Hill Farm

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1. Accession	Agency Identification No.	5. Work Unit/Project No.	6. Status
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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): 01/01/2011 TO 12/31/2011

Outputs:

Mastitis research under the NE-1028 multistate project has resulted in two publications in the 2011 Dairy Research Report, one e-journal article and an article in the University of Georgia Animal and Dairy Science Report, 2011. The annual meeting of the multistate project was attended in November 2011, and an annual report was submitted to NIFA by the project. The Hill Farm reported to the group at the meeting and that report is included in the annual project report. The Pfizer Animal Health 2011 Susceptibility Surveillance Symposium was attended, and data on bacterial isolates collected by the Hill Farm was presented and included in the Pfizer yearly report.

Outcomes/Impacts:

Antimicrobial resistance of mastitis pathogens continues to be a major emphasis. Organisms evaluated for the Pfizer susceptibility program included Escherichia coli, Staphylococcus aureus, Staphylococcus species and Streptococcus species. Antibiotics tested included cefoperazone, pirlimycin, ceftiofur, cephalothin, erythromycin, penicillin/novobiocin, ampicillin and oxacillin. Overall, antimicrobial resistance remains low for mastitis pathogens. Greater than 90% of organisms were sensitive to the antibiotics tested, and little change has been noted from previous years. Monitoring mastitis pathogens for methcillin resistant aureus (MRSA) continues with a total of 4 MRSA found from 342 aureus isolates tested nationally. To date, no MRSA have been isolated in Louisiana herds. The mycoplasma mastitis monitoring program continues in Louisiana with quarterly monitoring of herds. The monitoring program detected two positive herds for mycoplasma mastitis in 2011. The mastitis laboratory continues to process problem herd samples for Louisiana producers with mastitis outbreaks and to advise them on mastitis control measures. Studies described here provide the Louisiana dairy industry with critical information concerning mastitis treatment, control measures and management protocols to combat this important disease.

Publications:

Owens, W.E., C.H. Ray, and S.C. Nickerson. 2011. Efficacy of a pour-on and fly tag insecticide combination for the control of horn flies and Staphylococcus aureus mastitis in dairy heifers. Animal and Dairy Science Departmental Report. 2011. http://www.ads.uga.edu/ADS2008DepartmentalReports.html

Owens, W.E., C.H. Ray, and S.C. Nickerson. 2011. Effect of a pour-on and fly tag insecticide combination in controlling horn flies and Staphylococcus aureus mastitis in dairy heifers. in Dairy Cattle Mastitis and Milking Management. DAIReXNET. http://www.extension.org/pages/Dairy_Cattle_Mastitis_and_Milking_Management

Owens, W.E., and C. H. Ray. 2011. Comparison of antibiotic susceptibility patterns of selected bacterial species from bovine, agricultural, and human sources. Dairy Research Report, B.F. Jenny, ed 43-49

Owens, W. E., and C.H. Ray. 2011. Distribution and antimicrobial susceptibility of mastitis pathogens from clinical milk samples.

Participants:

William E. Owens, (PI), and C. H. Ray, LSU AgCenter.

Target Audiences:

The target audience for this project includes the dairy farmers of Louisiana and the nation, research scientists, extension agents, and dairy professionals.

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
Alyp H Ehyn		3-23-12