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Comparison of several methods for detection and quantification of ß- exotoxin in commercial *Bacillus thuringiensis* products

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ABSTRACT

The ß- exotoxin (also called thuingiensin and thermo stable toxin) is toxic to human and other animals. Because of vertebrate toxicity, most commercial preparation of *B. thuringiensis* is composed of subspecies or isolates that do not produce ß- exotoxin. As a condition for registration for pesticide use on food in USA, *B. thuringiensis* active ingredients must be tested to show the abscense of ß- exotoxin. In this study screening methods for the presence of ß- exotoxin in a product of *B. thuringiensis* subsp. *aizawai* (BtH) were based on laboratory bioassay against lepidopteran larvae and High Performance Liquid Chromatography (HPLC). The bioassay and HPLC assay results indicated that the ß- exotoxin was *presence* in the product of *B. thuringiensis* subsp. *aizawai* (BtH). Bioassay was showed to be more sensitive than High Performance Liquid Chromatography (HPLC). Bioassay can be used to detect and qualify *B. thuringiensis* ß- exotoxin and can be a useful tool for quality control.

Keywords: *Bacillus thuringiensis* subsp. *aizawai*, Beta-exotoxin, HPLC, Bioassay, BtH

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