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Najat Ziyadi* (najat.ziyadi@morgan.edu), Morgan State University, 1700 East Cold Spring Lane, Baltimore, MD 21251, and **Abdul-Aziz Yakubu**. *A Discrete-Time Anthrax Model In Human and Herbivore Populations*.

In this talk, we will introduce a discrete-time anthrax disease model in human and herbivore populations, where the herbivore recruitment function is the classic Beverton-Holt model while that of humans is a constant recruitment function. We will use the next generation method to compute the basic reproduction numbers for the submodels consisting of only herbivores (R_0^A) and only humans (R_0^H). In addition, we will compute it for the full human-herbivore model (R_0^{AH}). When $R_0^A < 1$ or $R_0^H < 1$ or $R_0^{AH} < 1$, the number of anthrax infections decreases and the disease does not invade the corresponding population. Whereas, the number of anthrax infections increases and the disease invades the corresponding population when $R_0^A > 1$ or $R_0^H > 1$ or $R_0^{AH} > 1$. Our simulations will show that it is possible for the anthrax disease to invade a human-herbivore population where the disease does not invade either herbivores or humans in isolation. (Received September 10, 2018)