

Land-use intensification effects on the pollination services provided by insects

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Eligible for student prize

Habitat degradation and destruction, particularly due to the expansion and intensification of agricultural systems, are the primary drivers of global biodiversity loss, causing the reduction of many ecosystem functions and services. Biodiversity is predicted to enhance ecosystem function and resilience to environmental disturbance. Insect-mediated pollination is a critical ecosystem function and service, and provides a tractable model for investigating biodiversity-ecosystem function relationships. This paper reports on a landscape scale experiment, using targeted mass plantings along a land-use intensity gradient, to assess differences in insect pollinator communities and subsequent variation in pollination services. Pak choi was planted out in 25 x 25 m plots at 12 sites in 2014. Insect pollinator communities were measured at each site using floral visitation observations. For all sites, non-*Apis* pollinators accounted for approximately 40% of floral visits, and preliminary analyses suggest that insect communities responded to the land-use intensity gradient. The next step will be to determine if these community changes resulted in different seed set rates and thus, pollination services.

