1067-92-545 **Azmy S. Ackleh*** (ackleh@louisiana.edu), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504-1010, **Ross A. Chiquet**, Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504-1010, and **Pei Zhang**, Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504-1010. *A Stage-Structured Dispersal Model with Constant and Periodic Environments.*

We study a discrete juvenile-adult model which describes the dynamics of a population that reproduces and disperses between two patches constantly or seasonally. When breeding and dispersal rates are constant, the model has a unique interior equilibrium that is globally attractive, provided the net reproductive number is greater than one. If net reproductive number is less than one, then the extinction equilibrium is globally asymptotically stable. When breeding and dispersal rates are periodic of period two, the extinction equilibrium is globally asymptotically stable if the net reproductive number is less than one. If the net reproductive number is greater than one, then there exists a unique globally attractive periodic solution. We then use bifurcation diagrams to compare constant and seasonal breeding strategies, to explore the effects of different birth and dispersal periodicities and to understand the influence of strong nonlinearities on the dynamics of the model. (Received September 08, 2010)