

1106-VL-2914      **Javier Garza\*** ([garza@tarleton.edu](mailto:garza@tarleton.edu)), Stephenville, TX 76402. *Optimal Control of Mastitis in Dairy Cow Populations.*

Mastitis is a pathogenic disease, the transmission of which in dairy cow herds costs the U. S. dairy industry nearly \$2 billion annually. A model describing the transmission dynamics of environmental and contagious mastitis within a dairy cow population is presented. Sensitivity analysis and optimal control theory are utilized to analyze treatment and prevention protocols. (Received September 17, 2014)