Neonics and bees under the microscope: Foraging benefits of neonic-treated crops outweigh negative effects

Since 2013 the European Commission has restricted the use of three neonicotinoid insecticides as seed dressings on bee-attractive crops. Such crops represent an important source of forage for bees, which is often scarce in agro-ecosystems. However, this benefit has often been overlooked in the design of previous field studies, leaving the net impact of neonicotinoid treated crops on bees relatively unknown. Here we determine the combined benefit (forage) and cost (insecticide) of oilseed rape grown from thiamethoxam-treated seeds on Bombus terrestris and Apis mellifera colonies.

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We found that Bombus colony growth and reproduction were unaffected by location (distant versus adjacent) following the two month flowering period. Apis colony and queen survival were unaffected. However, there was a small but significant negative relationship between honey and pollen neonicotinoid contamination and Apis colony weight gain. Our findings suggest that any sub-lethal effects of neonicotinoid seed-dressings on Bombus colonies are potentially offset by the additional foraging resources provided. A better understanding of the ecological and agronomic factors underlying neonicotinoid residues is needed to inform evidence-based policy.

The GLP aggregated and excerpted this article to reflect the diversity of news, opinion and analysis. Read full, original post: A landscape scale study of the net effect of proximity to a neonicotinoid-treated crop on honey bee and bumble bee colonies (behind paywall)