

Could exotic species save us from the pollination crisis?

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Eligible for student prize

Globally, agricultural intensification is a primary driver of declines in critical ecosystem services, such as pollination. However, exotic species are often well-adapted to human-modified environments and could compensate for ecosystem services lost from native species due to agriculture. We measured pollination services provided by wild insects to a mass flowering crop, pak choi (*Brassica rapa*) at 12 sites, across an agricultural intensification gradient. We found that exotic insects over-compensated for loss of pollination services from natives insects as agricultural land-use intensified. This was driven by increased dominance of functionally effective exotic insects in high-intensity agricultural landscapes. Thus we suggest the potential positive impacts of exotic insects on ecosystem services should be considered, particularly in systems subject to strong anthropogenic disturbance where native species have declined. However, management to conserve and enhance natural habitat for diverse native insect pollinator communities should be prioritised to maintain pollination services that are robust to future environmental change.

