1086-VL-957   **Eric Alan Eager*** (`eeager@uwlax.edu`), 1725 State St., La Crosse, WI 54601. *Global Asymptotic Stability of Density-Dependent Age-Structured Plant-Seed Bank Models.*

Many plant populations have persistent seed banks. Seed banks are important for plant population dynamics because they buffer against environmental perturbations and reduce the probability of extinction. Viability of the seeds in the seed bank can depend on the seed's age, hence it is important to keep track of the age distribution of seeds in the seed bank. In this talk we introduce a general, density-dependent plant-seed bank model where the seed bank is age-structured and the plant population lives in a general Banach Space. Under biologically reasonable assumptions we prove that there is a globally stable equilibrium population vector which is independent of initial population vector. We show that there is an analytical formula for the equilibrium using methods from systems and control theory. We apply these results to a published model for *Sesbania vesicaria*. (Received September 17, 2012)