EMBARGOED UNTIL TUESDAY, AUGUST 6, 4PM PDT

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Thirty Years, Billions of Dollars to Eradicate Infamous Medfly in California have Failed, New Study Proves

Groups call on state to modernize fruit fly & other pest programs that threaten health, environment

Research published today by scientists at University of California, Davis concludes that the state's 30-year effort to "eradicate" the infamous medfly and several related fruit fly pests in California has failed. The study's findings, based on a comprehensive analysis of six decades of data collected by the California Department of Food and Agriculture (CDFA), demonstrate that numerous fruit fly species – including the medfly, which was the target of repeated and controversial aerial spraying of the pesticide malathion during the 1970s and 80s – are permanently established in California and slowly spreading.

The study, done in conjunction with researchers at the University of Thessaly, Greece, discredits the assumptions underlying the state's decades-old fruit fly programs and has major implications for California's multi-billion-dollar agricultural industry, challenging policy makers to rethink the entire premise of the state's pest programs aimed at fruit flies and other non-native species.

The study's findings mean that CDFA's widespread, annual "emergency" fruit fly programs, which target the same species of flies every year:

- Rely on false assertions that fly populations are repeatedly successfully eliminated, and that new fruit fly discoveries – often in the same locations and the same year - are the result of new introductions of the flies from beyond our borders;
- Unnecessarily expose Californians to chronic levels of hazardous pesticides;
- Impose repeated quarantines that burden farmers; and
- Have consumed billions of taxpayer dollars for a strategy that is not based on sound science.

The study, published in the international journal *Proceedings of the Royal Society* shows that the flies persist despite hundreds of treatments with chemicals such as malathion, a nervous system toxin that is still being used for two of the fruit fly species examined in the new study. Other chemicals used for the various species of fruit flies in California include the pesticide naled, which is similar to malathion, and spinosad, which is lethal to bees and other pollinators.

In light of the new research, health and science groups call on the state to transform its pest management policies to make them more effective and less costly, while protecting human and ecological health. CDFA currently rules out most less toxic treatments for non-native agricultural insects on the grounds that those treatments would only suppress but not eliminate the insects. The agency defends the use of harsh chemicals for eradication treatments by claiming the treatments are short-term, continuing only until the insects are eliminated, and alleging that the risk from the use of these chemicals will also be short-term.

"It's time to admit the reality that these continual eradication programs are not isolated, short-term events as the state claims but an ongoing 30-plus-year control program that is doing chronic and cumulative health and environmental harm," says Nan Wishner of the California Environmental Health Initiative (CEHI). "We need a new, long-term, safer strategy."

"This meticulous research indicates that the current model for managing invasive pests - predicated on eradication - is no longer feasible with these insects in California," states Dr. Edwin Lewis, professor and vice-chair of the Entomology and Nematology Department at UC Davis and Editor in Chief of the journal *Biological Control*. "In light of this information, it will be critically important to ask the question: how do we successfully manage and control these established populations of fruit flies? This means rethinking the current eradication tools and revising our expectations for intended outcomes, not just in this case, but with invasive species in general."

"One of the critical points that flows from this new research is that eradication is simply not feasible in almost all cases. This applies not just to fruit flies but the scores of invasive species we are dealing with here in

California. California has spent billions trying to eradicate these fly species and not a single species -- not one -- has been eradicated," says Caroline Cox, Research Director at the Center for Environmental Health.

“A 21st-century approach will recognize that we don't have the resources to try to eradicate most of the new species that are arriving courtesy of globalization and global warming. Instead, like other species, we are going to have to adapt to them, managing them at a level that will permit growers to still make a living and provide food the public wants, while keeping to acceptable levels threats to human health and other organisms, as well as demands on taxpayer money. This is really the only possible sustainable option,” says Mark Davis, DeWitt Wallace Professor and Chair of Biology at Macalester College and author of the book *Invasion Biology*.

Scientists express concerns about the pesticides used by CDFA in its eradication programs: “You’ll never develop a pesticide that only kills a pest and nothing else. Pesticides will cause damage to beneficial non-pest species. One of the biggest problem insecticides for fish and other aquatic organisms is malathion because, when it gets into water bodies, it acts as a synergist, making residues of other similar pesticides more poisonous -- and the formulation used for fruit flies in California is designed to be delivered through irrigation water. Even spinosad, which is used in CDFA’s fruit fly treatments and may be one of the safer chemicals we have right now, is toxic to organisms such as bees and aquatic species, at the concentrations we expect to find in the environment where it’s used,” says John Stark, Professor of Ecotoxicology at Washington State University.

“Today should be a pivot point in the history of invasive pest policy. If we use this compelling research to inspire collaboration and bring the best scientific minds together to develop long-term solutions to manage our ongoing pest problem, the result will be transformative for our farmers, our ecosystem, California’s economy, and, most important, for our future generations,” says Debbie Friedman of MOMS Advocating Sustainability (MOMAS).

Health and science groups have long criticized the lack of scientific rigor and outdated approaches on which California’s insect management programs are based. Of particular concern in light of the new research is the sweeping environmental approval process the state is currently undertaking in its Statewide Pest Programmatic Environmental Impact Report (Pest PEIR). The Pest PEIR would cement these failed, toxic pest management methods in place for generations to come, not just for fruit flies but for other pests as well. As an alternative to the Pest PEIR, CEHI and MOMAS have advocated collaborative development of a 21st-century approach to managing pests led by the best independent scientific minds. This process needs to address the whole spectrum of issues related to pest management: protection of human and environmental health, farming practices, trade issues, the effects of climate disruption, and the successful sustainable management tools that are already available.

Although no comprehensive data are currently available on the costs of CDFA’s insect eradication programs, the cost to taxpayers of more than 30 years of medfly eradication projects alone are in the billions, based on the multi-million-dollar costs of early medfly projects, adjusted for inflation, and annual costs for sterile fly releases, which are now part of the medfly treatments. Adding the costs of eradication projects for the other 4 - 8 species of fruit flies that the new study says are now permanent residents of the state, as well as regulatory costs to farmers, results in an estimated multi-billion-dollar cost for the three-plus decades of the fruit fly program.

The new study will be available on line starting on August 7, 2013 at: http://rspb.royalsocietypublishing.org/ and will appear in print in a forthcoming edition of the journal.

The corresponding author for the study, UC Davis Entomology Professor James Carey, can be reached at: jrcarey@ucdavis.edu, 530-752-6217 (office), 530-400-8998 (cell). Dr. Carey will be out of the office Aug. 6 (noon) through Aug. 10 but available by cell and email.

About MOMS Advocating Sustainability: MOMAS is a Bay-Area-based organization committed to creating healthy communities for children by reducing their exposure to household and environmental toxins. www.momsadvocatingsustainability.org

About the California Environmental Health Initiative: CEHI brings citizen advocacy and scientific research to expand awareness that protecting human and environmental health must be the first priority in all food and agricultural decisions. www.cal-ehi.org ###