

U.S. Department of Agriculture Work Unit Description AD-416 U.S. Dept. of Agriculture, State Agricultural Experiment Stations and Other Institutions				Date (Month/Day/Year) 06/08/2012
1. Accession No.	Agency Identifiers		5. Work Unit/Project No.	6. Status
	2. NIFA	3. LA.B	LAB94146	A = New Project
7. Title Brucella abortus strain 19 caprine challenge model for ruminant brucellosis vaccine research				
8. Performing Organization 1912 - 2010 Veterinary Science Agricultural Experiment Sta, Louisiana State Univ			9. Cooperating Departments within State Performing Institution	
10. Multistate Project No.			11. Cooperating States <small>sent via EFT/NET/INTERNET electronic mail systems</small>	
12. Investigator Name(s) Last Name and Initials) 1. Elzer, P.H. 2. Enright, F.M. 3. Navarre, C. 4. Luther, D.G.				Date: <u>6/8/12</u>
13. Project Contact Last Name and Initials: Elzer, P. H.			Phone: 225-578-4763 Fax: 225-578-4890	
E-Mail: pelzer@agcenter.lsu.edu URL:				
14. Project Type Animal Health	15. Contract/Grant/Agreement No.		16. Amount	17. FY
18. Award Date (Month/Day/Year)	19. Start Date (Month/Day/Year) 10/01/2012		20. Termination Date (Month/Day/Year) 09/30/2015	
Goals/Objectives/Expected Outputs The overall goal of the research is to establish a caprine brucellosis challenge model using Brucella abortus strain 19 as a non-select agent alternative for brucellosis vaccine development for domestic livestock and wildlife. Our hypothesis is that the once widely-used commercial vaccine B. abortus strain 19 (S19) may be used as a suitable virulent challenge to test potential vaccine candidates for protection against colonization and disease. Successful completion of the project would establish a caprine challenge model using non-select agent brucellae, thus equipping researchers with an alternative pathway for vaccine candidate evaluation.				
Methods 1) Establish a colonization profile of B. abortus S19 in non-pregnant female goats from day three to day 42 post conjunctival inoculation 2) Establish the appropriate challenge dose of B. abortus S19 in the gravid goat to ensure colonization of the reproductive tract 3) Measure the protection afforded by the current bovine vaccine B. abortus strain RB51 or B. abortus strain 19 against challenge with B. abortus S19 in non-pregnant female goats (heterologous and homologous challenge) 4) Measure the protection afforded by the current bovine vaccine Brucella abortus strain RB51 or B. abortus strain 19 against challenge with B. abortus S19 in pregnant female goats (heterologous and homologous challenge)				
23. Non-Technical Summary Brucellosis remains a worldwide human and animal health concern, especially in those countries where sheep and goats are a primary food source. The current caprine brucellosis virulent challenge model using select agent Brucella strains has proven to be an effective tool for cost-effective vaccine research. As a zoonotic disease, the best way to minimize the risk of human brucellosis is to reduce the incidence of the animal infection through the effective use of vaccination. However, the current federal select agent regulations which dictate who and how these virulent strains may be used have seriously impeded vaccine development. The ultimate goal of this project would establish a suitable challenge model using non-select agent brucellae, thus equipping researchers with an alternative pathway for vaccine candidate evaluation.				
24. Keywords brucellosis ; brucellosis vaccines; caprine model; select agents; colonization; immune response; vaccine				



development; wildlife reservoirs		
**** The Original signed document is on file at this institution. ****		
Signature	Title	Date
Dept: Admin: 	Associate Director	6-8-12