

1998 PROGRESS REPORT TO THE NEW YORK STATE IPM PROJECT

TITLE: Assessing biological control and host plant resistance for management of corn leaf aphid

INVESTIGATORS:

Dr. Mike Hoffmann
Department of Entomology
Cornell University, Ithaca

Sylvester Lynch
MPS Program, Field of Plant Protection
Department of Plant Pathology, Cornell

COOPERATORS: Abby Seaman, Area Extension Specialist, Richard Dale, CNYCMA, Locke, NY, Jeff Gardner and Rick Hoebeke, Department of Entomology, Cornell University, Ithaca.

ABSTRACT

The corn leaf aphid, *Rhopalosiphum maidis*, is an important pest of fresh market sweet corn in New York. Heavy infestations can reduce yield, and adversely affect ear quality through their presence, honeydew, and sooty mold contamination. In 1998, we conducted studies to investigate the important natural enemies of corn leaf aphid, the relationship between planting date and crop phenology and corn leaf aphid infestations and we evaluated sweet corn breeding lines for potential resistant to corn leaf aphid. Results from these studies showed that the ladybeetles, *Coleomegilla maculata Lengi* (Timberlake), *Coccinella septempunctata* (Say), and *Harmonia axyridis* (Pallas) were the dominant natural enemies important to corn leaf aphid in sweet corn and that later planted sweet corn had lower corn leaf aphid infestations. Despite relatively high infestations during the season, crop quality at harvest was not greatly compromised by corn leaf aphid infestations during the season. Among the 21 sweet corn breeding lines tested for resistance against the corn leaf aphid, none showed marked resistance. Differences among lines may have been moderated by presence of corn leaf aphid natural enemies.

OBJECTIVES

Conduct survey of natural enemies associated with corn leaf aphid

Assess the impact of insecticides on the natural enemies of corn leaf aphid

Evaluate selected commercial cultivars and breeding lines of sweet corn for resistance to corn leaf aphid

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

IPM House
630 W. North St.
New York State Agricultural Experiment Station
Geneva NY 14456
315-878-2353