Food safety

Applied Food Microbiology

One day to understand the microorganisms that matter in your plant and use your test results correctly. Pathogens, spoilage flora and indicators, growth factors, microbiological criteria, sampling plans and shelf life are explained without jargon, from your products and laboratory reports, for quality, production and R&D teams who are not microbiologists.

Duration : 1 day

Objectives

1. Distinguish pathogenic, spoilage and indicator microorganisms, and what each reveals
2. Explain the effect of temperature, pH, water activity and atmosphere on their growth
3. Read a test report and compare it with the applicable microbiological criteria
4. Build a coherent sampling plan for raw materials, the environment and finished products
5. Assess a shelf life and recognise when a specific study is needed

Programme

Day 1 — morning

• Bacteria, yeasts, moulds, viruses: what distinguishes a hazard from spoilage

• Major pathogens by sector: Salmonella, Listeria, Shiga toxin-producing Escherichia coli, Clostridium botulinum, Staphylococcus aureus, Bacillus cereus

• Growth and survival factors: temperature, pH, water activity, preservatives, atmosphere

• Hygiene indicators: total flora, Enterobacteriaceae, coliforms, yeasts and moulds

Day 1 — afternoon (workshop)

• Food safety criteria and process hygiene criteria: the example of Regulation (EC) No 2073/2005

• Two-class and three-class sampling plans, choice of laboratory and methods

• Shelf life: documentary approach, ageing trials, growth tests

• Workshop: interpretation of your test reports and revision of your testing plan

Teaching methods

• Presentations illustrated by incidents and recalls linked to contamination

• Reading your test reports and specification sheets

• Decision exercise on a three-class sampling plan

• Quiz after the morning and end-of-day test

Assessment and documents

Mid-course quiz and knowledge test, reaction survey at D+1. Numbered certificate verifiable online; training report and proposed adjustments to your testing plan handed to the company.

Bilingual materials for every participant; each classroom course comes with its digital twin on OmniLearn.

Good to know

To apply these basics to the production environment, see “Environmental Monitoring Plan (Listeria)”. The course “Process Validation: Thermal, pH, aw” extends the section on growth factors.

Practical information

Duration	1 day
Audience	Quality, R&D, production, in-house laboratory
Prerequisites	No prerequisites
Group size	Groups of 6 to 12 participants, in-company
Format	In-company, face to face on your site
Language	French, Darija or English; bilingual materials
Funding	OFPPT special training contracts (TFP), GIAC, Maroc PME: we prepare the applications with you, at no extra cost.
Programme customisation	Programme adapted to your procedures, your equipment and your audience

Frequently asked questions

Do we need a scientific background to attend?

No. It is designed for quality, production and R&D managers who are not microbiologists. Each concept is explained using plant examples.

How does it differ from a laboratory technician course?

This day does not cover analytical methods. It teaches you to choose what to test, how often and with which laboratory, then to decide from the results.

Can we work on our own test results?

Yes. Send your testing plans and a few recent reports before the session, including nonconforming results; they serve as material for the workshop.

Can this training be funded?

Delivered in your company, it can be included in your training plan and fall under OFPPT special training contracts, according to the rules in force. The file is prepared with you.