CHALLENGES TO MONITORING BT RESISTANCE IN *HELICOVERPA ZEA*

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Abstract

Transgenic crops that produce insecticidal proteins from the bacterium *Bacillus thuringiensis* (Bt) are widely grown in many countries for the control of lepidopteran pests. The evolution of resistance in these pests to transgenic crops producing Bt toxins threatens the prolonged success of this important technology. As a result, multiple strategies have been employed to manage the development of resistance of these insects to transgenic crops (eg. moderate dose, high dose, the expression of multiple Bt toxins, tissue specific expression, and refuge strategies). The success or failure of these strategies can only be determined by our ability to monitor the development of resistance in these insects to Bt toxins. Therefore, the development and deployment of new and existing insect resistance management strategies that are based on sound principles, supported by laboratory and field research, and considerate of all available control technologies should be considered as part of any overall integrated pest management approach.