

The Role of “Additional Food” in Pest and Invasive Species Control

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Biological control, the use of predators and pathogens to control target pests, is a promising alternative to chemical control. It is hypothesized that the introduced predators efficacy can be boosted by providing them with an additional food source. The current literature claims that if the additional food is of sufficient constant quantity and quality then pest eradication is possible in *finite* time. We show this is *not true* for *any* quantity and quality of additional food. We posit a new framework to yield finite time pest extinction. Our results have large scale implications for the effective design of biological control methods involving additional food, as well as control methods that manipulate the sex ratio of a population such as the TYC strategy.

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