

# Chaos in discrete structured population models

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We prove analytically the existence of chaotic dynamics in some classical discrete-time age-structured population models. Our approach allows us to estimate the sensitive dependence on the initial conditions, regions of initial data with chaotic behavior, and explicit ranges of parameters where the considered models display chaos. These properties have important implications to evaluate the influence of a chaotic regime in the predictions based on mathematical models. We illustrate through particular examples how to apply our results.