# TECHNOLOGICAL AND ENGINEERING ASPECTS OF CHEESE MANUFACTURING

# **Background**

In recent years, various cheeses like processed cheese, mozzarella, cheese spreads, flavored and spiced cheese have been introduced in Indian market. Cheddar cheese is the base material for preparation of processed cheese, cheese spreads and cheese foods. Increasing the yield of Cheddar cheese, preventing bitterness and accelerating its ripening process are few points that require understanding of the basics of cheese making.

There is prevalence of 'Pizza Parlors' all over India attracting the youth and elders alike. The cheese that is specifically used on pizza pie is 'pizza/mozzarella' cheese. The retailers now specify the end use specifications to cater to the whims of varied consumers. Processed cheese is the most consumed cheese in India, occupying almost 80% of the cheese market and it has now become an important ingredient in many sophisticated Indian delicacies. The participants are taught to prepare 'tailor made' cheese as per the demand of the consumers.

## **Objectives**

- To provide in depth knowledge about production aspects of Cheddar, Mozzarella and Processed cheeses.
- To help participants understand the role of functional raw ingredients involved and to understand commercial
- aspects of producing different cheeses.
- To provide Knowledge on recent developments in cheese technology.

#### **Contents**

The programme makes an effort to facilitate participants to understand the cheese course from theoretical and practical aspects of:

- Technological parameters involved in making of Cheddar, Mozzarella and Processed cheese
- Parameters for selection of cheese as raw ingredient as well as other functional ingredients for the production of quality Processed cheese.
- Ripening of Cheddar cheese, functional characteristics of Mozzarella cheese and factors affecting them.
- Commercial aspects for production of cheddar, mozzarella and processed cheeses, remedies to overcome defects and recent advances.

### **Participants**

The programme is perfectly designed both for dairy personnel working in the dairy plants as well as for those from non-dairy background who intend to start the business of Cheese. The participants are awarded with a certificate on successful completion of the training programme.

## Programme Schedule for Technological and Engineering Aspects of Cheese Manufacturing

Day	Topic
1	Registration and Inauguration
	Introduction to cheese. Cheddar cheese making – Milk quality, additives (starter, rennet, etc.)
	Basic principles of cheese making
	Lunch Break

	Manufacturing protocol for Cheddar cheese making – Cheese from cow milk and buffalo milk
	Engineering aspects of Mozzarella and Processed cheese manufacture
2	Quality of milk and pre treatments of cheese milk
	Ideal characteristics of Cheddar and Mozzarella cheeses. Probable defects and means to prevent them
	Equipments and mechanization of Cheddar cheese plant
	Lunch Break
	Manufacture of Cheddar cheese from mixed milk (Practical)
3	Standards, Classification, Principle of Mozzarella cheese manufacture and its utility in dairy and food industry.
	Technological aspects of Mozzarella/Pizza cheese manufacture
	Impact of certain technological parameters on the quality of Mozzarella cheese and recent advances.
	Lunch Break
	Hands-on-experience of Mozzarella cheese manufacture by Starter Culture technique
4	Types of Emulsifying salts in cheese processing and role played by them and their admixtures.
	Lunch Break
	Ideal characteristics of Processed cheese and related products. Probable defects in such products and means to prevent them
	Manufacture of Processed cheese (Practical)
5	Advances in Processed cheese foods and shelf life extension
	Additives, cultures and enzymes used in cheese making
	Engineering aspects of cheese manufacturing
	Lunch Break
	Hands on experience of Cheddar and Mozzarella cheese making at Vidya Dairy
	Visit to Cheese Plant
6	Processed cheese, Processed cheese spread, Processed cheese food and cheese slices

# **Languages Supported:** English

Due to unforeseen circumstances, course dates may change/ get cancelled in some cases. Prior confirmation is therefore, a must before participating in any program.