



## MOOC on Milk Processing and Value Addition



16<sup>th</sup> March - 15<sup>th</sup> May, 2025

**A Joint Collaboration of**  
**ICAR-National Dairy Research Institute, Karnal**  
**&**  
**ICAR-National Academy of Agricultural**  
**Research Management, Hyderabad**

## About the course

Unlock the secrets of dairy processing and embark on a journey to excel in the dairy technology and dairy business! The dairy industry plays a critical role in global food systems, providing essential nutrition and economic opportunities. Increasing urbanization and income levels have led to a rising demand for premium and value-added dairy products. Diversification into products such as cheese, butter, ice cream, and traditional sweets enhances profitability. The dairy industry offers immense opportunities for innovation, economic growth, and addressing nutritional needs. Entrepreneurs and businesses can thrive by tapping into emerging trends, focusing on value addition, and leveraging advancements in technology. This course covers the various aspects of milk processing and value addition including chemical analysis for quality assurance and detection of adulterants and preservatives; ensuring safety through microbial testing of milk and milk products; unit operations involved in milk processing such as filtration, clarification, cream separation, pasteurization, homogenization, etc.; preparation of various market milk types and milk products such as fat-rich dairy products, Indian traditional dairy products, frozen dairy products, fermented milks and cheese, condensed and dried milks, etc.; cleaning and sanitation or dairy equipment; packaging and labelling

## Learning benefits

Practical insights from leading scientists of premier dairy research institute and top agricultural university of the country; practical demonstrations of milk processing and products manufacture to build real-world skills, guidance on starting and growing a dairy business. In compliance with the New Education Policy (NEP-2020) and suggestions of the Broad Subject Matter Areas (BSMA) Committees of ICAR, this course would be equivalent to at least 40 hours of academic load.

## Course format

Participants are expected to access around 25 content modules over 8 weeks which are mostly video lectures of around 15-20 minutes duration supplemented with other resource materials. Most lectures will have integrated questions / discussions / assignments which have to be completed by the participants in specific time limit.

## Certification

There is no fee for registration and participating in the course. However, those successful participants whose list will be declared after processing all the criteria and are desirous of having certification can download their certificate on payment of Rs. 3000 plus applicable GST (18%) (approximately Rs. 3,540/-). To qualify for certification, participants shall secure requisite qualifying marks which will be intimated during the course progress, which are based on their extent of accessing all the modules, and participation in assignments/ exercises/ discussion for a and online evaluation.

## Who should enroll

This comprehensive MOOC (Massive Open Online Course) is designed for students, entrepreneurs, start-ups, and dairy enthusiasts. Whether you're starting a new venture or expanding your knowledge, this course offers essential insights into milk processing and value addition.

## Enroll today

Transform your passion for dairy into a successful career or a profitable business venture!.

## Important Dates

**Registration open up to:** 31<sup>st</sup> March, 2025

**Course start date:** 16<sup>th</sup> March, 2025

**Course end date:** 15<sup>th</sup> May, 2025

## Registration form link

Please click the below given link for registration to this MOOC course.



<https://forms.gle/ZGURetTDztdEnwFf6>



**Patron**

**Dr. A.K. Singh**

Joint Director (Academics) & Dean  
ICAR-National Dairy Research Institute  
Karnal-13201, Haryana



**Chief Patron**

**Dr. Dheer Singh**

Director & Vice Chancellor  
ICAR-National Dairy Research Institute  
Karnal-13201, Haryana



**Patron**

**Dr. Rajan Sharma**

Joint Director (Research)  
ICAR-National Dairy Research Institute  
Karnal-13201, Haryana

## Further Information, contact:

### Course In-charge:

**Dr. P. Narender Raju**, Senior Scientist,  
Dairy Technology Division, ICAR-NDRI, Karnal  
Email: narender.p@icar.gov.in | Ph.: 0184-2259597

### Head, Dairy Technology Division:

**Dr. Deep Narayan Yadav**,  
Dairy Technology Division, ICAR-NDRI, Karnal  
Email: deep.yadav@icar.gov.in | Ph.: 0184-2259240

# A Glance at the Course Contents



## Course Contents

- Unit operations involved in processing of liquid milk
- Preparation of market milks
- Chemical quality analysis of milk
- Detection of adulterants and preservatives in milk
- Adulteration of Milk Products
- Microbial analysis of milk and milk products
- Technology of fermented milks (Dahi / Yoghurt / Lassi)
- Technology of Mozzarella Cheese
- Technology of ice cream and kulfi
- Technology of khoa and khoa based sweets
- Technology of chhana and paneer
- Technology of fat-rich dairy products (Butter and Ghee)
- Technology of spray dried skim milk powder
- Starter cultures for fermented dairy products and their maintenance.
- Utility management at dairy plant
- Preparation of techno-financial feasibility report of a dairy plant project.
- Cleaning and sanitation in dairy industry
- Prospects of value addition in dairy products at farm level
- Product diversification for improving profitability in dairy industry
- Packaging of Dairy Products
- Labelling of Packaged Foods
- Regulatory aspects of nutraceuticals and functional foods



**Faculty from the Best  
Agricultural University  
in the Country**



**Eminent Dairy  
Processing Scientists  
as Faculty Members**

- Dr. Ashish Kumar Singh
- Dr. Rajan Sharma
- Dr. K. Jayaraj Rao
- Dr. Sumit Arora
- Dr. Latha Sabikhi
- Dr. Sudhir Kumar Tomar
- Dr. Kaushik Khamrui
- Dr. P. Narender Raju
- Dr. Ganga Sahay Meena
- Dr. Yogesh Khetra
- Dr. Sathish Kumar M.H.
- Dr. Shaik Abdul Hussain
- Dr. Writdhama Prasad
- Dr. Sangita Ganguly
- Dr. P.S. Minz
- Dr. Raghu H.V.
- Dr. Pradip V. Behare
- Dr. Laxmana Naik
- Dr. Priyanka Singh Rao
- Dr. Asif Mohammad
- Mr. Gaurav Kr Deshwal