

Governor Arnold Schwarzenegger
State Capitol Building Sacramento CA 95814

Secretary Kim Belshé
California Department of Health and Human Services 1600 Ninth Street, Room 460
Sacramento CA 95814

May, 2008

Dear Governor Schwarzenegger and Secretary Belshé:

We, the undersigned, are very concerned physicians writing to ask that you permanently stop aerial spraying for the light brown apple moth (LBAM) over populated areas and seek safer, more effective alternatives to address this and other invasive species.

We find compelling evidence that the human health risk posed by the LBAM aerial pesticide spraying program that began last fall is too great to warrant the program's continuation. Moreover, we are not reassured by the investigations and testing that the state has conducted and is currently conducting related to the spray program.

The risks posed by the spraying last fall are evident in: the 643 health complaints filed even in the absence of any formal and readily available information about how to file; the symptoms reported, which are consistent with the known effects of the ingredients of the pesticide used; and the exposure risks of any aerosolized application over vulnerable populations – our children, the elderly, those with respiratory and other chronic disease, and those with genetic mutations known as single nucleotide polymorphisms (SNPs), which alter their detoxification capacities. These SNPs increase an individual's susceptibility to even very low doses of environmental toxins and exposures. It is impossible to predict who will have trouble processing and eliminating toxins due to SNPs, but for this population, even very low doses of a purportedly innocuous chemical like Checkmate, the pesticide sprayed last fall, or the similar pesticides which will continue to be sprayed for LBAM, can have major health consequences.

Children are especially vulnerable to exposures to toxic substances which might otherwise be tolerable for adults. Children are exposed to more toxins than adults because, pound for pound, they drink more water, eat more food, and breathe more air. Children play on the ground where the aerially applied pesticide will persist during the period between sprays and they are much more likely to put their hands in their mouths without washing them first. Not only will children ingest more chemicals from Checkmate or other LBAM spraying, but they will absorb more of these toxins than adults through their more permeable intestinal linings, and more of these toxins will pass directly

into their developing brains through their more permeable blood-brain barriers. Rapid growth and development makes children more vulnerable and biologically sensitive to toxic insults at lower levels of exposure, and briefer intervals of exposure. Children also have immature liver detoxification capacities, further compounding their vulnerability.

The documented rates of illness and verifiable contamination of individuals from pesticides and other similar environmental toxins are alarming and are associated with both short and long-term health consequences. Several illnesses can be linked to exposure to environmental toxins, including asthma, autoimmune illness, Parkinson's disease, hormonal disorders, learning disabilities, and autism. Checkmate has not been tested for its long-term neurological or neurodevelopmental effects. And we have no idea how each of Checkmate's ingredients interact with each other, or how Checkmate interacts synergistically overall with all of our other environmental exposures. And there is no reason to believe that any new pesticide selected for use this year in the LBAM program would be any more thoroughly tested or characterized than Checkmate has been. A study released in 2006 found that children with autism in the San Francisco Bay Area were twice as likely to be born in areas with higher estimated levels of toxic air pollutants. The Collaborative on Health and the Environment released a Scientific Consensus Statement: "The scientific evidence we have reviewed indicates environmental contaminants are an important cause of learning and developmental disabilities [LDDs]. The proportion of environmentally induced LDDs is a question of profound human, scientific and public policy significance. Existing animal and human data suggest that a greater proportion is environmentally influenced than has yet been generally realized or than can be demonstrated with scientific certainty... Despite some uncertainty, there is sufficient knowledge to take preventive action to reduce fetal and childhood exposures to environmental contaminants. Given the serious consequences... a precautionary approach is warranted to protect the most vulnerable of our society."

The rates of chronic illnesses in children are disturbingly on the rise. We know children became sick following the LBAM spraying last fall, including one 12-month-old boy who nearly died from respiratory arrest and experienced a subsequent attack of reactive airway disease weeks later. He is now on chronic asthma medications and may have asthma for the rest of his life. That boy was fortunate to receive prompt, excellent medical care, but children who are uninsured or underinsured in the poorest areas in our cities may not be so lucky. The proposed spray zones in many counties correspond with the highest rates of childhood asthma hospitalizations.

The pesticide spray used last year poses particular risks because of the lack of long-term testing of the active ingredient (the synthetic pheromone), the known risks of some of the inert ingredients (including links to cancer, cell mutation, birth defects, miscarriages), and the inhalation risks of the polyurea microcapsules. Recent information suggests that the percentage of the pesticide mist made up of capsules 10 microns or smaller is greater than previously stated. Particles 10 microns and smaller

pose a special risk as they can penetrate deep into lung passageways and cannot be expelled – they can only break down, enter the bloodstream, and/or cause scarring. The plan to spray repeatedly for a number of years increases the risks to the population not only because exposure to these chemicals will be ongoing but we know that sensitivity of lung tissue can greatly increase with repeated exposure to an irritant. Children, the elderly, and the chronically ill are especially at risk because their lungs are already more reactive to particulate matter.

Some will argue that the amounts of pesticide applied are too small to pose a health risk. However, our understanding of what constitutes a safe threshold has evolved over time for many chemicals and we now know that smaller and smaller amounts of toxic substances can cause harm. For example, in 1960, a blood lead level of 60µg/dl was considered safe; now we know that 10 µg/dl can cause harm and that even levels as low as 5 µg/dl can be harmful for some. And as mentioned before, people who have SNPs in their liver detoxification capacities can suffer negative health consequences from even minute toxic doses.

We find that the state's investigation and testing related to the spray is inadequate to assess the true risks of the spray. The Department of Pesticide Regulation/Department of Public Health/Office of Environmental Health Hazard Assessment investigation published in April regarding the health complaints reported in Monterey and Santa Cruz last fall lacks any validity. The investigators examined only a small number of the reports after determining that most contained insufficient information. No attempt to obtain the missing information was made, nor were any individuals with health complaints or physicians who filed reports contacted. No objective data were collected to assess whether the period following the spray was characterized by, for example, an increase in illness, work or school absenteeism, or doctor and emergency room visits relative to normal rates in the area. The recent announcement that the as-yet undisclosed chemicals to be sprayed this summer will undergo "six - pack" acute toxicology testing is also not sufficient assurance of safety. These acute toxicology tests assess only very short-term and intense exposure. They do not assess repeated, ongoing exposure, which is what those living in the spray zones will experience. The tests also do not address many of the types of illnesses reported last fall, such as asthma, nor do they address long-term health effects such as cancer, birth defects, neurodevelopmental disorders, or genetic damage.

In addition to concerns about the inadequacy of safety testing and follow-up monitoring of those who reported illness following the spray last year, we are deeply concerned about what preparation and support will be provided to the medical institutions and practitioners in the spray zone who will have to treat and report those who fall ill should spraying proceed. We are also concerned about what kind of education and preparation will be offered to residents of the spray zone regarding symptoms and appropriate treatment. Spraying is currently set to begin in less than four months. When and how will practitioners be trained to recognize and address the symptoms from exposure to

an as-yet undisclosed chemical, and who will do this training? What resources will be provided to ensure that sufficient staff and facilities are available to address a surge in illness rates following the spray? Our emergency departments are already overburdened, and the potential strain from an increase in illnesses from further spraying could be more than an overtaxed public health system can tolerate.

As medical doctors, our primary concern is the health and well-being of the children and adults in our communities. We believe the public and private health risks of the LBAM aerial spraying are too great to be ignored. If there is even a plausible risk to the health of our most vulnerable populations, then it is the responsibility of our elected officials to address that risk and use safer alternatives, which do exist. We urge you to permanently ban the LBAM aerial spraying over populated areas and protect the health of our communities.

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(note: 67 additional physicians also signed this letter)

cc:

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