



THE CENTER FOR FOOD SAFETY

March 20, 2008

Jim Rains
California Department of Food and Agriculture
1220 N Street, Rm A-316
Sacramento, CA 95814

Dear Mr. Rains,

The Center for Food Safety is a national, nonprofit membership organization working to protect human health and the environment from potentially harmful food and agricultural technologies. With offices in Washington, DC, and San Francisco, California, CFS utilizes legal actions, policy initiatives, scientific research, and public education to accomplish its goals.

Pursuant to the California Environmental Quality Act, Public Resources Code §§21000 et seq. (“CEQA”), CFS has prepared these comments in response to CDFA’s Notice of Preparation of a Draft Programmatic Environmental Impact Report (“PEIR”) for the Light Brown Apple Moth (“LBAM”) Eradication Program. CFS has grave concerns with the agency moving forward with any aerial spraying program prior to the completion of a PEIR. As noted below, CFS has serious human and environmental health concerns regarding CDFA’s LBAM eradication program.

Use of the Emergency Exemption is an Improper Avoidance of CEQA

On or about August 20, 2007, the secretary of the CDFA issued a notice of an emergency exemption indicating that the CDFA was proceeding with aerial spraying prior to any CEQA environmental review. We believe this emergency exemption however, is unwarranted, and provides an improper avoidance of CEQA requirements. Thus, no further LBAM control, including aerial spraying, should occur until the completion of this PEIR.

CEQA defines an “emergency” as “a sudden, unexpected occurrence, involving clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, property, or essential public service. ‘Emergency’ includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as occurrences as riot, accident, or sabotage.” CEQA § 21060.3. CEQA guidelines state further that this emergency exemption “does not include long-term projects undertaken for the purpose of preventing or mitigating a situation that has a low probability of occurrence in the short-term.” Cal. Code of Regulations, Title 15, §15269(c) (“CEQA Guidelines”). Furthermore, CEQA exemptions must be narrowly construed to true, immediate emergencies. *Western Municipal Water District . Superior Court*

(1986) 187 Cal.App.3d 1104, 1112; *Los Osos Valley Associates v. City of San Luis Obispo*
(1994) 30 Cal.App.4th 1670.

The LBAM does not pose an “emergency” as defined by CEQA, thus use of the CEQA emergency exemption is improper. To our knowledge, no evidence has been presented to show a sudden, unexpected occurrence, involving clear and imminent danger to justify the application of an emergency exemption. Although the LBAM has been found in traps set in multiple counties, no scientific proof has been presented to the public to document the existence of emergency conditions. Moreover, no data has been published to demonstrate that economic damage warrants emergency action, particularly in the absence of a complete environmental and human health impact analysis.

It is unclear just how long the LBAM has been existing in California. Recent research suggests that the LBAM entered California well before 2006, when CDFA was first notified of its existence by a retired researcher. According to entomologist and invasive species expert, James Carey, it is likely that the LBAM has been inhabiting California for the past 30 to 50 years, based upon the moth’s distribution pattern across various counties.¹ If that is the case, the state of California has been able to control or co-exist with the LBAM for several decades with little notice of its adverse economic impacts. Moreover, no emergency situation exists to justify repeated aerial sprays of pheromones, or ground sprays of toxic, permethrins or other pesticides over urban populations.

The LBAM is not a new pest. It has existed in several regions around the world for long periods of time. The moth has been a minor pest in both Hawaii and New Zealand for a century. It has also lived in its native country of Australia, although the extent of damage caused by the moth in dispute.²

As a public advocacy organization, CFS is concerned that CDFA circumvented the public environmental review process, and for such an extended period of time, in the name of a vague, undocumented “emergency.”

- ❖ We request that CDFA cease any aerial spraying pursuant to this emergency exemption indefinitely, or until CDFA publishes data to demonstrate that the LBAM has reached, or is approaching, a state of emergency.

Eradication is not Feasible; CDFA Should Focus on Control

The USDA’s and CDFA’s goal of completely eradicating the LBAM is questionable and most likely unattainable. Living in a globalized economy, it is impossible for states to avoid the unintentional importation of new, non-native species of all types. According to the National Invasive Species Information Center of the USDA, 50,000 invasive species exist in the U.S. and

¹ Carey, J. 2007. “Testimony Submitted in *Edna Williams, et al., v. California Department of Food and Agriculture, A.G. Kawamura, et. Al.*, Case No. 07-05587, U.S. District Ct. for the Northern District of California, November 14.)

² Wishner, N. & T. Aquino. Undated. “Aerial Pesticide Spraying for the Light Brown Apple Moth: Summary of Key Concerns for Organic Growers.”

that number is growing.³ Therefore, it is inconceivable that we as a county, state, or nation would be able to combat the spread of invasive species.

We need only look to California's failed attempts at pest control and the infamous Mediterranean fruit fly ("medfly") eradication experiment to realize just how difficult, if not impossible, pest eradication can be. Despite repeated aerial sprays of malathion in targeted regions across the state, the medfly re-established itself in the state and it still persists today, more than twenty-five years later.

The widespread gypsy moth eradication program that was reproduced in multiple regions across North America demonstrates another failed attempt at pest eradication. Again, despite efforts to eradicate the moth with repeated, toxic pesticide sprays of DDT and Carbaryl, in regions extending from the U.S. east coast to Michigan and California, the gypsy moth remains the most notorious pest in North American forests.

As many independent scientists are now suggesting, we need a shift in state and federal policy away from absolute pest eradication towards the more modest and achievable goal of pest management, co-existence, and least-toxic control.

- ❖ CFS is concerned about the lack of available data to demonstrate the need for the state to launch an intensified eradication program. As such, we request that CDFA publicly release the scientific research it used to support its claim that LBAM is a threat to the state's or even the nation's agriculture.

CDFA Must Address Health Concerns

Pursuant to CEQA Guidelines Section 15065(a)(4), CDFA must address the direct and indirect adverse effects of LBAM control methodologies on human health. When choosing to incorporate any pesticide into a pest control or eradication regime, the environmental and human health effects and risks must be clearly understood. Caution must be taken when pesticides are applied, even if the perceived risks are minimal. Human and environmental health protection must be considered the highest priority when public policy decisions could put large populations at risk.

Pheromones

At various public hearings on CDFA's proposed LBAM program, Secretary of Agriculture, Kawamura, has repeatedly stated that there is no risk to human health from the use of CheckMate OLR-F and CheckMate LBAM-F pheromone sprays. He bases this assertion upon data from animal tests alone and extrapolates from those data to claim that "no risk to human health is expected from the use of these pheromones."⁴ Despite the obvious limits of generalizing from animal studies to humans as a basis for making important policy decisions that

³ USDA National Agricultural Library, National Invasive Species Information Center, <http://www.invasivespeciesinfo.gov/>, Viewed March 19, 2008.

⁴ CDFA. Response to Assemblymember, John Laird (Oct. 16, 2007) "Light Brown Apple Moth Eradication Program, Key Questions and Issues," October 26, p. 1.

could potentially adversely affect public health, U.S. EPA research does not include a health evaluation of the inert ingredients.

The state's own Consensus Document on the health risks of pheromone sprays states that the pheromone is safe for human exposure, based solely on assessments of the active ingredient. These same studies are also based on the assumption that the aerial sprays will occur over minimally populated agricultural regions and not over populated urban areas such as the San Francisco Bay area and Central Coast.

Yet, the pesticides being sprayed have been designed to be sprayed on agricultural land and plants and to adhere to those surfaces. The pesticides are not intended to be sprayed on non-agricultural surfaces such as children's playground equipment, including swings, slides, and sand; home lawns where children and pets play on a daily basis; or outdoor patio furniture. Furthermore, there have been no tests to determine how long or where the pesticide accumulation and how human exposure can occur.

- ❖ We urge CFDA to immediately cease considering aerial spraying of any kind, given the unknown risks to human health, and vulnerable populations, children in particular.
- ❖ We demand that any proposed agricultural products intended to be aerial sprayed over urban populations are tested for impacts on non-agricultural entities, including, but not limited to, children's playground equipment (including swings, slides, and play structures), sand used in children's playgrounds, backyard lawns, home patio and outdoor furniture, home decks and outdoor recreation equipment. This study should, at a minimum, examine the following: amounts of product landing on non-agricultural entities; duration product remains on these entities; ability to reasonably and easily remove the products from non-agricultural entities.

Inhalation Risks

CFS is dissatisfied with assurances from CDFA that there is no inhalation risk from the pheromone sprays. People who have studied the data disagree about the average particle size of the microcapsule. While the manufacturer claims the range is 100-150 microns, a study by U.C. Davis researchers claims that it is in the range of 10-190 microns.⁵ Our concern is that small particles can be inhaled deep into the lungs and once inhaled they cannot be expelled, posing respiratory risks, particularly to those with respiratory sensitivities and breathing disorders. Moreover, the Natural Resources Defense Council (NRDC) has warned that some inerts such as tricapyryl methyl ammonium chloride may irritate mucus membranes and the upper airways is possible if exposure concentration are high.

⁵ Werner, I, LA Deanovic, D. Markiewicz. 2007. "Toxicity of checkmate® LBAM-F and Epiphyas postvittana pheromone to Ceriodaphnia dubia and fathead minnow (Pimephales promelas) larva." Aquatic Toxicology Laboratory, UC Davis.

According to research scientists at NRDC, “It would be relatively easy to test the spray to ascertain whether there are respirable-range in the mixture.”⁶ This has not been done nor has the final pheromone spray product been tested for isocyanate residues that may be present in the mixture as a consequence of manufacturing.

- ❖ We urge CDFA to conduct an independent analysis of the particle size of the microcapsule in light of this challenge by an experienced UC Davis researcher.
- ❖ We further urge CDFA to institute a comprehensive ground level monitoring program to measure respirable particulate matter and for airborne concentrations of inert ingredients.

Use of Organophosphates

CFS opposes the forced spraying of chlorpyrifos in nurseries and in all areas where the general population risks exposure. Given the toxicity of chlorpyrifos and the fact that EPA has banned its use in homes, CFS requests that CDFA immediately cease requiring the spray of chlorpyrifos and search for alternatives.

In the late 1980s and 1990s, the New Zealand government opted to spray organophosphate pesticides in an effort to completely eradicate the LBAM. Its intent was to create a sterile environment in which no pests or beneficial insects could survive. Unfortunately, this toxic chemical-intensive strategy failed miserably, resulting not only in the creation of pest resistant insects but also in the creation of a breeding ground for the LBAM. According to the findings of a recent investigative study of New Zealand’s LBAM eradication efforts: “under the organophosphate spray regime, LBAM was a problem of greater significance than it is today: and all pests were more difficult to control and became increasingly hard to keep in check. Populations of insects, including LBAM, developed resistance to the organophosphate formulation.” Subsequently, the use of organophosphates was completely eliminated in 2001.⁷

In light of New Zealand’s experience with the LBAM and organophosphate use, it is inconceivable that the CDFA would consider following the same or similar eradication strategy. Therefore, we are concerned that CDFA has chosen a pest eradication program in nurseries that largely relies upon the use of an organophosphate, chlorpyrifos, that is a known neurotoxin and suspected hormone disrupter. We urge CDFA to immediately cease requiring the use of chlorpyrifos and, instead, to thoroughly investigate less toxic means of controlling the LBAM, in collaboration with well-informed and affected nursery owners.

Other Proposed Pesticides

Spinosad (Trade names: Success, Entrust, Naturalyte, SpinTor) has been mentioned in the USDA’s Environmental Assessment as a pesticide that is being considered for foliar ground treatment. As a nerve and stomach poison in pests, Spinosad over-stimulates nerve cells of the pests that it contacts and those that consume sprayed foliage. Farmers like Spinosad because it persists for a full week, but that persistence also presents extended health hazards and increased

⁶ Natural Resources Defense Council. 2007. “NRDC Position Statement on Spraying for the Light Brown Apple Moth in California, November 14. See http://docs.nrdc.org/health/hea_07111501A.pdf

⁷ Harder, D. & Rosendale, J., March 6, 2008, “Integrated Pest Management Practices for the Light Brown Apple Moth in New Zealand: Implications for California.”

opportunities for exposure. Although Spinosad does not harm most beneficial insects, it is toxic to bees when wet. Therefore, pollinators could be adversely affected when they are foraging if the appropriate precautions are not taken. Spinosad exhibits low mammalian toxicity; however, it is slightly toxic to fish and highly toxic to marine shellfish.⁸

Permethrin, like chlorpyrifos, is a neurotoxin. Exposure can cause tremors, lack of coordination, increased body temperatures and aggressive behaviors. It can also disrupt the learning ability of children. Since children eat more food, drink more liquids and eat more food per kilogram of body weight than adults and since their bodies and organs are still developing, they are more susceptible to these adverse effects than adults.⁹

The fact that CDFFA is considering the ground spraying of pesticides with increased toxicity such as permethrins and Spinosad is of grave concern to CFS, due to the associated environmental and human health risks. We are also concerned that the CDFFA has left open the door to use other treatment techniques that are “in the most unobtrusive manner as practicable.”¹⁰ When it comes to making decision about treatment options, we urge CDFFA to put human health and environmental considerations first and not whether a given treatment option is “practicable,” as is suggested in the USDA’s Environmental Assessment.

CFS opposes the use of toxic pesticides, such as permethrins and organophosphates, particularly in urban areas where exposure by children is possible and likely.

- ❖ We urge CFDA to consider using less toxic alternatives, given the unknown risks of the above mentioned pesticides on human health, vulnerable populations, in particular children, and the environment.

Environmental Effects

Pursuant to CEQA § 21060.5, CDFFA must evaluate any environmental effects to natural resources including land, air, water, minerals, flora, and fauna. Pursuant to CEQA Guidelines § 15065(a)(1), CDFFA must consider whether this project has the potential to substantially degrade the quality of the environment including 1) the habitat of a fish or wildlife species, 2) fish and wildlife populations, and 3) endangered, rare or threatened species.

Evidence suggests that the some of the inert ingredients in CheckMate could adversely effect aquatic vertebrates.

- ❖ We urge the CDFFA to thoroughly study the potential impacts of aerial spraying of pheromones on all the waterways in the regions that are planned for spraying, including, but not limited to, the Monterey Sanctuary and the San Francisco Bay. Research must

⁸ Boucher T. 1999. “Spinosad: The First Selective, Broad-Spectrum Insecticide.” *Integrated Pest Management*: Connecticut, University of Connecticut.

⁹ Mott, L., Vance, F. & Jennifer Curtis. 1994. *Handle with Care, Children and Environmental Carcinogens*, Natural Resources Defense Council, Inc.: New York.

¹⁰ USDA. February 2008. “USDA’s Treatment Program for the Light Brown Apple Moth in California,” p. 12.

include a complete assessment of the potential environmental impacts of the inert as well as active ingredients and the results of the study must be released to the public.

- ❖ We further urge CDFA to institute a surface water monitoring program to assess whether the surfactants or phosphates contained in the spray are impairing waterways.
- ❖ We urge CDFA to study the potential for any products that are being aerially sprayed to drift, and how far that drift will occur. This should also take into account weather conditions such as fog and wind, which are common conditions in San Francisco and the Central Coast.
- ❖ We urge CDFA to study the potential impacts of surfactant and phosphate run-off into fresh water ecosystems prior to any additional aerial spraying and present those results for public review and comment.

Other Issues of Concern

In addition to the recommendation provided in each section of these comments, CFS urges CDFA to do the following:

- ❖ Conduct a full and independent safety analysis of the all products proposed for use in CDFA's LBAM eradication program and make the results publicly available.
- ❖ Test for pesticide drift in all locations where pesticides are aerially or ground sprayed.
- ❖ Conduct a full PEIR, as required by law, prior to commencing (or continuing) with the proposed LBAM eradication program.
- ❖ Assess the full range of particulate matter produced by spraying before the aerosolized mist is released over populated urban areas where direct contact by adults, children, domestic animals and wildlife would be inevitable.
- ❖ Routinely monitor levels of the spray across all environments to prevent overdoses to humans and the environment.
- ❖ Establish a medical clearinghouse in order to process and evaluate medical complaints by trained personnel with skills in toxicology, epidemiology and ecological assessments.
- ❖ Examine all of the degradation by-products of the active and inert ingredients in the spray to evaluate their hazard, persistence, and ability to accumulate in the soil, water and air.

CONCLUSION

In light of the numerous unstudied human health risks to children, the elderly, people with compromised immune systems, and the general population, as well as potential impacts to the environment, CDFA should cease any further aerial spraying until the PEIR comprehensively

evaluates and mitigates all adverse effects to the environment, particularly those related to human health.

Please include the Center for Food Safety on any and all further CEQA notices related to the LBAM control program.

Sincerely,

/s/
Kevin Zelig Golden
Staff Attorney

/s/
Lisa J. Bunin, PhD
Campaign Coordinator

Attachments

