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Site-specific insect management has the potential to make pest management more efficient. Areas within fields with similar yield potential are referred to as site-specific management zones and can be managed differentially with current technology such as GPS guided tractors. This approach has been applied to water, nutrient and weed management and could be used with insect pests as well. The benefits of site-specific insect management can include: 1) effective control of insects, 2) reduction in the amount and costs of insecticides applied, 3) reduction in environmental contamination, 4) preservation of natural enemies, and 5) better management of insecticide resistance. A key step in the development of site-specific insect management is the development of site-specific management zone economic injury levels (EILs) which are necessary for treatment decisions within a given zone.

We identified site specific management zones based on yield potential (high, medium and low productivity) within a 22 acre corn field. Within each of these zones, plots were infested with different levels of two locally important corn pests: western bean cutworm and European corn borer. Pest density, pest damage, and corn yields were determined for each combination of pest infestation level and management zone, and these results were used to calculate zone-specific economic injury levels for each pest. In 2005, European corn borer economic injury levels were not related to management zone. However, western bean cutworm economic injury levels did differ by management zone. The preliminary economic injury levels for the high, medium and low productivity zones were 4.4, 0.2 and 3.1 larvae per ear, respectively.