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Pei Zhang* (pxz2351@louisiana.edu), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504-1010, and **Azmy S. Ackleh** (ackleh@louisiana.edu), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504-1010. *A Discrete Stage-Structured Two Species Competition Model.*

We develop a discrete stage-structured model that describes the dynamics of two competing ecologically similar species. Motivated by plant populations such as irises, each species is assumed to reproduce both sexually and clonally. We first analyze the dynamical behavior of the single species model. We show that when the inherent net reproductive number is smaller than one then the population will go to extinction and if it is larger than one then an interior equilibrium exists and it is globally asymptotically stable. For the two-species competition model, by allowing species to have different competition efficiencies, we show that the model can obtain different dynamics including competitive exclusion, coexistence and bistability, which is similar to the competition outcomes of the classical continuous two-dimensional Lotka-Volterra model. (Received September 20, 2010)