Training Course on Post-Harvest Loss Reduction

Professional Development Training Course Outline

Category	Agriculture	**Duration**	10 Days
Base Fee	$0 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The global challenge of food security is significantly exacerbated by substantial post-harvest losses (PHL), impacting both farmer livelihoods and consumer access to nutritious food. This comprehensive training course, "Post-Harvest Loss Reduction: Safeguarding Food Security and Rural Prosperity," addresses this critical issue by equipping participants with practical strategies and innovative technologies. We delve into the core principles of agricultural loss prevention, emphasizing crop storage techniques, perishable food preservation, and supply chain optimization. This program focuses on enhancing farm-to-fork efficiency, minimizing food waste, and promoting value addition in agriculture. By mastering cold chain management, packaging solutions, and integrated pest management (IPM), participants will contribute to building more resilient and sustainable food systems, ultimately enhancing rural development strategies.

This curriculum is designed to empower farmers, agribusiness professionals, and policymakers with the knowledge and tools necessary to combat PHL. We explore the critical role of quality control in agriculture, food processing technologies, and loss assessment and analysis in minimizing waste and maximizing profitability. The course promotes the adoption of drying and curing methods, sustainable agriculture practices, and food loss economics principles. Through practical exercises, real-world case studies, and expert insights, participants will learn to develop and implement context-specific solutions that enhance handling and transportation of produce, ensuring that more food reaches consumers and boosting rural economic growth

Programme Curriculum

Training Course on Post-Harvest Loss Reduction

Introduction

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Course content

Course Objectives:

1. Understand the magnitude and impact of post-harvest losses (PHL) on food security.
2. Implement effective crop storage techniques to minimize spoilage and damage.
3. Apply perishable food preservation methods to extend shelf life and maintain quality.
4. Optimize supply chain management to reduce losses during transportation and distribution.
5. Enhance farm-to-fork efficiency through improved handling and processing practices.
6. Minimize food waste through innovative technologies and management strategies.
7. Add value to agricultural products through processing and packaging techniques.
8. Implement effective cold chain management to preserve perishable commodities.
9. Utilize appropriate packaging solutions to protect produce during storage and transport.
10. Implement integrated pest management (IPM) to reduce losses from pests and diseases.
11. Conduct accurate loss assessment and analysis to identify critical points in the supply chain.
12. Apply principles of food loss economics to optimize resource allocation and reduce waste.
13. Promote sustainable agriculture practices to minimize environmental impact and enhance long term food security.

Target Audience:

- Smallholder Farmers and Farmer Groups
- Agricultural Extension Officers
- Agribusiness Professionals and Managers
- Food Processors and Distributors
- Rural Development Practitioners
- Policymakers and Government Officials
- NGO and CSO Staff involved in Food Security Programs
- Agricultural Researchers and Academics

Course Modules:

Module 1: Introduction to Post-Harvest Losses

- Defining post-harvest losses and their economic impact.
- Understanding the causes and types of PHL in various commodities.

- Analyzing the impact of PHL on food security and rural livelihoods.
- Examining global and regional trends in PHL.
- Case studies of significant PHL in specific agricultural sectors.

Module 2: Crop Storage Techniques

- Principles of effective crop storage.
- Traditional and modern storage methods (silos, bags, controlled atmosphere).
- Managing storage environments (temperature, humidity, ventilation).
- Preventing losses from pests, diseases, and rodents.
- Practical demonstrations of storage techniques.

Module 3: Perishable Food Preservation

- Understanding the physiology of perishable commodities.
- Techniques for extending shelf life (cooling, freezing, drying).
- Applying appropriate preservation methods for different fruits and vegetables.
- Maintaining quality and nutritional value during preservation.
- Practical exercises in food preservation.

Module 4: Supply Chain Optimization

- Analyzing supply chain bottlenecks and inefficiencies.
- Improving transportation and logistics to reduce losses.
- Implementing traceability and inventory management systems.
- Developing efficient distribution channels.
- Case studies of successful supply chain optimization.

Module 5: Farm-to-Fork Efficiency

- Improving handling practices at the farm level.
- Implementing best practices for harvesting and sorting.
- Minimizing mechanical damage during handling.
- Integrating on-farm processing and storage facilities.
- Practical demonstrations of efficient handling techniques.

Module 6: Food Waste Minimization

- Understanding the concept of food waste and its environmental impact.
- Implementing waste reduction strategies at different stages of the supply chain.
- Utilizing by-products and food waste for value addition.
- Promoting consumer awareness and behavior change.
- Case studies of successful food waste reduction initiatives.

Module 7: Value Addition in Agriculture

- Principles of value addition and product diversification.
- Developing processing techniques for value-added products.
- Packaging and branding strategies for value-added products.
- Exploring market opportunities for value-added products.
- Practical exercises in product development and marketing.

Module 8: Cold Chain Management

- Understanding the principles of cold chain management.
- Implementing temperature control and monitoring systems.

- Designing and managing cold storage facilities.
- Utilizing refrigerated transportation for perishable commodities.
- Practical applications of cold chain technologies.

Module 9: Packaging Solutions

- Selecting appropriate packaging materials for different commodities.
- Designing packaging to protect produce during storage and transport.
- Utilizing modified atmosphere packaging (MAP) and other advanced packaging technologies.
- Implementing sustainable packaging practices.
- Practical demonstrations of packaging techniques.

Module 10: Integrated Pest Management (IPM)

- Principles of IPM and its application in post-harvest management.
- Identifying and managing common post-harvest pests and diseases.
- Utilizing biological control and other eco-friendly pest management methods.
- Implementing safe and effective pesticide application techniques.
- Practical exercises in pest identification and management.

Module 11: Loss Assessment and Analysis

- Conducting quantitative and qualitative loss assessments

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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