

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) 01/18/2013	
1. Accession 0210293	Agency Identification No. 2. CSREES 3. LAB	5. Work Unit/Project No. LAB93849	6. Status Final Report	
7. Title Mastitis Resistance to Enhance Dairy Food Safety				
12. Investigator Name(s) (Last Name and Initials) Owens, W. E.				
20. Termination Date 09/30/2012		40. Period Covered (mo/da/year): 10/01/2007 TO 09/30/2012		
Outputs: Participation in this project has resulted in a variety of professional and popular outputs including proceedings, journal articles, book chapters, field day and dairy day presentations and internet articles. A report is generated each year for submission to NIFA and the project participants meet each year to present reports on the various studies. The Louisiana Mycoplasma mastitis control program is a part of this project and continues to monitor this disease in Louisiana dairies. Reports on the program have appeared in Louisiana Agriculture and in the Louisiana Dairy Research Reports. A separate study with Pfizer evaluates bovine mastitis isolates for antimicrobial resistance. The Hill Farm laboratory has participated in these studies for 10 years. Results are tabulated with those from other laboratories each year at the Pfizer Animal Health Surveillance Symposium and published in trade journals, popular press articles, symposia, and journal articles.				
Outcomes/Impacts: The purpose of this project is to coordinate multidisciplinary research efforts on mastitis being conducted at various laboratories throughout the United States. A cooperative study with the group has defined the importance of coagulase negative staphylococci in bovine mastitis in both heifers and lactating cows. In Louisiana, the Mycoplasma mastitis program monitors this highly contagious form of mastitis and helps Louisiana dairy producers prevent major losses. Results at the beginning of the program indicated an incidence of mycoplasma mastitis of approximately 2% in Louisiana dairy herds. Incidences of other major pathogens are Staph. aureus 20%, Strep. agalactiae 3-6%, Strep spp. 30%, and coliforms 15%. After 4 years on the program, results from 545 bulk tanks cultured revealed 3 bulk tanks positive for Mycoplasma species and a drop in the overall incidence of mycoplasma mastitis to 0.05%. A joint study with members of the project and Pfizer monitors antimicrobial susceptibility of bovine mastitis pathogens and helps determine if antimicrobial resistance to commonly used mastitis antibiotic therapy is developing. Results suggest that resistance is not a major issue for mastitis therapy. In a separate cooperative study with Pfizer, clinical mastitis samples are collected from dairies across the United States. These samples are processed at the Hill Farm mastitis laboratory to determine which organisms are present and the antimicrobial susceptibility of these mastitis pathogens. Over the course of the study, 5,312 samples were processed from 71 dairies in 13 states. The most frequently isolated classes of organisms were the streptococci (13.5%), followed by coliforms (11.3%), and staph. (10.6%). Fifty-one herds were tested for mycoplasma and 15 were positive (29%). Studies described here provide the Louisiana dairy industry with critical information concerning mastitis treatments, control methods, and management protocols.				
Publications: No Publications Reported				
Participants: William E. Owens, (PI)				




Target Audiences:

TARGET AUDIENCE: Target audiences for this project include the dairy farmers of Louisiana and the nation, other research scientists and extension agents in this field and dairy industry professionals.

Project Modifications:

Not relevant to this project.

Approved (Signature)	Title	Date
		1-25-2013