



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

Light Brown Apple Moth

Epiphyas postvittana



About

- The Light Brown Apple Moth (LBAM) is a tortricid leafroller moth native to Australia.
- Current distribution in United Kingdom, New Caledonia, New Zealand, Hawaii, and California.
- First California detection in Alameda County – 2007
- Currently present in (22 Counties), Alameda, Contra Costa, Los Angeles, Marin, Mendocino, Monterey, Napa, Orange, Sacramento, San Benito, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Ventura, Yolo.



About

- LBAM has been associated with many plants representing 290 genera (USDA 2008).
- Notable tree hosts are; olive, apple, pear, peach, citrus, almond, and avocado.
- Common herbaceous hosts are; grape, strawberry, berries (blackberry, blueberry, boysenberry, and raspberry).
- Nursery stock hosts; alstroemeria, myrica, rose, ceanothus, pittosporum, myrtle

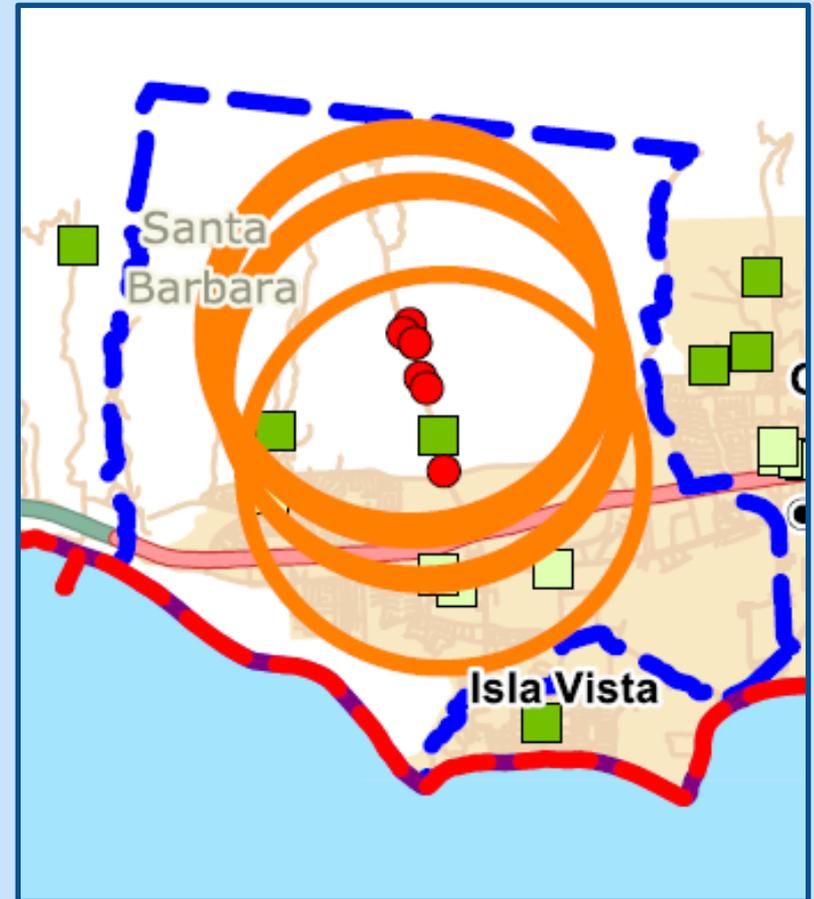


About

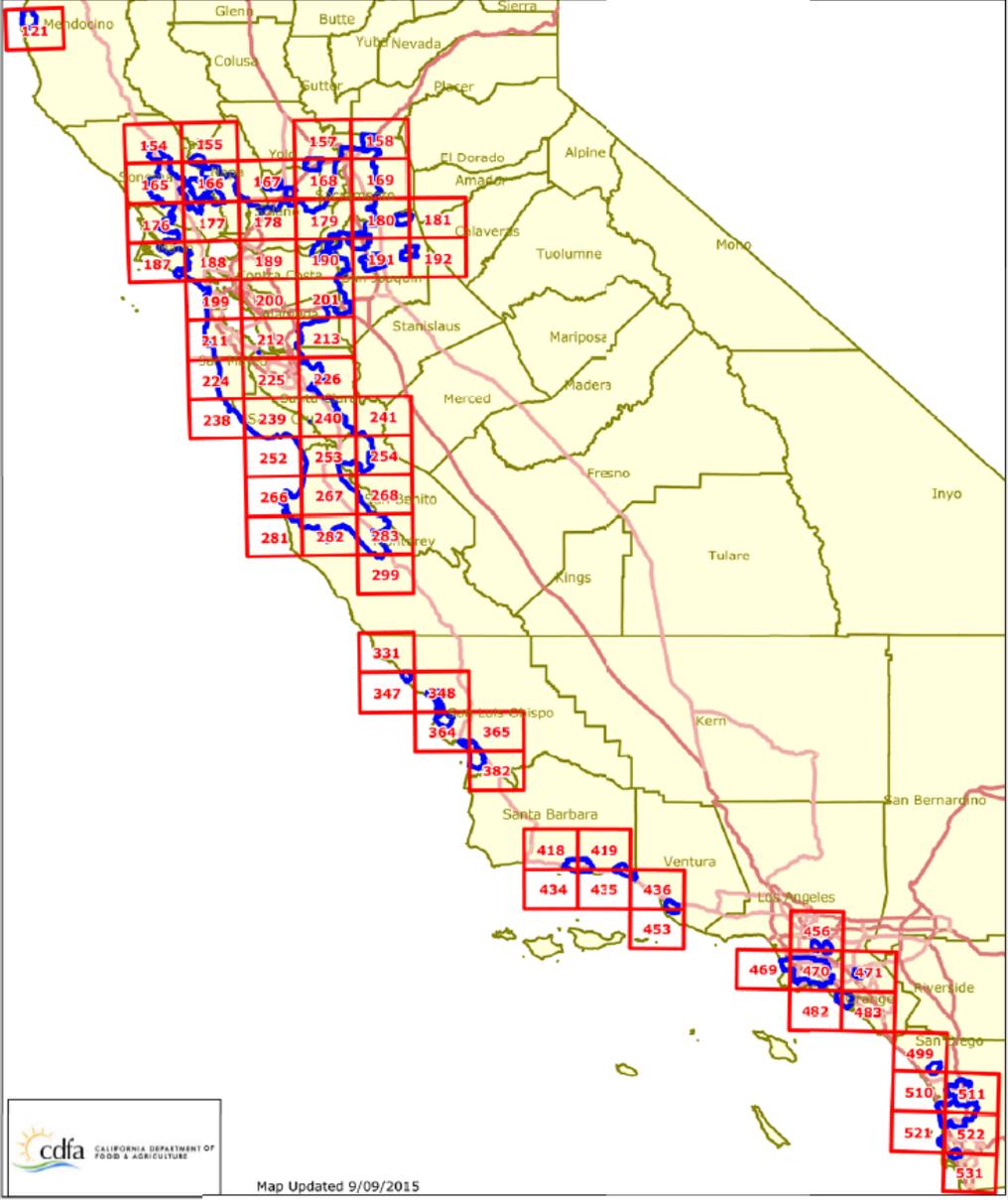
- Does not survive well at very high temperatures and is a more serious pest in cooler areas with mild summers and winters.
- Most moths fly no further than 330 feet (100 meters), but some may fly as far as 2000 feet (600 meters).
- Estimated leading edge natural population expansion $\frac{1}{2}$ to 1 mile per year.
- Long distance dispersal is most likely by movement of infested nursery stock or green waste, and on equipment and containers.

Quarantine Trigger

- State Interior Quarantine (SIQ)
- Minimum 1.5 mile radius
- Two or more LBAM adults within three miles, one lifecycle
- Mated Female
- Larvae, Pupa, Egg mass
- USDA, regulates the entire County



2015 Light Brown Apple Moth (LBAM) Quarantine Boundaries





Quarantine Facts

- Regulated Area: 6559 square miles
 - Expanding at a rate of approx. 300 square miles annually
- Quarantine Area: 864 square miles
 - Expanding at a rate of approx. 50 square miles annually

Climate/Drought may have had a significant impact on quarantine expansion. In 2014/2015, regulated area expanded by almost 500 square miles, quarantine area by 160 square miles.

Regulated Articles

- All nursery stock
- All green waste residues from any plants
- All fresh garlands, wreaths, and cut flowers
- Fruits, vegetables, herbs
- Many commodities are exempt, because of BMP's, handling and inspection at harvest



Nursery Inspections and Trapping

- Interstate shipping establishments inside LBAM SIQ
- Compliance Agreement
- Integrated Pest Management (IMP) program
- **One trap per five acres, one minimum**
- Visual inspection every 30 days
- Federal Shield



Nursery Inspections and Trapping

- Interstate shipping establishments inside USDA regulated County
- Compliance Agreement
- Integrated Pest Management (IMP) program
- **One trap per five acres, one minimum**
- Onetime visual inspection
- Federal shield



Inspections and Trapping

- Harvested Commodities
- SIQ
 - Compliance Agreement, IPM, **Trap**, Inspection, Federal Shield
- USDA Regulated County
 - Compliance Agreement, IPM, **Trap**, Federal Shield



Suspects

- Suspect larva, pupa, egg mass; issued hold notice
- Pest and Damage Record (PDR)
- Send to CDFA Plant Pest Diagnostics lab
- Non-target, release hold
- Positive, mitigation required



Regulatory Treatment

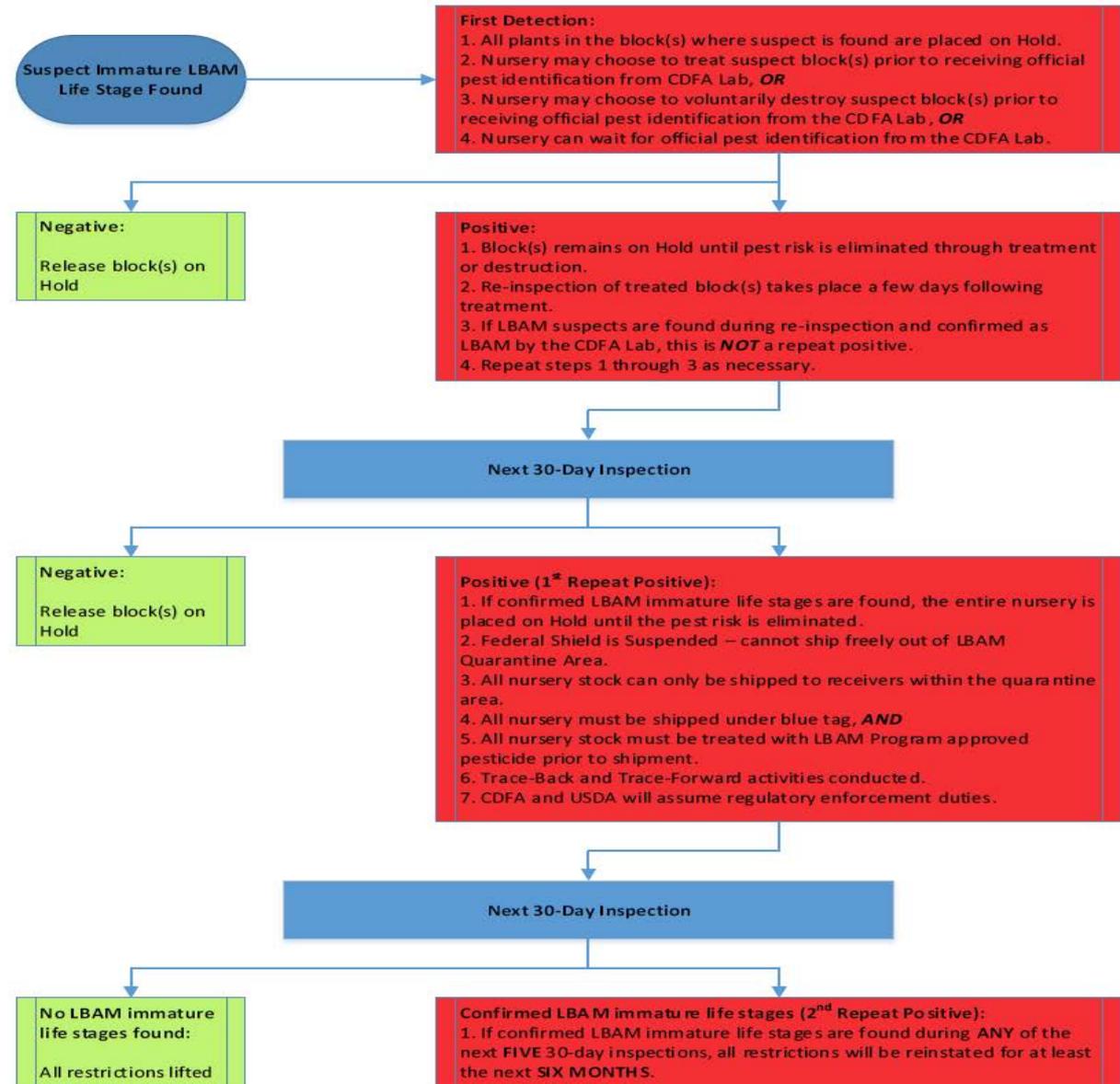
- Targets larvae and eggs
- Monitor mixing and application
- Post-treatment inspection
- Issues with approved petroleum oil availability



| Target Life Stage: Eggs*/Larvae | | | | |
|--|-------------------|--|-------------------------------------|---|
| Active Ingredient | Approved Products | EPA Reg # | Sites | Approved Quarantine Rates and Remarks |
| Lambda-cyhalothrin * | Scimitar GC | 100-1088-AA | Ornamentals | Apply at maximum label rate of 148 ml/100 gallons water (38 ppm ai by volume) with approved superior-type spray oil at a rate of 1% or more by volume. Ensure thorough coverage of plant material. SEE LABEL |
| Methoxyfenozide * | Intrepid 2F | 62719-442, See Supplemental label for ornamentals. | Crops, Ornamentals, Christmas trees | Apply at label rate of 500 ml/100 gallons water (300 ppm ai by volume) with approved superior-type spray oil at a rate of 1% or more by volume. Ensure thorough coverage of plant material. SEE LABEL |
| Chlorantraniliprole * | Acelepryn | 352-731 | Landscape, Ornamental Plants | Apply at label rate of 2.0 fl. oz. ml/100 gallons water with approved superior-type spray oil at a rate of 1% or more by volume. Ensure thorough coverage of plant material. SEE LABEL |
| Spinosad * (including spinosyn A & D) | Conserve SC | 62719-291-AA (SLN) | Ornamentals | Apply at maximum label rate of 650 ml/100 gallons water (22 fl. oz/100 gallons water) with approved superior-type spray oil at a rate of 1% or more by volume. Ensure thorough coverage of plant material. SEE LABEL |
| | Entrust | 62719-282-AA (SLN) | Ornamentals | Apply at maximum label rate of 68 ml/100 gallons water (2.3 fl.oz/100 gallons water) with approved superior-type spray oil at a rate of 1% or more by volume. Ensure thorough coverage of plant material. SEE LABEL |

* An approved petroleum based paraffinic spray oil must be used to be considered an approved treatment for eggs/larvae. Approved oils can be found on page 3.

Light Brown Apple Moth Regulatory Protocol for Repeat Positive Nurseries



Repeat Nursery Protocol:

Enforced on a case by case need only



Thank You for your time and lunch!

Duane Schnabel, Branch Chief

Pest Exclusion Branch

California Department of Food and Agriculture