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Yang Li* (yang.li@louisiana.edu). *Modeling releases of sterile mosquitoes with Beverton-Holt survival functions.*

To prevent transmissions of malaria, dengue fever, or other mosquito-borne diseases, one effective weapon is the sterile insect technique in which sterile mosquitoes are released to reduce or eradicate the wild mosquito population. Based on difference equations, we use the Beverton-Holt survival function, instead of the classical Ricker-type of nonlinearity, to formulate several discrete models for the interactive dynamics of the wild and sterile mosquitoes, incorporating different strategies in releasing sterile mosquitoes. Basic analysis, including the existence of fixed points and their stability is given. Numerical examples to demonstrate our findings and brief discussions are also provided. (Received September 23, 2017)