New Regulations - Good or bad for Animal Agriculture

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The American feed industry faces many challenges from many fronts. The increasing cost of feed ingredients, energy cost and various input cost on one side and never ending regulatory constraints on the other end continues to squeeze the profits and margins out of animal agriculture.

In this environment, the animal feed industry has to figure out how to implement new scientific advances and solutions to increase margins and income. Managing ever increasing feed cost and efficiency and returns are high priority for this industry's success. Today I will not labor hard to go through all the new and pending regulation rather offer some practical solutions and tools for the future.

Regulatory efforts trying to remove antibiotics completely or make it difficult to use will result in poor animal welfare and increased cost. The industry has to look at other means to manage pathogens and disease. The gastrointestinal (GI) tract of food producing animals harbors a dense and metabolically active microbial community. During the production process, antibiotics are used in feed and water as an intervention tool to control gastrointestinal diseases and modify growth. However, the effects of antibiotics on the gastrointestinal microbial community are poorly understood. Traditional plating methods have been used to characterize microbial populations in the gastrointestinal tract of poultry. Unfortunately, these techniques are limited in their ability to detect only cultivable microorganisms. New advances in molecular biology have allowed for the application of non-culture based methods to investigate biological questions. GI communities from animals can be compared to reveal bacteria which are unique to various health statues.

The microbial community of the gastrointestinal tract has been the focus of many studies because of the critical role it plays in the nutritional, physiological, and immunological processes in the host animal. Enteric diseases are important to the food animal industry because of lost productivity, increased mortality, and contamination of food products for human consumption. To combat these diseases during the production process, antibiotics and other antimicrobials are commonly used. Antibiotics are not always effective against all enteric diseases; in addition increased concern of antibiotic resistance has prompted efforts to develop alternative solutions.

Direct fed microbial products have been available to the feed industry for many years. These products have poor market penetration and acceptance due to the poor understanding of the microbial flora in the gastrointestinal track of food producing animals. Because of new technologies and tools, it has become possible to study the diversity of microflora in the GI track and how they might influence presence or absence of disease. With the application of new technologies we can understand how we can design probiotic products that are more ideal for better health and performance without the help of conventional antibiotics.

In addition to Direct fed microbial products, exogenous feed enzymes have become critical to use other low cost feed additives such as DDGS without giving up a whole lot of animal performance.