



Biosecurity at the Farm Level and the Role of Feed and Feed Ingredients

According to the U.S. Environmental Protection Agency, biosecurity is the protection of agricultural animals from any type of infectious agent - viral, bacterial, fungal or parasitic¹. Biosecurity plans focus on reducing disease transmission which are typically transmitted through contact with infected animals or various carriers such as people, equipment, feed or pests (see Figure 1).

Producers and feed manufacturers responsible for the production of meat, milk and eggs play an important role in reducing biosecurity risks. Breaches in biosecurity can impact food safety, consumer trust and lead to lost revenue and production.

An often overlooked aspect in biosecurity plans is the role of feed and feed ingredients which may carry certain pathogens detrimental to animal health or welfare. Proper HACCP-based controls should be implemented to reduce the risk of disease transmission through feed.

Figure 1. Possible points of disease transmission²



For example, potential controls include:

- Analyzing risk for ingredient and external sources that may transmit disease causing agents.
- Thorough examination of internal manufacturing processes including plant sanitation, equipment maintenance, rodent and pest elimination, dust and air controls, moisture minimization and ongoing employee training.
- Implementing steps to prevent contamination of feed prior to animal consumption including dust control, heat processing, chemical application, vehicle sanitation, and product storage.

Comprehensive feed pathogen control programs are essential to maintaining a safe food chain supply. A robust biosecurity plan must mitigate potential causes of contamination.

1. U.S. Environmental Protection Agency. www.epa.gov/agriculture/tbis.html.

2. Desrosiers, R. (2011). Transmission of swine pathogens: different means, different needs. *Animal Health Research Review* 12(1); 1-13.





Sal CURB[®] liquid antimicrobial

Sal CURB liquid antimicrobial is a blend of aqueous formaldehyde 37% solution and propionic acid. Sal CURB maintains *Salmonella*-negative status of complete feeds and feed ingredients for up to 21 days and controls mold in feeds or feed ingredients.

BENEFITS

- Maintains complete feed or feed ingredients *Salmonella*-negative for up to 21 days.
- Part of a feed biosecurity and comprehensive pathogen control program.
- Fully supported by a team of trained and experienced engineers, technicians, veterinarians and laboratory personnel.

FEATURES

- FDA (21 CFR 573.460) approved use of formaldehyde for application on poultry and livestock feeds and feed ingredients.
- Use at the rate of 6.5 lb (3 kg) per ton of complete food.
- Available in 1,000 kg containers and in bulk deliveries.

PRODUCT SUPPORT

- Engineering audit & custom design of application equipment for each situation.
 - Safest application equipment to limit employee exposure.
 - Knowledge and experience on how to apply Sal CURB.
 - Access to Extra-SURE™ application and reporting processes to confirm application accuracy.
- Detailed customer safety and regulatory survey to assess customer awareness of safety and regulatory issues surrounding the use and application of a formaldehyde-based product.
- Comprehensive safety and regulatory training by a certified industrial hygienist and environmental engineer.
- Regularly scheduled equipment monitoring, equipment updates and engineering support provided by Kemin Product Application Department.
- Customer Laboratory Services for feed sample testing as directed by the customer.
- Current research in the areas of application efficiency, feed and ingredient matrix effects and pathogen control benefits.



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