



Scentry™ Heliothis Trap

Assembly and Use Instructions

For Use in Monitoring

Tobacco budworm
European corn borer
Southwestern corn borer
Corn earworm/Cotton bollworm

Assembly

The trap comes in two parts. Reshape the mesh upon removal from the package so that the inner core (A) at the top is clear and open. Assemble by fitting the smaller top (1) cone over the bottom (2) cone and secure with velcro material (F).

Mounting

Trap should be mounted on a pole or stake of sufficient length to be driven firmly into the ground and having enough height to position trap above crop.

The bottom of the trap should be kept about two inches (5 cm) above the tops of plants. As the trap is inspected and serviced, it should be raised and retied to maintain this distance.

Tie tightly to the pole with attached tapes (B) and (C) to prevent it from sliding down, and secure the long front tape (D) either to the pole or to a stake (enclosed) for wind protection.

Lure Placement

The pheromone lure is placed at the center of the large bottom opening. Attach a string across the opening, and secure the lure with a paper clip (E).

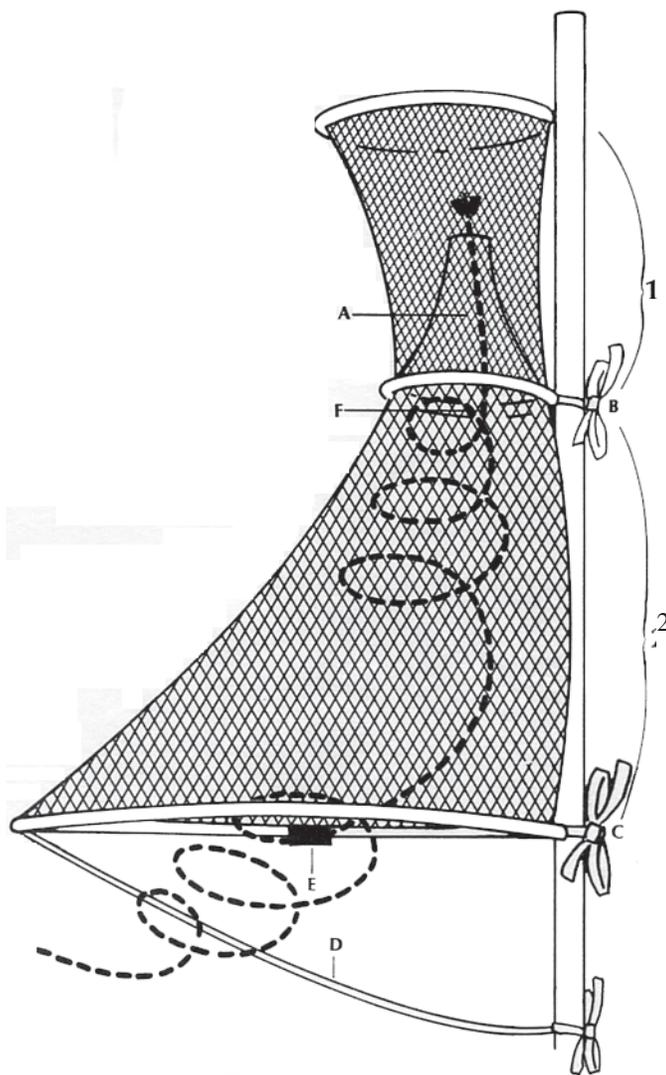
Do not cross-contaminate. Each trap should be used for monitoring only one species.

Trap Servicing

The top portion (1) of the trap can be removed by pulling the velcro fastening loose. Remove insects, replace top and refasten in place.

NOTE: Top portion (1) is available separately.

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HOW TO USE A PHEROMONE TRAP TO MONITOR THE CORN EARWORM AND CHOOSE A SPRAY SCHEDULE

As soon as a planting of sweet corn begins to show the first signs of silk, the grower needs to decide whether the silks are in danger of insect attack. The most important insect attacking silks is the corn earworm. This pest is often not present until August, when corn earworm moths migrate in large numbers from areas south of Ohio. Once the moths arrive in moderate to high numbers, sweet corn will need treatment if infested ears are unacceptable in the marketplace. Traps can be used to determine whether the corn earworm moths are present. The number of moths trapped indicates whether treatment is needed, and if so, when to begin treatment and how often to treat.

The adult form of the corn earworm is a moth. Male moths of the corn earworm can be lured into a trap by placing a pheromone (the sex attractant of the female moth) at the trap entry. Because only male moths are caught in these traps, while female moths are laying eggs on silks, the trap is used strictly for monitoring and not for controlling this pest.

A cone-shaped trap is more effective in capturing these moths than other trap designs such as sticky cardboard traps. There are three different versions of the corn earworm pheromone trap in use; all have the same basic cone-shaped design but they vary in size. Larger traps will collect more moths than smaller traps. The moth numbers discussed here refer to those caught in the smaller traps (22-inch bottom diameter) made of plastic mesh, not in the larger "Texas" traps made of wire mesh hardware cloth.

Trap parts: The trap has 2 main parts: a large cone bottom and a smaller cylinder top which are attached to each other with Velcro®. A readily available trap of this type is made with a plastic mesh material; it is called a "Heliiothis" trap and is manufactured by Scentry, Inc. The trap should be mounted on a 7-foot pole (rebar or fence post). A stake is used to anchor the guy line, a 20-inch length of string or wire supports the lure, and a clip (paper clip, binder clip, or safety pin) attaches the lure to the string.



Lure: The pheromone lure is a 1-inch square piece of a rubber-like material. It is called the *Heliiothis zea* lure and is manufactured by Hercon Co.

Trap assembly: Pound the 7-foot pole 1 foot into the ground. Use the 2 ties on one side of the trap to tightly fasten the trap to the pole. Tie it so that the circular opening at the bottom of the cone is about 3 to 4 feet above the ground. Use a stake to anchor the guy line on the side of the trap opposite the support pole. Make sure the top part of the trap (the cylinder) is firmly in place on top of the cone. Clip the lure to the middle of the string across the base of the cone. The string should be taut so that the lure is level with the bottom of the cone, not below it.

When to use a trap: The trap is of greatest value when sweet corn is in the fresh-silk stage, which is generally from mid-June until September. Large populations of earworm moths that migrate from the southern USA usually do not arrive in Ohio until August. However, small numbers of earworms apparently can overwinter in southern and central Ohio in some years; adults of these populations may be trapped in May or early June. These early adults lay eggs on plants other than corn if fresh corn silk is not available, and another generation of moths will probably appear

about 35 days after the first flight. If you want to monitor this early population, then place your trap in the field in early May.

Trap location: The trap should be placed near corn in the fresh silk stage. This means that it should be set up by early June near the earliest sweet corn planting. After the early plantings have reached the brown-silk stage, the trap should be moved to be closer to fresh-silking corn. Place the trap as close to the field as possible but where it will not be knocked over by farm machinery. If possible, place it where it will not be visible from public roads so that curious people will not see it and be tempted to borrow it for use as a minnow trap or other purposes!

When to change lures: Every 2 weeks, the old lure should be removed and replaced with a fresh lure. Dispose of the old lure so that it is not in the vicinity of fields where it may interfere with later trap catches. To avoid spreading the pheromone to nontarget surfaces, try not to touch the lure directly, wear disposable gloves when handling lures, or wash your hands after handling them. The lures come in a foil package of 10 lures. It is best to store the lures in a freezer or refrigerator.

When to empty traps: A once-per-week check is adequate when moth numbers are low, which is likely in May, June, and usually July. Try to always empty the trap on the same day of the week; every Friday is a good choice. Once moth numbers begin to increase in July and August, traps should be checked at least 3 times per week. The reason for more frequent checks is that corn earworm eggs can hatch in only 48 hours if temperatures are high; if a large flight of moths invaded early in a week, worm infestations could already be in ears before the trap was due for a once-per-week check.

How to empty traps: Moths will be caught in the cylindrical top part of the trap and most will be alive when you find them. You will need to kill the moths before emptying the trap and counting them. One way to kill moths is to make a "kill-jar" using a large container (either a bucket with a lid, or a large plastic bag that can be tied shut), a shallow wide-mouthed glass jar, a rag or piece of paper towel, and a squirt bottle of volatile poison (ethyl acetate or nail-polish remover work well). Work in a well-ventilated area. Put a crushed paper towel in the glass jar and squirt it with the poison, then place this open jar in the bottom of the bucket or bag. Remove the cylindrical top of the trap, which contains live moths, and place it in the bucket over the poison jar. Cover the bucket and allow the moths about 20 minutes to die. Then dump the moths out and count them. Make sure not to put ethyl acetate in direct contact with the plastic mesh trap because it can melt plastic.

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