

Training Module: Food Preservation and Processing

Module Overview: This training module aims to provide participants with a comprehensive understanding of food preservation and processing techniques. Participants will learn about various methods used to extend the shelf life of food products while maintaining their nutritional value and safety. The module will cover both traditional and modern preservation techniques, as well as the importance of food processing in ensuring food security and reducing food wastage.

Duration: 2 days (can be adjusted based on participants' prior knowledge and depth of content)

Day 1: Basics of Food Preservation

Session 1: Introduction to Food Preservation

- Importance of food preservation in preventing spoilage and extending shelf life.
- Connection between food preservation and food security.

Session 2: Factors Affecting Food Spoilage

- Microorganisms, enzymes, and environmental factors.
- Understanding the role of temperature, humidity, and oxygen.

Session 3: Traditional Food Preservation Techniques

- Drying: sun drying, dehydration, and freeze-drying.
- Canning: principles and canning process.
- Fermentation: role of microorganisms in fermentation.

Day 2: Modern Food Processing Techniques

Session 4: Refrigeration and Freezing

- Principles of refrigeration and freezing.
- Maintaining quality during storage and transportation.

Session 5: Chemical Preservation

- Food additives and their role in preserving food.
- Safety considerations and regulatory aspects.

Session 6: Food Processing and Packaging

- Importance of processing in maintaining nutritional content.
- Types of packaging materials and their impact on preservation.

Session 7: Emerging Technologies

- High-pressure processing (HPP) and pulsed electric fields (PEF).
- Role of technology in improving preservation methods.

Day 3: Practical Applications and Hands-On Training (Optional, based on resources)

Session 8: Demonstrations and Workshops

- Drying and dehydration techniques.
- Basic canning process.
- Fermentation demonstration.

Session 9: Food Safety and Quality Assurance

- Importance of hygiene and sanitation in food processing.
- Quality control measures to ensure safe products.

Session 10: Case Studies and Group Discussions

- Analyzing real-life examples of successful food preservation and processing.
- Identifying challenges and solutions in different scenarios.

Assessment:

- A final quiz to evaluate participants' understanding of key concepts.
- Hands-on assessment for practical skills (if applicable).

Certification: Participants who successfully complete the training module will receive a certificate of completion.