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Diffusive Lotka-Volterra models are widely used to describe spatial effects in ecology. There have been many studies of how the predictions of the models change when parameters such as diffusion rates, intrinsic growth rates, etc. are varied. There has been less work on the effects of boundary conditions. It turns out that changing the boundary conditions in a competition model from Neumann through Robin to Dirichlet can lead to multiple reversals of competitive advantage. Specifically, it can affect the stability of the states where only one species is present, and thereby in some cases it can cause bifurcations. This talk will describe some results in that direction and some mathematical questions arising from the analysis. (Received February 24, 2004)