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*The impact of maturation delay of mosquitoes on the transmission of West Nile Virus*

We formulate and analyze a seasonal model of a system of delay differential equations for the transmission of West Nile virus between vector mosquitoes and avian hosts that incorporates maturation delay for mosquitoes. Since the maturation time from eggs to adult mosquitoes is sensitive to weather conditions, in particular the temperature, we investigate the impact of the maturation time on transmission dynamics of the virus among mosquitoes and birds. Numerical results of the model show that a combination of the maturation time delay and the vertical transmission of the virus in mosquitoes have an important impact on the abundance of mosquitoes in a region and the number of peaks of the infection.