

STOP THE SPRAY EAST BAY

July 3, 2009

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Emergency and Domestic Programs
Emergency Management
4700 River Road, Unit 134
ATTN: Carole Johnson
Riverdale, MD 20737-1236
via email: lbamenvirodocs@aphis.usda.gov

RE: Comments on the May 2009 Environmental Assessment of the Light Brown Apple Moth Sterile Insect Field Evaluation Project

Dear Ms. Johnson:

The comments below are submitted on behalf of Stop the Spray East Bay regarding the May 2009 Environmental Assessment of the Light Brown Apple Moth (LBAM) Sterile Insect Field Evaluation Project for Napa and Sonoma Counties.

Request for Extension and Broad Public Notification of Comment Period

First, we request that the comment period for this Environmental Assessment (EA) be extended because no effort was made to notify those who had previously commented on federal and state environmental and other documents related to the LBAM program. The California Department of Food and Agriculture (CDFA) maintains an email notification list for the LBAM program, which is regularly used to distributed press announcements about the program. The announcement of the public comment period for the EA should have been distributed over this network as well as to all correspondents who had provided written comment or public testimony to the United States Department of Agriculture (USDA) or CDFA regarding the LBAM program. According to statements by USDA representatives, the sole methods by which the EA comment period was announced was in one or more advertisements in the legal notices section of an unidentified newspaper or newspapers and at a state legislative hearing on the future of CDFA. This is clearly not adequate notice. Stop the Spray East Bay, which has been actively involved in and has commented on the LBAM program, received no notice of the EA and learned about it, by chance, several days ago, shortly before the comment closing date.

Inaccuracies in Section I, Subsection A of the EA, re: the Scientific Background for the Sterile Insect Technique (SIT) Program

The Introduction of the EA, Section A., includes numerous inaccurate or misleading statements regarding LBAM. Several of these inaccuracies have been publicly corrected in expert testimony at state and federal hearings on the LBAM program, written comments, and a petition for reclassification of LBAM submitted to the USDA in September 2008.

These inaccuracies include:

The statement that LBAM can damage cypress, oaks, and other California trees.

This statement is unsubstantiated and similar in nature to previous statements by state and federal agencies that LBAM could damage California's signature redwoods. In fact, LBAM is a leafroller, so it would be extremely unlikely to inhabit cypress (or redwoods), and there is no evidence that it damages oaks (LBAM should not be confused with the gypsy moth, which can damage oak trees).

The statement that LBAM has a host list of more than 1,000 plant species.

In fact, the host list circulated by CDFA grossly exaggerates the number of host plants by including all species within a genus when LBAM has been observed – not necessarily feeding but simply present in one of its life stages – on only one species within that genus.

The assumption underlying the statement “USDA and CDFA are working aggressively to control and eradicate this pest before it has the chance to spread...”

This statement assumes that LBAM has not spread beyond the boundaries where monitoring traps have been placed in California. In fact, as numerous well-qualified entomologists have stated since the program's inception, LBAM is likely well established throughout California (and perhaps beyond). The discovery of LBAM in each new area where traps are placed is not necessarily evidence of new arrival of the moth in those areas; discovering the moth in areas where trapping has never previously taken place cannot logically be interpreted to mean that the moth has just arrived. It could well have been established in those areas for years prior to the trapping.

The comments in Section A, paragraph 4, misrepresent the temperature range in which LBAM breeds successfully.

While the EA mentions that LBAM breeding “slows” in colder winter temperatures, in fact, as reported in Venette et al. (2004), who used Danthanarayana (1983) as among their sources, LBAM does not reproduce well below 7.1 degrees C (45 degrees F) and or above 30.7 degrees C (87 degrees F). This information suggests that the mild climate areas in which LBAM has been found in California, as well as in New Zealand, Hawaii, and elsewhere, are likely its preferred habitat, and its population is unlikely to grow to significant numbers in areas where temperatures are outside the range identified above.

Section I, Subsection B. of the EA contains misrepresentations and inaccuracies regarding integrated pest management and SIT.

Section B. states that “there is broad international consensus that control efforts against invasive species, like LBAM, should be based on the area-wide concept of IPM (Klassen and Curtis, 2005), and that SIT can be used as a key tactic for creating pest-free areas or for pest management within IPM programs.”

We are unaware of any documented “broad international consensus” favoring “area-wide” IPM for invasive species, and there is no consensus in the IPM community that broad-scale techniques should be used that have the potential to significantly disrupt ecosystem balance. Further, we are unaware of any broad consensus that SIT can be effective over areas as large as the thousands of square miles over which LBAM has been detected in California. True integrated pest management (IPM) does not intervene to address a species or condition unless that species or condition has been definitively established to do actual physical damage beyond a defined threshold level. In the case of LBAM, we have no documented evidence of damage to crops or wildland plants in California (recent reports of LBAM damage to a single

berry field were not confirmed by DNA analysis) and we have ample evidence from other countries and experts from which we can conclude that LBAM is likely already being adequately controlled by natural predators.

Section B. states that SIT has been successful in eradicating and preventing the establishment of several exotic pest fruit flies within the United States and in several other countries,” and lists as examples the cactus moth in the U.S. and the codling moth in Canada.

In fact, the codling moth SIT program in Canada is a control program; eradication failed, as it has against most other species where SIT has been attempted. The claimed recent eradication of cactus moth on two small islands is based on lack of detection of the moth in traps for a period of months, which is not definitive evidence as small populations may well persist that have not been detected by traps. Controlling a species to a low population level is not eradication. The issue of how eradication is defined based on trapping touches the many significant issues related to trapping in the LBAM program and the lack of scientific rigor in trapping protocols, as demonstrated by the numbers of traps used per acre, changes in numbers and locations of traps that confound the data, claims of “new” detections in traps in areas where trapping was never previously done, the trap count action threshold chosen, and so on. If the trapping protocol and trap counts are unreliable, all conclusions drawn about the moth, its populations, its range, and its behavior are suspect.

Section B. does not address a number of problems with SIT, which are well known from previous attempts to use this technique.

First, no information is offered regarding the impact of sterilization on the ability of male moths to successfully compete to mate with females. Male moths weakened/alterd by radiation may well be less likely to successfully attract females than healthy wild male moths. Moreover, sterilization using the high doses of radiation necessary for this species may result in the sterilized males being unable successfully mate, in which case the female will continue to seek to mate with viable partners.

Section B. states that SIT tests in New Zealand and Australia over the past two years were initiated in part because of “concern for LBAM’s status as an invasive species in New Zealand.”

What is not clear from that statement is that, according to New Zealand agriculture officials, the only reason there is concern about LBAM in New Zealand is the USDA’s quarantine, which means that shipments of New Zealand produce to the U.S. may be rejected if any evidence of LBAM is found. In fact, LBAM is not a pest of concern in New Zealand because of any damage it does to crops or wildland plants, and, if not for the U.S. quarantine, LBAM would likely not be a concern at all.

The remaining sections of the EA describe a study that does not meet the most basic requirements of a valid scientific experiment.

The EA identifies the test site as 3 square miles in size with a “very small wild population of LBAM.”

No information is given regarding the precise size of the existing population, the criteria for determining whether the sterile moth releases affect population size, how conditions will be evaluated or controlled to assess other impacts on population such as predation, or how the methods and results of tests over a 3 square mile area might be extrapolated to the 17 counties currently proposed for LBAM treatments statewide. Further, the idea that transporting fertile moths in ice chests that are taped closed

or plastic containers with tight-fitting lids demonstrates that the transport is “escape proof” is not credible, as anyone who has ever dropped an ice chest, any other container secured with tape, or a plastic container with a tight-fitting lid can surely attest.

Under the analysis of the “No Action” alternative on page 10, the EA repeats a curious assertion that CDFA has also made: that if no action is taken, “private individuals” will use pesticides or hire pest control companies to “prevent crop damage” by LBAM.

The flaws in this logic are twofold: first, that control methods of any sort would be employed for a moth that has not been demonstrated to do damage. LBAM has been in Hawaii for a century and has never been a pest of concern there. It is unclear why chemical control methods would be undertaken for a pest for which they have not been used in the past. Second, that these control approaches would result in a slippery slope of chemical-resistant pests and increased pesticide loading in the environment. Given that the only chemical controls being used for LBAM in California at the moment are the result of quarantine requirements, particularly for nurseries, this logic is circular; in fact, USDA and CDFA and the LBAM quarantine are the reason for the increased pesticide use, not crop damage.

The EA states on p. 11 that the release rate for sterile moths will “not exceed 1,400 moths per acre in a week. The release of the sterile moths themselves are not likely to cause any adverse environmental impacts as adult LBAM do not feed and, thus, the release of sterile LBAM adults will not result in any direct damage to crops or the natural environment....Because LBAM is an introduced pest into the United States, the use of SIT to suppress and eradicate this pest is not expected to significantly disrupt native insect populations, including pollinators, parasites, and predators. Native insect populations have not adapted to LBAM in the evaluation project area as the LBAM population is very small and was only first detected in this area in 2008. Therefore, suppression of this population should not result in any significant effects to existing native invertebrate populations.”

The simplistic conception of ecosystem dynamics in the above statements and the compounding of inaccurate assumptions about LBAM in the above statements are rather astonishing. If LBAM has indeed been well established in California for decades as many entomologists conclude based on the range over which it has so far been detected, then native insect populations and predators very likely have adapted to LBAM’s presence. And even if they have not, on what basis does USDA assert that releasing more than 1,000 moths into an area would not draw additional predators into that area? On the larger scale that is ultimately proposed, in which “millions” of moths would be released, according to a CDFA spokesperson, the effect would only be magnified. Further, once predators – others insects, birds, etc., – are drawn to the temporarily artificially increased population of sterile moths, what will the increased population of predators feed on when the moths’ 2- to 3-week life cycle is over?

The study is flawed according to the most basic principles of science.

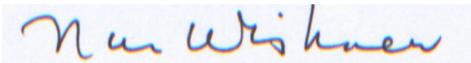
The design of this study does not adhere to even basic scientific principles. As proposed, the study does not include any control populations or locations, and no provisions are made for repeating the study to assess whether results can be replicated. Controls and replication are essential to determine whether the hypothesized cause and effect in an experiment are in fact accurate and that the experiment’s outcome is not a result of chance or other unexamined factors, such as, for example, specific location, season or time of year. There is also no discussion of how population trends can be accurately observed in such an

apparently small population of moths, and, as noted above, no metrics are defined by which the impact of the sterile moth release can be assessed; among other things, no pre- and post-treatment sampling protocol and methods are defined. If the pre-treatment population and post-treatment population are not determined using accurate and credible methods, there is no way to determine whether the sterile moth release has any impact at all. As mentioned earlier, the EA also does not address whether or how a demonstration on this small scale could be extrapolated to the much larger area over which the moth has been observed. In fact, the description of the proposed study does not even identify the study's specific aims, so it is not clear whether a goal of the study is to assess whether SIT could be used over the 17-county area where the moth has been detected in California, which, according to statements by CDFA spokespersons, is the goal of the SIT program.

Conclusion

The SIT study, as outlined in the EA, is one more scientifically flawed element in a scientifically flawed program whose quarantine jeopardizes the economic well-being of California farmers and many of whose treatments jeopardize the health of California residents, California's ecosystem, and nursery stock and the food supply. The flawed basis, logic, and design of the SIT test makes clear that it is – as is the whole LBAM program – a waste of a significant amount of taxpayer money. Particularly in a time when schools, health care, and other essential services are being cut drastically, the state and the nation cannot afford any element of this unnecessary, poorly designed, and ineffective program.

Sincerely,

A handwritten signature in blue ink that reads "Nan Wishner". The signature is written in a cursive style and is placed on a light blue rectangular background.

Nan Wishner
on behalf of Stop the Spray East Bay