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Donald Adongo* (donald.adongo@murraystate.edu), Department of Mathematics & Statistics, Faculty Hall 6C, Murray, KY 42071, and **Renee Fister** and **Holly Gaff**. *Using Optimal Control to minimize Rift Valley Fever Cases*. Preliminary report.

Rift Valley fever (RVF) virus is a mosquito-born pathogen that infects primarily domestic animals. Humans are not immune to it, with sources of infection being both the infected animals and mosquitoes. We use optimal control techniques and numerical simulations to study RVF dynamics. We look at minimizing the total number of vaccinated animals at some prescribed final time. Note that the cost of vaccines can be prohibitive apart from consumers resisting products from non vaccine free animals. (Received September 21, 2011)