

Predation of European Corn Borer Eggs by Ladybird Beetles in New York

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Abstract

Natural predation of European Corn Borer (ECB) (*Ostrinia nubilalis*) eggs is overlooked as an integrated pest management component because the extent of predation is unknown. In New York state, the ladybird beetle *Coleomegilla maculata* is believed to be the primary predator of ECB eggs, but no data exist on its impact of ECB populations. However, after the recent spread of the Multicolored Asian Lady Beetle, *Harmonia axyridis*, into New York, a survey in sweet corn fields indicated that *H. axyridis* may be a new potential predator. To determine the predation potential of both species, experiments were performed to examine their efficacy and monitor their distribution in space and time in field corn and sweet corn fields of western New York.

The data show that the two species are the only abundant ladybird beetles in corn and that they segregate by space and time. *C. maculata* is present throughout the growing season while *H. axyridis* appears later in the season. *C. maculata* is primarily found on the lower parts of the corn plant while *H. axyridis* is mostly found on the top of the plant. Aphid density affects *H. axyridis* adult density, but not *C. maculata* density. When ECB eggs were placed on corn in the field in 1999, up to 62% of ECB egg masses were consumed by natural predators. However, our data indicates that coccinellids either switched prey when aphids were abundant or were not the primary predators in this system.

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