1046-39-668   **J M Cushing*** (`cushing@math.arizona.edu`), Department of Mathematics, 617 N Santa Rita, University of Arizona, Tucson, AZ 85721. *Two species competition in a periodic environment.* Preliminary report.

I will consider the classical Leslie-Gower (discrete time) model for two competing species when the coefficients fluctuate periodically. I will focus primarily on the case of period 2 and show that the classic Lotka-Volterra trichotomy of asymptotic competitive outcomes holds. I will then compare the predictions of the periodically forced model to those of relevant autonomous versions of the model. For example, I will show that it is possible for the periodically forced model to predict coexistence of the two species even though (1) it has coefficients which periodically oscillate between values that would predict non-coexistence in the autonomous model or (2) it has coefficients whose period averages predict non-coexistence in the autonomous model. Thus, estimates of biological parameters calculated from data taken during one season alone, or calculated from averages taken over all seasons of the year, might each predict non-coexistence while in fact the two species will coexist according to the model with periodic coefficients. (Received September 09, 2008)