

# New rearing method may help control of the western bean cutworm

December 8 2013

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The western bean cutworm is a destructive insect pest of dry beans and corn. Economic damage to corn occurs by larval feeding on ears, which is not controlled by commercial transgenic hybrids that express *Bacillus thuringiensis* (Bt) Cry1Ab, but partial control is observed by corn varieties that express Cry1 F toxins. Credit: Frank Pears, Colorado State University, Bugwood.org

The western bean cutworm is a destructive insect pest of dry beans and corn. Inadequate protocols for laboratory rearing of this insect have hindered controlled efficacy experimentation in the laboratory and field.

However, in an article in the *Journal of Economic Entomology* called "Evaluation of Tolerance to *Bacillus thuringiensis* Toxins Among Laboratory-Reared Western Bean Cutworm (Lepidoptera: Noctuidae)," the authors report a new rearing methodology used to maintain a laboratory colony for 12 continuous generations.

The ability to mass produce this pest insect will enhance fundamental research, including evaluation of control tactics and toxin susceptibility.

Economic damage to corn occurs by larval feeding on ears, which is not controlled by commercial transgenic hybrids that express *Bacillus thuringiensis* (Bt) Cry1Ab, but partial control has been observed by corn varieties that express Cry1 F toxins.

The new rearing procedure, described in the article, allowed the researchers to gather the first reported data for western bean cutworm susceptibility to Cry toxins using laboratory dose-response bioassays.

With the ability to rear western bean cutworm in the laboratory, it may be possible in the future to select strains with varying levels of Cry1F toxin susceptibilities, which could in turn be used to investigate the genetic basis of resistance.

Provided by Entomological Society of America

Citation: New rearing method may help control of the western bean cutworm (2013, December 8) retrieved 4 May 2024 from

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