Abstract

Coffee berry disease (CBD) is a fungal disease caused by Colletotrichum kahawae. CBD is a major constraint to coffee productionto Kenya and Africa at large. In this research paper, we formulate a mathematical model of the dynamics of the coffee berrydisease. The model consists of coffee plant population in a plantation and Colletotrichum kahawae pathogen population. Wederived the basic reproduction number Rk0, and analyzed the dynamical behaviors of both disease-free equilibrium andendemic equilibrium by the theory of ordinary differential equations. Using the MATLAB ode45 solver, we carried outnumerical simulation, and the findings are consistent with the theoretical results.