

**Title** Occurrence of *Bacillus thuringiensis* on cured tobacco leaves  
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#### **Abstract**

A worldwide survey was conducted to evaluate the frequency and distribution of *Bacillus thuringiensis* populations on cured tobacco leaves during post-harvest storage. In total, 133 tobacco samples of different types and origins were analyzed. Nine percent of the samples showed the presence of *B. thuringiensis*, and 24 *B. thuringiensis* strains were isolated and characterized. The majority of the isolates produced bipyramidal crystals, and three fourths of them showed a second type of crystal protein (cuboidal or heterogeneous crystals). Only three isolates showed the rhomboidal crystal morphology characteristic of the anti-coleopteran *B. thuringiensis* subsp. *tenebrionis*. PCR analysis with primers specific for cry1 and cry3 genes revealed eight distinct cry gene profiles. The results of this study indicate that *B. thuringiensis* is naturally present at low frequency on the phylloplane of cured tobacco leaves and that its distribution is worldwide.