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Dynamics of a quail population with season-dependent reproduction rates

We present a model, inspired by field data, for the semi-annual evolution of a population of quails with weather-dependent reproduction rates for each of the intermediate seasons, the density of cover making each of the rates monotone decreasing and bounded away from zero. The ensuing model takes the form of a system of two nonlinear finite-difference equations which was derived previously (Milton and Bélair, *Theoretical Population Biology* [37]) but considered then under considerably simplifying assumptions. A geometric method (generalized cobwebbing) is presented to explicitly determine the asymptotic behaviour of the solutions, and numerical as well as analytical methods are used to establish stability, and bifurcations, of equilibria.