

## Training session:

# DCT N°24

# Hard and semi-hard cheese technology

## ADVANCED LEVEL

### INFORMATIONS

**Date:** from 21st january (1:30 pm) to 25th january 2019 (midday) (Week4)

**Duration:** 4 days – 28 hours

**Trainer:** Julien ROUILLAUD, experimented trainer in hard and semi-hard cheese technology and in adults education

**Cost:** 1560 €, without meals and accomodation

**Courses'place:** ENIL (french national dairy industry institute) of Mamirolle - Grande rue - F-25620 MAMIROLLE

We are located in the heart of Franche-Comté, the first french region for the manufacturing of raw milk cheeses and spreadable cheeses. Dairy industry school of Mamirolle is training technicians and experts in dairy companies since 1888.

#### How to come to Mamirolle:

##### By plane:

Basel-Mulhouse airport + car (1hour30)

Lyon-Saint-Exupéry airport + car (2hours)

Geneva airport + car (2hours)

Paris Charles de Gaulle airport + train (3hours)

##### By car:

Highway A36 from Strasbourg or Mulhouse

Highway A36 from Paris

Highway A40/A39 from Lyon

RN57 from Jougne (Geneve)



**Accomodation's place:** in the city of Besançon (near 120.000 inhabitants)

**Training language:** english

**Who we are:** As a member of the National Dairy Schools Network and the European Association of Dairy technologists, our school trains students and dairy professionnals from all over the world.

### PARTNERS



## INFORMATION AND REGISTRATIONS

### ENIL:

Phone number: +33 (0)3.81.55.92.00

Nathalie CARO – [nathalie.caro@educagri.fr](mailto:nathalie.caro@educagri.fr)

### ANFOPEIL

Phone number: +33 (0)3.84.37.27.24

[accueil@anfopeil-enil.fr](mailto:accueil@anfopeil-enil.fr)

## PEDAGOGICAL INFORMATIONS

### ENIL MAMIROLLE:

Phone number: +33 (0)3.81.55.92.00

Adeline COINTE – [adeline.cointe@educagri.fr](mailto:adeline.cointe@educagri.fr)

## PRE-REQUISITES

Technicians, cheesemakers, R&D managers, engineers

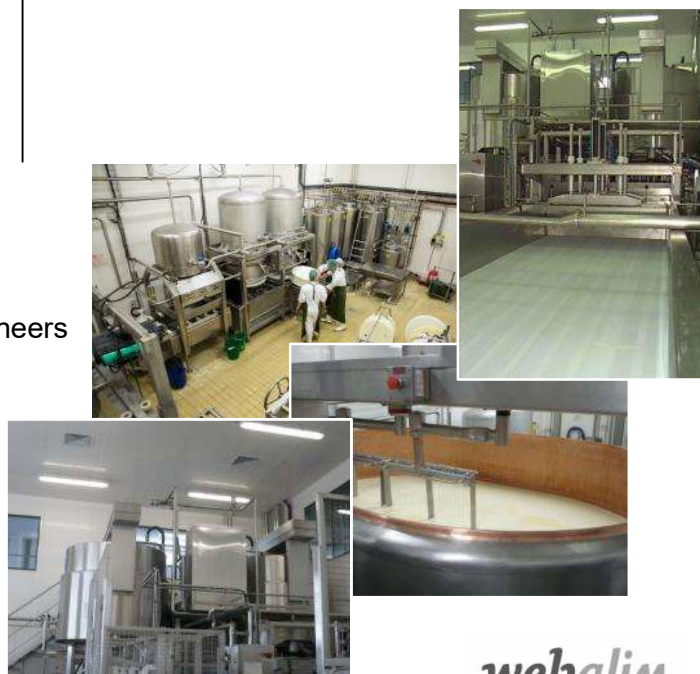
The course is meant for professionals with:

Knowledge of cheese processes

Practice in cheesemaking or cheese processes

Good knowledge of the English language.

Participants should ideally have basic knowledge of the microbiological and biochemical aspects of cheesemaking.



*E-learning formation (Webalim™) is available for reaching pre-requisites. Please contact us for more informations.*



## TEACHING METHODS

- Theoretical courses
- Practical sessions / cases studies
- Cheese making in dairy conditions
  - Open copper vats of 1.000 and 1.500 liters with vacuum moulding Châlon Mégard system.
  - Two closed Guérin double O vats of 4.000 liters each with automatic pre-press vat moulding

## EDUCATIONAL GOALS

- Better knowledge in hard and semi-hard cheese processes
- Knowledge in raw materials and comparison with standards
- Management of raw and pasteurized milk hard and semi-hard cheese processes
- Improvement of milk quality in hard and semi-hard cheese processes
- Organization of work to correct defects in hard and semi-hard cheese processes

**PROGRAM**

- **Welcome and presentation of the participants**
- **Cheesemaking processes**
  - Presentation of European hard cheeses and semi-hard cheeses : types characteristics and descriptors, overview of European legislation
  - Quality of raw milks and influence on cheese
  - Milk preparation and standardization for hard and semi-hard cheeses
  - Technological parameters
  - Coagulation / Clotting agents, syneresis and whey draining – biochemistry and molecular interactions
  - Acidification and starters – biochemistry and molecular interactions
  - Salting, brining
  - Ripening factors and defects in hard and semi-hard cheeses : origins, how to cure it
- **Practical sessions in pilot plant**
  - Production of hard cheese including addition of water variations for curd lactose reduction
  - Production of cooked curd in traditional copper vats
  - Whey starters piloting
  - Production of hard cheese including milk protein variations
- **Visit of “Hameau du fromage”**

**This training is then available for specific training session in your cheese factory.**