

Insect-resistant GMO Bt rice poses 'negligible risks' to non-target species, study finds

Transgenic *Bt* rice expressing the insecticidal proteins derived from *Bacillus thuringiensis* Berliner (*Bt*) have been developed since 1989. Their ecological risks toward non-target organisms have been investigated, however, these studies were conducted individually, yielding uncertainty regarding potential agroecological risks associated with large-scale deployment of *Bt* rice lines. Here, we developed a meta-analysis of existing literature to synthesize current knowledge of the impacts of *Bt* rice on functional arthropod guilds, including herbivores, predators, parasitoids and detritivores in laboratory and field studies. Laboratory results indicate *Bt* rice did not influence survival rate and developmental duration of herbivores, although exposure to *Bt* rice led to reduced egg laying, which correctly predicted their reduced abundance in *Bt* rice agroecosystems. Similarly, consuming prey exposed to *Bt* protein did not influence survival, development or fecundity of predators, indicating constant abundances of predators in *Bt* rice fields. Compared to control agroecosystems, parasitoid populations decreased slightly in *Bt* rice cropping systems, while detritivores increased. We draw two inferences. One, laboratory studies of *Bt* rice showing effects on ecological functional groups are mainly either consistent with or more conservative than results of field studies; and two, *Bt* rice will pose negligible risks to the non-target functional guilds in future large-scale *Bt* rice agroecosystems in China.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Does Bt rice pose risks to non-target arthropods?? Results of a meta-analysis in China](#)