city. Presently Mahanand is the largest dairy in Mumbai and one of the largest dairies in Maharashtra.

# Aim

1) To provide an exposure to us.

2) To learn and observe the experiments used to do in the milk processing.

## Instruments/Machines

## Storage Tanks

- These tanks are used to store the raw material i.e.,Milk.
- The collection of raw milkis doneby thefarmers of the Latur district.

# Milk Pasteurizer

- This machine works on the principle of Pasteurisationi.e., a heat-treatmentprocess that destroys pathogenic microorganisms in certain foods and beverages.
- The pathogens and microorganisms present in milk will get killed due to the high temperature(Ideally $80^0$ C).
- This process increases the shelf life of the milk.


## This can be done in two different ways: -

A) Solar Panel

B)Furnace Boiler

## Solar Panel

- Here the solar plates are used for heating the water above $100^0$C.

## Furnace Boiler

- This type of boiler is only used in the absence of sunlight due to environmental changes.

- Here they use Conventional boilers which need furnace oil as fuel.

# Glycol Chiller

- This instrument is used for the rapid cooling (from $80^0$ C to $4^0$C) of milk after the pasteurization.

- With this rapid decrease in temperature, the remaining Pathogens and microorganisms get killed.


- This machine needs cold water for the chilling of milk.

# ICE BANK TANK

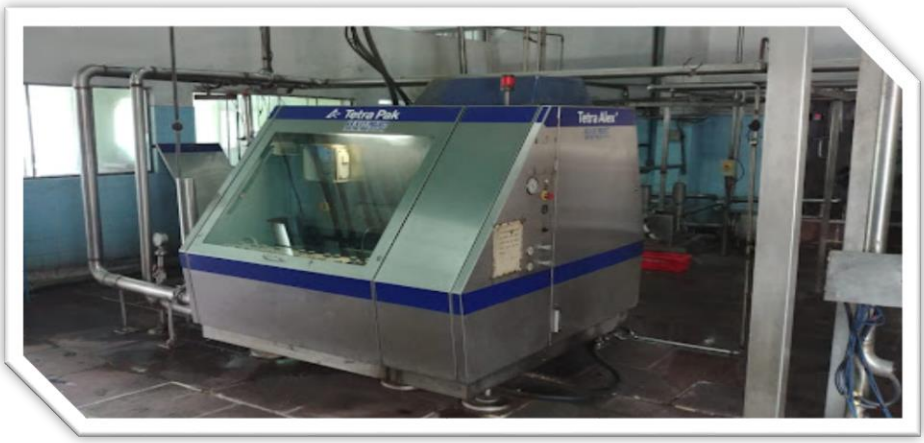
- Here Ammonia is used to cool down the temperature of the water.

# Ammonia Cooler Setup

- Ammonia setup is used for cooling the ammonia needs in the Ice Bank Tank.

## Homogenizer

- This machine works on the principle of homogenizationin which the fat globules are get break down into smaller particles.
- This machine removes the yellowish colour of cow's milk.
- It makesmilk-white and tasty.



## Cream Separator

- This machine is used in the manufacturing of fat-derived dairy products such as yogurt, cheese, butter, ice cream, etc.
- It helps to adjust the composition of milk with respect to its fat and SNF contents.

## Incubator

- This machine is used to form Curd from the separated cream by adding the culture of *Lactobacillus* bacteria.
- The prepared curd can last for 15 to 20 days after the packaging.

## Milk Packaging Machine

- This machine is used for packing the milk into plastic packets for distribution.
- They made packets of 250ml,500ml, and 1000ml of both Cow and Buffalo.

## Cold Storage

- This is used to store the packets of milk and curd after the packing.
- This chamber hasa temperature of less than $4^0$ C to avoid any contamination in milk and curd.

## Distributing Vehicles

- Various types of vehicles are used for transporting products across the whole Maharashtra.
- These vehicles have Air Conditioners to maintain the temperature of the packet.

## Technology

**Collection of milk**

**Transportation and cooling**

**Reception of milk**

**Chilling and Storage**

**Filtration and Clarification**

**Standardization**

**Homogenization**

**Pasteurization**

**Sterilization**

**Packaging**

**Distribution**

# Products

## Cow milk

- Each packet has the same amount of Fat and SNF. (i.e.,3.2 and 8.3)


## Buffalo milk

- Each packet has the same amount of Fat and SNF. (i.e.,6 and 9)


## Yogurt

- Yogurt is best in taste and can last for 15 to 20 days.

# Certifications

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

South Asia

CERTIFICATE

The Certification Body
of TÜV SÜD South Asia Private Limited
certifies that

**Maharashtra Rajya Sahakari Dudh Mahasangh Maryadit, Mahanand Dairy.**
Pune Solapur Road, Village-Varvand, Taluka-Daund,
District-Pune., MAHARASHTRA – 412 215, INDIA

has implemented a Food Safety Management System
in accordance with **ISO 22000:2005**
For Scope of

**Manufacturing of Plain Condensed Milk (Evaporation, Packing), Skimmed / Whole Milk Powder (Spray Drying, Packing) and Butter (Ageing, churning and Packing).**

(According to Category code "C" of Annex A of ISO 22003)

The certificate is valid From **2016-10-17** until **2018-08-20**
Subject to successful completion of annual periodic audits
The present status of this Certificate can be obtained on www.tuv-sud.in
Further clarifications regarding the scope of this certificate may be obtained by consulting the certification body

Certificate Registration No. **99 510 00155**
Date of initial certification : **2015-08-21**

Certification Body
of TÜV SÜD South Asia Private Limited, **Mumbai**
Member of TÜV SÜD Group

TÜV SÜD South Asia Pvt. Ltd. ◆ TÜV SÜD House ◆ Saki Naka ◆ Andheri (East) ◆ Mumbai – 400072 ◆ Maharashtra ◆ India

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

MSA 70764

Middle East

CERTIFICATE

The Certification Body
of TÜV SÜD Middle East L.L.C.
certifies that

MRSDMM

**Maharashtra Rajya Sahakari Dudh Mahasangh Maryadit MAHANAND DAIRY**
Western Express Highway, Opp. Mumbai Exhibition Center,
Goregaon (East), Mumbai - 400 065, India

has established and applies
a HACCP System for

**1.Processing (Pasteurization, Sterilization) and Dispatch of Milk and UHT Milk**
**2. Manufacturing (Pasteurization, Sterilization, Coagulation, Cooking) and Dispatch of Milk Products (Curd, Lassi, Butter Milk, Shrikhand, Amrakhand, Paneer, Sterilized Flavoured Milk and Ghee)**

An audit was performed, Report No. **50203**
Proof has been furnished that the requirements
according to

**Codex Alimentarius Commission**

are fulfilled. The certificate is valid from **2016-04-24** until **2019-04-23**.
Certificate Registration No. **ME HACCP 0065 DAC**

Dubai, 2016-04-26

DAC

CB-021

TÜV SÜD Middle East L.L.C., P.O. Box 2834, Emaar Hatimi Tower A, Business Bay, Dubai, United Arab Emirates

## Safety measures


- In that industry, employees used to follow all the necessary safety rules and regulations.

## Conclusion

The Industrial visit to Mahananda Dairy MIDC, Latur helps learn a lot of things that I had never learned from my academics. The culture of the organization, office etiquettes, and the unique management model will give deep insight into the dairy,and it will pave my way to success. During this visit I got the opportunity to get familiar with the different kinds of products of the Mahanand dairy and how they reached what they are today, from the start of their initial start-up. I took this opportunity to thank all the staff of Mahanand dairy and Dayanand Science College, Latur; without them, I couldn't complete this Industrial visit.

"DON'T STUDY FOR GOOD MARKS OR GRADES BUT, STUDY FOR THE EXCELLENCE, KNOWLEDGE, AND LEARNING."

Ramakrishnan


Thank you