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Anthrax epizootic and migration: Persistence or extinction.

In this talk, we will use an extension of the deterministic anthrax epizootic mathematical model of Hahn and Furniss to study the effects of anthrax transmission, carcass ingestion, carcass induced environmental contamination, and migration rates on the persistence or extinction of animal populations. We will demonstrate that decreasing the levels of carcass ingestion by removal of carcasses in game reserves, for example, may not always lead to a reduction in the population of animals infected with anthrax. However, increasing levels of carcass induced environmental contamination rates in an enzootic anthrax region can result in the catastrophic extinction of a persistent animal population. (Received September 11, 2014)