



Tropentag, September 17-19, 2018, Ghent

“Global food security and food safety:
The role of universities”

Feed Safety and its Impact on Food Safety through the Concept of One Health

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Abstract

Animal feed is essential in the global food industry for sustainable production of safe food from animals. Feed safety directly affects food safety and human health, through the health and well-being of animals. It serves as a component of access to trade and competitiveness, income generation and foreign exchange earnings as well as economic development and sustainability along the livestock value chain. Feed is an integral part of the food chain and feed safety. Therefore attention must also be on feed production like we have in food production, under the concept of one health.

Ensuring food safety remains a significant challenge in both developing and developed countries because it is an important public health problem that relates to human health and economic development. Various food related diseases originating from animal feeding include bovine spongiform encephalopathy (BSE) and foot-and-mouth disease (FMD). Related problems include the development of resistance in humans to antimicrobials. Salmonellosis with very high chances of cross infection from infected animals. Globally, about 93 million cases of non-typhoidal *Salmonella* and 155,000 deaths have been reported. Annual antimicrobial resistance cases of 4,375,000; 4,125,000; 375,000, and 315,000, in Asia, Africa, Europe, and USA, respectively have been reported.

Presently, the different challenges confronting the industry will require global solutions, including the spread of infectious diseases that emerge or re-emerge through cross contamination between animals, humans, and the ecosystems. Other challenges are lack of know-how to regulate operators to ensure feed safety along the livestock value chain, absence of structure control systems, introduction of unconventional feed ingredients into the production chain like insect meal, by-products of food processing and further foods. Thus, the possibility of additional safety risks in the use of these feed sources for animals exist.

In Nigeria, the Nigerian Institute of Animal Science (NIAS), has regulations for the feed milling industry in Nigeria in line with Codex Alimentarius and other international standards, through the concept of ‘One Health’ with the sole objective to lower the global impact of diseases of animal origin and zoonoses.

Keywords: Feed and food safety, food animals, One Health