
Pest–natural enemy interactions in a landscape context

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Abstract

Natural enemies can provide valuable biological control services, but they need to fulfil their life cycle in agricultural landscapes often dominated by ephemeral and disturbed habitats. Semi-natural habitats can provide critical resources and shelter for natural enemies and their herbivore prey/hosts, but enemies can be constrained by their movement ability to escape from disturbances and to find resources scattered in space and time. Insight into how semi-natural habitats and arthropod movement influences in-field interactions between agricultural pests and their natural enemies is limited because movement dynamics are hard to quantify. More detailed measurements of the habitat functionality and movement processes are needed to better understand the interactions between species movement traits, disturbances, the landscape context, and the potential for natural enemies to suppress economically important pests.

Keywords: Biocontrol, landscape ecology, dispersal, seminatural habitat, ecosystem service

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