GAIL WOLKOWICZ, McMaster University

Affect of Delay on the Dynamics of the Classical versus the Chemostat Predator-Prey Model

We address the question: "Does refining predator-prey models to include delay to model the time that it takes for the predator to process the prey, affect the possible dynamics of the model?" In particular, we restrict our attention to predator-prey models that have a globally asymptotically stable equilibrium when delay is ignored and investigate whether delay can destabilize this equilibrium resulting in sustained oscillatory behaviour. We compare the affect of including delay on the dynamics of both the classical predator-prey model and the predator-prey model based in the chemostat.