

CHEMICAL CONTROL OF EUROPEAN CORN BORER IN BELL PEPPER

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The European corn borer (ECB), *Ostrinia nubilalis* Hübner (Lepidoptera: Crambidae), is one of the most economically important pests of agricultural crops in much of the eastern and central United States. *O. nubilalis* is particularly damaging to bell (sweet) peppers (*Capsicum annuum* L.) because it causes direct injury to the fruit, premature fruit ripening, and fruit rot, a result of pathogens such as *Erwinia carotovora* entering the feeding wound. Control of *O. nubilalis* in peppers typically relies on multiple preventative insecticide applications. However, this can be difficult due to the small size of *O. nubilalis* and its propensity to quickly bore into plant tissue, often the fruit, where they are protected from chemical sprays.

The Food Quality Protection Act (FQPA) of 1996 amended the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food Drug, and Cosmetic Act (FFDCA). The requirements included a new safety standard—reasonable certainty of no harm—that must be applied to all pesticides used on foods. As a result many pesticides are subject to reregistration and potential loss, which include many carbamates and organophosphate (OP) insecticides like acephate (Orthene). Although there are alternatives to OPs and carbamates, they are generally less effective and/or significantly more costly.

In bell pepper alternative insecticides are being sought that provide effective control of ECB, which include testing of some pyrethroids. There are numerous insecticides that are labeled for ECB control in pepper. However not all of them have proven to be effective. We have listed products that researchers have tested (Fig. 1) and their overall effectiveness against ECB.

Pepper growers should start a preventative spray program for ECB when small pepper fruit is present on plants. On the Eastern Shore near Painter, VA, ECB pressures are high enough to warrant 8 sprays of insecticide per season and may not be necessary in your area. A word of caution to growers is that pyrethroids should not be used if Beet armyworm is a problem because pyrethroids offer little or no control. Also, Green peach aphid flairs after repeated pyrethroid use and should be considered.

Product	Rate	Insecticide Class	Common Name	Control	Usage/Season
Orthene 97	12-16 oz/A	Organophosphate	Acephate	Excellent	32 oz/A (season max.)
Avaunt	3.5 oz/A	Pyrazoline	Indoxacarb	Excellent	
30WDG*	6 fl oz/A	Spinosad	Spinosad	Excellent	14 oz/A (season max.)
SpinTor 2SC	8-16 fl oz/A	Insect growth regulator	Methoxyfenozide	Excellent	
Intrepid 2F	4 fl oz/A		Zeta-cypermethrin	Good	Full season
Mustang Max	1.6-1.8 fl	Pyrethroid	Cyfluthrin	Good	Full season
Baythroid 2EC	oz/A	Pyrethroid	Lambda-cyhalothrin	Good	Full season
Warrior 1 EC	2.56-3.84 fl	Pyrethroid		Fair	Full season
Confirm 2F	oz/A	Insect growth regulator	Tebufenozide	Fair	Full season
Lannate LV	8-16 fl oz/A		Methomyl	Fair	64 fl oz/A (season max.)
Ambush 25W	48 fl oz/A	Carbamate	Permethrin	Fair	
Asana XL	12.8 oz/A	Pyrethroid	Esfenvalerate		Full season
	5.8-9.6 fl oz/A	Pyrethroid			Full season
	oz/A				Full season

*Although not registered for ECB control this product is registered for use in bell pepper

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