Animal

U.S. Department of Agriculture **Accomplishments Report AD-421** U.S. Dept. of Agriculture, State Agricultural Experiment Stations and Other Institutions			Date (Month, Day, Year) 03/22/2012
1. Accession 0224233	Agency Identification No. 2. SAES 3. LA.B	5. Work Unit/Project No. **LAB04071**	6. Status **Annual Report**

7. Title

Investigation of Emerging Infectious Diseases in Small Ruminants, including White-tailed Deer

12. Investigator Name(s) (Last Name and Initials)

Elzer, P. H.; Bastian, F. O.; Navarre, C. B.; Luther, D. G.; Sanders, D.

20. Termination Date 09/30/2015	40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011

Outputs:

Hemorrhagic Disease (EHD) or Bluetongue virus (BTV) project has been shared with local and State deer producers at farmed-deer management meetings and research station field days. The interest warrants continued development of an EHD/BTV wildlife vaccine. Data concerning the Transmissible Spongiform Encephalopathy study and vectors as a mode of disease transmission was published in one peer-reviewed journal and presented as four posters at a local and national meeting.

Outcomes/Impacts:

This year's study focused on the evaluation of the humoral immunity stimulating potential of a killed Enzootic Hemorrhagic Disease (EHD)/Bluetongue virus (BTV) vaccine for white-tailed deer. Local strains of EHD2 and BTV were grown in tissue culture, harvested, and inactivated using formalin. The vaccine formulation included the killed virus in saline and an adjuvant of lecithin combined with a pharmaceutical grade light mineral oil into 1cc doses. There were three vaccines - EHD2, BTV, and a combination using both viruses. The vaccines stimulated a humoral immunity response as evidenced by the appearance of precipitating antibody in the serological analysis. The tests also revealed prior exposure of the herd to these viruses.

Publications:

Bastian FO, Boudreaux CM, Hagius SD, Bulgin MS, Sorensen-Melson SJ, Enright FM, Elzer PH. Spiroplasma found in the eyes of scrapie affected sheep. (2011)Vet. Ophthalmol.14(1):10-7.

Bastian, F.O., X. Wu, P. H. Elzer. Spiroplasma-Induced Biofilm Is Central in Pathogenesis of Plant, Insect And Animal Diseases. (2011). 111th American Society for Microbiology, New Orleans, LA., May 21-24, 2011. Poster 1692.

Bastian, F.O., X. Wu, P. H. Elzer. The role of Spiroplasma Biofilm in Pathogenesis of Plant, Insect And Animal Diseases. (2011) Phi Zeta Research Day, LSU SVM, Baton Rouge, LA., September 28, 2011.

Woods, S.M., S.D. Gaunt, C.M. Boudreaux, B.F. Ledet, W. Wolfson, P.H. Elzer. (2011). Prevalence of Rickettsial Infection in Ticks and Dogs in Southern Louisiana. 2011 Merial-NIH National Veterinary Scholars Symposium, Orlando, FL., August 4-6, 2011.

Woods, S.M., S.D. Gaunt, C.M. Boudreaux, B.F. Ledet, W. Wolfson, P.H. Elzer. (2011). Local Prevalence of Rickettsial Infection in Ticks and Dogs in Southern Louisiana. Phi Zeta Research Day, LSU SVM, Baton Rouge, LA., September 28, 2011.

French, H.M. Characterization of Spiroplasma mirum and its role in transmissible spongiform encephalopathies. (2011) LSU doctoral dissertation.

Participants:

P. Elzer (PI), D. Sanders, G. Luther, F. Enright, F. Bastian, W. Forbes, A. Bridges, C. Boudreaux, S. Hagius, H. French, L. Foil, LSU AgCenter; A. Roy, and R. Poston, LSU SVM.

Target Audiences:

State and Federal Animal Health and Regulatory Agencies. Local cervid ranchers. National and International Scientific communities.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
Philip A Ebya		3-23-12