

Light Brown Apple Moth (LBAM) in California  
*The True Story: Summary & References*  
*Through June 19, 2008*  
Prepared For The People by Professor Glen Chase



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**INTRODUCTION:** The Light Brown Apple Moth and the California Department of Food and Agriculture (CDFA) eradication program became a hot topic of conversation and concern from Late Summer of 2007 to the present. Many people were quite concerned because the pesticides CDFA proposed and used in an attempt to eradicate a moth were secret formulas and had never been tested. Also, the pesticides were dropped from low flying airplanes intentionally on the people themselves, their homes, children's schools and playgrounds. Hundreds of people reported illness after the sprays.

After spraying both Santa Cruz and Monterey Counties, the CDFA did not stay to monitor results or set up stations for people to report after the spray. Therefore, there was no central headquarters for people to gather to tell their situation or get information from others. From this chaos, private citizens including scientists stepped up to fill the needs. Some researched and reported on the science of the pesticides that were used. Some collected reports for those who got ill and encouraged the CDFA to accept them. Others contacted their elected officials and demanded that their safety and rights be protected.

By late 2007/early 2008, the San Francisco Bay area learned that they would be next and the aerial applications of pesticides on their neighborhoods could go on regularly for up to 10 years. In early 2008, tremendous numbers of media stories and public outcry events were occurring. Information came quickly and it was difficult to determine which information was accurate. The situation covered areas of science, economics, politics and more, so even well intended media coverage was often inaccurate. CDFA delivered false information repeatedly.

This report is intended to deliver the true story of the LBAM situation up to June 19, 2008. Documentation and informative videos are referenced under numbered items in this report. The organization of this report is intended to make the reader's exploration of LBAM as focused and efficient as possible. It is also intended to simplify any further investigation that the reader chooses to do.

This report goes to June 19. On that date, the CDFA announced that it would discontinue the aerial portion of the LBAM eradication effort over populated areas. Instead, the main tool for eradication would be an untested daily release of millions of sterile moths that would be operational by 2011. The informed public knows the change is due to public pressure and accurate science that challenged the CDFA information. The CDFA announced that a scientific breakthrough with sterile moths is responsible. In 2007 / 2008, the CDFA claimed that the window of opportunity to eradicate LBAM was only a number of months. It is interesting that CDFA is switching to an untested sterile moth method that won't be fully operational for three years, in 2011. This is now years beyond CDFA's own claim of window of opportunity for eradication. CDFA greed to get hold of emergency taxpayer funds at the rate of about \$100 million per year is CDFA's true motivation, not the moth.

# 1. The Light Brown Apple Moth (LBAM) is not a problem in any country on this earth.

## Reference:

- a. Carey, Zalom, Hammock Letter. A one-page letter from UC Davis Entomology & Agriculture Distinguished Professors to the USDA, May 28, 2008.  
**<http://www.hopefortruth.com/UCDavisExpertsLetter.pdf>**
- b. Len Richardson, Editor, California Farmer, *"Exotic moth policy must change"* May 2008.  
**[http://www.hopefortruth.com/Cal\\_Farmer\\_Len\\_Richardson.pdf](http://www.hopefortruth.com/Cal_Farmer_Len_Richardson.pdf)**
- c. Dan Harder, Ph.D. Executive Director Arboretum, University of California at Santa Cruz, Premier World Botanist regarding LBAM in California.  
*"Integrated Pest Management Practices for the Light Brown Apple Moth in New Zealand: Implications for California"* March 6, 2008.  
**<http://www.lbamspray.com/Reports.htm> [SEE REPORT #21]**
- d. Jeff Rosendale, Grower, Horticultural Consultant, co author of Dan Harder Report above.  
*"Light Brown Apple Moth (LBAM) 101"*  
**[http://www.hopefortruth.com/Jeff\\_Rosendale\\_LBAM.pdf](http://www.hopefortruth.com/Jeff_Rosendale_LBAM.pdf)**
- e. No controls of any kind for LBAM are implemented in the European Union. LBAM lives there like ants or crickets or ladybugs live here.
- f. LBAM has been on this earth for 100's of thousands of years, no natural damage.
- g. The Superior Courts of Santa Cruz and Monterey Counties found that no damage in California had occurred from LBAM, contrary to CDFA's claim.  
*"Santa Cruz Superior Court Order 4/24/08"*  
**<http://www.hopefortruth.com/CourtOrderSCSuperior4-24-08.pdf>**

## Video:

- a. Dan Harder, Ph.D. Executive Director Arboretum, University of California at Santa Cruz, Premier World Botanist regarding LBAM in California speaking at the Santa Cruz CDFA Environmental Scoping meeting, 2/20/08.  
**<http://www.youtube.com/watch?v=6iWxTpPFnt8&NR=1> (6:44)**
- b. Anna Werner cbs5.com - CBS 5 Investigates: Is Apple Moth Really A Risk? 4/15/08.  
**<http://cbs5.com/investigates/apple.moth.spraying.2.700753.html> (5:35)**
- c. James Carey, Ph.D. Entomologist at UC Davis with specialties in invasion biology, insect demography and population dynamics. Served on the CDFA medfly scientific advisory panel from 1987 to 1994 and testified on the medfly crisis in the state to the California Legislature Committee of the Whole 17 years ago. Premier Entomologist regarding LBAM invasion biology in California.  
And  
Dan Harder, Ph.D. Executive Director Arboretum, University of California at Santa Cruz, Premier World Botanist regarding LBAM in California  
*Presentation to Assembly California Legislature  
Committee on Agriculture, Room 4202 State Capital" March 12, 2008.*  
**[http://www.youtube.com/watch?v=2Zc7I\\_o0M6E](http://www.youtube.com/watch?v=2Zc7I_o0M6E) (15:27)**

**2. Science (Entomology, Invasive pest biology & Statistics) identifies that the LBAM has been in California for 30-50 years based on its location and population densities within those locations.**

Reference:

- a. James Carey, Ph.D. Entomologist at UC Davis with specialties in invasion biology, insect demography and population dynamics. Served on the CDFA medfly scientific advisory panel from 1987 to 1994 and testified on the medfly crisis in the state to the California Legislature Committee of the Whole 17 years ago. Premier Entomologist regarding LBAM invasion biology in California.

*" Invasion Biology of the Light Brown Apple Moth  
Presentation to Assembly California Legislature  
Committee on Agriculture  
Room 4202 State Capital"  
March 12, 2008.*

**<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #24]**

- b. Jerry Powell, Retired Professor of Entomology, University of California, Berkeley, Director Emeritus of the Essig Museum of Entomology, First person in North America acknowledged for a LBAM find, and in his back yard, July 2007.

*"The Man Who Found The Moth", Half Moon Bay Review, Clay Lambert, Editor, March 13, 2008.*

**<http://talkabout.hmbreview.com/topic.php?d=&t=1547&c=11>**

- c. The Superior Courts of Santa Cruz and Monterey Counties ruled the Light Brown Apple Moth Is not an emergency in California.

**<http://www.hopefortruth.com/CourtOrderSCSuperior4-24-08.pdf>**

**3. The LBAM has done no damage in California.**

Reference:

- a. The CDFA confirms no damage has occurred in California.
- b. The Superior Courts of Santa Cruz and Monterey Counties found the Light Brown Apple Moth has caused no documented damage in California.

**4. The type of synthetic pheromone spray suggested by the California Department of Food and Agriculture (CDFA) has a zero probability of eradicating the Light Brown Apple Moth.**

Reference:

- a. Carey, Zalom, Hammock Letter. A one-page letter from UC Davis Entomology & Agriculture Distinguished Professors to the USDA, May 28, 2008.

**<http://www.hopefortruth.com/UCDavisExpertsLetter.pdf>**

- b. Derrell L. Chambers, Ph.D., Insect Physiology. 37 years developing pheromones in pest management, Agricultural Research Service of the USDA, Laboratory Director of ARS research in Mexico and Hawaii concentrating on the technologies now in use in California

and elsewhere to manage and eradicate pests such as the Mediterranean fruit fly and the Mexican Fruit Fly. Director of ARS facility in Gainesville, Florida, created to specifically conduct research on insect pheromones and hormones. Science Advisor to CDFA.

*" Testimony of Derrell L. Chambers on Bill Number 87 - 'Relative to the Light Brown Apple Moth'" April 28, 2008.*

<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #32]

- c. James Carey, Ph.D. Entomologist at UC Davis with specialties in invasion biology, insect demography and population dynamics. Served on the CDFA medfly scientific advisory panel from 1987 to 1994 and testified on the medfly crisis in the state to the California Legislature Committee of the Whole 17 years ago. Premier Entomologist regarding LBAM invasion biology in California.

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<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #24]

- d. Jerry Powell, Retired Professor of Entomology, University of California, Berkeley, Director Emeritus of the Essig Museum of Entomology, First person in North America acknowledged for a LBAM find, and in his back yard, June 2006.

*"The Man Who Found The Moth", Half Moon Bay Review, Clay Lambert, Editor, March 13, 2008.*

<http://talkabout.hmbreview.com/topic.php?d=&t=1547&c=11>

- e. Dr. Daniel Harder, *"Scientist's Research Showing Apple Moth a Minor Pest in New Zealand Stands Solid in Face of State's Partial Facts. State Efforts to Discredit Report Rely on Partial and Incorrect Information"* April 2, 2008.

[http://www.hopefortruth.com/Harder\\_response\\_CDFA.pdf](http://www.hopefortruth.com/Harder_response_CDFA.pdf)

**5. If the CDFA is able to establish and maintain an emergency status and resulting eradication program for this moth, the CDFA will be able to access approximately \$500 million of emergency funding over the next five years, increasing its annual budget approximately 40%. And with control of execution, monitoring and reporting for the program, CDFA will likely be able to continue to fake the need for an additional five, ten or even 20 more years, at about \$100 million per year.**

**6. CDFA has asserted potential damage estimates from the LBAM with no scientific basis.**

a. The only documented costs of LBAM on this earth was during the previous century when a Southern Hemisphere country widely sprayed an organophosphate pesticide killing the natural predators of LBAM and many other insects. When the spraying stopped, the natural predators returned and LBAM again required no control and did no damage. The costs the CDFA use to project California costs for projected LBAM damage are unsubstantiated. The costs were not from damage by the LBAM, but rather almost entirely from the cost of executing the spraying program, which was creating the problem.

7. **CDFA has asserted eradication capability with no scientific basis.**
  - a. No insect on the earth has ever been eradicated with a synthetic pheromone.
8. **CDFA has asserted** that alternate pesticide use will increase by individuals and the agricultural community if the CDFA does not spray for the moth. It is unlikely that pesticide use will increase for an insect not doing damage to gardens, forests or crops.
9. **There are over 80 similar moths** in the same moth family in California, that are well balanced in nature by natural predators including birds, spiders, earwigs, beetles, bats, etc.
10. **The Light Brown Apple Moth was originally listed as a Class A pest in the 1950's.**  
 In 1983, 2003 and again in 2007, LBAM was reviewed and remained a Class A pest, even though modern integrated pest management techniques used in New Zealand had turned the LBAM into a pest of almost no concern. It is difficult to get New Zealand farmers to speak seriously about danger from LBAM in their country, since it has been an insignificant pest for years. The US places a zero LBAM tolerance on New Zealand crops, but New Zealand has no problem meeting that standard as LBAM is easily controlled along with many other insects utilizing modern integrated pest management techniques.

Stewart Resnick is the owner of Suterra Chemical Company, the company that successfully received the contract to supply the Checkmate aerial spray to the state of California. Mr. Resnick, a lifelong democrat donated \$144,600 to the reelection campaign of Governor Schwarzenegger. Stewart Resnick became the largest distributor of citrus in the United States during the time that the quarantine on LBAM, because of its Class A status, was placed on New Zealand and Australia so their Citrus was not able to compete with Mr. Resnick's.

It is interesting to note the timing of each USDA LBAM review coincides with a fortunate outcome for Stewart Resnick. 1983 - restricting southern hemisphere citrus, 2003 - recently purchased Suterra, 2007 - winning the contract to supply the state with pheromone pesticide.

11. **After the aerial spray in Santa Cruz and Monterey Counties, over 600 adverse health effects related to the spray were reported.** The CDFA did not leave a single person in Monterey or Santa Cruz counties to monitor the effects of the spray or to take illness reports from people. No protocol was set up or publicized to report illness following the spray. Therefore, these 643 adverse health reports likely represent thousands who tried to make health complaints, but were unsuccessful reaching a government agency able or qualified to take a complaint. Medical professionals in the area were not prepared for diagnosing or reporting on this issue. It is common for people in the spray zone to have had family members get sick following the spray or know people who did. None of the population was interviewed following the spray and no interviews by the CDFA or other state agencies occurred for the over 600 health complaints. No doctors who filed complaints were interviewed. Science and statistics indicate that many thousands got sick following the spray, from which these 600+ reports came, but to date, no scientific study on the total number affected has been completed.

Reference:

- a. Lawrence Rose M.D., M.P.H., former Senior Public Medical Officer for Cal-OSHA and part of the UCSF Occupational/Environmental Medicine Department.  
*"Marin Pesticide Spraying Health Hazard Alert"*

<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #30]

b. Knepp Ph.D. and Haferman Ph.D.

*"Scientists Spotlight Error in Agency Analysis of LBAM spray"*

<http://www.lbamspray.com/Reports.htm> [SEE REPORT #28]

c. Mike Lynberg, Harvard Graduate and Helping Our Peninsula's Environment (HOPE.org)

*"A Review of 643 Documented Complaints of Adverse Reactions Following the CDFR's Aerial Spraying of two Pesticides based on Pheromones over Densely Populated Neighborhoods in Santa Cruz and Monterey Counties in September, October and November 2007"*

• *Executive Summary Of Complaints And Recommendations (10 pages).*

<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #2]

• *Appendix 643 Documented Complaints (192 pages).*

<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #2 A]

d. Ann M. Haiden, D.O. May 15, 2008.

*"The Light Brown Apple Moth Aerial Spray Campaign: The Health Hazards of Particles, Toxins, Inflammatory Cascades and Genomic Predisposition"*

<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #35]

e. Richard B. Philp, D.V.M., Ph.D., Emeritus Professor of Pharmacology and Toxicology, The University of Western Ontario.

*"Analysis of Toxicology Studies with LBAM and Related Lepidopteran Pheromones"*

[http://www.hopefortruth.com/ANALYSIS\\_OF\\_TOXICOLOGY\\_LBAM.pdf](http://www.hopefortruth.com/ANALYSIS_OF_TOXICOLOGY_LBAM.pdf)

f. Pediatrician-Recommended Measures For Schools/Parents To Protect Our Children Against The Aerial Light Brown Apple Moth (LBAM) Spray.

[http://www.hopefortruth.com/Pediatrician\\_Protect\\_Child.pdf](http://www.hopefortruth.com/Pediatrician_Protect_Child.pdf)

#### Video:

a. Mike Lynberg, Harvard Graduate who collected and submitted Health Complaints.

<http://www.youtube.com/watch?v=n7Q6pmLX3po> (1st 12 minutes most important).

b. Air Force Major Tim Wilcox's 11-month-old healthy baby Jack goes into respiratory arrest following the aerial spray.

<http://youtube.com/watch?v=YxXFZkVd0To> (14:59)

c. Anna Werner cbs5.com - CBS 5 Investigates:

Scientists question safety of Apple Moth Spray 5/7/08.

<http://cbs5.com/pets/apple.moth.spraying.2.718614.html> (3:54)

Apple Moth Pesticide Tests may not go far enough 5/1/08.

<http://cbs5.com/local/moth.spraying.tests.2.714111.html> (4:39)

**12. The Department of Pesticide Regulation (DPR) & Office of Environmental Health Hazard Assessment (OEHHA) in an October 31 Consensus Statement released a report stating that:**

- (1) the synthetic pheromone and the entire spray material are toxic and**
- (2) the symptoms reported after spraying occurred were consistent with exposure to the toxic aerial spray.** Despite, these two facts, DPR & OEHHA

(government agency associates of the CDFA) gave an opinion that the exposure rates to these toxins for subjects in the spray zone were low and therefore unlikely to have caused the reported illnesses. **This opinion, with no scientific support, is the basis of CDFA's claim that the spray is safe.**

- a. *"Consensus Statement on Human Health Aspects of the Aerial Application of Microencapsulated Pheromones to Combat the Light Brown Apple Moth" October 31, 2007, by the Department of Pesticide Regulation (DPR) & the Office of Environmental Health Hazard Assessment (OEHHA)"*  
[http://www.hopefortruth.com/Consensus\\_Statement\\_on\\_Human\\_Health\\_Aspects.pdf](http://www.hopefortruth.com/Consensus_Statement_on_Human_Health_Aspects.pdf)

**13. A following report on April 10, 2008 adding California Department of Public Health (CDPH) to DPR and OEHHA as authors, could not confirm or deny that the spraying was related to the illnesses reported. However, in the press release and the executive summary of the report, the inability to deny the link was omitted and only the inability to find the link was reported. These three state organizations violated full truth in reporting and only emphasized the half of the report conclusion that the CDFA was looking for. Based on this report, the CDFA went on to further report that there is no link between the spray and the illnesses reported, even though that conclusion is totally incorrect as related to the report. These same agencies responsible for misreporting the results of the April 10 report are the same agencies that will be reviewing the results of the six-pac laboratory health tests ordered by the governor.**

- a. *"Summary of Symptom Reports in Areas of Aerial Pheromone Application for Management of the Light Brown Apple Moth in Monterey and Santa Cruz Counties September, October, and November 2007"*  
[http://www.hopefortruth.com/OEHHA\\_DPR\\_CDPH\\_report.pdf](http://www.hopefortruth.com/OEHHA_DPR_CDPH_report.pdf)
- b. Press Release, 4/10/08  
*"Study shows scientists were unable to find a link between aerial spraying and illness complaints"*  
<http://www.hopefortruth.com/OEHHAReportPressRelease.pdf>
- c. This report was an administrative review of less than 10% of the health complaints without investigation and without interviewing a single person or doctor who reported illness.

**14. There are serious agricultural pests that are treated to avoid significant crop damage.** The Light Brown Apple Moth is not a serious pest. In New Zealand, some years ago, the LBAM became a pest of concern when its predators were killed by an organophosphate pesticide that was being sprayed. When spraying stopped, the natural predator population recovered and the LBAM again needed no treatment.

**15. Quarantines are a very real threat to the financial well being of those under the quarantine.** Years back, Mexico and Canada accommodated the USDA by joining the quarantine on LBAM, suggested and imposed by the USDA. Both countries have indicated a willingness to continue to follow the U.S. lead as science and understanding of these insects

improves. This indicates that the quarantine restrictions from Mexico and Canada are flexible as the USDA reevaluates the LBAM and lowers its classification down from Class A.

- 16. The aerial spray is not a pheromone.** The definition of a pheromone is a substance created by an insect and released by an insect. There is no pheromone in the aerial spray, not a single drop of pheromone in millions of gallons of aerial spray.

The 18% of the aerial spray that the CDFA calls "Pheromone" is actually a toxic synthetic chemical pesticide produced in a pesticide chemical company. Like a moth pheromone, this toxic chemical attracts male moths, but the characteristic of attracting male moths does not make the toxic chemical safe for humans.

Moths and people have coexisted for many years on this earth and moth pheromone in the quantities people contact them are not harmful to people. The 18% of the aerial spray that the CDFA calls "Pheromone" (hereafter called "Toxic Synthetic Pheromone Pesticide") is toxic. In an attempt to keep the male moth from sensing the natural moth pheromone and finding the female moth, the CDFA saturates the air with Toxic Synthetic Pheromone Pesticide. The quantity of Toxic Synthetic Pheromone Pesticide the CDFA sprays is equal to the amount of natural pheromone in the bodies of 355,000 female moths, and that amount is sprayed into each square foot (<http://www.hopefortruth.com/KneppHafLettertoEATF.pdf> [page 6]). Since there is considerably less than one moth per square foot in the spray zone, the amount of Toxic Synthetic Pheromone Pesticide sprayed by the CDFA is millions of times greater than the amount of natural pheromone a human is normally exposed to.

- 17. There are other faults with the CDFA analysis of this program including:**

**a. The number of 10-micron particles** in the spray that can lodge deep into the lungs being grossly understated. Particles 10 microns and below can lodge deep into the lung and cause multiple body problems: respiratory, organ function, cardio function, child development, etc. These small particles are also more likely to be absorbed directly into the blood. The state reported that the aerial spray particles were 90 microns at the Jared Huffman Hearing in February, 2007. The state also reported, in the DPR/OEHHA 10/31/08 Consensus Statement, the particles were 25 microns and larger. The following April 22, 2008 letter from the CDFA to Drs. Knepp and Hafferman confirm that more than half of the trillions of particles released are less than 10 microns, with 9.79 microns being the median size. The 9.79 micron median size can be seen in the data below Figure #3 on page 6 of the letter from the CDFA to Drs. Knepp & Hafferman in the following reference.

[http://www.hopefortruth.com/KneppHaferman\\_medianparticle.pdf](http://www.hopefortruth.com/KneppHaferman_medianparticle.pdf)

**b. The toxic synthetic pheromone based Checkmate Pesticide aerial spray** being compared favorably to other pesticides that are sprayed over agricultural fields rather than populated areas.

**c. Underestimating exposure** of the time-release aerial spray on the population.

**d. Economic losses in the Tourist, Organic Produce and Real Estate Markets** that dwarf the unsubstantiated potential losses to agriculture asserted by the CDFA.

1. *"Light Brown Apple Moth (LBAM) ECONOMIC IMPACTS AND SOLUTIONS*  
by Foster Gamble.

<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #34]

**e. Numerous Environmental impacts that are ignored:** water, wildlife, bees.

1. *"Light Brown Apple Moth (LBAM) Eradication Program: Potential Effects on Pollinators and Implications for California Agriculture,"* by Roy Upton and Daniel Harder, Department of Evolutionary Biology, University of California, Santa Cruz, CA  
**<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #31]**
2. *"Light Brown Apple Moth (LBAM) Eradication Program: Post-Spray Effects on Animals and Pets,"* by Roy Upton, LBAM Liaison, Citizens for Health, Soquel, CA.  
**<http://www.lbamspray.com/Reports.htm> htm [SEE REPORT #33]**
3. *"Light Brown Apple Moth (LBAM) Die-off of Seabirds After Aerial Spraying of Checkmate LBAM-F; Pesticide Solution in Santa Cruz, CA,"* by Roy Upton.  
**<http://www.lbamspray.com/Reports.htm> [SEE REPORT #26]**

**f. The violation to the integrity of organic produce.**

1. California Certified Organic Farmers (CCOF), one of the largest and oldest organic certification organizations, announced its position of opposition to the spray.  
*"CCOF Modifies Stance on Light Brown Apple Moth Treatment Program"* 3/10/08.  
**<http://www.ccof.org/pr08-03-11LBAM.php>**

**There are scientists in Entomology, Botany, Invasive Insect Biology, Physics, Statistics, Systems Management, Economics and Medical Doctors** available to scientifically support the summary information above.

**For questions, comments, speakers for your organization, or to participate in a lawsuit to stop this violation beyond a few more months, please send an email to: [glenchase@aol.com](mailto:glenchase@aol.com)**

**Glen Chase is a Professor of Systems Management** specializing in Environmental Economics and Statistics. Glen served as an Associate Professor teaching graduate level courses in Systems Management at USC for eight years. He has taught at multiple universities in the Central Coast area, including The Naval Post Graduate School, The Monterey Institute of International Studies and Cal State University, Monterey Bay. Glen is also a Management Consultant. Currently, Professor Chase develops management systems to assist organizations that cater to the improvement of life for children with disabilities.

Background Note: the area of Systems Management within Chase's field involves management, communication and integration of complex and often highly specialized sciences. Systems Management was not generally recognized 100 years ago, when a single scientist could be a master of all areas related to his/her work. Today, it is essential.