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European Corn Borer and Corn Earworm Control on Sweet Corn

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MATERIALS

For European Corn Borer

carbaryl (Sevin) granules or spray (1 to 1½ pounds actual carbaryl/acre)
20 to 30 pounds 5-percent granules or 2 to 3 pounds 50-percent wettable powder or 1¼ to 2 pounds 80-percent wettable powder

Diazinon granules (1 to 2 pounds actual diazinon/acre)
7 to 14 pounds 14-percent granules

EPN granules or spray (¼ pound actual EPN/acre)

Dyfonate granules (1 pound of actual per acre registered for first brood borer control, but not for second brood)

methomyl (Lannate, Nudrin) spray (½ pound actual per acre)
2 pints L or ½ pound SP.

methyl parathion (Penncap M) (½ to 1 pound actual per acre)
2 to 4 pints 2 pounds per gal. EC.

For Corn Earworm

carbaryl (Sevin) (1 to 2 pounds actual carbaryl/acre)
2 to 4 pounds 50-percent wettable powder or 1.25 to 2.5 pounds 80-percent wettable powder

Diazinon (1 to 1½ pounds actual diazinon/acre)
1 to 1½ quarts "AG 500" emulsion concentrate

methomyl (Lannate, Nudrin) spray (¼ to ½ pound actual methomyl/acre)
1 to 2 pints L or ¼ to ½ pound SP.

endosulfan (Thiodan) is registered for earworm control on fresh market corn but not for processing.

methyl parathion (Penncap M) (½ to 1 pound actual per acre).
2 to 4 pints 2 pounds per gal. EC.

NOTE

- * Use methyl parathion at least 12 days before harvest.
- * Use EPN at least 14 days before harvest.
- * Plant parts treated with carbaryl or diazinon may be fed, ensiled, or grazed immediately after treatment.
- * Use methomyl at least 3 days before harvest for forage. Ears may be harvested immediately.
- * Insecticides are toxic to bees. Avoid drift of sprays or dusts onto bee yards. If you must make treatments when corn is pollinating, do not use dusts, and make applications in the evening when bees are not active.

EQUIPMENT

1. Ground Sprayers

For control of first-brood corn borers, use a boom sprayer with two or more nozzles on each row. Adjust nozzles so spray is directed into plant whorls.

For second-brood borer and corn earworm control, arrange nozzles so that spray is directed at the ear zone. You may need a high clearance sprayer for these applications.

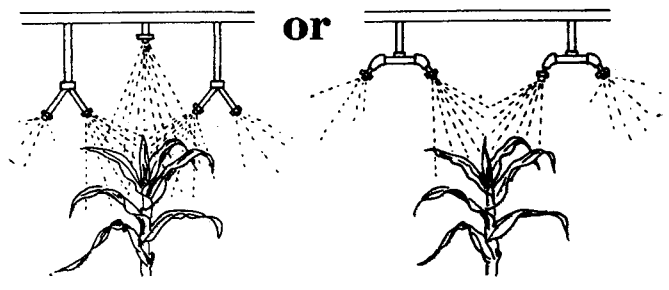
Use enough total spray per acre to obtain good coverage. For earworms, use at least 25 gallons per acre and a pressure of 50 to 75 pounds per square inch.

2. Granular Applicators

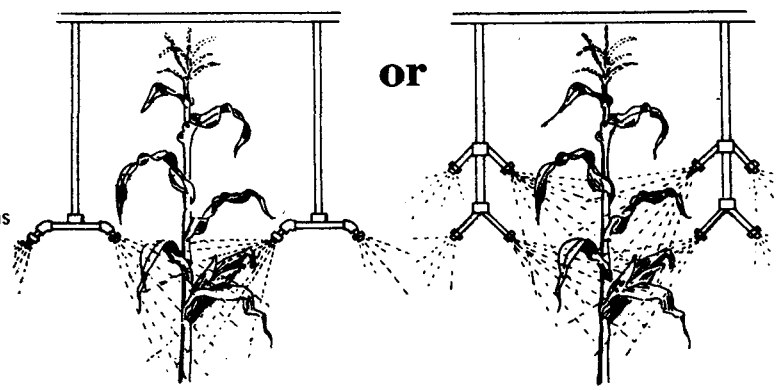
Commercial granule applicators are available, or certain types of seeders can be modified to do the job. It is important to calibrate these applicators for each different granular formulation you use and to check periodically during treatment to be sure you are applying the correct dosage. Granules are most effective against first-brood borers or for treatment before tasseling.

3. Ground Dusters

Dusts may be used but are considered less effective than either granules or sprays. The duster should be one designed for row crop applications.



Nozzle arrangement for first-brood borer.



Nozzle arrangement for second-brood borer and earworm.

4. Aerial Applications

Airplane treatments are effective, especially for applying granules to control first-brood corn borers. Spraying equipment that distributes spray uniformly across the swath will give satisfactory results for corn borer control. Spray applications should be made not more than 6 feet above plants.

Granule applicators or modified aerial seeders also will do an effective job for first-brood borer control. Granules should be applied from an altitude of 35 to 45 feet.

Dusts, especially those used for control of earworm and second-brood corn borers, may be applied by airplane. Drift problems are greater with dust and pose a greater hazard to bees.

NUMBER AND TIMING OF APPLICATIONS

1. First-Brood Corn Borer

Since heaviest infestations usually occur on early corn, a two treatment schedule may be needed on such fields. Generally, one treatment is sufficient on canning corn. Fresh market sweet corn may need several applications at 4- or 5-day intervals.

Treat corn when 20 to 25 percent of the plants in a field show evidence of recent feeding in the whorls ("shot-holing"), and corn is not more than 10 to 15 days from tasseling. Five to 7 days after treatment, examine the plants again for egg masses. If there are more than 25 unhatched egg masses per 100 plants, make another application immediately.

2. Second-Brood Corn Borer

When the flight of moths begins in August, check plants for egg masses. Light traps are helpful in determining when moths are active, but they will not control infestations. The presence of brown, empty pupal cases in the first-brood tunnels is an indication that the moths have emerged.

Treat corn when the egg mass count reaches 20 per 100 plants, when the first hatching is observed, or when moth flight for second brood begins (as determined by light trap catches). Repeat treatments at 3- to 5-day intervals as long as there are 20 or more unhatched egg masses per 100 plants. Check late corn carefully—it is most attractive to the second brood.

3. Corn Earworm

Earworm applications may be timed by silk development or by moth presence as detected by light traps.

Apply after first silks appear and every 2 to 3 days until silks begin to dry and turn brown. This will give control of second-brood corn borer also if treatments coincide with egg hatching.

CAUTION!

All insecticides are toxic and must be used with care. Avoid exposure to skin, lungs, mouth, and eyes. Wear protective clothing when directed to do so on the manufacturer's label. Do not breathe dust or vapors and do not eat or smoke while handling the chemicals or until after washing thoroughly. Follow label precautions to protect bees.

For information on the control of European corn borers in field corn see Fact Sheet Entomology No. 40 or Extension Bulletin 388.

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