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1: [Ecol Lett.](#) 2007 Nov; 10(11): 1105-13. Epub 2007 Sep 17.



Native bees provide insurance against ongoing honey bee losses.

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One of the values of biodiversity is that it may provide 'biological insurance' for services currently rendered by domesticated species or technology. We used crop pollination as a model system, and investigated whether the loss of a domesticated pollinator (the honey bee) could be compensated for by native, wild bee species. We measured pollination provided to watermelon crops at 23 farms in New Jersey and Pennsylvania, USA, and used a simulation model to separate the pollen provided by honey bees and native bees. Simulation results predict that native bees alone provide sufficient pollination at > 90% of the farms studied. Furthermore, empirical total pollen deposition at flowers was strongly, significantly correlated with native bee visitation but not with honey bee visitation. The honey bee is currently undergoing extensive die-offs because of Colony Collapse Disorder. We predict that in our region native bees will buffer potential declines in agricultural production because of honey bee losses.

PMID: 17877737 [PubMed - indexed for MEDLINE]

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