

# **Renewal Assessment Report**

***Bacillus thuringiensis ssp.  
aizawai* strain ABTS-1857**

**Volume 3 – B.3 Data on application**

**Rapporteur Member State: The Netherlands**

**Co-Rapporteur Member State: Germany**

## Version history

When	What
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## **B.3 Data on application**

### **B.3.1 Function**

Insecticide through ingestion (stomach poison)

### **B.3.2 Field of use envisaged**

*Bacillus thuringiensis* subsp. *Aizawai*, strain ABTS-1857 is used as an insecticide. For the representative uses please refer to the GAP in volume 3MP (plant protection product) paragraph 3.3

### **B.3.3 Crops or products protected or treated**

*Bacillus thuringiensis* ssp. *aizawai* strain ABTS-1857 is intended to be used in glasshouse and field production of vegetables, grapes, stone fruits, pome fruits, strawberry, berries, sweet corn, aromatic plants, olives, rice, ornamentals, tree nursery and general treatment at a rate of 0.270-0.540 g a.s./ha for protection against larvae of *Lepidoptera*.

### **B.3.4 Method of production and quality control**

Please refer to Volume 4 (Confidential Volume).

### **B.3.5 Information on the occurrence or possible occurrence of the development of resistance of the target organism(s)**

*Bacillus thuringiensis* subsp. *aizawai* Strain ABTS-1857 is a microbial disruptor of insect midgut membranes. As with any insecticide, too frequent use of one type of *Bt* strain or one type of *Bt* delta-endotoxin can result in resistance of the insect to the active ingredient. *Bacillus thuringiensis* is a biological non-persistent insecticide thus reducing the chances of resistance build up. No cross-resistance has been reported between chemical insecticides and *Bt* products (Sarnthoy *et al.*, 1997; Smirle *et al.*, 2003). Certain insect species have developed a resistance to particular *Bt* products caused by prolonged use resulting in a reduction in binding of specific Cry toxins to the gut membrane binding site. However, indications are that certain pest species are susceptible to more than one Cry toxin produced by different *Bt* subspecies. Therefore, resistance management strategy of altering applications of *Bt* products can prove effective.

In conclusion, *Bt* products like any other insecticide should be used in IRM (Insecticide Resistance Management) or IPM (Integrated Pest Management) programs and not used over and over as the only insecticide of choice. IRM and IPM cultural practices are commonly in place already.

*Bacillus thuringiensis* subsp. *Aizawai*, strain ABTS-1857 is in Insecticide Resistance Action

Committee group 11A.

### **B.3.6            Methods to prevent loss of virulence of seed stock of the micro-organism**

To ensure that no modifications occur to the production culture during growth and fermentation, all production runs are inoculated with sub-samples of the original strain. Serial transfers from the original strain are minimized. Mass transfers of the culture are used to avoid selection for a rare mutant. To ensure no contaminants are present, stringent sterility controls and precisely controlled growth conditions are used throughout the production process. Strain purity checks are routinely done at every transfer stage.

### **B.3.7            References relied on**

No references were used.