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OBJECTIVES

Antibiotics are essential tools for animal and human health and concerns over antibiotic resistance and their prudent use in animals have garnered global interest. Yet insufficient attention has been given to the scientific breakthroughs and novel technologies that provide alternatives to antibiotics. The objectives of this symposium are to highlight promising research results and novel technologies that provide alternatives to antibiotics, assess challenges associated with their commercialization and use, and provide actionable strategies to support their development.

ISSUES



Concerns over antibiotic resistance are driving policies to restrict the use of antibiotics on animal farms worldwide. The availability of medical interventions to prevent and control animal diseases on the farm will directly impact global food security, Feed the Future initiatives, and global health. This symposium will focus on new technologies and strategies for treatment or prevention of diseases, as well as enhancement of production that do not result in the creation of selection pressure favoring the development of antimicrobial resistance, and will not be a venue to eliminate the use of antibiotics in food animal production.

GOALS

The symposium will focus on the latest scientific breakthroughs and technologies that provide new options and alternative strategies for preventing and treating diseases of animals. Some of these new technologies have direct applications as medical interventions for human health, but the focus of the symposium is animal production, animal health, and food safety. The following five areas will be explored in detail through scientific presentations and expert panel discussions:

1. Alternatives to antibiotics: lessons from nature
2. Altering innate defense mechanisms to enhance disease resistance
3. The gut microbiome and immune development, health and diseases
4. Alternatives to antibiotics for animal production
5. Regulatory pathways to enable the licensure of alternatives to antibiotics



WHY ATTEND?

Scientists, regulators, and industry representatives who have a stake in the success of animal agriculture and public health, need access to the latest scientific information and technologies, and want to interact with the current leaders in the field.



Invited Speakers



Dr. Bernard Vallat, Directeur Général, OIE

Welcome and Opening Remarks



Julian Davies, University of British Columbia, Canada

"New Approaches to Address Antimicrobial Resistance in Animals"



Frank Blecha, College of Veterinary Medicine, Kansas State University, U.S.

"Antimicrobials in animal health – Lessons from nature"



Brett Finlay, University of British Columbia, Canada

"The gut microbiome and enteric diseases in man"



John Wallace, Rowett Institute of Nutrition and Health, U.K.

"The ruminal microbiome and animal health"



Yizhen Wang, Zhejiang University, PRC

"Molecular design of porcine lactoferrin, expression and biological activities of its derivatives"



Bryan A. White, University of Illinois, U.S.

"The ruminal virome"



Robert E.W. Hancock, University of British Columbia, Canada

"Selective modulators of innate immunity for anti-infective therapy to replace or supplement antibiotics"



Margie Lee, University of Georgia, U.S.

"The chicken intestinal microbiome as a target for improving productivity"



Hyun Lillehoj, Agricultural Research Service, USDA, U.S.

"Novel anti-infective molecule from innate immune cells as an antibiotic-alternative to control infections caused by Apicomplexa"



David Bravo, Pancosma, Switzerland

"Looking outside the box: Present and future perspective for alternatives to AGP in livestock and poultry"



Steve Vaughn, Center for Veterinary Medicine, FDA, U.S.

"FDA's innovation initiative to evaluate novel emerging technologies and international cooperation in the area of innovation"



Sergio Calsamiglia Blancafort, University of Barcelona, Spain

"Alternatives to antibiotics as growth promotants for dairy and beef cattle: Mechanisms of action and field performance"



Henk P. Haagsman, Faculty of Veterinary Medicine, Utrecht University, The Netherlands

"Avian cathelicidins: Paradigms for the development of anti-infectives"

