

BIORATIONALS FOR MANAGEMENT OF LEPIDOPTERAN PESTS OF FRESH MARKET SWEET CORN

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Much of the sweet corn in the Hudson Valley is treated by aircraft. Although this long-standing production practice is cost-effective and allows growers to treat relatively high numbers of acres per day, it is an increasingly controversial production practice. Aerial applications are highly visible and raise environmental and public health concerns in the minds of some who reside in proximity to treated fields. It is unlikely that the practice will change in the near future, but concerns might be lowered if conventional insecticides were replaced by compounds that are reduced-risk or biorational in origin and activity. We reasoned that if biorational insecticides were being sprayed instead of 'hard' insecticides, such as pyrethroids, aerial application might be more readily accepted. Over two seasons of field experimentation, the relative efficacies of present and near-future biorationals were determined in efforts to give them serious consideration for inclusion into NY management programs.

Shippers of fresh market sweet corn strive to maintain pests below a market threshold of 5% infested ears. Sweet corn pests in the Hudson Valley (European corn borer [ECB]; corn earworm [CEW]; and fall armyworm [FAW]), are currently controlled by pyrethroid or carbamate insecticides that generally provide excellent results. A few biorational insecticides are currently available, and a number of novel biorational insecticides (e.g., IGR's, bacteria, fungi, etc.) are in advanced developmental stages. In general, field applications of *Bt* insecticides on sweet corn have performed poorly relative to conventional materials (Straub unpubl., Shelton unpubl.), i.e., have allowed much greater than 5% infested ears. This two-yr study provided head-to-head comparisons of biorationals and a conventional material for management of the sweet corn Lepidopteran complex. Results of this research provide vital information concerning 'soft' programs for producers of fresh market sweet corn--particularly useful in those areas of the state where applications of conventional insecticides are becoming socially problematic.

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