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Gårding, L.

Food chains. (Näringskedjor.)

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Summary: A food-chain is an ordered collection of populations feeding on each other. A simple linear model for the variations of the populations is introduced. A condition for stability, i.e., that the variations of the populations are bounded, is that all the eigenvalues of the corresponding matrices lie on the unit-circle. The populations will then vary cyclically. The condition gives some restrictions on the fertility and life-expectancies of the various populations. Special cases of simple chains are studied and compared with real-life data, with some remarkable good fits.

Classification: M60 I70

Keywords: mathematical modelling; linear model; stability condition