

FOREST TENT CATERPILLAR PHEROMONE TRAPS

OBJECTIVE:

To monitor low level forest tent caterpillar populations over a period of years to detect upswings in numbers that might signal a possible population explosion that could damage forest stands and sugarbushes.

TIME OF YEAR:

Traps and lures deployed during the third week in June and picked up after 1 August.

EQUIPMENT NEEDED:

Traps, lures, spray paint, flagging, wire, magic marker, compass, killing strips, paper bags (for captured moths), axe or machete, tape measure or measured rope.

DATA SHEETS NEEDED:

Forest Tent Caterpillar trap data sheet (see attached, Figure 1).

PROCEDURE:

Place traps 1-4 40 meters away from the center (trap 5) in the cardinal compass directions as shown in the top half of Figure 2. If a double cluster is being used, follow directions and distances as shown in Figure 2. Label traps 1-5 or 6-10 with marker. After installing lure with a pin inside the trap cover, put killing strip in canister and hang trap with wire about six feet off the ground. Hang from a branch of a sugar maple, if possible. Remove all branches and leaves within a foot of the trap so moths will have an unobstructed flight path. Paint a double band around center tree (#5) and a single band around trees 1-4; paint the tree number on the tree; and put a paint spot on the branch where the trap is hung.

Collect traps after 1 August. Put moths in paper bags and label bags with the marker as to trap number and locations. Separate out any eastern tent caterpillars caught. If you are unsure of the species, save for verification by your specialist.

After collection time, remove killing strip and dispose of properly; wash, rinse and dry traps and store for use next year. See Figure 3.

INTERPRETING RESULTS:

Keep track of trapping results over the years. An increase in population over several years may indicate a potential problem and may require doing sequential egg mass surveys to get a better picture of what is going on in the stand, or in the area.

OTHER INFORMATION:

A double cluster would give better results than a single cluster.

Killing agent (insecticide)

The killing agent is a plastic strip impregnated with dichlorvos (DDVP). The particular brand used is "Vaportape II". Each tape is individually wrapped in tin-foil. Keep in a cool place until use, but not where food or live insects are kept.

Open tin-foil and place Vaportape in trap at time of deployment. The tape can be placed in the bucket of the trap through the hole in the funnel after the trap is assembled.

Avoid handling the tape, and do not carry large numbers of traps in the car with the exposed tape in them for any length of time --- the fumes are poisonous.

Trap collection and moth counting

Collect the traps up soon after moth flight is complete, allowing a few days grace to ensure the flight is completely over.

How the catches will be counted and recorded will be decided by the local coordinator. If the catches are to be returned to a central location for counting, they can be tipped into paper bags, which can then be sealed with a stapler. Keep a separate bag for the contents of each trap (make sure the bag is labelled). Avoid plastic bags as the moths may rot if at all damp.

After use the pheromone lure and the insecticide should be discarded, NOT left in the trap. Traps should be washed with detergent, rinsed thoroughly and then left out in full sunlight for a few days to remove residues of pheromone and insecticide.

Avoid, if possible, using the same trap for different species of insect --- the residual pheromone of one species may affect the response of another species..

FIGURE 1

FOREST TENT CATERPILLAR TRAP DATA

PLOT NAME _____
PLOT LOCATION _____
DATE TRAPS PLACED _____
DATE TRAPS RETRIEVED _____
NAME OF COLLECTOR: _____

4 (W) 1 (N)
 5 (S) 2 (E)
 3 (S)

TRAP TYPE _____ LURE TYPE _____

MOTH COUNTS

No. of Moths

| <u>Location</u> | <u>FTC</u> | <u>Other Moths</u> |
|-----------------|------------|--------------------|
| North | _____ | _____ |
| East | _____ | _____ |
| South | _____ | _____ |
| West | _____ | _____ |
| Center | _____ | _____ |

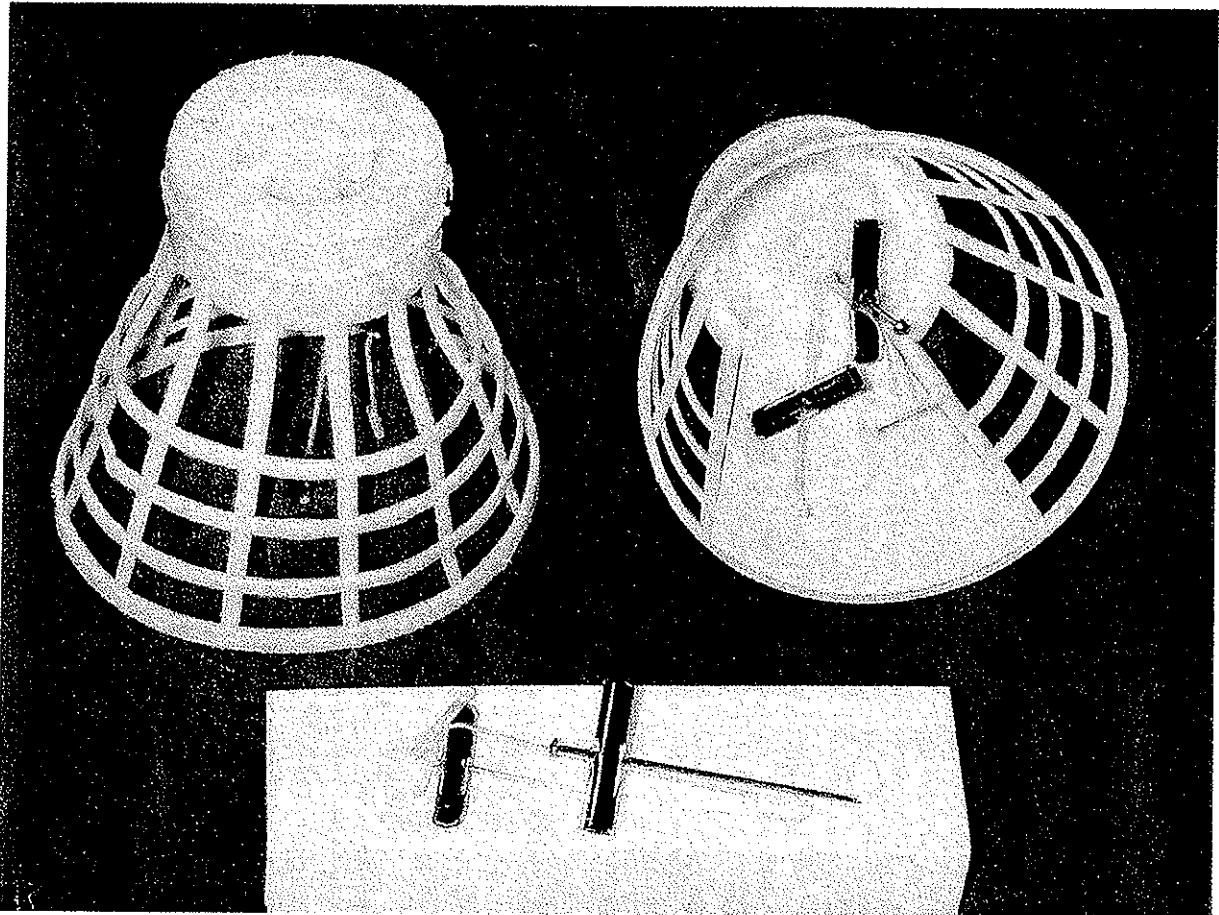
Tom FTC 2003

Please Read.

The Forest Tent Caterpillar Lures Are Different This Year

Mounting lures using method #1

There are two active ingredient cylinders on a hairpin shaped lure holder. The design is to make a slight improvement in the lures effectiveness.



In the photo above you will see that one of the pheromone-dispensing cylinders on the hairpin shaped holder has been pulled down to accommodate a straight pin. (See pin and lure display just below "shuttlecocks" bottom of picture.) The straight pin is then inserted into the "shuttlecock" using a needle nose pliers similar to the method that was used to secure the lures manufactured at an earlier date.

Forest Tent Caterpillar Trap Layout: Change from 5 traps per site(or in some cases, 4) to 3 per site in 2003: select trap positions 2, 3 and 5 for the triangular layout unless another 3 positions(3-5-4 or 1-5-4 or 1-5-2) are preferred for some reason.

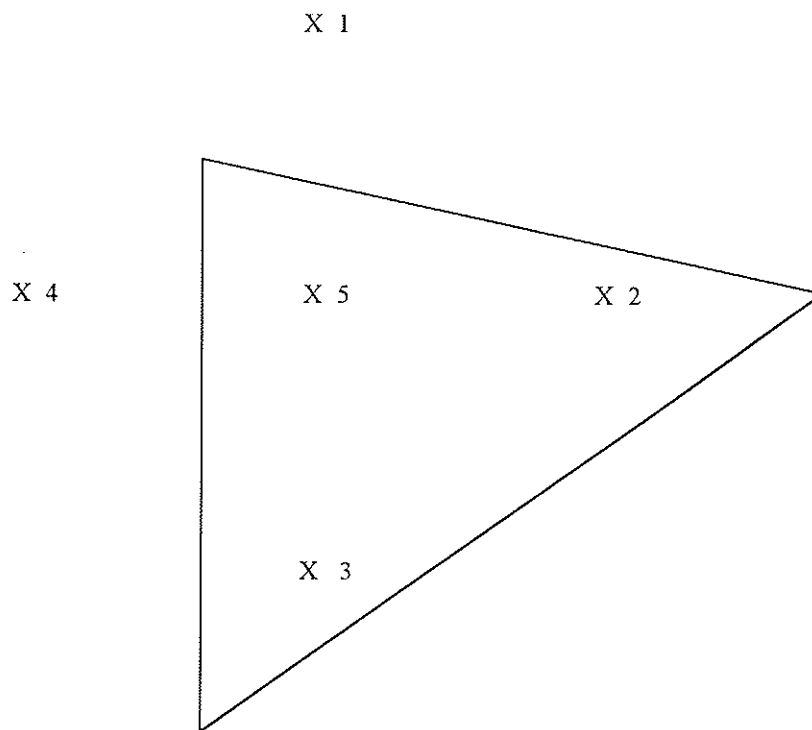


FIGURE 2

DOUBLE TRAP CONFIGURATION SHOWN
SINGLE CLUSTER WOULD CONSIST OF
TRAPS 1 - 5 ONLY

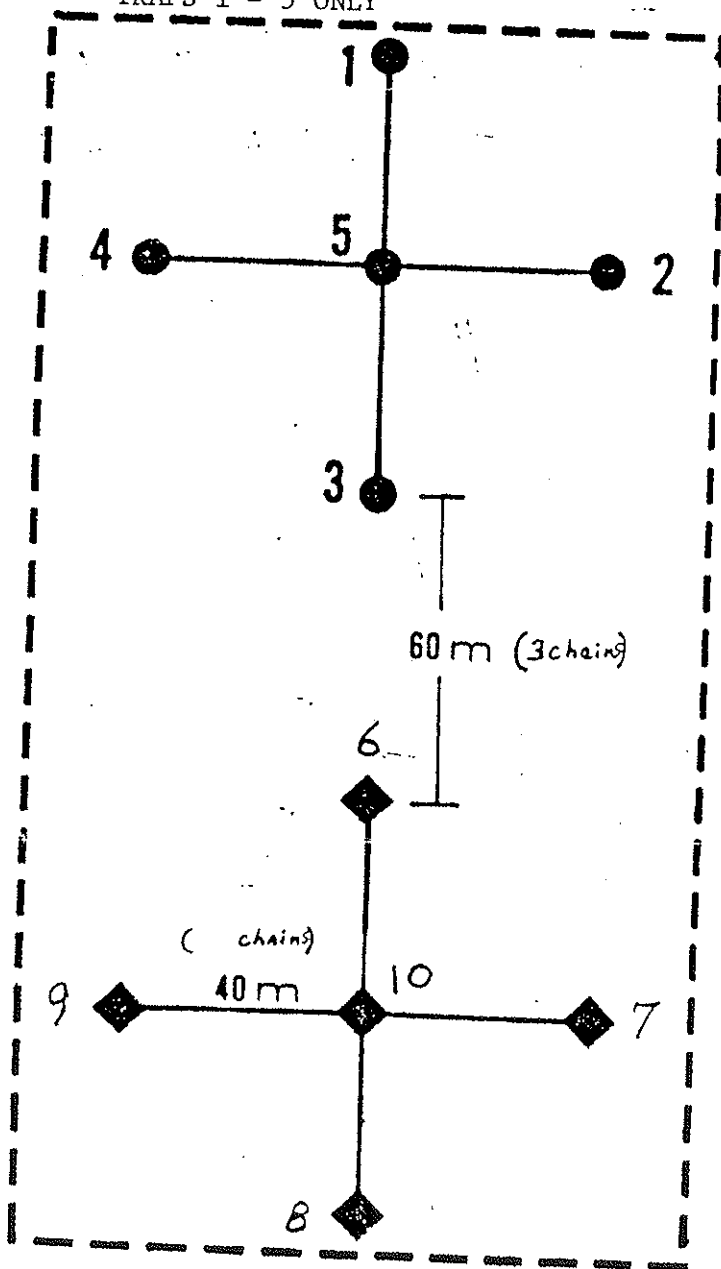


FIGURE 3

MULTI - PHER SEX PHEROMONE TRAPS

A. functional sex pheromone trap consists of three parts: i) the trap itself, ii) a pheromone lure and iii) a killing agent.

Trap:

The Multipher trap is a high capacity re-useable trap, capable of monitoring spruce budworm moth populations over a wide range of densities. Using the lure provided, catches will range from 10-20 at low population densities to over 1000 at high densities.

To assemble the trap follow the attached instructions.

Lure:

The lure is a pellet with the pheromone incorporated into it to provide a slow, controlled rate of release to last throughout the moth flight period.

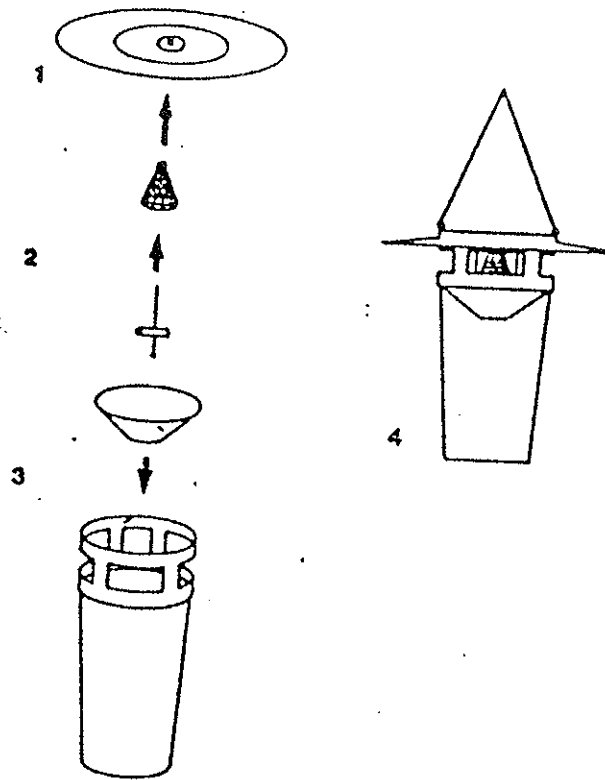
Immediately upon receipt place the lures in a freezer, or if not available, a cool place. Avoid at all times direct sunlight, or excessive heat (do not place them on the dashboard or in the glove compartment of a car).

To mount the lure, in the trap a pin must be inserted through it. This can be done anytime prior to deployment of the trap, but again store the pinned lures in the freezer.

When the traps are to be placed out, pin the lure inside the "shuttle-cock" which is then inserted into the inside lower surface of the lid as shown in the figure. During this process avoid touching the lure with your fingers as this may result in contamination of the trap.

Lures may be mounted in the traps and the traps assembled the day before being deployed, provided they are kept in a cool shady place. Avoid putting the insecticide in until the trap is being deployed.

Assembly of Multi-pher Trap



1. Pin pheromone lure inside "shuttlecock" cage.
2. Insert "shuttlecock" cage into lid and press firmly to snap it into place.
3. Insert funnel into bucket, push down firmly all around to ensure proper positioning.
4. Attach lid by pressing down and twisting. Check to ensure proper fit.
5. Attach wire "hanger".
6. Stick warning label prominently on outside of trap.
7. Drop insecticide strip inside trap at time of deployment.
8. Deploy trap by hanging it on a branch. Check to make sure the lure and insecticide are in place.

TARGET INSECT:

MONITORING SYSTEM -- PHEROMONE TRAP DATA - VERMONT

OTHER MOTHS

| YEAR | PLOT LOCATION | | PLACEMENT DATE | | COLLECTION DATE | | PHEROMONE TRAP | SAMPLING LEVEL | TRAP SPECIES | # TRAP | NUMBER OF MALT MOTHS | | | | | | | | |
|------|---------------|-------|----------------|-------|-----------------|-------|----------------|----------------|--------------|--------|----------------------|--|--|--|--|--|--|-----|--|
| | PROV. | STATE | NO./NAME | MONTH | DAY | MONTH | | | | | | | | | | | | DAY | |
| | | | | | | | | | | 1 | | | | | | | | | |
| | | | | | | | | | | 2 | | | | | | | | | |
| | | | | | | | | | | 3 | | | | | | | | | |
| | | | | | | | | | | 4 | | | | | | | | | |
| | | | | | | | | | | 5 | | | | | | | | | |
| | | | | | | | | | | 1 | | | | | | | | | |
| | | | | | | | | | | 2 | | | | | | | | | |
| | | | | | | | | | | 3 | | | | | | | | | |
| | | | | | | | | | | 4 | | | | | | | | | |
| | | | | | | | | | | 5 | | | | | | | | | |
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