Sprout Safety Alliance (SSA)
Learning Objectives and Critical Concepts

Welcome and Course Objective

Critical Concepts:

- Course format
- What is expected of the participant
- How to use the manual
- Definitions / Glossary

Chapter 1: Sprout Safety Hazards

Learning Objectives:

- Food safety hazards associated with sprouts
- Importance of controlling these hazards

Critical Concepts:

- Biological hazards
  - Foodborne illness associated with sprouts
  - Bacterial hazards
  - Pathogens that have been involved in sprout-associated outbreaks
  - Other pathogens of potential concern
- Chemical hazards
  - Intentionally added chemicals or ingredients
  - Unintentional or incidental chemical contamination
  - Allergens
- Physical hazards

Chapter 2: Sprout Production Environment

Learning Objectives:

- Key considerations in building construction and design to provide a hygienic environment for sprout production
- Measures that should be put in place to prevent cross contamination that may occur as a result of improper facility construction, contaminated air, water, and contaminated workers
- Measures that should be in place to prevent adulteration of sprouts due to the presence of insects, pest, or animals
- Key steps to ensure safe supply of water, soli (for certain sprout types) in sprout production
- Proper preventive maintenance for facility and equipment

Critical Concepts:

- Building construction and design
- Building site and construction
- Building interior
- Sanitary facilities
- Safety of water
  - Water sources
  - Water treatment
  - Plumbing systems for water
  - Water storage
  - Record keeping
- Pest controls
  - Elimination of shelter and attractants
  - Exclusion of pests from the sprouting facility
  - Elimination of pests that gain entry into the facility
  - Monitoring of pests
  - Pest monitoring program documentation
- Prevention of cross-contamination
  - Safe handling soil, soil amendments and soil-grown sprouts
  - Waste management
- Preventive maintenance
- Corrective actions
  - Building construction
  - Water safety
  - Pest control
  - Cross-contamination

Chapter 3: Employee Health and Hygiene Practices in Safe Sprout Production

Learning Objectives:
- The purpose of good employee health and hygiene practices
- Management responsibilities and interventions regarding employee health and hygiene
- Specific employee health and hygiene practices to prevent sprout contamination

Critical Concepts:
- Management responsibilities
  - Management responsibilities
  - Well maintained facilities and supplies
- Employee health
  - Importance
  - Restriction to ill employees
- Employee hygiene practices
  - Hand washing
  - Clothing and accessories
  - Hair
  - Employee eating (lunch/breaks) in designated areas
  - Use of gloves
Chapter 4: Cleaning and Sanitizing of Buildings and Equipment

Learning Objectives:
- The importance of cleaning and sanitizing
- The difference between cleaning and sanitizing
- Proper cleaning and sanitizing procedures
- The importance of preventing biofilm formation

Critical Concepts:
- Surfaces to clean and sanitize
- Cleaning and sanitizing
  - Cleaning
  - Sanitizing
  - Sequence of cleaning and sanitizing activities
  - Sanitation standard operating procedures (SSOP)
  - Environmental monitoring
  - Chemical storage
- Biofilms
- Corrective Actions
- Records

Chapter 5: Environmental Monitoring: Sanitation Verification

Learning Objectives:
- The purpose of environmental monitoring to verify cleaning and sanitizing
- Methods and equipment needed for an ATP environmental monitoring system
- How to set up a sampling plan
- How to determine appropriate corrective actions
- Model Standard Operating Procedures to conduct environmental sampling

Critical Concepts:
- Procedures: ATP Bioluminescence sampling and testing
- Corrective actions
- Records
- Other sanitation verification methods

Chapter 6: Environmental Monitoring: Listeria Control

Learning Objectives:
- The value of environmental monitoring for Listeria in a sprout operation
- Key components of an environmental monitoring plan
- Designation of environmental sampling zones
- When to sample
- Methods and equipment needed for sampling
- How to find and work with a reputable testing laboratory
• The importance of responding to positive findings
• How to interpret results and determine subsequent corrective actions
• Maintaining records for your environmental monitoring program

Critical Concepts:
• Environmental monitoring procedures
  o Written Environmental Sampling Plan development
  o Sampling Team Roles and Responsibilities
  o Equipment and Materials
  o Aseptic Sampling
  o Timing for Environmental Monitoring Procedures
  o Environmental sampling zones
  o Selecting Sample Locations and Sample Numbers
  o Sampling procedures
  o Compositing Samples
• Interpreting sample results and taking corrective actions
• Records

Chapter 7: Seed Purchasing, Receiving and Storage

Learning Objectives:
• The food safety considerations to take into account when purchasing seeds
• The importance of examine seeds upon their arrival to your sprout firm
• The proper seed storage conditions

Critical Concepts:
• Seed purchasing
  o Choosing a seed supplier
  o Seed production
  o Seed handling
• Seed receiving
  o Seed transportation
  o Seed receiving
  o Seed inspection
  o Seed testing
  o Quarantine
• Seed storage
  o Seed storage
  o Recordkeeping
Chapter 8: Seed Treatment

Learning Objectives:
- The importance of disinfecting the seeds prior to sprouting
- FDA guidance and Produce Safety Rule requirements for seed treatment
- Seed treatment method should be scientifically valid to reduce microorganisms of public health significance

Critical Concepts:
- Chemical handling and personal protection equipment
- Chemical seed treatment procedure
  - Seed pre-wash
  - Preparation of chemical solution
  - Seed treatment
  - Residue rinse
  - Chemical solution disposal
- Records
- Other sanitizers

Chapter 9: Spent Irrigation Water and Sprout Testing

Learning Objectives:
- The importance of sampling and microbial testing spent irrigation water
- How to prepare for sampling
- When, what an how to sample
- How to choose a testing lab
- How to interpret results and determine subsequent corrective actions

Critical Concepts:
- Sampling
  - How to prepare for sampling
  - When to sample spent irrigation water
  - What to sample
  - How much water to collect
  - In-process sprout sampling
- Microbial testing
  - What to test
  - Who will do the testing
  - What procedures to use
  - In-house testing
- Interpretation of results and corrective actions
- Records
Chapter 10: Additional Control Programs

Learning Objectives:

- Additional control programs and their importance in ensuring food safety

Critical Concepts:

- Management responsibility
- Employee training
- Supplier approval and verification program
- Product coding, trace, and recall procedures
  - Product coding
  - Product tracing and recall procedures
  - Recall
- Sanitary transportation
- Allergen labeling requirements and control programs
  - Allergen labeling
  - Allergen cross-contact prevention
- Food defense
  - Food defense program
  - Food defense team

Chapter 11: Recordkeeping Procedures

Learning Objectives:

- Importance of recordkeeping
- Procedure for completing, reviewing, and storing records
- Types of records needed for sprout growers

Critical Concepts:

- General requirements for records
- Procedures for completing, reviewing, and storing records
  - Completing records
  - Reviewing records
  - Storing records
- Records needed for sprout growers
  - Records for trace back or recall
  - Monitoring records

Chapter 12: Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption

Learning Objectives:

- Develop a better understanding of the produce safety rule

Critical Concepts:

- Outline the produce safety regulation
Appendix:

Critical Concepts:

- Regulation fact sheets
- FDA guidance documents (1999)
- Contacts for technical assistance (on-line list; AFDO; cooperative extension)
- Reportable Food Registry
- Example SOPs and record sheets