

Vaccines and Diagnostics for Transboundary Animal Diseases

International Symposium, Ames, Iowa, September 2012: Proceedings.

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Vaccines and Diagnostics for Transboundary Animal Diseases

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Preface

Session I Roles and responsibilities – Facilitation and cooperation

Session II State of the art, progress and gaps in development of vaccines and diagnostics for high priority transboundary animal diseases for the National Veterinary Stockpile



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Preface

Transboundary animal diseases (TADs) are highly contagious or transmissible, have the potential to spread very rapidly irrespective of national borders, and cause high morbidity and mortality in susceptible animal populations. It has become clear that TADs seriously threaten world food security and can severely affect national economies. Therefore, the development and availability of effective vaccines and diagnostic tools is essential to control TADs.

In 2002, a meeting titled ‘Vaccines for OIE List A and Emerging Animal Diseases’ was organized by Iowa State University and held in Ames, Iowa. The following year a book with the same title was published by Karger. Then in 2005, a complementary meeting titled ‘Marker Vaccines and Differential Diagnostic Tests in Disease Control and Eradication’ was held in Ames.

Since these earlier meetings a number of advances have been made in the development of vaccines and diagnostic tools to control important TADs. An interdisciplinary group of approximately 180 scientists from academia, industry and government met from September 17-19, 2012 in Ames, Iowa for a workshop entitled ‘Vaccines and Diagnostics for Transboundary Animal Diseases’. The workshop was sponsored by the US Department of Homeland Security, Science and Technology Directorate, as well as the Center of Excellence for Emerging and Zoonotic Animal Diseases (CEEZAD; www.ceedad.org/) at Kansas State University, and three other organizations—the Center for Food Security and Public Health at Iowa State University (www.cfsph.iastate.edu), the World Organization for Animal Health (OIE; www.oie.int), and the International Alliance for Biological Standardization (IABS; www.iabs.org).

The primary objective of the recent workshop was to discuss ‘State of the Art’ measures that the Department of Homeland Security (and its Centers of Excellence) and the USDA can take to better position themselves to serve US and international needs related to vaccine and diagnostic tool development for significant transboundary diseases. The workshop goals included sharing progress on cutting-edge research to help inform the decision making process; presenting academic scientists with tools to help them work on translational research; enabling government officials from each agency working in this area to convey their roles and responsibilities to a broad audience; and bringing together scientists from academia, industry and government in order to stimulate cross-talk.

The papers in this publication address the roles and responsibilities of government agencies, the challenges that the biologics industry faces, and progress on the development of vaccines and diagnostics for 11 diseases. The diseases include: highly pathogenic avian influenza; exotic Newcastle disease; foot and mouth disease; Rift Valley fever; Nipah and Hendra virus; African swine fever; classical swine fever; heartwater; Q fever, Ebola, and Schmallenberg virus.

It is our hope that this publication will serve as a useful resource for researchers, government officials and industry scientists who are working to develop effective control tools for these important transboundary animal diseases.

J.A. Roth, J.A. Richt, I.A. Morozov