1023-92-1230 **James F. Selgrade*** (selgrade@math.ncsu.edu), Department of Mathematics, Box 8205, North Carolina State University, Raleigh, NC 27695-8205, and **James H. Roberds**, USDA Forest Service, Southern Institute of Forest Genetics, Saucier, MS 39574. *Uniqueness of an equilibrium for a discrete selection-migration model in population genetics.*

The migration into a natural population of a controlled population, e.g., a transgenic population, is studied using a one island selection-migration model. Here a 2-dimensional system of nonlinear difference equations describes changes in allele frequency and population size between generations. Biologically reasonable conditions are obtained which guarantee the existence and uniqueness of a polymorphic equilibrium in the cases of complete dominance and no dominance in fitness. This model may provide some useful information about the migration of transgenes into a natural population. (Received September 25, 2006)