

SECTION TWO

Current LBAM Program

It's Not Safe

Complaints of Adverse Reactions to Aerial Spraying in Monterey and Santa Cruz Counties

by Mike Lynberg

January 3, 2008

Complete report at:

http://www.lbamspray.com/00_Documents/2008/Mike%20Lynberg%20Health%20package%202008_01_03/Complaints%20of%20Adverse%20Reactions_names%20removed.pdf

- The state did no monitoring. These complaints were collected on a grassroots website.
- 643 documented health complaints were collected. Many of these people consulted doctors. Some went to emergency hospitals.
- Complaints included asthma attacks, lung congestion, bronchial irritation, chest pains, heart fibrillations, dizziness, blurred vision, body tremors, swollen lymph glands, skin rashes (some severe), eye irritation, headaches, etc.
- Personal stories (643) available in the Appendix

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PRESS ADVISORY

For immediate release, November 24, 2008

CITIZENS TO FILE SUIT IN FEDERAL COURT TO BLOCK APPLE MOTH SPRAY PROGRAM

San Francisco – Environmental leaders from throughout the San Francisco and Monterey Bay areas will hold a press conference at the United States District Court, 450 Golden Gate Avenue, San Francisco on Tuesday, November 25, 2008 at 10:30 a.m. to announce their filing of a lawsuit in that Court to overturn the United States Environmental Protection Agency’s approval of the Apple Moth Spray Eradication Program proposed by the U.S. Department of Agriculture (USDA) and the California Department of Food and Agriculture (CDFA) in Monterey, Santa Cruz, Santa Clara, San Mateo, San Francisco, Marin, Alameda, Contra Costa, and Sonoma counties. Joining the lead plaintiff, North Coast Rivers Alliance, are Richmond Mayor Gayle McLaughlin, Albany Mayor Robert Lieber, Santa Cruz City Councilman Tony Madrigal, and leaders of the anti-spray movement in each of the affected counties together with victims* of last Fall’s apple moth spray debacle in Monterey and Santa Cruz counties.

The basis for the lawsuit is that EPA ignored key public safety protections of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA) in granting an exemption from registration for the ingredients of the two apple moth sprays utilized last Fall in Santa Cruz and Monterey counties by USDA and CDFA. As a result, at least 643 citizens were injured and filed reports with CDFA, many documented by physicians. USDA and CDFA are threatening to spray these unsafe pesticides again in the San Francisco Bay Area even though EPA’s own regulations classify these pesticides as unsafe for spraying over residential and agricultural areas.

**Excerpt from the Complaint
for Declaratory and Injunctive Relief:**

“6. Plaintiff TIMOTHY WILCOX is a Major in the United States Air Force, and a resident of Del Ray Oaks, California, in the County of Monterey, California. His infant son, plaintiff JACK WILCOX, was severely and permanently injured by the aerial application of CheckMate OLR-F to Monterey County in September 2007.

7. Plaintiff JACK WILCOX, son of plaintiff TIMOTHY WILCOX and his wife, Sheri Wilcox, is a 20-month old child who sustained acute and long-term respiratory injuries resulting from the aerial application of CheckMate OLR-F to Monterey County in September 2007, when he was 11 months old. JACK WILCOX suffered a severe allergic reaction to the spray which repeatedly caused him to stop breathing. Only extraordinary and continuing medical intervention saved his life. JACK is now dependent on medication to keep his airways functioning.

8. Plaintiff KRISTA MARIE ALONGI-ARON is a chiropractor who lives in the town of Soquel, located in Santa Cruz County, California. Her daughter, plaintiff NORA ARON, was injured at the time of the aerial application of CheckMate LBAM-F to Santa Cruz County in November, 2007

9. Plaintiff NORA ARON is a 10 year old child who sustained acute and long-term respiratory injuries resulting from the aerial application of CheckMate LBAM-F to Santa Cruz County in November, 2007, when she was 9 years old. NORA ARON suffered a severe allergic reaction to the spray which nearly caused her to stop breathing as her mother rushed her to the hospital. NORA’s resulting chronic asthma has brought an abrupt end to her blossoming athleticism.”

Marin Pesticide Spraying Health Hazard Alert

by Lawrence Rose M.D., M.P.H., former Senior Public Medical Officer for Cal-OSHA and part of the UCSF Occupational/Environmental Medicine Department
2008

Complete Report at:

<http://forum.stophthespray.org/viewtopic.php?f=18&t=896#p1387>

Critical Points:

The purpose of this report is to inform health care providers so they can make an informed judgment and the general population so they can decide how to protect themselves from **this experimental toxic exposure.**

The proposed pesticides to "eradicate" the light brown apple moth — "Checkmate LBAM-F or Checkmate ORL-F" — contain a moth synthetic chemical pheromone combined with eight other chemicals in a plastic polyurea polymer capsule. These microscopic capsules, 25 microns, break down to under 10 microns. *Any particle size under 10 microns would reach to the finest lung bronchiolar air exchange units called alveoli.* These capsules are designed to break down when exposed (to sun) but **there is no data as to how they will act inside human lungs (and bloodstream).**

Capsules emit the pheromone/pesticide over a 30 day period, to be repeated monthly for continual saturation for several years. These airborne microscopic particles settle on all exposed life, lawns, playgrounds, etc., and of course are inhaled by all breathing life forms including Homo sapiens. **There were no inhalation studies. There were glaring deficiencies in the animal toxicology studies.**

Checkmate Toxicology:

Immediate acute health concerns are expected from the known toxicology of the chemicals in the Checkmate formulation and in the polyurea plastic particulate capsule. Over 643 recorded health complaints were associated with the spraying. **These complaints are consistent with known toxicology of the ingredients** of Checkmate. These ingredients include irritants, sensitizers, nervous system disrupters, endocrine disruption, allergens, and hypersensitivity induction.

Long term health effects are also of concern due **to the known mutations and suspected cancer risks of constituent chemicals.** It is also important to include the risks of the polyurea plastic capsules. Industrial production of this plastic uses isocyanate catalysts **which can cause serious acute reactive bronchial constriction (asthma attacks)** in exposed worker populations. **There were no long term health studies done on this brew of toxic chemicals.**

Population at Risk for Immediate Acute Reactions:

The panoply of symptoms that occurred in the 643 Monterey and Santa Cruz complainants included: **asthma attacks, bronchitis, productive pulmonary congestion, shortness of breath, wheezing, coughing, chest pain and tightness, nasal congestion, sore throats, eye irritation, blurred vision, severe skin rashes, sinus bleeding that reflected acute upper respiratory distress, eye, and dermal reactions.**

Cardiopulmonary reactions included **arrhythmia, and tachycardia.** More generalized acute debilitating reactions included **headaches, trouble concentrating, dizziness, muscle aches, tremors, gastrointestinal pain, diarrhea, lethargy, malaise, and fatigue.** **There were frank hormonal disturbances as evidenced by breast symptoms and menstrual irregularities.**

Relevant medical histories, and timing in relationship to the spraying will give primary care practitioners the information needed to connect these patients to the pesticide exposure. The population most at risk for acute reactions are asthmatics, **infants, children,** the elderly, patients with borderline cardiopulmonary compensation (e.g. chronic obstructive pulmonary disease, chronic bronchitis, pneumoconiosis, marginal pulmonary vital capacity), congestive heart failure, cardiovascular abnormalities, angina, those with environmental illness, and medically debilitated patients. **It is critical that patients with such medical profiles be protected from these life-threatening airborne toxic particles.**

Long Term Health Risks:

Major toxicity concerns go beyond immediate effects when the known toxicology profiles of the ingredients include endocrine disruption, mutagens, suspected carcinogens, and immune system disruptors.

Marin Pesticide Spraying Health Hazard Alert (Continued)

Such exposures could well put exposed population at increased risk for diseases later in life, e.g.: hormone disruption (multigenerational), genetic damage, reproductive disorders (spontaneous abortions, infertility, low birth weight newborns, **birth defects**), **developmental disorders, cancers and leukemia, neurological disorders, and immune system dysfunction**. *Testing thus far by manufacturer and EPA of Checkmate is **clearly inadequate** to determine increased long term chronic health risks.*

Discussion and Conclusion:

The federal DFA, state CDFA, and DPR have not implemented an epidemiology study to determine scope and seriousness of the health impact on residents. This is **far beyond irresponsible, and in fact criminal negligence would be a more appropriate label for the lack of public health follow-up**. Acute reactions or disabilities should be totally compensated. Federal and state agencies responsible for this spraying decision must **take financial and criminal responsibility** for adverse impacts to health and environment.

Physicians are legally required to report pesticide diagnosis; but in the two sprayed counties **there was no systematic notification of probable short term health reactions sent to health providers, first responders, emergency rooms**, or all residents before the 2007 sprayings. **This is a shocking disregard of human rights in any democracy.**

Further Broad Perspectives on the Impact of Toxic Chemicals:

There are three recent studies of cumulative contamination of our bodies that give relevant information regarding public health impact of toxic chemicals we have all been exposed to — called "body burdens". A number of studies show toxic chemicals found in maternal milk and in fetal cord blood. **Most of the chemicals contaminating the nation's population through food, water, air, soil, and consumer products come from pesticides.**

About the Author:

Lawrence Rose M.D., M.P.H., was the senior Public Medical Officer for Cal-OSHA for 28 years, and in that capacity was for a time assigned liaison for Cal-OSHA to the statewide interagency pesticide advisory committee, and an Occupational/Environmental Medicine practitioner, and part of the UCSF Occupational/Environmental Medicine Department.

Pesticide Body Burden

Compilation by P.A.C.T.

February 2009

The human body is not designed to cope with synthetic pesticides. We share with other inhabitants of this ecosystem immensely elevated toxic "body burdens". (1)

Mark Schapiro, who works at the Center for Investigative Reporting, and is the author of a new book, Exposed: The Toxic Chemistry of Everyday Products and What's at Stake for American Power, in an interview with metro.com, stated that when the Centers for Disease Control went out and tested Americans, they found that all of us "are walking around with **148 foreign chemicals in our bloodstreams** right now...These are chemicals we never asked to have in our bodies, but they're there. We're all walking around in this soup of chemicals." (2)

According to **Dr. Lawrence Rose**, former Senior Public Medical Officer for Cal-OSHA, "**Most of the chemicals contaminating the nation's population** through food, water, air, soil, and consumer products **come from pesticides**. Many exposures cannot be measured in our bodies. ...It turns out that recent studies of hormone disrupting chemicals show chemical health effects at extremely dilute low levels of exposure -- down to parts per trillion in fetuses." (3)

A 2004 report released by **Pesticide Action Network**, stated that this "**pesticide body burden**" we carry around can cause cancer, decrease fertility, disrupt our hormone systems, cause birth defects or weaken our immune systems. And these are just some of the known harmful effects of pesticides at very low levels of exposure. The report says that it is not known yet what the long-term impacts of multiple chemicals are in the body over long periods. (1)

Dr. Russell Blaylock, M.D., neurosurgeon and author, says that the EPA doesn't permit long term human studies of any type of pesticide, which relieves them of any obligation to hear complaints of people who say that a month later (from the exposure), their health has deteriorated. The EPA can say that since they don't do long term studies, they are not going to record the complaint. And of course, they can write these people off because the longer from the time of the exposure, the easier to blame it on other things.(4)

Children More Vulnerable

Dr. Elisa Song, a Bay Area Pediatrician who focuses on environmental medicine, says:

“Children are more vulnerable, pound for pound, to exposure to toxins. Not only do they absorb more toxins than adults, but more of these toxins will pass into their developing brains. And children have immature liver detoxification capacities, further compounding their vulnerability. Some may have genetic mutations called SNP’s that alter their detoxification capabilities, making them even more susceptible to low doses of environmental toxins and exposures. It is impossible to predict who will have trouble processing and eliminating these chemicals, but for this population, even very low doses of a purportedly innocuous chemical like Checkmate (used in the aerial spraying of Santa Cruz and Monterey in the fall of 2007) can have major health consequences.” (5)

Government Not Protecting Public Health

“The fact that we all carry a mixture of toxic pesticides in our bodies, reflects a dramatic failure of government efforts to protect public health and safety “, according to **Pesticide Action Network** in their report on **Chemical Trespass**. They say that current pesticide policies are designed to weigh health and environmental concerns against the powerful economic interests of pesticide manufacturers, users and their allies. And this needs to change if we are going to reduce our “pesticide body burdens.” (1)

References:

- (1) Chemical Trespass: Pesticides in Our Bodies and Corporate Accountability.
<http://www.panna.org/docsTrespass/chemicalTrespass2004.dv.html>
- (2) Schapiro, M., Toxic Shock.
<http://www.metroactive.com/metro/06.25.08/news-0826.html>

Pesticide Body Burden (Continued)

- (3) Rose, Lawrence M.D., Marin Pesticide Spraying Health Hazard Alert.

<http://forum.stopthespray.org/viewtopic.php?f=18&t=896#p1387>

<http://www.lbamspray.com/Reports/Health%20Hazard%20Alert%20by%20Dr.%20Larry%20Rose%20MD%20MPH.pdf>

- (4) Blaylock, Russell M.D., LBAM & Chemicals.
KSCO 1080, Santa Cruz, CA Perspectives Radio Show, Feb. 2008

- (5) Song, Elisa M.D., Testimony To California Assembly Agriculture Committee, 4/16/08

<http://www.stopthespray.org/resources/health/SongTestimony.pdf>

Inhalation Toxicity and Particle Size Revealed

Scientists Question Safety Of Apple Moth Pesticide by Dennis Knepp, Ph.D and Jeff Haferman, Ph.D

May 2008

Complete report at:

<http://cbs5.com/pets/apple.moth.spraying.2.718614.html>

Critical Points:

The State of California has said the pesticide it plans to spray is safe. But why did more than 600 people complain of health effects after the aerial spraying last year? "The complaints just kept pouring in," said Mike Lynberg, who set up a grass roots hotline. Two Monterey area scientists told CBS 5 Investigates they have the answer.

The pesticide contains a pheromone encased in tiny plastic microcapsules. *A key question is the size of those microcapsules.* If those particles are 10 microns in size or smaller, experts say they can be inhaled into the deep lungs, where there is a higher risk for causing health effects.

State agriculture officials have repeatedly assured residents that the particles in the spray are much larger than 10 microns. State toxicologist Dr. David Ting told residents the average particle size was 90 microns. But back in Santa Cruz and Monterey, where the spraying already happened, and hundreds complained about health effects, two local engineers wondered.

Dennis Knepp and Jeff Haferman, who is also a Monterey City Council member, decided to figure out how big the microcapsules in that spray really were. Scientific charts put out by the California Department of Food and Agriculture (CDFA) show that only 1.2 percent of the microcapsules are 10 micron size or below. But Haferman wasn't impressed with their work. "They had done some very rough stuff, just slapped together, with some really crude assumptions," Haferman said.

When Knepp and Haferman did their own analysis, they found potentially many more inhalable particles in the spray. In fact, they

Inhalation Toxicity and Particle Size Revealed (Continued)

say **fully half of the particles were 10.1 micron size or below.**

"It was obvious from the first glance..., *and it was astounding that the CDFA didn't notice that,*" Knepp said.

Yet state agencies used the Agriculture Department's analysis to justify not doing health studies. **"They were using the (incorrect size) to justify not performing an inhalation toxicity study,"** Knepp said.

A department spokesman further told CBS 5 Investigates, people "...should be able to breathe the product and not get sick." *But the state has now reversed position,* and says it will do an inhalation study.

"It leaves us with the question: **How much can we trust any of the science they've done,** and I don't trust them to do future experiments either," Knepp said.

Also see the press release: Local Scientists Spot Error in CDFA Analysis of LBAM Spray, by Dennis Knepp, Ph.D. and Jeff Haferman, Ph.D., April 16, 2008, found at www.StopTheSpray.org

Alarming Health Concerns About Tests on LBAM Pesticides

by Ann M. Haiden, D.O.

November 2008

Complete report available at www.drhaiden.com/moth and at www.LBAMspray.com/Reports/Haiden200805.pdf

Critical Points:

Dr. Haiden follows over 600 individual accounts of illness reported last year after aerial pesticide spraying, including one previously healthy infant who suffered respiratory arrest immediately following the spraying. "State officials have continually failed to answer concerns raised by the medical community that pesticides used to control LBAM may pose threats to human health and safety....," said Dr. Haiden, in comments following her review of the recently released 'acute toxicity 6-pack tests', ordered by Governor Schwarzenegger after public outcry following aerial pesticide spraying in 2007.

According to Dr. Haiden's report, "There were worrisome findings that require further explanation, such as abnormal organs, one death, and consistent evidence of lymph node activation in the test animals. This should lead to precaution in this rush to use widespread LBAM eradication products in communities. Because of how they work with genes and detoxification enzymes, they can also cause inflammation, immune and nervous system problems and even hormonal problems", says Dr. Haiden. "We have to start looking at how the whole system works together when we look at environmental exposures."

Dr. Haiden continues, "The 'acute 6-pack tests' performed do not provide what is needed to test for the hazards of products meant to be used in a timed-release, chronic and repetitive fashion on a genetically diverse group of people with multiple pre-existing health conditions." She also states, "The most commonly used pesticide application in use at the present time, the twist tie, *was not tested at all.*"

About Ann Haiden, D.O.

Dr. Haiden (www.drhaiden.com) is an internal medicine physician in private practice in Marin County. She is the author of *The Light Brown Apple Moth Aerial Spray Campaign: The Health Hazards of Particles, Toxins, Inflammatory Cascades and Genomic Predisposition*.

Die-off of Seabirds

by Roy Upton, Citizens For Health Soquel, CA

April 2008

Complete report at :

<http://www.lbamspray.com/Reports/SprayEffectsAnimalsPets.pdf>

Excerpts:

"Immediately following the first Santa Cruz pesticide spray on Friday, November 9, 2007, people taking their morning walks on various beaches in the area of Santa Cruz and Aptos, CA started finding dead or injured seabirds by the dozens. Following a torrential downpour on Saturday November 10, people walking along the beach observed a yellow foamy substance coming from the drains, from the rivers, and runoff that created a thick layer of yellow foam 1.5 miles along the area of the drain pipes in areas such as West Cliff Beach, a foot or more thick, and about 100 feet wide (see Figure 1). Other people reported seeing what they described as yellow gunk running down their windows and on their decks, in planter boxes in their yards during the rain. No official report of the analysis of this material was ever released by USDA, Department of Fish and Game, EPA, or CDFA.

By the third day after the spray, native animal rescue agencies in Santa Cruz had received 248 dead or injured seabirds whose feathers seemed to have been stripped of their oil and were starving, drowning, and freezing. Most of these birds died. A percentage of these birds had the same yellow sticky stuff on them, which was originally reported by Dr. Dave Jessup, a senior Fish and Game veterinarian, as a surfactant. At last count, according to a Santa Cruz Sentinel report, a total of 750 dead or injured birds had been reported. The Department of Fish and Game reported 650 dead birds. As noted, the actual number of birds submitted to the various agencies and animal rescue agencies is unknown and, as is typical of such environmental events, the actual number of injuries or fatalities is significantly underreported (Shumway et al. 2003). The actual number of dead and injured birds temporally associated with the pesticide spraying likely reached several thousand."

Spray's Role in Seabird Deaths

UCSC Researchers Attribute Bird Deaths to

Surfactants Produced by Red Tide: Mass Stranding of Marine Birds Caused by a Surfactant-Producing Red Tide.

By Jessup et. al.

February 2009

Complete 8-page report at

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0004550>

"In November-December 2007 a widespread seabird mortality event occurred in Monterey Bay, California, USA, coincident with a massive red tide caused by the dinoflagellate *Akashiwo sanguinea*. Affected birds had a slimy yellow-green material on their feathers, which were saturated with water, and they were severely hypothermic. We determined that foam containing surfactant-like proteins, derived from organic matter of the red tide, coated their feathers and neutralized natural water repellency and insulation. No evidence of exposure to petroleum or other oils or biotoxins were found. *This is the first documented case of its kind*, but previous similar events may have gone undetected. The frequency and amplitude of red tides have increased in Monterey Bay since 2004, suggesting that impacts on wintering marine birds may continue or increase."

Rebuttal: Critical Questions Not Addressed in UCSC Study

by Isabelle Jenniches

February 2009

Complete document at:

www.Indybay.org//newsitems/2009/02/27/18573758.php

Critical Points:

- The foam was found by a San Jose State University researcher to be **filled with plastic microcapsules associated with the spray.**
- Lung pathologies found in dead birds **were not considered** as to association with 10 micron particulates in spray.

Rebuttal: Critical Questions Not Addressed (Continued)

- Unprecedented spike in red tide coincided **exactly** with aerial spray.
- Slimy yellow foam coating dead birds was seen not just in ocean, but **also in rivers, streams, on windshields and plants**, after aerial spraying.
- **Surfactant in spray was not considered.**
- Over three mile drift of aerial spray was not considered.

Seabird Deaths

Rebuttal: Explaining Away the Seabird Deaths – Reply to UCSC Study

by Roy Upton, herbal@got.net

February, 2009

There are a number of serious omissions regarding the cause of deaths of the seabirds after the pesticide spraying in November 2007:

- Several components in the pesticide spray that was applied to Monterey and Santa Cruz feed algae that can give rise to red tide. Urea, sodium phosphate, and ammonium phosphate all feed the plankton that give rise to red tide.
- Not to investigate the effects of the Checkmate pesticide in feeding that algae is a serious flaw.
- It is not a significant leap to think the pesticide may also have given rise to the algae Dr. Jessup says was responsible for the bird deaths; minimally *it should be investigated*. We have to remember, the birds literally started showing up "in droves" along beaches the morning after the spray. Residents in the Monterey area similarly reported an increase in dead sea birds after they were sprayed [***on different dates than in Santa Cruz***]
- This temporal association should not be ignored.
- Higher concentrations of dead birds **were found at the mouths of fresh water rivers** such as Salinas River and Aptos Creek, suggesting that run-off of pesticide laden waters was potentially a major factor.
- The foam was not only an ocean event. The same foam was evident immediately after the pesticide spray on people's house and car windows, decks, trees, backyard planters and in the rivers feeding into the Bay. It was a yellowish green foam and I have been told by researchers at USDA that when you mix the pesticide spray solution Checkmate with water and shake it is turns yellow-green. This foam was also observed by Santa Cruz residents **as coming through the runoff drains** at West Cliff.

Drift Outside Target Area

Environmental Monitoring Results Of The 2007 Pheromone Aerial Applications For The LBAM Eradication Project

by **Dave Kim**, Environmental Scientist, Environmental Monitoring Branch

September 16, 2008

Complete memorandum found at:

http://www.cdfa.ca.gov/phpps/PDEP/lbam/pdfs/docs/deposition_study.pdf

Excerpts (bold and underlines added):

The active ingredients (a.i.s) of Check Mate OLR-F® are the synthetic pheromones (E)-11-tetradecen-1-yl acetate and (Z)-11-tetradecen-1-yl acetate. Check Mate LBAM-F® contains (E)-11-tetradecen-1-yl acetate and (E,E)-9,11-tetradecen-1-yl acetate...**The Check Mate products also contain several inert ingredients, but these were not monitored...**

The deposition monitoring results of samples outside the application area indicate that there was drift of the pheromone outside of the target area. Drift of the product was detected at considerable distance from the application boundary, 3.97 ug/ft_ (1.15 percent of the target application rate) at 17,400 feet in one instance. Measuring drift was not part of the original monitoring design. Therefore, these data are presented as a qualitative assessment of drift...

Conclusions

The ground deposition measured during the three treatments, stated as a percentage of the target rate, ranged from 16 percent to 26 percent per treatment and averaged 21 percent... Because not all sites were monitored on every application night, this may also be an underestimate of the total deposition. Measurable drift was observed, although most observations were within the treatment area...

Tank samples had high variability **due to the insoluble nature of the product; problems occurred from mixing, sampling and analysis.** The target application rate was used for comparison to deposition rates, not chemical analysis. Logs and data collected from CDFA staff mixing the product on the nights of the applications confirm the product was prepared at the correct rate. In addition, *the high concentrations (greater than the target amount) detected in some of the tank samples are inconsistent* with the low amounts (less than the target amount) detected on the mass deposition samples. This indicates difficulty in mixing the product and/or difficulty in obtaining representative samples.

Uncontrolled Variability of Exposures

Compilation by P.A.C.T.

February 2009

The uneven distribution of the micro capsules within the liquid used to apply the pesticide means that **some areas (and some people) received a significantly stronger concentration** of the harmful 'inert' ingredients than others. ¹

The strength of the exposure will build significantly during the 90 day time release period, because the plan to reapply the pesticide again in 30 days and again in 60 days while the previous applications are still releasing their active ingredients will build up the concentration of the saturation, compared to the first 'treatment'. **Therefore safety tests done on animals with a basic sample of the pesticide are not reflective of the actual severity of the exposure to humans enduring the repeated saturating 'treatment'.**

Reference:

1. California Department of Pesticide Regulation Environmental Monitoring Results, by Dave Kim, Environmental Scientist, Environmental Monitoring Branch