

Slowing the Spread of Foreign Animal Diseases: An Approach to Biosecurity for Feed in the U.S

**Henry Turlington, Ph.D., Director of Quality, Education & Training
American Feed Industry Association**

Due to ever increasing global travel and international trade of feed ingredients, the concerns for biosecurity and spread of animal diseases are high within animal agriculture. Therefore, biosecurity programs are an important tool in reducing the likelihood or risk of introducing pathogens into the feed chain. The U.S. Food Safety Modernization Act (FSMA) requires facilities to develop and maintain a feed safety plan that assesses reasonably foreseeable hazards and implements controls to prevent or minimize the impact of such hazards. Every facility is different, and a biosecurity plan to control the spread of animal diseases and/or other hazards must be specific for the location. A team should be created to ensure the appropriate procedures and processes are implemented.

Feed contamination with a disease-causing pathogen may be introduced at numerous points throughout the manufacturing process, including through the use of contaminated ingredients, during receiving at the feed manufacturing site, cross contamination within the feed manufacturing facility, delivery vehicles (both incoming and outgoing) and by delivery personnel. Potential hazards should be identified, evaluated and prioritized. Appropriate risk mitigation steps should be implemented.

Sources of potential hazards may be listed under each processing step. For pre-manufacturing, the potential exposure of raw materials to animal disease pathogens should be assessed. This includes the potential for pathogen exposure, or animal disease, contamination during harvest, further processing, shipment and storage of ingredients. Supplier verification programs should be incorporated into the hazard analysis process to assure the feed manufacturer that processes are in place to prevent pathogen contamination of purchased ingredients. An effective supplier verification program will minimize the risks from animal diseases entering the manufacturing processes. Post-manufacturing risks of exposure to pathogens are primarily from contaminated transfer equipment, vehicles, storage equipment and personnel. These processes may or may not be under the control of the feed manufacturer, i.e., customer pick-up or third party feed delivery.

Pathogens may be transmitted through a variety of ways. 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. The biosecurity plan should be science-based. However, the plan should be flexible enough to allow some modification depending on local or special circumstances. For example, additional safeguards may be introduced immediately following the recognition of a new foreign animal disease before additional safeguards have been researched and validated. As additional information is gathered, the biosecurity plan should be updated with more effective actions or processes and changes disseminated to all plant personnel.

The concept for biosecurity to control the spread of animal diseases is not new. However, the societal and financial impact of spreading highly contagious animal diseases has increased due to the intensity and the global nature of animal agriculture and transport of pathogens worldwide. Recommendations in this presentation should greatly assist feed and ingredient manufacturing facilities develop a biosecurity plan to aid in controlling the spread of animal diseases introduced by foreign sources or within the any country. The effectiveness of a biosecurity plan depends upon the culture of the facility to drive the program and the commitment of employees, and most importantly to the facility management's ability to implement the plan. A facility must continuously assess the risks for spreading animal diseases to ensure the effectiveness of its biosecurity plan. Communication with employees, customers and industry associates is important to preventing and controlling the spread of animal diseases.

A more detailed description of implementing a biosecurity program for feed and feed ingredients may be found on the American Feed Industry Association website (http://www.afia.org/rc_files/793/guidance_for_developing_biosecurity_practices_2015_feed_mill_cover.pdf).