From: Councilmember Jane Brunner and Committee Chair Larry Reid
Public Safety Committee
Re: Aerial Spray Resolution
Date: February 26th, 2008

FILED
OFFICE OF THE CITY CLERK
OAKLAND
2008 FEB 14 PM 4:24

Summary

The California Department of Food and Agriculture (CDFA) is planning to aerially spray a pheromone-based pesticide over parts of Alameda County, including Oakland, as part of an effort to eradicate the Light Brown Apple Moth (LBAM). Despite complaints of adverse health reactions to the spray in the Monterey/Santa Cruz area, CDFA is moving forward with plans to spray in the Bay Area without conducting a full environmental review and without independent studies of the long-term health effects. Our offices have received numerous calls and email from residents who are extremely worried about the spraying. The attached resolution opposes the aerial spray until the State has studied the public health implications and determined that there are no health or environmental risks.

Background

The LBAM is an invasive pest from Australia that has recently been discovered in parts of the Bay Area and Central California. CDFA believes that LBAM presents a risk to California crops and other plant life and has designed a program to eradicate the moth. As part of their LBAM eradication program, CDFA has planned aerial sprays of a synthetic pheromone in urban areas in Central California and in the San Francisco Bay Area. Pheromones are scents moths use to find mates. The pheromone spray is used to confuse the male moths and prevent them from mating. In the east bay, the aerial spray area includes the most heavily urbanized areas including Richmond, Oakland, and Berkeley. In areas of lower infestation in eastern Alameda and Contra Costa counties, CDFA will not be spraying but will be hand-applying twist-ties with pheromones.

CDFA believes that the moths can be contained at this point of infestation and declared a "state of emergency." This allows the agency to bypass the standard environmental review process for the procedure. The spraying is scheduled to begin in August 2008, and will be repeated every 30-60 days until the moth is eradicated, which will likely take between three and five years.

Key Issues and Impacts

While CDFA tested the pheromone and concluded that it would not cause any health effects, questions have been raised about the health effects of the inert ingredients that are sprayed with the pheromones, as well as the inhalation risks of the capsules that carry the pheromone (toxicologist Dr. Richard Philip's testimony is included as attachment B). CDFA found that the substance used in the spray, CheckMate, could cause skin, eye and respiratory irritation but the Agency believes that the amounts being sprayed would be unlikely to cause health problems.

Despite public outcry and lawsuits by Monterey and Santa Cruz counties, CDFA conducted an aerial spray in the Monterey/Santa Cruz area in Fall 2007. Following the spray, CDFA received 330 complaints of adverse health complaints and an additional 300 complaints were reported to other organizations. Residents reported health problems including asthma attacks, shortness of breath, skin rashes, stomach pains and respiratory problems. CDFA maintains that the aerial spraying does not pose a health hazard to the community and that the risk posed by the LBAM is significant enough to warrant the aerial spraying. CDFA representatives also noted that while there were a number of health complaints in the Monterey/Santa Cruz area, the complaints had not been studied to verify that they were, in fact, caused by the spray. CDFA is conducting a more in-depth study of the health complaints at this time but do not anticipate results from the study until after the Bay Area scheduled spraying.

Our offices have received numerous complaints from residents who are extremely worried about the spraying. Organizations such as the Center for Environmental Health, the Sierra Club, Breast Cancer Action and Environment California have opposed the spray until other alternatives are examined and long-term health effects and environmental effects are studied (a joint letter from a number of public health and environmental groups is included as attachment C). Other cities and jurisdictions are also considering the issue. The Albany City Council unanimously passed a resolution opposing the ban on January 22nd, 2008. The City of Berkeley has scheduled a hearing on the issue for February 26th, 2008 and State Assemblymember Jared Huffman in Marin held a public hearing on the issue this week.

Recommendations

The attached resolution opposes the aerial spray until the State has studied the public health implications and determined that there are no health or environmental risks. We recommend that the City Council take steps to pro-actively protect Oakland residents from unknown potential effects of the aerial spray. While CDFA does not need permission from residents or local jurisdictions, it is our hope that pressure from local jurisdictions may sway State officials to consider other options for eradicating the moth, and to investigate the potential health and environmental impacts on the community.

We recommend that the Public Safety Committee forward the resolution on to the City Council for adoption at the next Council meeting.

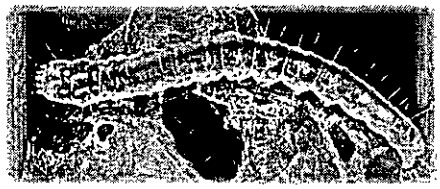
Attachments:
CDFA Fact Sheets – Attachment A
Testimony on toxicity of Checkmate – Attachment B
Joint Letter to Secretary Kawamura – Attachment C

Prepared by:
Elinor Buchen, Legislative Analyst
Community and Economic Development Committee

Item ____
Public Safety Committee

Attachment A

cdfa
CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE



2008 LIGHT BROWN APPLE MOTH PROGRAM FACT SHEET

SUMMARY

- The Light Brown Apple Moth (LBAM) feeds on more than 2,000 different types of native and ornamental plants and trees including cypress, redwoods and oaks, and can attack more than 250 agricultural crops.
    - o It threatens California's natural environment and food systems and is currently infesting 9 counties.
    - o In order to combat the LBAM, CDFA and USDA have developed a program that uses pheromones to disrupt the mating cycle, thus reducing the moth population and eventually eradicating the pest.
    - o Pheromone use is one of the most environmentally responsible tools that can be used to eradicate invasive pests, particularly in urban regions and parks.

BACKGROUND

- The detection of the Light Brown Apple Moth was first confirmed by California Department of Food and Agriculture (CDFA) and United States Department of Agriculture (USDA) in early 2007.
    - o A statewide survey for the Light Brown Apple Moth, a foreign, invasive insect species, in 2005 showed no signs of the moth.
- Once the LBAM was detected in early 2007, the CDFA and USDA declared an emergency and took immediate action to prevent the pest from spreading throughout California, United States, and North America. The LBAM eradication program goal is to eradicate this invasive insect pest.
    - o Small populations of LBAM were eradicated from Los Angeles and Napa Counties using ground application methods in 2007. Consequently, quarantines in those two counties were lifted.
    - o LBAM continues to infest 9 other counties in California, remaining a serious problem and a threat to our environment, food systems, and quality of life.

HEALTH CONCERNS

- Health officials have established that the pheromone material (which is applied in a very dilute concentration) represents a very low risk of toxicity.
    - o Prior to treatments, CDFA will work with local health officers to ensure that physicians and other health care providers are given information on the pheromone products and reporting requirements for illness complaints.
    - o While there is no human or animal health risk from exposure to the pheromones' treatment, CDFA provides a hotline for citizens who may have questions about the program or wish to report an illness or complaint.
    - o Citizens are encouraged to see their health care provider for illness complaints.

COMMUNITY OUTREACH

- In advance of an emergency pest treatment, CDFA will reach out to affected communities to communicate the LBAM eradication plan by holding town hall community meetings, provide English/Spanish mail notices (first-class mail), and other languages as needed.
    - Additionally, CDFA will meet with reporters, editorial boards and radio shows, and we will encourage citizens to subscribe to the email notification service and utilize the hotline and website for current information.
    - We share information about the treatments in advance with local homeless shelters, farm worker organizations and other groups that have been brought to our attention by local officials.

CURRENT STATUS

- CDFA/USDA is continuing the LBAM program in 2008. Essential federal funding is expected this month.
- Based on CDFA/USDA experience in 2007, as well as the input received from a wide range of policy leaders, scientists and members of the public, CDFA/USDA will use several eradication methods depending on a number of factors including, the size of the infestation and proximity to bodies of water that are effective, environmentally responsible and help to protect our life systems.
- The LBAM program is under constant review - both in house by CDFA/USDA and by third party world-renowned scientific experts known as the Technical Working Group. The eradication techniques chosen for each infested area have been carefully considered by the Technical Working Group, in order to create the best program to eliminate the serious threat posed by LBAM.
    - For example, in the short-term CDFA/USDA are planning to use hand-applied twist ties containing pheromones to disrupt the LBAM mating cycle at locations with small LBAM populations. Ground applications of male moth attractants and bio-control methods will be used, as these tools become available.
    - Ground treatments with the pesticides Bt (*Bacillus thuringiensis*), a naturally occurring bacteria, and spinosad, a material from naturally occurring bacteria, may be utilized in heavily infested areas where moth larvae have been detected.
- Further aerial pheromone treatments are planned for late spring or early summer starting in the southern end of the infested area and moving north. Four pheromone products are being evaluated in New Zealand to determine the best tool for aerial treatment.
- With the expected federal funding this month, CDFA and USDA will move forward with the LBAM eradication program for 2008. We will continue to focus our efforts to provide the public with the information needed to understand this program clearly, including open communication with public officials, the media and individual Californians through meetings, mailings, hotlines, the CDFA web site, and other means.
- Eradication of LBAM from California will be a challenge. There are a number of complex variables and restraints on the eradication effort that involve science and technology, availability of the products, geography, timing, and necessary funding.

► For more information, go to www.cdfa.ca.gov

cdfa CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

2008 Light Brown Apple Moth (LBAM) Program
Questions and Answers

What are you doing differently than you were doing last time? And why?

With the advent of new tools, the California Department of Food and Agriculture (CDFA) and the United State Department of Agriculture (USDA) have developed treatment programs for three categories of infestations and are ready to move forward and treat:

1. Physically small, isolated infestations with a few moths trapped,
2. Physically larger infestations with several contiguous square miles infested and more moths trapped, and
3. The physically largest infestations covering many contiguous square miles and the greatest number of moths trapped.

This approach allows CDFA/USDA to operationally select a set of tools that will reach all the target LBAM life stages within each treatment area.

Are you using the same substance as aerial spraying?

The active material is the same—LBAM pheromone. The carrier may be different based on tests being conducted in New Zealand. These products are being evaluated for efficacy, longevity and ease of applications.

Why are you changing the treatment material now? Does it mean last time it was not effective?

There are three additional pheromone formulated products now available that were not available last year. CDFA/USDA are evaluating them, along with last year's formulation, to determine which is the best carrier to lengthen the interval between treatments. The active material in the aerial treatment is the same LBAM pheromone used in 2007.

So is the new aerial product an insecticide/pesticide?

The new product will be a pesticide, but like last time, it does not kill the moth. The products under consideration for aerial treatment contain the same pheromone but use different bio-degradable carriers. Because the use of this product is intended to eliminate a population, the United States Environmental Protection Agency requires the product to be registered as a pesticide, however technically the product will not kill the LBAM. In contrast, CDFA/USDA uses the same product as lures in the traps, but because the intended use is to attract the moth to the trap, it does not, under these circumstances, need to be registered as a pesticide.

Posted 1/25/2008

Should the public be concerned about their health and safety?

Public safety is our primary concern. Pheromones are extremely safe and if persons believe they have experienced sickness as a result of the pending treatments, they are advised to see their doctor. State agencies (DPR, OEHHA) with jurisdiction for public health produced a Consensus Statement that evaluated the complaints and found "it is likely that exposure occurred at levels below those that would be expected to result in health effects."

All the research shows the moth pheromone is non-toxic to plants, animals and insects. It doesn't even hurt the moth. Any new products must meet rigorous standards for public health and safety. The pheromone materials CDFA/USDA use have been registered and approved for aerial treatment by the federal Environmental Protection Agency (EPA) and the state Department of Pesticide Regulation (DPR). Before registration, all product uses must pass a rigorous safety review to protect human health, wildlife, and the environment. This pheromone and many others like it are present in our environment every day as many insects use them to attract mating partners or signal other behaviors. Humans and other mammals do not use these insect pheromones and cannot detect them.

Does this new program pose any risks?

Public safety is the primary concern. Any new products must meet the same rigorous standards for public health and safety as the old product did. White paper consensus statement on human health aspects of the aerial application of pheromones to combat the LBAM (Oct. 31, 2007, DPR/OEHHA/DPH): "While the toxicological information on the Checkmate product indicates that exposure to high levels of the applied material would be consistent with many of the reported symptoms, the application rate was extremely low, and it is likely that exposure occurred at levels below those that would be expected to result in health effects."

There were reports of illness even when you were using the "benign" program, what about now?

All health complaints are reviewed and monitored by the appropriate agencies to determine if there is a risk to public health. If a resident believes they are ill, they should see their health care provider.

What do you plan to do differently to communicate to the general public regarding health concerns, pets, property, etc?

We will focus our efforts to provide the public with the information needed to understand this program clearly, including open communication with public officials, the media and individual Californians through meetings, mailings, hotlines, the CDFA web site and other means.

Is it important enough to take funding away from other state programs when our state is already strapped, for example, education?

No different than previous years, the program must compete for funding.

Why don't you use ground application all the time?

Given the size of the treatment area, ground application is not logistically feasible in terms of biological effectiveness in all situations. Ground application will be used in situations where CDFA/USDA can get the material to the targeted moth life stage. This is not possible in the heaviest and physically largest infestations where only aerial treatments of the pheromone will be biologically effective.

People obviously don't want this program, why do you continue to push it when we don't see any of the negative effects?

One would not expect to see negative effects in the early stages of a new pest introduction. The bottom line is that the establishment of LBAM threatens the life systems of California and the United States. The goal of the program is to be proactive and eradicate the problem before it becomes too large to eradicate and extensive damage occurs.

Where is the emergency and urgency to this?

If the insect is not eradicated while the infestation is still small, CDFA/USDA will be forced to deal with increased pesticide use, plant and environmental damage and potentially, quarantines forever. This insect will become a permanent unwanted resident in California and the rest of the United States.

Can we see any visible damage?

Damage is hard to find, though some can be detected on foliage in the infested area. CDFA/USDA is being proactive to eradicate the pest before extensive damage occurs.

Why are you coming back and spraying again?

The first aerial treatments were never expected to eradicate the LBAM from the state and eradication of the pest has not been completed. The mating disruption approach will not kill the moth as would be expected if CDFA/USDA would have used heavy pesticides. Since the aerial treatments do not kill the moth, it will take multiple treatments to gradually eradicate the pest.

How long will it take to eradicate LBAM?

The program will probably take at least 3-5 years. Remember, the program is based on mating disruption using a pheromone. It will take longer to eradicate the moth by this means. A traditional pesticide might have been a quicker approach, but the environmental and public health concerns would have been much greater.

How do you guarantee accurate application of the products when there have been mishaps before?

Public safety is the primary concern. CDFA/USDA continually monitors each and every treatment to ensure that all program requirements are met. The airplanes are equipped with a GPS system to keep treatments on target. CDFA/USDA also deploy an environmental monitoring system to make sure the treatment only occurs during appropriate weather conditions and is effectively deliver within the treatment zone.

Why are you looking to New Zealand to help solve the problem when it's not eradicated there?

Researchers in New Zealand and Australia have the most expertise with dealing with the moth and they are developing the tools that CDFA/USDA will use here. The moth is native to Australia and it invaded New Zealand years ago. In both countries the moth is too widespread to eradicate and they now use pesticide sprays to live with it. CDFA/USDA wants to prevent this from happening here.

How do twist ties and aerial treatments work?

The twist ties and aerial pheromone treatments disrupt the communication between the moths, preventing the males from finding females.

How does male moth attractant technique work?

The male moth attractant technique will be applied at approximate 8 feet high on utility poles and trees in the treatment area. The male moths are attracted to the spot where they crawl over a contact insecticide and perish.

How do the stingless wasps work?

The stingless Trichogramma wasps look for and lay their eggs in LBAM eggs. The wasp larvae hatch and eat the LBAM egg from the inside. These wasps will not bother the over-wintering monarch butterflies and they will not be released near threatened or endangered plants or butterflies and moths.

The wasps are among the smallest members of the insect world – smaller than a grain of rice. *Trichogramma* wasps occur naturally in almost every terrestrial habitat and some aquatic habitats as well. Some of the most important caterpillar pests of field crops, forests, and fruit and nut trees are attacked by *Trichogramma* wasps. However, in most crop production systems, the number of caterpillar eggs destroyed by native populations of *Trichogramma* is not sufficient to prevent the pest from reaching damaging levels. That is why the wasps must be used in conjunction with other approaches in order to achieve eradication of LBAM.

If I don't want applications applied to my property, how do I get out of it? Can the owner prevent application on private property?

No. In order to have a biologically sound program, CDFA/USDA cannot have a series of untreated refuges in which the moth can breed and re-infest treated areas, therefore the State of California can require access to private property in order to deal with a threat to the public.

Isn't bird die-off connected to the pheromone treatment?

No. The Department of Fish and Game investigated the die-off and stated "*It turns out it's not a fish oil or vegetable oil product, as well as not being a petroleum oil or the light brown apple moth spray.*" The pheromone products CDFA/USDA uses are of very low toxicity to birds and wild life.

We've heard that the increase in "Red Tide" algae growth in the Monterey Bay is attributed to the pheromone.

There is no evidence that the product caused these naturally occurring algal growths. Department of Fish and Game stated that "red tide" is a naturally occurring regular event.

Do you plan to do water monitoring in 2008?

The CDFA Secretary's Environmental Advisory Task Force recommended a pilot water monitoring study which the department will implement.

Why should I/the public care about eradication of the moth? Why can't we just spray agriculture and not urban dwellers?

We all live in a life system. If we don't fight the moth now, its population could explode with time resulting in increased pesticide load, not only in agriculture, but urban areas. CDFA/USDA knows this from past experience with pest infestations and the public's use of unrestricted insecticides. Further, more insecticide use later will result in unhealthy residuals on fruits and vegetables that the consumer ultimately eats.

Have moth pheromones been used before? Where?

Moth pheromones designed to create mating disruption have been applied aerially in the US for about 10 years against invasive moth infestations in Florida, Texas, Arizona, Oregon, Washington, New York, Pennsylvania, Illinois, Wisconsin and Michigan. Moth pheromone has also been applied aerially in South Africa, Argentina, Chile, Italy and Spain.

Pheromone treatments in general have an excellent track record against moths and other insect pests. Pheromones are a reliable method of treatment to control LBAM in New Zealand and Australia. LBAM is also present in Hawaii, but treatments have not been attempted there because of a number of factors, including the fact that the infestation is relatively small and restricted to higher elevations, and also because crop exports there are highly restricted and regulated due to a number of other invasive pest infestations.

Are the planes, treatment equipment and flight plans safe?

The contractor Dynamic Aviation, their planes and the individual pilots are required to be reviewed and licensed/approved by the Federal Aviation Administration (FAA). CDFA has contracted with this company for many years for aerial release of sterile Mediterranean fruit flies in the Los Angeles basin, and their safety record is unblemished. Detailed flight plans are submitted to local aviation authorities for review in advance. To ensure that no contamination of the pheromone product occurs, the mixing, loading and treatment equipment is required to be new and dedicated to this project. We will conduct sampling of the pheromone mixtures and follow a strict chain-of-custody procedure in the delivery of these materials for testing. Strict protocols are also in place for the purchase, transport, storage, mixture and loading of the material to be used in the treatment.

Why is this eradication project an emergency?

Data from our statewide insect trapping efforts shows that this infestation is a recent arrival to California. The populations of LBAM are still relatively small and are considered by an international panel of expert scientists to be eradicable if significant action is taken promptly. These moth populations can grow exponentially, going through approximately five generations per year with each female moth laying hundreds of eggs. Failure to act quickly could result in uncontrolled spread and substantial environmental and economic impacts.

Who decides whether or not aerial applications are necessary? How is that decision made?

At the direction of federal and state law, agricultural officials with the USDA and CDFA are responsible for eradicating invasive pests that threaten agriculture as well as the environment and natural habitat. Agency policy requires that we choose the most environmentally sensitive approach that will be effective against the infestation. For a project such as the eradication of the light brown apple moth, the agency secretaries are the primary decision-makers who rely on the scientific knowledge of staff as well as on consultations with their counterparts in health and environmental agencies and other experts. For the LBAM eradication project, CDFA and USDA appointed a technical working group of expert scientists to establish whether eradication is possible and, if so, to recommend the most environmentally friendly means of eradication. Aerial treatments are a central element in that plan.

How do you protect against drift?

The airplanes use pre-programmed GPS guidance systems to ensure even application of the treatment. The programming includes automatically turning the treatment off over bodies of water. The protocols call for treatment to occur only if wind and other weather conditions are within established limits.

Why is the light brown apple moth considered a threat to the environment?

Because the LBAM feeds on hundreds of different kinds of plants, it presents a threat to trees and plants in the natural environment as well as in crops and landscaping. Cypress and redwood trees, Monterey pine, oaks, lupines and many other native species are included on the extensive "host list" for this pest.

If the infestation is not eradicated, another important environmental effect would likely be an increase in the use of conventional insecticides by many residents, businesses and public entities acting to protect the plants in their gardens, landscaping, parks and other areas.

Will the pheromone harm the monarch butterfly? Are other moths affected by the pheromone?

Pheromones, as opposed to conventional pesticides, have the distinct advantage of affecting only a very limited number of closely related insects while leaving beneficial insects and endangered species unaffected. Although moths and butterflies are similar insects, the pheromones used by separate species are different. Monarch butterflies are not attracted to the light brown apple moth pheromone and will not be confused or otherwise affected by it. The pheromone treatment contains no oils or other materials that would pose a threat to the Monarch population.

In the pheromone-based traps that we use to detect LBAM, we have trapped only limited numbers of a few closely related moth species, further indicating the highly specific nature of this pheromone. Some of these other moth species are also invasive, unwanted pests, although they do not pose the same level of threat as the LBAM. Because these other moths are permanently established in the surrounding region beyond the limits of the LBAM treatment area, any reduction in these populations would be expected to rebound after LBAM eradication treatments subside.

How would/does the light brown apple moth affect the economy?

The current LBAM infestation has already caused the nations of Canada and Mexico to impose onerous restrictions on exports of crops and plants from the infested areas of California. China also has begun the kind of information-gathering that frequently leads to such trade restrictions. As businesses are forced to delay, reduce or abandon exports to these nations, employment, investment and tax levels are all adversely impacted. Internally, restrictions are also imposed by CDFA and USDA on businesses such as plant nurseries in the infested areas so that their counterparts outside of the area can be protected from the infestation. These businesses must comply with strict regulations that limit or delay the companies' ability to export their plants outside the area. If the infestation is not eradicated, these regulations and trade restrictions would continue indefinitely and other countries would likely adopt similar measures.

How will I be notified about the treatment?

As required by state law, CDFA notifies all known residents of a treatment area by first-class mail in advance of an emergency treatment. We also offer an e-mail notification service (details at www.cdfa.ca.gov/lbam) and a toll-free hotline (800-491-1899) during treatment periods to keep residents up to date. We will also work with local news media and elected officials and staff at the city and county levels to get the message out about the treatment schedule and other elements of the project. We take additional steps to share information about the treatments in advance with local homeless shelters, farm

worker organizations and other groups that have been brought to our attention by local officials or have requested information.

How have you communicated with environmental regulators? What have you communicated?
We have provided details of our proposed treatment to a number of local, regional, state and federal groups such as the United States Fish and Wildlife Service, the California Coastal Commission, the National Marine and Fisheries Service, the Monterey Bay National Marine Sanctuary and the Central Coast Regional Water Quality Control Board. Communications have included meetings, e-mail, telephone and mail. We also work with local news media and elected officials and staff at the city and county levels to get the message out about the treatment schedule and other elements of the project. The information includes details about the program components, treatment schedule, the affected area, the pheromone, and the availability of a toll-free number and an e-mail notification system for further information.

When will you do an Environmental Impact Report (EIR)?
The EIR is underway and a draft should be available for review this summer (2008). Because the LBAM has the biological ability to multiply quickly, eradication efforts could only be successful with immediate efforts to contain and suppress the moth population. That is why CDFA declared an emergency to allow the eradication to begin under a temporary exemption from environmental analysis, with the understanding that a full environmental assessment of the project, including these emergency treatments, is required. The emergency declaration does not excuse the program from performing an EIR.

Why not just let the apple moth be?
If we do not eradicate this infestation, the moth would eventually multiply and spread to other areas of California, the United States and beyond. Farmers, residents, municipalities and other entities would repeatedly use pheromones and other, more toxic pesticides to suppress the infestation and protect their crops, landscaping and habitat. Populations of threatened and endangered species could be severely impacted should this moth adapt to feeding on them or competing with them for food or habitat. The impact on agricultural production of crops that are hosts of the LBAM could reach $160 to $640 million annually in the currently infested counties in California (source: USDA). Additionally, California would likely be placed under perpetual quarantine by neighboring states and trading partners around the world, restricting our ability to export crops and plants. Canada and Mexico have already imposed such restrictions, resulting in delays, added expenses and reduced export business for local growers.

Will the paint on my car be damaged? Should outdoor play equipment be hosed down after applications?
Testing performed by the United States Department of Agriculture and decades of experience with aerial pheromone treatments in the U.S. and other nations has resulted in no reports of damage to automotive paint, outdoor furniture or other common outdoor surfaces. Based on this information, no action is suggested to protect these items.

What about outdoor public gatherings on the night of applications?
CDFA is in contact with local officials, school districts, etc. and has been made aware of evening and night events in the treatment area. The treatments on these nights are scheduled so that the specific sites in question are to be treated in the morning hours toward the end of the shift, after the activities have ended.

Who is paying for this?
The USDA has provided the bulk of the funding for treatment as well as for the other activities in this program, including plant and crop inspections, traps, outreach and other elements. CDFA and local agricultural officials have also contributed to the project.

What if the pheromone treatment doesn't work?
The pheromone treatments are a central part of a multi-year project that will require multiple tools to be successful. We have already contained the infestation by imposing quarantine restrictions and inspections on plant and crop shipments, and we suppressed the infestation in 2007 by performing the initial aerial treatments in Central Coast communities and by deploying pheromone twist-ties in several locations around the fringes of the larger infested region. The planned aerial treatments in 2008 are the next step in the eradication process. Based on the history of pheromone treatments for this pest in Australia and New Zealand and for similar pests here in the U.S., we have confidence in the success of the planned treatments. However, if the overall eradication project is not successful, we would have to reconsider whether eradication of the pest is possible under the circumstances. If not, the goal would then become suppression and containment of the infestation over the long term in order to minimize its environmental and economic impacts.

JANUARY 2008

Prepared by the California Department of Food and Agriculture. For the most current version of this document, please visit the department's LBAM web site at www.cdfa.ca.gov/lbam

Attachment B

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SUPERIOR COURT OF CALIFORNIA

COUNTY OF SANTA CRUZ

COUNTY OF SANTA CRUZ Plaintiff/Petitioner, v. CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE; A.G. KAWAMURA, in his official capacity as Secretary of the California Department of Food and Agriculture; and DOES 1 through 100, inclusive, Defendants/Respondents.	Case No. 158516 **DECLARATION OF RICHARD PHILP IN SUPPORT OF EX PARTE APPLICATION FOR TEMPORARY RESTRAINING ORDER** Date: October 31, 2007 Time: 1:00 p.m. Dept: 8

I, Richard Philp, hereby declare:

1. I am an Emeritus Professor of Pharmacology and Toxicology with the University of Western Ontario in London, Canada. I have a Ph.D. in Pharmacology from the University of Western Ontario and have spent my career as a professor of Pharmacology and Toxicology. I have published over 90 peer-reviewed manuscripts in the area of pharmacology and toxicology and I am an experienced researcher on pharmacology and toxicology issues. A copy of my curriculum vitae is attached hereto as Exhibit A. I have personal knowledge of the facts set forth below, and if called upon to testify thereto I could and would do so competently.

2. After Monterey County was aerially sprayed with the pesticide Checkmate OLR-F in September 2007, I was asked to review the health hazards associated with this aerial spraying. In conducting my review, I reviewed available literature and government documents concerning Checkmate and I drafted a preliminary report on this issue, a true and correct copy of which is attached hereto as Exhibit B. My general conclusions and recommendations are set forth at page 8 of my final report.

3. In sum, I have concluded that no chronic toxicity study of Checkmate has been conducted in a mammalian species by any route of administration and certainly not involving exposures to the product to be employed by the intended method of application (aerosol spray of microcapsules). Any claims of the safety of Checkmate are based on extrapolation from acute toxicity studies and one sub-acute, 90-day study that employed the oral route of administration of certain chemicals related, but not identical, to those used in Checkmate. One cannot conclude from these studies that Checkmate is a safe product to aerial spray over an urban population, nor can one guarantee that longer-term, repeated exposures of humans are without risk. A chronic toxicity study of at least 90 days and preferably six months duration, employing daily exposure to aerosol of Checkmate at a high exposure level would be required before a conclusion of safety could be legitimately drawn. It is customary in such studies to use a much higher exposure level in order not to miss adverse reactions that might occur too infrequently to be detected at lower exposures.

4. In none of the documents I reviewed, including the USDA environmental assessment, is there any mention of previous experience with aerial spraying of populated, urban areas. Previous efforts to control LBAM in the proposed treatment area employed ground application techniques. Pheromone baited traps were placed throughout the State of California to monitor the moth population and distribution. Isolated populations in Napa and Oakley were treated using ground equipment with *Bacillus thuringiensis kurstaki* (Btk) (USDA Environmental Assessment, 2007, p2, para 2). This is a bacterial product that attacks the early larval stages of most lepidopterans.

5. There is ample evidence that many pheromones and semiochemicals (the synthetic counterparts of pheromones) possess significant toxicity for aquatic species. This suggests that aerial

spraying carries an increased environmental risk given the difficulty in confining the spray to the target area.

6. In summary, and as more fully explained in my attached report, the USDA and EPA documents I reviewed are filled with contradictory statements regarding the toxicity testing of pheromones, inappropriate extrapolations from irrelevant toxicity studies, and are suggestive of a poor understanding of basic pharmacological and toxicological principles.

7. In my opinion, since the decision to use aerial spraying as the method of application appears to have been made entirely on economic grounds, the decision should be revisited given the lack of adequate evidence for its safety in the long term. Either ground-based methods of application should be employed or an adequate chronic toxicity study should be conducted. Ground-based technology has the added advantage of posing less risk to the environment.

8. Finally, I have recently reviewed the toxicology of the "inert" ingredients provided to me and found that: i) some have been shown to be skin irritants in animal studies; ii) no information regarding respiratory toxicity or absorption is generally available; iii) no carcinogenicity studies have been performed on some; and iv) I was unable to find inhalation toxicity studies for any of the inert ingredients. This further supports my conclusion that this product should not be aerially sprayed as intended at this time.

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this Declaration was executed on this 29th day of October 2007 at London, Canada.

DR. RICHARD PHILP

Attachment C

Secretary A.G. Kawamura
Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

February 11, 2008

RE: Moratorium on Aerial Pesticide Spraying for the Light Brown Apple Moth (LBAM)

Dear Secretary Kawamura,

On behalf of our members throughout California, we urge you to stop the spraying of pesticides over our communities, and seek safer, more effective alternatives to control the spread of the light brown apple moth.

Last fall, the California Department of Food and Agriculture (CDFA) proposed a series of aerial pesticide applications to control the spread of the invasive light brown apple moth (LBAM). As a result of those applications, CDFA has directly received over 330 adverse health complaints, and over 300 from other sources. Recommendations from the CDFA and U.S. Department of Agriculture's Technical Working Group (TWG) argued against aerial pesticide application, calling it "the least effective method." In addition, entomologists from across California oppose aerial spraying, including invasive species biology expert Dr. James Carey of UC Davis who recently stated, "The invasion of the LBAM is so widespread that eradication is not feasible regardless of the eradication tool used" (*Edna Williams v. CDFA*).

Due to the large number of adverse health complaints and the recommendations of the Technical Working Group, we respectfully urge you to place a moratorium on aerial pesticide spraying. Collectively, our organizations

- Oppose the CDFA program of aerial spraying as a first resort against the Light Brown Apple Moth in San Francisco Bay Area and other counties around the state.
- Support a moratorium on aerial spraying until the agency has conducted an alternatives assessment to determine that control strategies do not compromise human and environmental health. The assessment must be based on a realistic assessment of the feasibility of eradication.
- Support control strategies that adhere to least-toxic/Integrated Pest Management (IPM) principles requiring prevention of public exposure to pesticides, pesticide residues, or by-products of pesticides that cause cancer, birth defects, mutations, reproductive effects, or alter the immune system or behavior of non-target organisms.
- Support disclosure of all ingredients to be sprayed and the informed consent of the residents affected by the spraying.

We respectfully urge you to lead CDFA in the right direction by placing a moratorium on further aerial pesticide applications, and modify the control program to use the least-toxic or Integrated Pesticide Management (IPM) options.

Sincerely,

Barbara A. Brenner
Executive Director
Breast Cancer Action

Jeanne Rizzo, R.N.
Executive Director
Breast Cancer Fund

Emily Rusch
Advocate
CALPIRG

Caroline Cox
Staff Scientist
Center for Environmental Health

Frank Herd
Executive Director
Citizens for Health

Luis Cabrales
Senior Campaign and Outreach Associate
Coalition for Clean Air

Rachel Gibson
Environmental Health Advocate and Staff Attorney
Environment California

Bradley Angel
Executive Director
Greenaction for Health and Environmental Justice

Deborah Moore
Executive Director
Green Schools Initiative

David Dilworth
Executive Director
Helping Our Peninsula's Environment (HOPE)

Dot Boyd
Executive Director
Natural Products Association West

Frank Egger
President
North Coast Rivers Alliance

Jim Stewart
Executive Director
People for Parks

Ginger Souders-Mason
Director
Pesticide Free Zone Campaign

Paul Schramski
State Director
Pesticide Watch Education Fund

Katherine Attar
Health and Environment Program Coordinator
Physicians for Social Responsibility-Los Angeles

René L. Guerrero
Program Manager, Public Health and the Environment
Planning and Conservation League Foundation

Approved as to Form and Legality

DRAFT

City Attorney

OAKLAND CITY COUNCIL

RESOLUTION NO._____C.M.S.

Introduced by Councilmember Brunner and Councilmember Reid

A RESOLUTION OPPOSING THE CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE AERIAL SPRAY PROGRAM TO ERADICATE THE LIGHT BROWN APPLE MOTH AND REQUESTING ADDITIONAL INFORMATION ON THE POSSIBLE HEALTH EFFECTS

WHEREAS, the Light Brown Apple Moth (LBAM) is a pest subject to Federal and State quarantine and eradication orders; and

WHEREAS, there is a confirmed presence of Light Brown Apple Moths in Alameda County; and

WHEREAS, the California Department of Food and Agriculture (CDFA) plans to begin an LBAM aerial spraying program in Alameda County and surrounding areas in summer of 2008; and

WHEREAS, aerial and other blanket pesticide applications have repeatedly been shown in the past to cause unintended, unpredictable, and often serious human health effects; and

WHEREAS, the State has claimed an emergency exemption under the California Environmental Quality Act (CEQA) in order to begin the LBAM aerial spraying program without conducting environmental review based on an emergency exemption; and

WHEREAS, the State has confirmed that it will begin preparation of an Environmental Impact Report after the aerial spraying program has begun; and

WHEREAS, CDFA has stated that no physical crop damage has been attributed to LBAM; and

WHEREAS, the State has relied almost entirely on its own scientists to address public concerns about the LBAM spray program and has not employed independent outside experts to evaluate and support the program or and address issues in a direct and impartial manner; and

WHEREAS, the CDFA LBAM program sprays pesticides in microscopic plastic capsules that pose unknown inhalation risks; and

WHEREAS, according to the United State Department of Agriculture (USDA) the pheromone pesticide poses only minimal risk to human health, but is considered a "slight to moderate dermal irritant" and does present some very low toxicity"; and

WHEREAS, hundreds of reports of health effects such as asthma attacks, headaches, difficulty breathing, stomach pains and skin rashes were reported following the LBAM aerial spraying in Santa Cruz and Monterey counties; and

WHEREAS, other environmental impacts such as the deaths of birds and pets were reported following the LBAM aerial spraying in the Monterey and Santa Cruz areas; and

NOW, THEREFORE, BE IT RESOLVED that the Oakland City Council opposes the CDFA aerial spray program to eradicate L BAM until the State has studied the public health implications and determined that there are no health or environmental risks.

IN COUNCIL, OAKLAND, CALIFORNIA, _____, 20_____

PASSED BY THE FOLLOWING VOTE:

AYES - BROOKS, BRUNNER, CHANG, KERNIGHAN, NADEL, QUAN, REID, and PRESIDENT DE LA FUENTE

NOES -

ABSENT -

ABSTENTION -

ATTEST:_____
LaTonda Simmons
City Clerk and Clerk of the Council
of the City of Oakland, California