

Good Manufacturing Practices (GMPs) in Rendering

David L. Meeker, Ph.D., MBA

Vice President, Scientific Services, National Renderers Association



What are Good Manufacturing Practices (GMPs)?

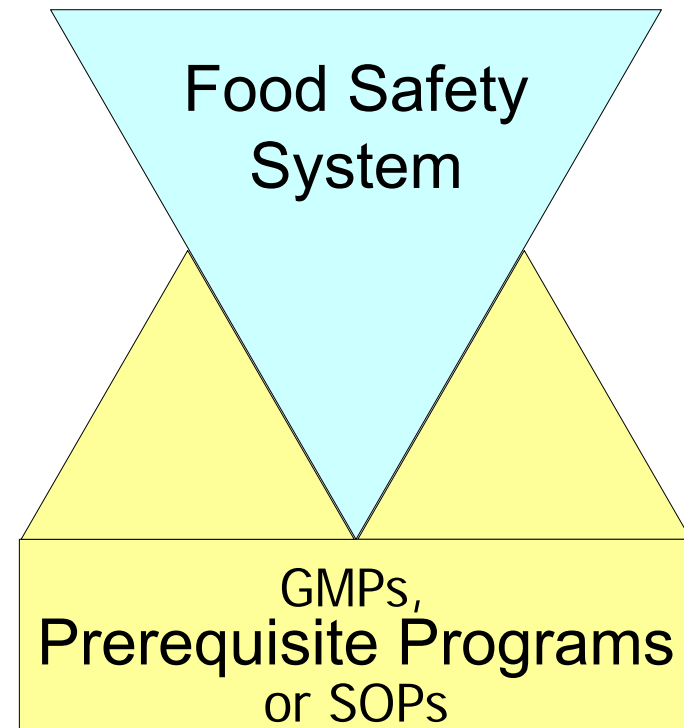
- Basic procedures utilized by the food and feed industries to ensure the safety and wholesomeness of their finished products
- They may also be known as Standard Operating Procedures (SOPs) or Prerequisite Programs

Good Manufacturing Practices versus Process Control

- GMPs can be used to reduce the number of CCPs that need constant process control.
- Process Controls are very formal ways to closely monitor, control, and record manufacturing processes that are defined as Critical Control Points (CCPs).

Purpose of GMPs

- Good Manufacturing Practices (GMPs) support the *Food Safety System*



Examples

- Raw material inspection
- On-site chemical control
- Housekeeping and sanitation
- Pest control
- Finished product loadout inspection
- Calibration procedures
- Traceability
- Product recall

Writing a Program

- Design a Standard Operating Procedure (SOP) that meets the needs of a process
- Example: Raw Material Inspection

Step 1

- Purpose
 - To ensure that all raw materials are of the highest quality possible. All incoming loads must be inspected for foreign material, excessive water, insects, product condition and any other defects prior to unloading. This inspection must be documented on the **Receiving Log**.

Step 2

- Identify the Application
 - This procedure applies to all feathers, blood, offal, or other raw materials received for the purpose of rendering, drying or hydrolyzing for use in animal feed ingredients

Step 3

- Definitions and Terms
 - **Foreign material**-anything that does not belong; ie: plastic, rubber, glass, paper, styrofoam, metal, cans, bottles, cups, jugs, wood, batter, breadings and any substance that may cause contamination of finished product
 - **Offal**-viscera and trimmings of a butchered animal often considered inedible

- Definitions and Terms (cont.)
 - **Rendering**-to reduce, convert, or melt down (fat) by heating
 - **Hydrolyzing**-to reduce or convert through the use of pressure to breakdown the keratin layer of hair or feathers

Step 4

- Policy
 - All raw product will be inspected and those inspections documented according to the methods and procedures set forth in this plan

Step 5

- Detailed Procedure
 - The trailer will be inspected from above for foreign material in such a manner that **ALL** areas of the load can be seen
 - Visible foreign material will be removed when deemed safe to do so

- Detailed Procedure (cont.)
 - If foreign material cannot be removed or occurs in such quantities as to make removal impractical, plant management will be immediately notified and the disposition of the load will be determined

- Detailed Procedure (cont.)
 - Such actions must be documented on the appropriate form
 - Digital photographs of the load and contamination will be taken and kept as documentation

Pest Control

Step 1

- Purpose
 - To assure that a preventive insect and rodent control program is maintained effectively

Step 2

- Identify the Application
 - This policy is applicable to all Rendering Plants, or any other related facility that renders, processes, stores, or transports product destined for use in animal feed

Step 3

- Definitions and Terms
 - **Pest**-insects, rodents, birds, etc., that may infest product or facility with detrimental consequences
 - **Pesticide**-chemical used to kill pests, especially insects
 - **Fumigation**-application of gaseous insecticide in an enclosed area

Step 4

- Policy
 - It is the responsibility of the Plant manager or designee to maintain an effective pest control program for the building and grounds and to take all necessary preventive steps to assure a pest free environment

Step 5

- Detailed Procedure
 - Records must be kept up-to-date and readily accessible. Records must include:
 - An up-to-date map showing the location of all pest control devices
 - A complete list of all pesticides used at the plant and a photocopy of the label. These pesticides must be USDA approved chemicals or chemical compound(s)
 - A list of when, where, and how the pesticides are applied at the facility
 - Pesticides should be stored in closed containers in a locked room, which is protected from freezing and under the control of a designated facility employee

- Detailed Procedure (cont.)
 - The person responsible for applying these chemicals must:
 - Have a commercial pest control license and be under contract with the company, or
 - Be a responsible employee that has a non-commercial food processing pest control license and be certified for EPA restricted pesticide application

- Detailed Procedure (cont.)
 - Create a weekly inspection checklist to monitor areas that will indicate infestation, such as:
 - Scrubber Ducts
 - Classifiers
 - Tops of Silos
 - Overhead Storage
 - Grinding Room Overhead
 - Load-out Overhead

- Detailed Procedure (cont.)
 - Create cleaning schedule for areas where meal may accumulate, such as:
 - Grinding Room Overhead
 - Load-out Area Overhead
 - Tops of Silos

Step 6

- Create Documentation

Pesticide Storage Log

Plant Name: _____

Date: _____

Pesticide Name	Label Photocopy Attached?	Storage Location	Purpose for Use

Comments:

Plant Manager

Pesticide Use Log

Plant Name: _____

Date: _____

Pesticide Name	Area Treated	Time of Treatment	Comments

Additional Comments:

Pest Control Operator Signature

License Number

Weekly Pest Inspection Checklist

Plant Name: _____

Date: _____

Item to be Inspected		Time	Evidence of Pests?	Cleaning Required?	Comments
1	Scrubber Ducts				
2	Classifiers				
3	Tops of Silos				
4	Overhead Storage				
5	Grinding Room				
6	Overhead				
7					
8					
9					
10					
11					
12					
13					
14					
15					

Additional Comments:

Inspector's Signature

Supervisor's Signature

Summary

- Good Manufacturing Practices (GMPs)
 - Form the foundation of the Food Safety System
 - Must function properly for the Food Safety System to be effective
 - Need not be difficult or complex
 - Must be verified (checks, tests, and/or inspections)