Group work – Self monitoring

Simple methods to check milk quality and the production process

Teacheesy

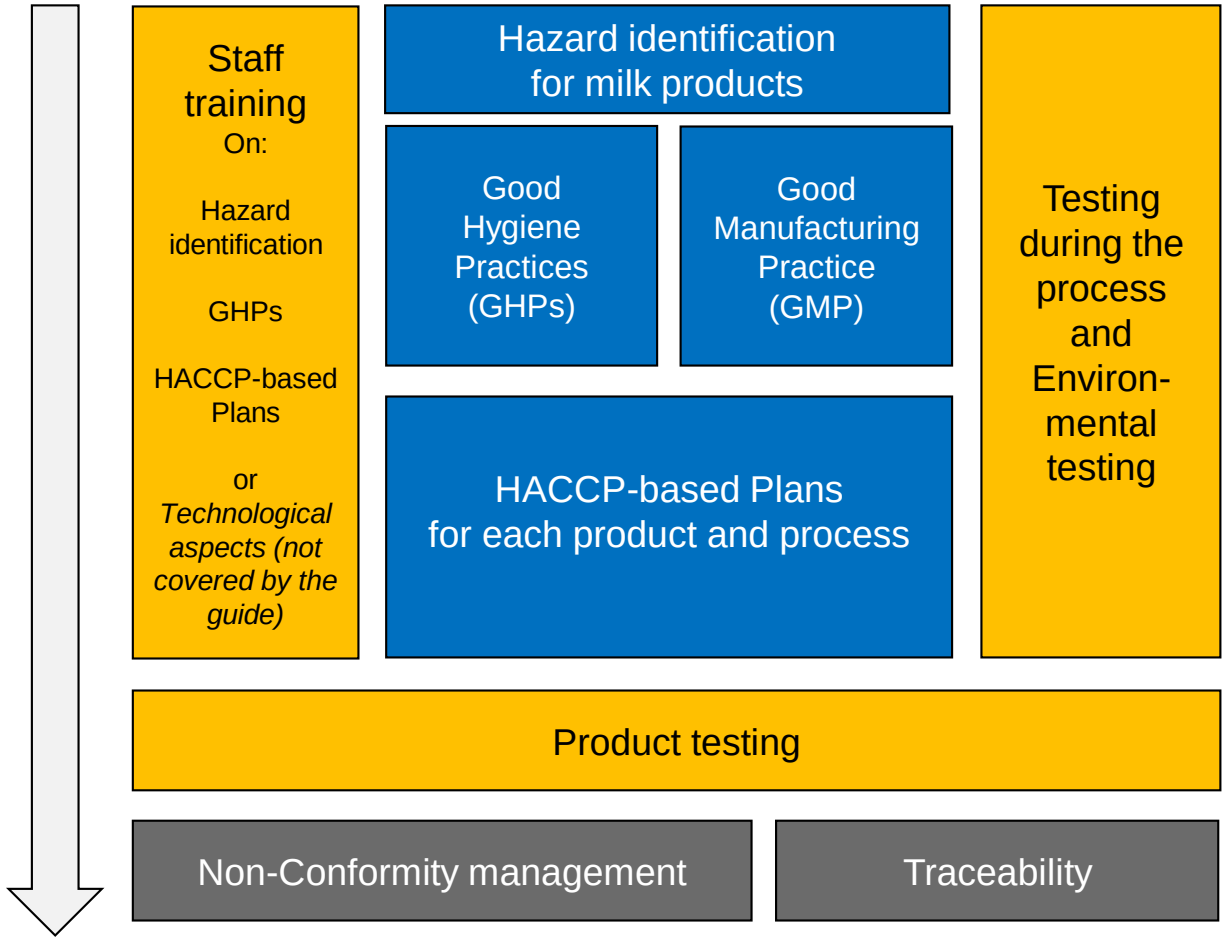
Farmhouse and Artisan Cheese & Dairy Producers European Network

Erasmus+

Self Monitoring Measures

play an essential role in the delivery of the food safety management system

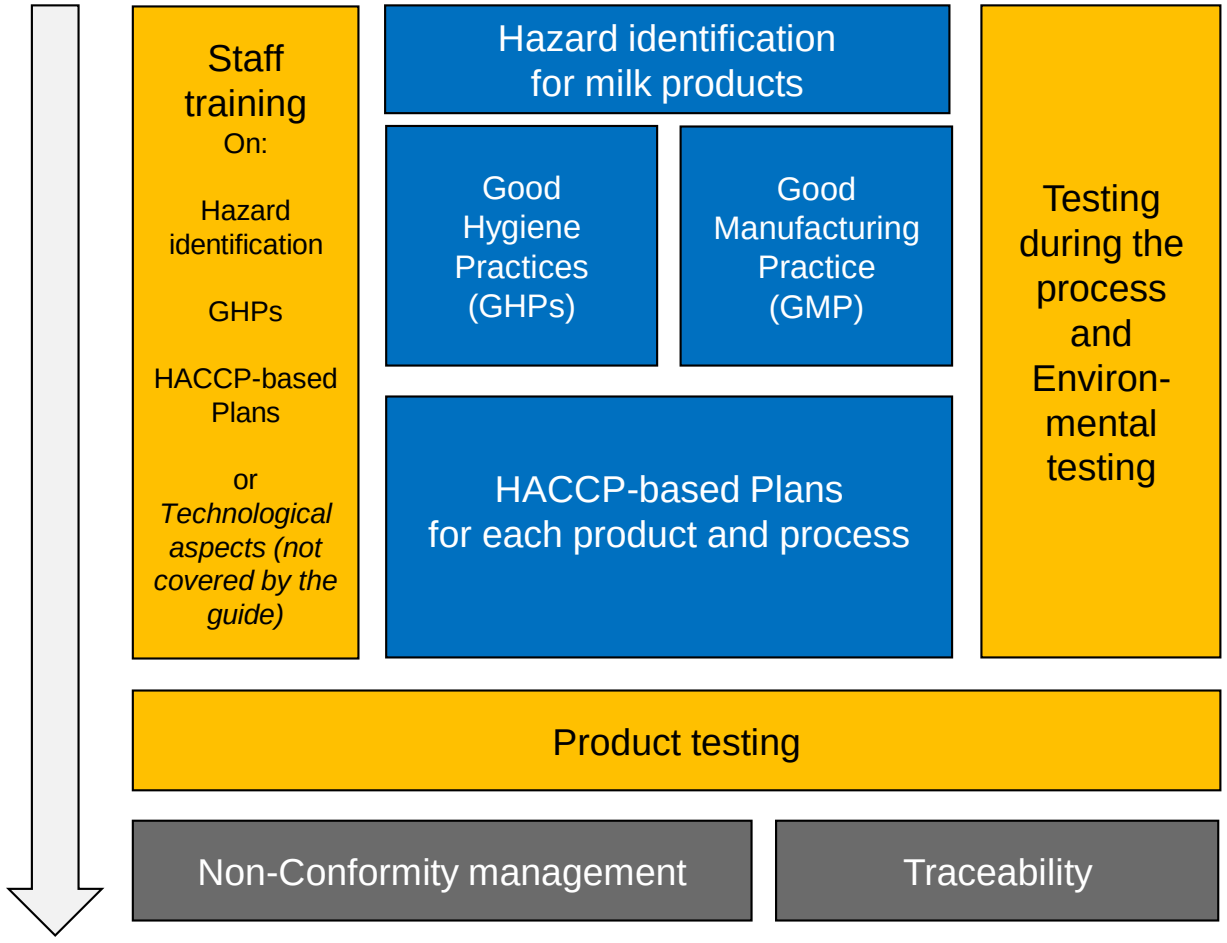
How to control the hazards in cheese and dairy products?



Self Monitoring Measures

play an essential role in the delivery of the food safety management system

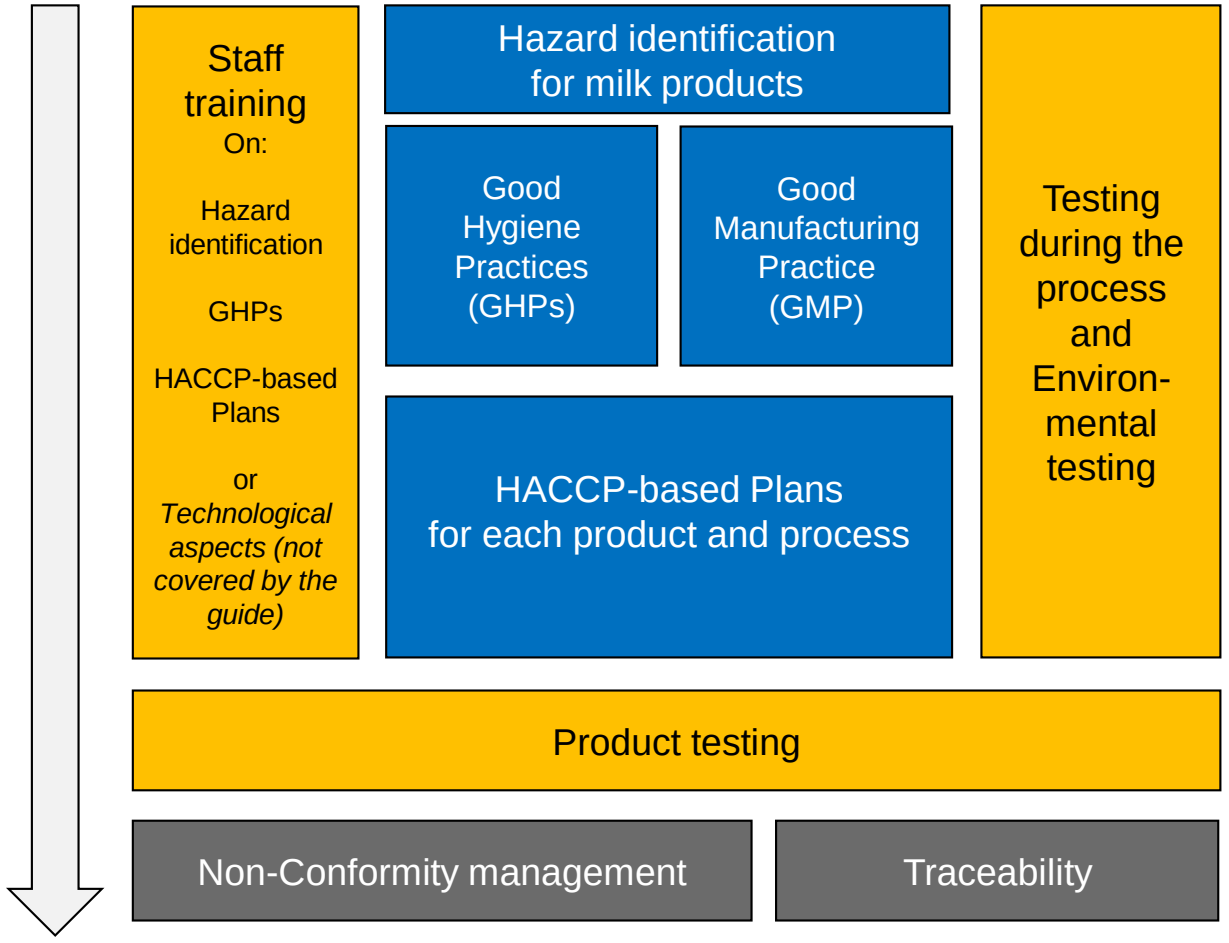
Producers can only assure food safety by the use of a food safety management system. Reliance on end-product testing alone is not sufficient and ineffective.



Self Monitoring Measures

play an essential role in the delivery of the food safety management system

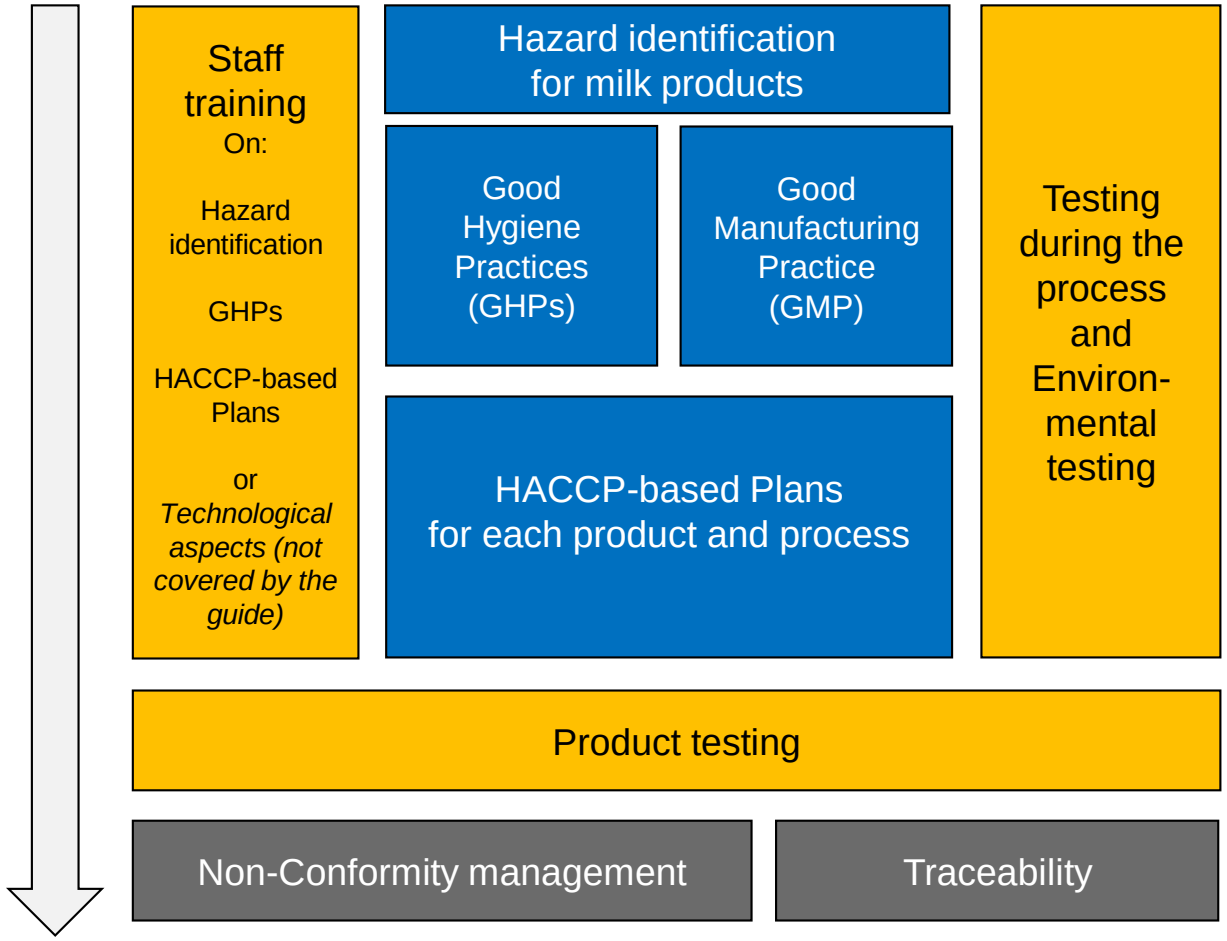
However testing can provide useful information to producers but it is important to distinguish clearly between sampling for validation and sampling to control the production process



Self Monitoring Measures

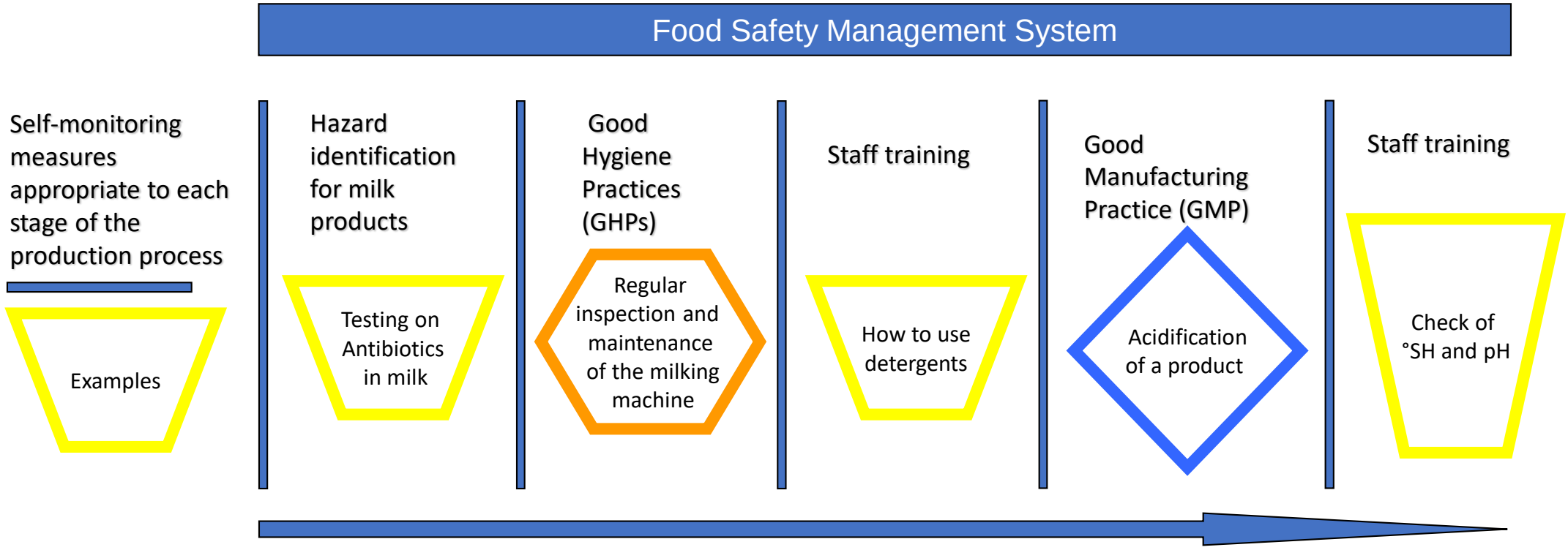
play an essential role in the delivery of the food safety management system

To control the production process other forms of testing may be appropriate. This could involve sensory, microbiological, physical or chemical testing.



Self Monitoring Measures

The food safety management system should set out self-monitoring measures appropriate to each stage of the production process.



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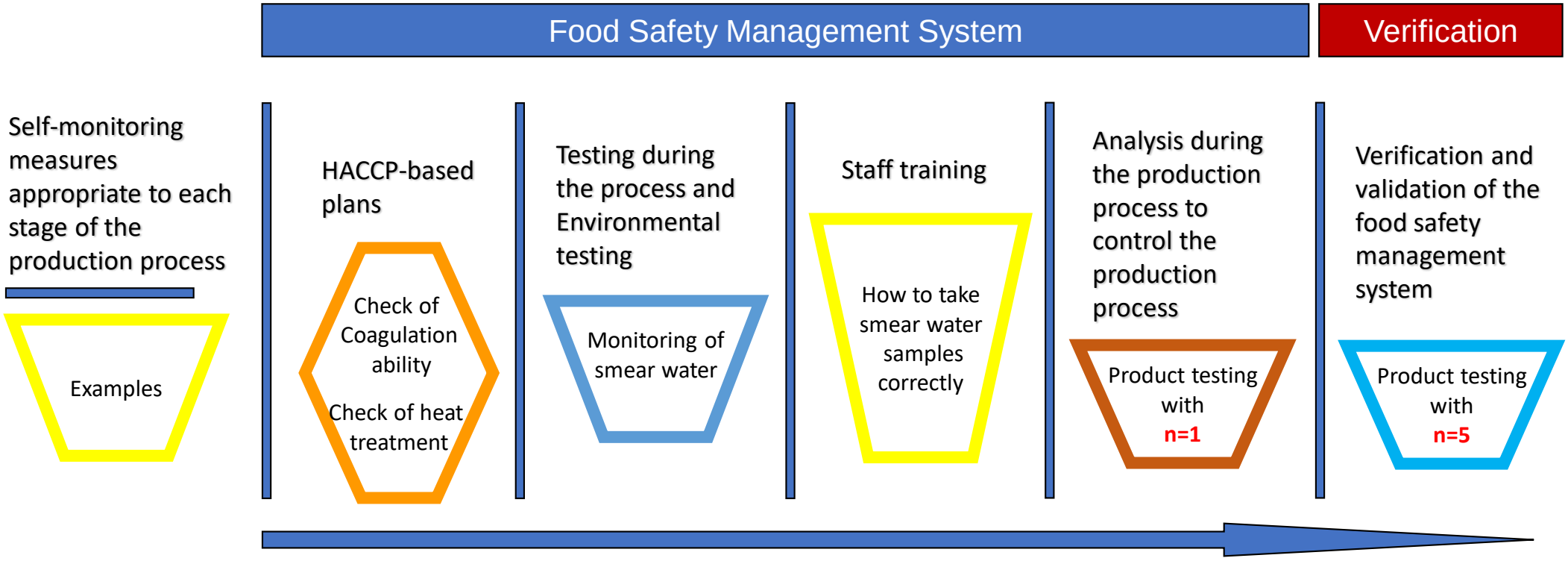

How to explain and train self monitoring measures?

Design a group work to demonstrate the variety of appropriate self-monitoring measures

Procedure

- Select test stations appropriate to demonstrate self-monitoring measures at different stages of the production process.
- Prepare modified milk samples (e.g. add E. coli, alkaline detergent, antibiotics, etc.).
- Each trainee gets 2 milk samples and has to do all tests.
- The trainer is present and gives advise if trainees need some help
- It´s the trainees responsibility to record the results!!!
- All records are shared at the end and the results are discusses within the whole group

Test stations (examples)

Test Station 1:
Sensory test

Check of appearance and smell

Test Station 2:
Acidity test

Check of °SH and pH

Test Station 3:
Fermentation test

Assessment of fermented milk samples, Check of pH after fermentation

Test Station 4:
E-coli test

Assessment of E-coli-Petrifilm

Test Station 5:
Antibiotic test

Testing on antibiotics in milk

Test Station 6:
Alkaline Phosphatase test

Check of heat treatment

Test Station 7:
Coagulation test

Check of coagulation ability

To demonstrate self-monitoring measures appropriate to a stage of the production process you can add, delete or replace test stations.

Milk samples

To demonstrate self-monitoring measures appropriate to a stage of the production process you have to prepare modified milk samples.

Assessment form

	Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	Station 7
Sample 1	+	-	-	+	-	-	±
Sample 2	-	-	+	+	-	+	+
Sample 3	+	-	+	-	-	-	+

Assessment form
(+) suitable for cheesemaking
(±) no statement possible;
(-) not suitable for cheesemaking

- Each trainee gets 2 milk samples and has to do all tests .
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To start with the test station parcours

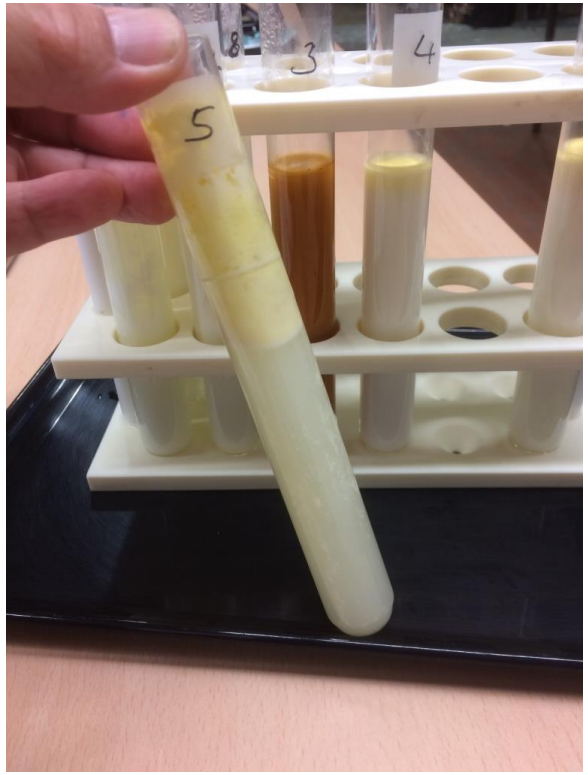
1. All test stations have to prepared in advance.
2. Take time to explain each test station to the the trainees.
3. Trainer has to be present all the time to answer questions of trainees.

Test station 1: Sensory test

Check of appearance and smell

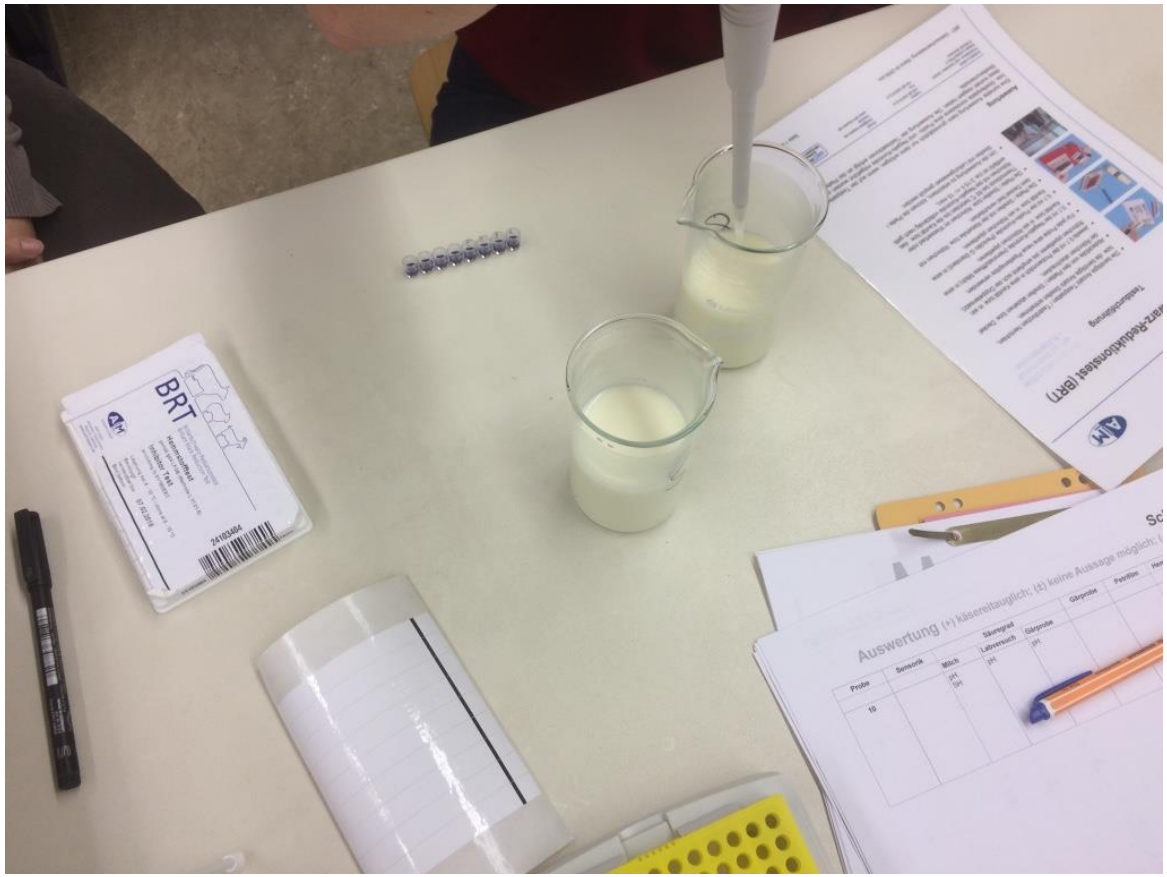
Test station 2: Acidity test

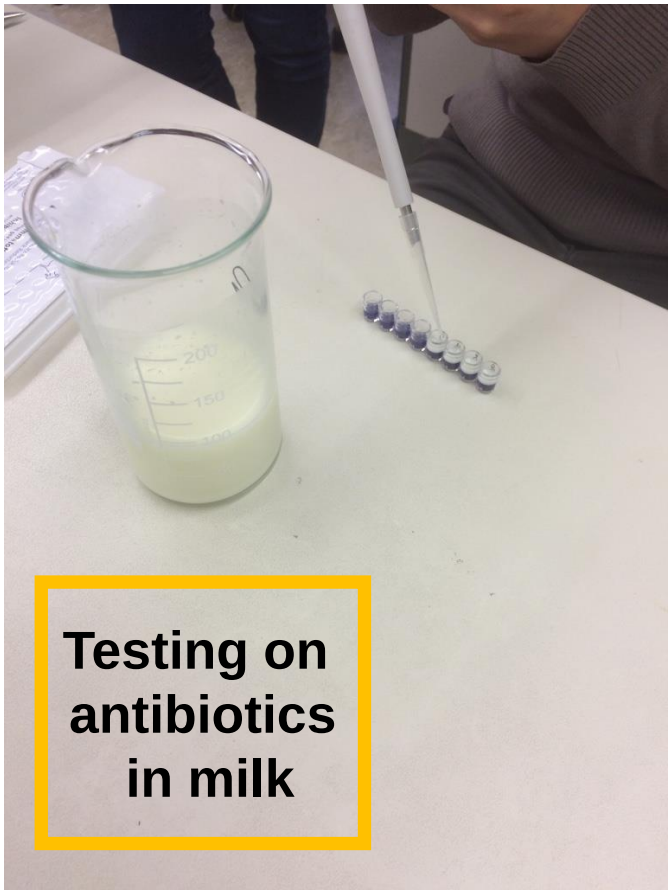
Test station 3: Fermentation test



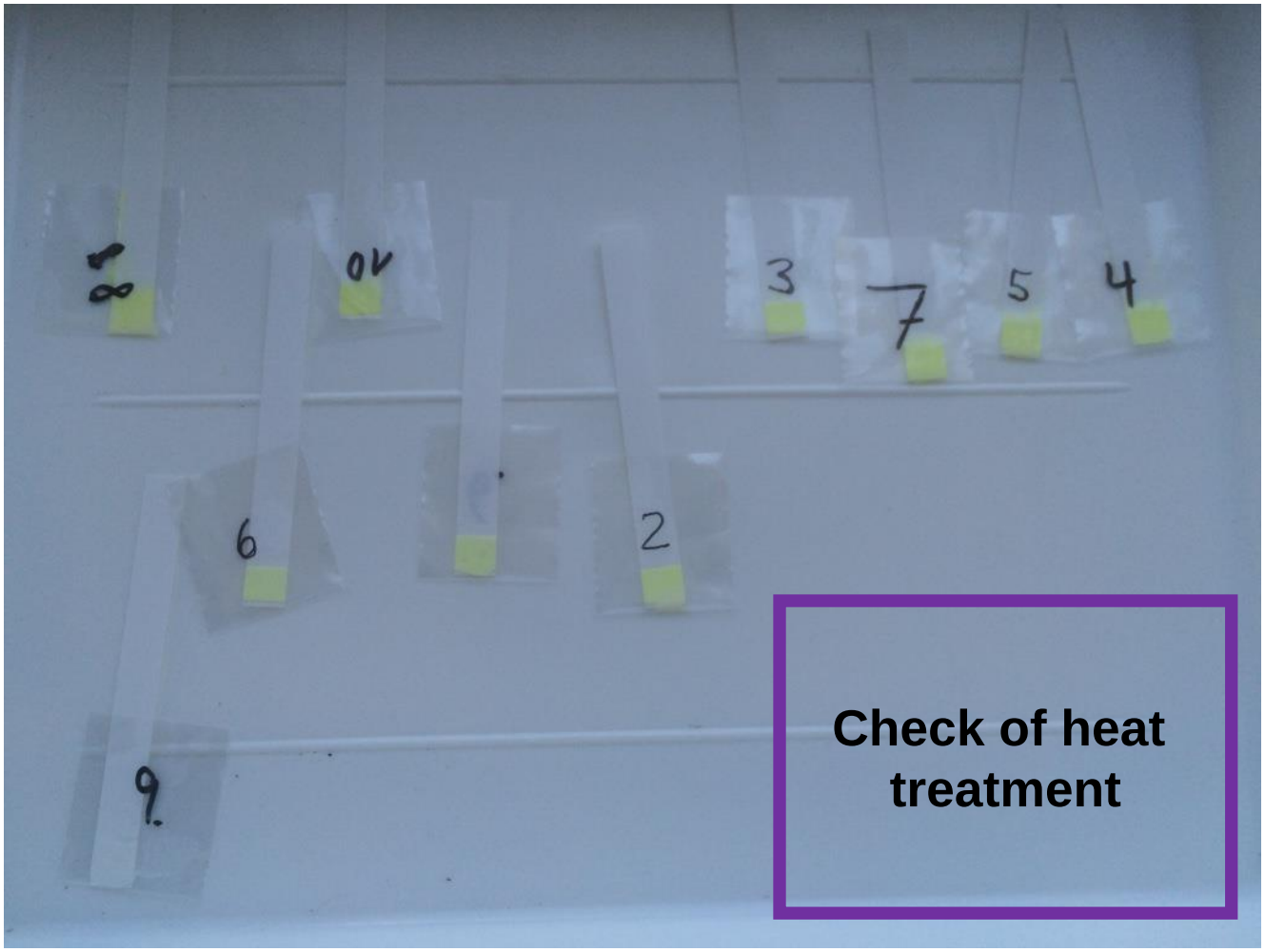
Test station 4: E-coli test

Test station 5: Antibiotic test





Test station 6: Alkaline phophatase test



Test station 7: Coagulation test

Check of Coagulation ability

How to organise the training?

- Time schedule
- Procedure instruction (for teachers)
- Procedure instruction (for trainees)
- List of required milk samples & equipment
- Assessment for (for trainees)

Group Work
Milk Testing

Test stations & equipment

Required milk samples

Sample number	Sample type	Quantity	Responsible
1	raw milk with high somatic cell count	2 liters	
2	pasteurized milk	2 liters	
3	raw milk with hand disinfectant (Sterillium®)	2 liters	
4	raw milk with E. coli	2 liters	
5	raw milk (fresh)	2 liters	
6	UHT milk	2 liters	
7	raw milk with alkaline detergent	2 liters	
8	raw milk (stored for 7 days)	2 liters	
9	raw milk with acid detergent	2 liters	
10	raw milk with antibiotics	2 liters	

Prepare 2 liters for each sample

- 1 liter of each milk sample is divided in two 500 ml beakers
- 1 liter of each milk sample is used for the Coagulation test

For all examples given in this presentations the tools are available