BIOSECURITY FOR FEED:
Guidance for Developing Biosecurity Practices for Feed and Ingredient Manufacturing

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American Feed Industry Association

AFIA members include:
- Ingredient Suppliers
- Feed Manufacturers
- Associations
- Industry Support
- Pet Food Manufacturers
- Educational Institutions
- Pharmaceuticals
- Equipment Manufacturers
- Media

Represents 75% of the feed (173 million tons) in the U.S.A. and 70% of the non-grain ingredients

Over 600 members

Founded in 1909

Based in Arlington, VA
Why is Biosecurity Important for our Industry?

Recent events show us how important Biosecurity is:

- PEDV Outbreak in Swine
- HPAI Outbreak in Poultry
Impact of PEDV on AFIA Members

AFIA completed a survey requesting input from its members on actions that AFIA should take in regards to the impact of porcine epidemic diarrhea virus (PEDV). Ninety-eight percent of responding members were impacted by PEDV. Based on the responses by members, the direction and action needed by AFIA staff were clear:

- **Update biosecurity guidance** to address specific needs for the feed industry to control the spread of viruses or pathogens, such as PEDV, that may be detrimental to animal health.

- **Work with industry leaders** to develop intervention strategies to prevent or minimize of spread of animal disease.

- AFIA needs to provide a **stronger voice** for its members on the impact of feed on the spread of PEDV as well as other diseases.
Process:
Formed a Task Force for input and direction with 17 members (scientists from the feed industry and fellow industry associations – AASV, NGFA, NPB, NPPC, NRA).

Purpose:
Provide feed and ingredient manufacturers with recommendations to develop a biosecurity plan to help control the potential spread of animal disease through the manufacturing, transport and use of feed and feed ingredients.

Pathogens may be transmitted through a variety of ways (APHIS, 2011). These include the following:

- Airborne transmission
- Direct animal to animal contact
- Semen
- Human contact including dirty boots, clothing or hands
- Vectors including rodents, feral animals and insects
- Vehicles and other fomites
- **Feed**, including water
- Animal manure and soiled bedding
Feed Manufacturer’s Responsibility

The feed manufacturer is responsible for biosecurity of the feed chain, which includes selecting, receiving and processing of ingredients into the complete feed through to final feed delivery or until the livestock producer takes possession of the feed.

- Biosecurity Plan should be science-based.
- Biosecurity Plan should be flexible enough to allow some modification depending on circumstances, yet specific for the facility.
  - Incorporate new practices or processes for new foreign animal diseases
  - Updated with more effective actions or processes
Understanding the Points of Exposure is Important for Biosecurity

**FIGURE 1. MANUFACTURING PROCESS FLOW CHART FOR FEED AND INGREDIENTS**

- **PRE-MANUFACTURING**
  - Deliveries
    - Raw Materials
    - Animal Exposure
    - Traffic Exposure
    - Personnel
    - Transfer
    - Equipment
    - Environment

- **TRANSPORT**
  - Receiving: Grinding, Sizing, Storage, Equipment
  - Processing: Grinding, Blending, Biological or Chemical Synthesis, Cooking, Extruding, Pelleting, Drying
  - Storage: Finished Product, Intermediate
  - Packaging: Bag, Bulk, Tote
  - Storage: Bag, Tote, Container
  - Loading: Bag, Tote, Container
  - Blending: Equipment
  - Environment or Air
  - Personnel
  - Transfer or Movement within System

- **POST-MANUFACTURING**
  - Customer Deliveries
    - Delivery Location
    - Animal Exposure
    - Traffic Exposure
    - Personnel
    - Transfer
    - Equipment
    - Environment

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Understanding the Points of Exposure is Important for Biosecurity

What is the potential for exposure to animal disease pathogens? (Outside of the control of the feed or ingredient manufacturer)

- Maintain a “closed” system to ensure biosecurity control.
- Supplier verification programs should be incorporated into the hazard analysis process.
Development of a Biosecurity Plan

Development of a biosecurity plan begins by assessing biosecurity risks.

Step 1: Identify and prioritize the pathogenic agents of greatest concern to the facility. Become familiar with their pathogenesis, ecology, and epidemiology (e.g., transmission, susceptible species and age groups, and environmental factors favoring transmission).

Step 2: Conduct an assessment of the facility. How can the facility decrease the risk of disease transmission? (e.g., layout, traffic patterns, geography, and staffing/personnel)

Step 3: Implement processes and procedures that eliminate, prevent, or minimize the potential impact of animal disease. (biosecurity measures)
Recommended Biosecurity Practices

Supplier Verification Program

GOAL: Insure that supplier has an adequate program to control contamination, including the potential risks from animal disease

• Determine the **potential risk** associated with each ingredient.
• Maintain ingredient **specifications** (including the requirements for biosecurity).
• Establish a **validation** program ensuring suppliers maintain appropriate biosecurity programs and **verification** that programs are implemented.
  – Supplier site visits
  – a review of their quality programs and/or procedures to control potential hazards
  – third-party certifications such as Safe Feed/Safe Food or equivalent programs
Recommended Biosecurity Practices

Ingredient Receiving

GOAL: Implement preventive controls for reasonably foreseeable hazards from ingredients and their delivery to ensure the control of the introduction of animal disease into the feed chain

• Determine the relative risks associated with ingredient delivery (bulk vs. bagged; hopper bottom vs. soft cover; sealed vs. unsecured trailers).

• **Document cleanliness** of transportation vehicles before entry into the receiving area.

• **Implement best practices** within the receiving area to ensure potential hazards are controlled.
  – Cleanliness, Documentation, Inspections, Controlled Area
  – Truck Disinfectant Spray Areas
Recommended Biosecurity Practices

**Employees, Visitors and Drivers**

GOAL: Control the access of people throughout a facility

- **Post appropriate signage** alerting personnel when they are entering restricted areas.
- **Establish a personnel hygiene policy** that reduces the likelihood of spreading animal disease (e.g., wash stations for hands and boots at entry points).
- **Instill biosecurity awareness** in all employees, including top management.
- **Best practices** should be followed:
  - Train employees to recognize and report suspicious individuals or abnormal activities, security breaches, and suspicious ingredients or devices
  - All visitors and contractors should check-in; procedures should protect against unwanted visitors and account for all persons during an emergency.
  - Maintain records - names and companies, arrival and departure times, and purposes for the visit.
Recommended Biosecurity Practices

**What Should a Personnel Hygiene Policy Include?**

GOAL: Reduce the likelihood of Employees spreading animal disease

- Washing hands thoroughly in an adequate hand-washing facility as necessary
- Removing or securing jewelry and other objects that might fall into animal food, equipment, or containers
- Storing clothing or other personal belongings in areas other than where animal food is exposed or where equipment or utensils are cleaned
- Approved footwear and clothing for manufacturing areas
  - Consider requiring footwear to remain at the facility
  - Consider using a uniform service and changing at the facility
- Know your employees and require them to report livestock farming activities
Recommended Biosecurity Practices

Manufacturing Area

GOAL: Implement processes and procedures to prevent feed contamination with animal disease during manufacturing

• Ensure **housekeeping** practices maintain a clean and safe work environment.

• Ensure the **integrity of materials** (ingredients, packaging materials, or finished products) is maintained during storage.

• Establish processes to **review the facility’s compliance** with its biosecurity plan and other procedures that act as barriers for animal diseases entering the property.
Recommended Biosecurity Practices

Shipments for Customer Deliveries

GOAL: Transport finished products or ingredients from a secure facility to a customer without contamination or spread of animal disease

- Ensure batch or lot numbers are recorded for traceability.
- Ensure **load-out equipment** is clean and in proper working order.
- **Secure truck trailers**, both bag and bulk, once loaded; for soft-top trailers, prevent environmental contamination or unauthorized persons from accessing and adulterating the shipments.
- Establish and maintain a **disease status log for livestock production** locations where feed is delivered.
- Establish **protocol for unloading feed** at the livestock production site.
- Establish **appropriate cleaning procedures** for trucks and transport equipment.
In order for a biosecurity plan to be effectively implemented, the plan must be communicated to everyone involved in the operation.

A biosecurity plan’s effectiveness at preventing disease is only as good as the efforts of the people using it.

What is the culture within your business?
Management Commitment

• Management establishes the “culture” or commitment to practices.

• Commitment to the biosecurity plan is necessary for its success. Management personnel must support the development and implementation of the program. This includes participation in the process as well as providing resources to ensure the success of implementation and maintenance of any plan.

• Commitment will be demonstrated in policies or company communications to personnel, which should be clear and on-going.
Education and Communication

**Education and Training**

- Education about the biosecurity plan should be incorporated into the company’s training program.
- Procedures should be developed and records maintained to demonstrate the plan’s effectiveness.
- Such processes should be considered part of the facilities Current Good Manufacturing Practices (CGMPs).
  - Incorporate into the Animal Food Safety Plan as described within the Food Safety Modernization Act (FSMA, 2015).
Continuous Improvement

• The biosecurity plan should be *reviewed and updated* on a scheduled basis, as defined within written procedures.

• The biosecurity plan and procedures should be updated based on:
  – **Feedback** from personnel
  – **Changes of processes** or ingredients and/or ingredient sources
  – After a **review of records** finds concerns
  – **Changes in the assessment** of potential hazards or risks from animal diseases.

• **Quality and food safety certification programs** help feed and ingredient manufacturers demonstrate their commitment to driving continuous improvement within their food safety processes.
Communication

The communication of the biosecurity program to suppliers, company personnel, and customers is important to ensure its effectiveness.

Suppliers must understand facilities’ requirements for incoming materials.

Company personnel should have an understanding of the importance of the biosecurity program.
  – What is their role in its effectiveness?
  – Does management commitment reinforce the proper behavior?

Customers should know your practices to ensure the biosecurity of products provided.
  – Do your practices meet your customers’ requirements?
  – Do your customers accept your practices?
The effectiveness of a biosecurity plan depends upon:

- Culture of the facility to drive the program
- Commitment of management to implement the plan
- Commitment of employees to follow the plan
- Continuous improvement of the plan
- Communication with employees, customers and industry associates
THANK YOU

AFIA'S UPDATED
4 PROMISES

VOICE

REPRESENTATION

EXPERTISE

ENGAGEMENT


AFIA
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