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## Scouting first-generation European corn borers

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# Scouting first-generation European corn borers

## **Abstract**

Over the next several weeks, non-Bt cornfields should be scouted for European corn borers. If populations do exceed the economic threshold, treatment is warranted to prevent substantial yield loss. Scouting should start in the tallest cornfields because adults (moths) are often attracted to these fields in larger numbers. Look for shot holes in the leaves after corn reaches 17 to 21 inches in extended leaf height. When shot holes or larvae are found in the taller corn, scout fields with smaller corn. There is very little reason to scout a field for larvae if no shot holes are detected in the leaves.

## **Keywords**

Entomology

## **Disciplines**

Agricultural Science | Agriculture | Entomology

# INTEGRATED CROP MANAGEMENT

## Scouting first-generation European corn borers

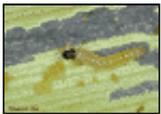
Over the next several weeks, non-Bt cornfields should be scouted for European corn borers. If populations do exceed the economic threshold, treatment is warranted to prevent substantial yield loss.

Scouting should start in the tallest cornfields because adults (moths) are often attracted to these fields in larger numbers. Look for shot holes in the leaves after corn reaches 17 to 21 inches in extended leaf height. When shot holes or larvae are found in the taller corn, scout fields with smaller corn. There is very little reason to scout a field for larvae if no shot holes are detected in the leaves.



**Newly-hatched larvae are very small and may be hard to find in the corn whorls.**

[Enlarge](#) [1]



**Newly-hatched European corn borers have a black head and light-colored body.**

[Enlarge](#) [2]

Scout the field by walking at least 100 feet in from the field edge. Each field and each variety within a field should be scouted separately. Pull the whorls from five plants at five locations across the field (10 plants at five locations would be even better). Whorls should be selected at random. Do not pull whorls only from plants with shot-holed leaves because this approach overestimates the European corn borer population. Unwrap the whorl leaves and count the number of live larvae. Counting larvae inside the whorls is important because you need to estimate the potential yield loss. Do not count shot-holed plants because this approach cannot determine the number of live larvae.

To determine the need for an insecticide application, consult Table 1. Labeled insecticides and suggested manufacturer rates are shown for the amount of product per acre unless stated otherwise (Table 2). Treatment is based upon the average number of European corn borers per plant, the expected corn yield, the market value of the corn, and the insecticide and application costs. Use the information in Table 1 to make this decision by following these instructions:

1. Estimate the crop value in dollars per acre (expected yield multiplied by crop value per bushel). Look down the left-hand column of Table 1 until you find this crop value.
2. Determine the treatment costs per acre (insecticide plus application cost).
3. Look down column showing the treatment cost per acre until it intersects the appropriate row with the crop value. Where the row and column intersect, this number is the European corn borer economic threshold. If the average number of European corn borers per plant in your field equals or exceeds the economic threshold, the benefits (saved bushels of corn) should exceed the costs (insecticide and application) and provide an economic return.

If corn borers are found, do not spray the field too early. If most of the larvae found are small (less than 1/4 inch in length), wait 3 to 5 days for additional larvae to hatch or possibly for larvae to die from natural causes such as rainstorms, high wind, or high temperatures; disease; or predation. If an insecticide is needed, be sure to spray before very many larvae are 11/16 inch in length (about the length of a dime). Larvae this length are in the 4th instar. At this stage they leave the whorl or leaf midrib and tunnel into the stalk where an insecticide cannot kill them. Larvae can be controlled with an insecticide but application must be done before they begin boring into the stalk. The economic thresholds assume 80 percent control by an insecticide.

If the economic threshold is not reached, wait 3 to 5 days for additional larvae to hatch, and scout the field again. More larvae may be found and the economic threshold reached. However, some of the earlier hatched larvae may have died from natural causes such as disease, predation by beneficial insects, or inclement weather. Do not add the previous counts to the most recent field counts. Discontinue scouting when no newly hatched larvae are found and large larvae are tunneling into the stalk.

Table 1. **Economic thresholds for first-generation European corn borers.**

	<b>Treatment costs per acre (insecticide + application)</b>						
<b>Crop value (\$ per acre)</b>	<b>\$8</b>	<b>\$10</b>	<b>\$12</b>	<b>\$14</b>	<b>\$16</b>	<b>\$18</b>	<b>\$20</b>
300	0.56	0.69	0.83	0.97	1.11	1.25	1.39
325	0.51	0.64	0.77	0.90	1.02	1.15	1.28
350	0.48	0.59	0.71	0.83	0.95	1.07	1.19
375	0.44	0.56	0.67	0.78	0.89	1.00	1.11
400	0.42	0.52	0.63	0.73	0.83	0.94	1.04
425	0.39	0.49	0.59	0.69	0.78	0.88	0.98
450	0.37	0.46	0.56	0.65	0.74	0.83	0.93
475	0.35	0.44	0.53	0.61	0.70	0.79	0.88
500	0.33	0.42	0.50	0.58	0.67	0.75	0.83

Control is justified if the number of European corn borers per plant equals or exceeds the economic threshold.

Table 2. **Labeled insecticides for European corn borer.**

<b>Insecticide</b>	<b>Rate</b>
Ambush*	6.4-12.8 ounces
Asana XL*	7.8-9.6 ounces
Capture 2EC*	2.1-6.4 ounces
Furadan 4F*	1.5-2 pints
Lorsban 15G	3.5-8 ounces per 1,000 row feet or 5-6.5 pounds broadcast
Lorsban 4E*	1.5-2 pints
Penncap-M*	2 pints banded or 3-4 pints broadcast
Pounce 1.5G*	6.7-13.3 pounds broadcast
Pounce 3.2EC*	4-8 ounces
Warrior*	2.56-3.84 ounces

\*Restricted-use insecticide.

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