New York State Integrated Pest Management Program

1997 Progress Report to the New York State Integrated Pest Management Program

Title: Early season establishment of *Trichogramma ostriniae* for season-long suppression of European Corn Borer in Sweet Corn

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Abstract: The most important insect pest of sweet corn in New York is the European corn borer (ECB) and control of this pest often requires multiple insecticide applications. *Trichogramma ostriniae*, an egg parasitoid from China, is a good candidate for biological control of ECB because it is effective in China and has performed well in experimental inundative field releases in the US. Emphasis to date has focused on repeated inundative releases of *Trichogramma* for control of ECB infestations. However, observations of rapid dispersal by *T. ostriniae* within and between fields indicate the potential for one or two early season inoculative releases to establish *T. ostriniae* on farms each year. This proposed release method for *Trichogramma* is relatively simple and inexpensive, facilitating adoption by farmers.

We tested the effectiveness of early season releases of *T. ostriniae* in small fields of fresh market sweet corn grown on diversified vegetable farms. Early season inoculative releases of *Trichogramma ostriniae* in sweet corn resulted in parasitism of European corn borer egg masses up to 80 days after release, indicating successful reproduction and establishment on farm. Within- and between- field dispersal of the parasitoid was observed over distances of at least 300 feet. These results indicate the potential for early season inoculative releases of this parasitoid to help control European corn borer in sweet corn over the duration of the season. Although total control is not anticipated, the incorporation of this mortality into the decision-making process should reduce insecticide inputs.

Objectives:

A. Evaluate early season releases of *Trichogramma ostriniae* for on-farm establishment and season-long suppression of ECB in fresh market sweet corn.

B. Monitor between-field dispersal of released *Trichogramma ostriniae*.

Modification of objectives: Emphasis in 1997 was on objectives A and B above. Our other objective, the release of new corn borer natural enemies from USDA, was not undertaken because of a reduced budget and the fact that USDA was not successful in obtaining such organisms from Europe. Funds from this project were also used to rear several million *T. ostriniae* for a companion study of inundative releases (A. Seaman, investigator).

For a printed copy of the entire report, please contact the NYS IPM office at:

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