Integrated Pest Management and Fumigation Safety Training

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Kansas State University, Manhattan, Kansas
Maintaining quality of food aid commodities upon arrival

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As part of the supply chain.....

All food manufacturing, processing, packing, and holding must be conducted under such conditions and controls as are necessary to minimize the potential for the growth of microorganisms, allergen cross-contact, contamination of food, and deterioration of food.
Shipping containers

Totes, drums, and tubs and bulk vehicles used to distribute human food must be examined prior to use to protect against contamination of the human food.
A facility that is subject to subpart C [Hazard Analysis and Risk-based Preventive Controls] and subpart G [Supply-Chain Program] of this part and that manufactures/processes a raw material or ingredient that it receives from a supplier.
Warehousing and distribution

Storage and transportation of food must be under conditions that will protect against allergen cross-contact and against biological, chemical (including radiological), and physical contamination of food, as well as against deterioration of the food and the container.
Onboard equipment for monitoring food aid commodities

- Eyes
- Ears
- Hands
- Nose
- Mouth
- Mind/Notepad
- Feet
Auxiliary equipment for monitoring food aid commodities

- Pen and pencil
- Tablet/Notebook
- Inspection forms
- Flashlight
- UV light
- Magnifying Glass
- Thermometer
- Hair nets
- Gloves
- Aprons
- Watch
- Camera
- Copies of Laws & Regulations
- Microbiological Sample Kits
Eyes

To see what is going on!!
Ears to Hear With

These should be very big!
Hands

- Touch
- Shake
- Encourage
Nose

- Smell the coffee
- What can you smell in the container or warehouse?
Mouth

- Share expectations
- Offer encouragement
- Provide guidance
- Teach
Write it down!
Think about it!
Feet

- Makes the commodities storage specialist or site manager a mobile unit
Sanitation

- Insects
- Rodents
- Birds
- Traps
- Spills
- Weeds
- Trash
- Windows
- Screens
- Doors
- Overheads
- Roof
- Dust
- Brooms
- Vacuum
- Dustpans
- Trash Containers
- Control Materials

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PCI
Safety

- Guards
- Covers
- Lockout
- Magnets
- Re-bolt
- Bin Entry
- Doors
- Clean-up
- Lighting
- Ladders
- Welding
- Gloves
- Shoes
- Fall protection
- Eye Protection
- Dust Masks/Respirators
- Heat & Motion Sensors
- Hearing protection
- Warning horns
- Warning lights
- Fire extinguishers
Productivity measures

- Unloading vs. Invoice
- Inventory Loss
  - Theft
  - Damage
  - Out of condition
- Reclaim
- Stock Rotations
- Shipping Loss Claims
Quality

- Specifications
- Traceability
- Data Recording
- Readable Data
- Accuracy
- Timing
Maintenance

- Tool Storage
- Trash
- Noise
- Heat
- Smell
- Grease
- Oil Leaks
- Air Leaks
- Dust Leaks
- Water Leaks
- Exposed Wire
- Freight Elevator
- Bearings
- Drives
- Motors
Personnel-training and cultural differences

- Appearance
- Attention
- Activity
- Attitude
Outside

- Visual Image
- Sanitation
- Safety
Warehouse

- Package Weights
- Package Seal
- Date Codes
- Packaging Storage
- Finished Goods
- Inventory Rotation
- Inspection of Carrier

Monitoring, third party inspection?

[Image of warehouse with flour packages and forklift]
Thank you for your participation and work!

Discussion and Question?

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Wheat Isotherm
# Humidity

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</table>
Iron Content In 50# Bagged Flour

Iron (mg/100g)
Frequency
Top
Middle
Bottom
Average
Estimated

Iron Content In 50# Bagged Flour

Pre-shipment

Iron (mg/100g)

Frequency

0.0015  0.002  0.0025  0.003  0.0035  0.004  0.0045  0.005  0.0055  0.006

Pre-shipment
Iron Content In 50# Bagged Flour

Iron (mg/100g)
Frequency
Estimated
Top
Middle
Bottom
Average

Iron (mg/100g)
Moisture

Microbial Risk

Microbial Risk
Factors versus quality

Temperature
Moisture, RH
Time

Food Product Nutrient, Flavor, Handling Properties

[Logos: USAID, TOPS Small Grant, PCI]
Packaging & Labelling Objectives

- Physical protection
- Barrier protection
- Containment or agglomeration
- Information transmission
- Marketing
- Security
- Convenience
- Portion control