REPORT OF THE COMMITTEE ON PUBLIC HEALTH AND RABIES

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The Committee met on October 17, 2006, from 8:00 a.m. to 12:00 p.m. at the Hilton Minneapolis Hotel, Minneapolis, Minnesota. A total of 32 people attended the meeting including 14 committee members.

Mr. Dennis Kohler, Wildlife Services (WS), Animal and Plant Health Inspection Service (APHIS), United States Department of Agriculture (USDA), presented preliminary results of his recent research on duration of protective immunity in raccoons (*Procyon lotor)* immunized with oral rabies vaccine V-RG. The vision of the National Oral Rabies Vaccine (ORV) Program in the United States is to eliminate rabies in terrestrial carnivores. The immediate goals of the program are to prevent specific strains of the rabies virus, especially those circulating in raccoons, from spreading to new, uninfected areas. Although the baiting program has been in place for over 10 years, there is little information on duration of protective immunity in raccoons. It is also not known whether the antibody response and protection differ when raccoons consume more than one dose of vaccine, or whether a booster given later will improve protection. In this ongoing study, 69 raccoons were assigned to seven treatment groups. Animals in three groups were vaccinated with one dose of V-RG® and were challenged at six, 12, and 18 months. Raccoons in two groups were vaccinated with two concurrent doses of V-RG® and were challenged at 12 and 18 months. Finally, one group of raccoons was vaccinated with a single dose of V-RG® and received a booster immunization 12 months later then was challenged at 18 months after the first vaccination. Serum samples were collected at intervals following immunization and after challenge and were assayed for neutralizing antibodies. Results of the study have not been completely analyzed. Preliminarily, however, protection was demonstrated though there was variation depending on dose and time after challenge.

Dr. Belinda Thompson, Animal Health Diagnostic Center, Cornell University presented information on point source contamination of ground water from farms and attribution issues in New York. Point source contamination can arise from numerous sources, though animal agriculture often gets blamed. At the Washington County Fair, NY there was an *Escherichia coli* O157 outbreak originally attributed to animals. Ultimately, it was found that the *E. coli* originated from a human dormitory sewage system.

Dr. Thompson discussed a recent case involving a dairy farm. In this case a dairy farm was spreading manure according to a Confined Animal Feeding Operation (CAFO) plan.

Charges were brought against the farm by the New York State Attorney General's Office when some people and some of their pets allegedly developed gastrointestinal illness. The farm was near a housing development and a wetland area. The water source for the housing development was wells and there was known to be existing water quality issues from septic systems. There were no disease diagnoses in humans and no samples collected from humans or pets or wells, yet the farm was sued. In addition, no other potential sources such as the large wildlife population in the wetland were examined. Despite a lack of evidence, the farm made a business decision to settle the case. The source of pollution was never definitively proven. This case raises several attribution issues. Namely, what is an appropriate process for investigating possible animal related point source pollution cases? There are issues such as assay sensitivity and specificity detection limits, diversity within host species, spatial and temporal variability, standardization, and data analysis and interpretation. In addition, there are chains of custody and laboratory quality control issues. For the future, a standardized process for use throughout the United States would be beneficial.

Mr. John Forbes, WS-APHIS-USDA presented an update on barrier programs to prevent the spread of rabies. There are ongoing efforts in Texas, the Northeast, and Arizona targeting rabies in dogs, coyotes, foxes, skunks and raccoons. The use of the direct rapid immunohistochemistry test (dRIT) has aided the program. Rabies virus host shifts are a concern. Examples are bat strain rabies in skunks in Arizona, and the increasing number of skunks found with raccoon strain rabies. Translocation of rabid animals remains a problematic issue. When the disease jumps across a barrier, resources need to be diverted to the new outbreak site and previous efforts could be negated. Advances in technology are beneficial to rabies control programs, especially the use of geographical information system (GIS). Rabies control utilizes an integrated strategy, as no one method will be successful alone. Components of the integrated system include oral vaccination, trap-vaccinate-release, population reduction and in the future, contraception. Another factor in a successful program is addressing North America as a whole. Disease issues in both Canada and Mexico need to be addressed in order for success to occur in the United States. Additional responsibilities of USDA-APHIS-WS, include research and emergency preparedness. The web link for rabies issues at USDA-APHIS-WS is http://www.aphis.usda.gov/ws/rabies.

Tracey Lynn, Veterinary Services (VS), presented the report of the Zoonotic Disease and Surveillance Subcommittee. The report was approved by the committee and is included in these proceedings.

The three resolutions submitted by the Committee last year received favorable comments from federal agencies. The Committee voted to update and resubmit the resolutions this year. In addition, three new resolutions were developed and approved by the Committee. The first resolution pertains to the development of a standardized approach to point source contamination. The second pertains to the need to include a public health module in the veterinary accreditation program. The third is intended to enhance development of multidisciplinary response teams for food associated disease outbreaks in animals and humans. All six resolutions were forwarded to the Committee on Nominations and Resolutions.

REPORT OF THE SUBCOMMITTEE ON ZOONOTIC DISEASE AND SURVEILLANCE

Dr. Tracey Lynn
Veterinary Services
Animal and Plant Health Inspection Service

During USAHA 2005, the Public Health and Rabies Committee formed a Subcommittee for zoonotic disease and surveillance. Initial membership included the participants in the Interagency Working Group for the Coordination of Zoonotic Disease Surveillance (ZDWG). The Subcommittee was tasked with developing a document that summarized and standardized recommendations for first responders, especially regarding protective equipment and training. APHIS Directive 6800.1 combines guidance from the World Health Organization, the Occupational Safety and Health Administration, and the Centers for Disease Control and Prevention (CDC) and is available online at http://www.aphis.usda.gov/library/directives/. In addition, the Subcommittee has been working to improve communications between federal agencies, particularly for avian influenza surveillance activities. The reorganization of CDC and a summary of the International Symposium on Emerging Zoonoses were presented, as well as issues and potential future activities for discussion by the Committee.