

UNITED STATES ANIMAL HEALTH ASSOCIATION - 2008 RESOLUTION

RESOLUTION NUMBER: 33 APPROVED

SOURCE: COMMITTEE ON TRANSMISSIBLE DISEASES OF
POULTRY AND OTHER AVIAN SPECIES

SUBJECT MATTER: ADDITIONAL RESOURCES FOR VALIDATION OF
GENOMICS-BASED PATHOGEN DETECTION
TECHNOLOGIES

BACKGROUND INFORMATION:

Validation of the tests used to detect dangerous pathogens in animals or animal products requires significant resources that have not been available to regulatory agencies of the United States Department of Agriculture (USDA). As a consequence, vast improvements in pathogen detection technologies have had limited application to the biosecurity of United States agriculture and the food supply. New tests can quickly provide information on multiple pathogen strains and subtypes in a single sample with virtually no risk of error. A new annual appropriation of \$10 million will allow the receiving agencies to conduct preliminary comparisons of new multiplex sequencing technologies and select the most worthy methods for official validation and permitting.

The new challenges posed by the threat of biological attacks on agriculture and the food supply require that the United States Department of Homeland Security (USDHS) must also have access to validated, multiplexed detection technologies to defend against unprecedented combinations of livestock, wildlife, and even zoonotic diseases that could be used against the agricultural economy or the American people.

In order to achieve these advances, which are based upon existing but not yet adopted detection methods, a new approach to validation that will result in expedited evaluation of deoxyribonucleic acid (DNA)/ribonucleic acid (RNA) sequencing-based identification of complex mixtures of pathogens simultaneously in a variety of sample types is necessary.

RESOLUTION:

The United States Animal Health Association (USAHA) urges Congress to appropriate financial resources to the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) and Agricultural Research Service (ARS), working in close cooperation with the United States Department of Homeland Security (USDHS), Science and Technology Directorate (STD), specifically for validation of rapid, reliable tests that will detect pathogens in complex mixtures of species, strains and sub-types. This program will initially require an annual appropriation of \$10 million. This effort should focus on the objective of moving from the discovery of a potential index case to the issuance of an official conclusion and an appropriate response within days rather than weeks.

RESPONSES:

USDA, Agriculture Research Service

Concerning Resolution #33, the validation of new pathogen detection technologies is indeed an important area of work for the Department of Agriculture (USDA), involving both ARS and the Animal and Plant Health Inspection Service (APHIS). The ARS core mission is in the area of diagnostic discovery and the "bench" validation of diagnostics, while APHIS has primary responsibility for test validation, particularly at the "field" level. We appreciate your support for this work and will continue to work with APHIS to discover and validate diagnostic tools.

USDA, APHIS, Veterinary Services

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services recognizes the United States Animal Health Association's interest in test validation. APHIS supports cooperation with other government entities to meet pathogen detection needs. Processes are in place for APHIS to review developing technologies with USDA Agricultural Research Service and the Department of Homeland Security (DHS). Among other projects, APHIS will develop and evaluate genomic-based pathogen detection and sequencing technologies with support from DHS.

All methods require thorough testing and validation in a clinical setting to ensure fitness for the purpose intended before such technologies can be deployed. The clinical samples received in the National Veterinary Services Laboratories and National Animal Health Laboratory Network Laboratories are valuable resources for development and validation of robust diagnostic test methods. Limited expenditures in this area have already yielded valuable results. This field is rapidly evolving and APHIS will continue to evaluate new technologies as resources allow.