

**PROGRAM:** Light Brown Apple Moth (LBAM) Trapping (Detection, Nursery, Cropland)

**TYPE OF TRAP:** Jackson Trap

The delta-shaped Jackson trap is made of plastic-coated cardboard. A sticky insert on the bottom captures moths. The pheromone septum is placed in the stickum on the trap insert. If the pheromone septum is lost due to wind or other factors, use a Medfly lure basket to secure the pheromone septum.

The trap consists of four parts: trap body, insert, septum, and trap hanger.



Photo by MJ Sawyer, CDFA



Photo by CDFA

**FIGURE 1. JACKSON TRAP**

**FIGURE 2. STICKY INSERT WITH SEPTUM**

**ATTRACTANT:** A mixture of (E)-11-tetradecenyl acetate (96%) and (9E, 11E)-9, 11-tetradecadienyl acetate (4%).

**DETECTION TRAPPING SEASON:**

Counties that normally manage year-round detection trapping programs - continue with 14-day service interval. Currently these are:

Los Angeles	Orange	Riverside	San Bernardino
San Diego	Santa Barbara	Ventura	

Counties that do not trap year-round - all trapping will be conducted during the normal detection trapping season with 14-day service interval. Currently these are:

Amador	Butte	Calaveras	Colusa
El Dorado	Fresno	Glenn	Kern
Kings	Lake	Madera	Mariposa
Mendocino	Merced	Nevada	Placer
Sacramento	San Joaquin	San Luis Obispo	Shasta
Stanislaus	Sutter	Tehama	Tulare
Tuolumne	Yolo	Yuba	

Counties that are partially within the contiguous LBAM State Interior Quarantine will trap in the portion of the county that is outside the contiguous LBAM State Interior Quarantine Boundary (includes detection trapping in satellite quarantine areas outside of the contiguous regulated area) during the normal detection trapping season. These currently are:

Alameda	Contra Costa	Marin	Monterey
Napa	San Benito	Santa Clara	Solano
Sonoma			

Counties that are completely within the State Interior Quarantine and surrounded by partially infested counties, will not include LBAM trapping in the normal detection trapping season. These currently are:

San Francisco                      San Mateo                      Santa Cruz

Counties where LBAM trapping is not biologically warranted will not include LBAM trapping in the normal detection trapping season. These currently are:

Alpine                      Del Norte                      Humboldt                      Imperial  
Inyo                      Lassen                      Modoc                      Mono  
Plumas                      Siskiyou                      Sierra                      Trinity

**DETECTION TRAP DENSITY: Statewide** - Use up to five traps per square mile piggybacked onto existing trap sites. Existing trap sites would generally be Mediterranean fruit fly (MF) or glassy-wing (GWSS) locations. However, other trap sites may be utilized if MF or GWSS sites are not available.

**NURSERY TRAP DENSITY: Federally Regulated Area** - Trapping for LBAM must occur on each premises or farm in a LBAM quarantined area that ships regulated articles intrastate and interstate. Premises or farms that are larger than five acres must maintain traps at a density of one trap every five acres or less. Premises or farms that are equal to or less than five acres must be trapped with a minimum of one trap. Traps should be piggybacked with GWSS locations when possible.

**CROPLAND TRAP DENSITY: Federally Regulated Area** - Trapping for LBAM must occur on each premises or farm in an LBAM quarantined area that ships regulated articles intrastate and interstate in areas 1.5 miles or more from a LBAM detection site. Trapping for LBAM must occur at a trapping density of one trap per square mile in cropland.

**INSPECTION FREQUENCY:**

Detection Trapping – Once every 14 days  
Nursery and Cropland Trapping – Once every 30 days.

Delimitation Survey –

All Counties\*

When a confirmed LBAM is trapped, pheromone baited Jackson traps will be placed uniformly over a four square mile area with twenty-five traps placed in each of the square miles. A total of 100 traps will be deployed. All traps should be placed within 72 hours and inspected once within the first seven days. Traps should be serviced every 14 days thereafter for a period of time equal to two generations beyond the date of the last LBAM detection. This time period is determined by a temperature-dependent developmental model maintained by the LBAM program personnel in Sacramento.

\* For the counties listed below, all of the above applies with the following exception. If LBAM delimitation traps are deployed for a single adult, the full array of required traps will only be maintained from April 1-Oct 31. The find site must be trapped during the full delimitation period at 14-day servicing intervals. This difference is based on LBAM biology.

Amador                      Calaveras                      El Dorado                      Lake  
Mariposa                      Mendocino                      Nevada                      Tuolumne

**HOSTS:** The moth has a wide-range of unrelated hosts including: apple, pear, peach, apricot, blackberry, raspberry, citrus, persimmon, avocado, oak, willow, walnut, poplar, cottonwood, alder, pine, and eucalyptus.

**SELECTION OF TRAPPING SITES:** Deploy detection and nursery traps onto any existing trapping site. Cropland traps are generally not piggybacked. Piggybacking traps in this manner will allow for rapid deployment, efficient servicing, and reduce program expenses. Ideally, the trap should be placed at least 10 feet from any existing trap. However, piggybacking traps takes priority over the 10 foot separation.

**HANGING THE TRAP:** Assemble the trap by first writing the trap number and date of deployment on both the trap body and the sticky insert. Trap numbers for this pest will include the identifying letters "LB" (in place of "MF", "OF", "ML", etc.). The trap body is then opened; the bottom is pushed upward and firm pressure is applied laterally. **THIS IS IMPORTANT!** When pressure is released, the trap bottom will remain flat. The sticky insert is slid into place. It will fit tightly, if properly done. Tear open the septum package and slide the lure onto the insert without touching the lure or the inside of the package with your fingers. Forceps or tweezers may be used for septum placement if necessary. The lure is placed directly onto the center of the sticky insert on its side (**DO NOT BLOCK THE OPENING OF THE SEPTUM WITH STICKUM!**). The trap may be placed in any host tree that fits the following placement criteria – in the upper 1/3 to 1/2 of the tree canopy, and 1/3 to 2/3 the distance from the trunk to the outer edge of the foliage. The presence or absence of ripe fruit is not a factor in hanging the trap. Shade is not as critical for this trap as for the fly traps.

**TRAP INSPECTION AND SERVICING:** When inspecting traps, the following steps should be taken:

1. Remove the trap from the tree.
2. Pull out insert and examine entire area of stickum.
3. Remove leaves and debris from stickum as moths could be beneath these objects. Be certain that the sticky surface is not rendered less effective by dust or debris. The stickum must remain optimally sticky to capture moths.
4. If no moths are found, replace insert, date trap, and rebait, if necessary, according to the recommended baiting interval and suggested handling techniques.
5. Change inserts every month or more often as needed. Always change the insert when relocating the trap. Mark new inserts with the trap number and placement date.
6. Replace lure according to the schedule below. Avoid contamination when handling lures or lure packages. Use forceps if necessary for placement of septum on to insert.
7. Trap bodies eventually lose their shape, become filled with trap servicing data, or otherwise deteriorate. When this occurs, they should be replaced.

**COLLECTION AND SUBMISSION OF SAMPLES:** The entire trap insert, containing the suspect moth, should be collected for supervisory review. Specimens submitted to Sacramento should be cut from the stick insert and placed in a dry vial for submission. Send the specimen to Sacramento with a Standard Form 65-020, "Pest and Damage Record" (PDR). Be sure the identification slip and the outside of the package are marked "RUSH". Include the trap number in the "Remarks" section of the PDR Form.

**BAITING INTERVAL:** Change the septum every six weeks or sooner if temperature is above 95 degrees F for a period of time.

**TRAP RELOCATION:** Relocate the trap on the same relocation interval as the trap with which it is piggybacked.