Microbial Presence in Animal Feed and Ways of Treatment: An Editorial

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INTRODUCTION
Bacteria such as Clostridium botulinum and Staphylococcus aureus, produce toxins as they proliferate within a food, and when the food is eaten, cause an intoxication. However, other agents have been found to cause food borne disease such as Bacillus cereus, enteropathogenic Escherichia coli, Vibrio parahaemolyticus, and Yersinia enterocolitica. The present review discusses on the remedial measures to reduce the microbial load in feed mainly by cooking and/or steam treatment [1].

The feed which is offered to swines is the major source of pathogenic microorganisms. Many bacterial pathogens that are conveyed by foods invade the intestinal mucosa (Salmonellae, some Shigellae and some enteropathogenic strains of Escherichia coli) causing true infection. Others release enterotoxins during growth or lysis (Vibrio cholerae, some enteropathogenic Escherichia coli), or during sporulation, Clostridium perfringens in the gut.

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Pirie and Harrigan [2] found heat treatments caused a reduction of over 99.90% in Clostridium welchii added to the meat mix. Twenty of these above isolates were identifiable for their genus on the basis of the cultural, morphology, staining and biochemical characters and suggestive for belonging to Clostridium species. There are also reports on isolation of Clostridium perfringens from the poultry feed samples examined [3]. The concentration ranged from 10² to 2.30 x 10³. Strong et al. [4] found the incidence of Clostridium perfringens was 4.10% in 610 food samples. Komnenov et al. [5] reported Clostridium perfringens from 64% out of total 86 feed samples (concentrates and mixes).

Numerous studies showed that the major bacterial groups isolated from the pig intestine are Streptococcus, Lactobacillus, Prevotella, Selenomonas, Mitsuokella, Megasphera, Clostridia, Eubacteria, Bacteroides, Fusobacteria, Acidodaminococci, and the Enterobacteria [6].

CONCLUSION
Tempering/ heat treatment in form of cooking or boiling of animal feed especially for the swines reduces the bacterial count, less viable count in boiled kitchen waste suggesting the lowering effect of cooking on viable count of bacteria.

REFERENCES