Reviewer’s report

Title: Pesticides in dust from urban and farmworker households in California: an observational study.

Version: 3 Date: 6 January 2011

Reviewer: Nicolle Tulve

Reviewer’s report:

The authors did a good job responding to the comments in the first round of review.

Major Compulsory Revisions:

One comment that still needs to be more adequately addressed: The text that talks about the dust samples that were collected several days apart and analyzed, and correlation statistics conducted. While I disagree with the response from the author and do not believe that the comment was addressed, I do believe that, with some revision, the text discussing this finding could be significant to the literature. In my previous comment I stated that “The scientific community seems to accept that dust is both a source and sink for contaminants, and that the concentration is fairly stable, especially when sampled only a few days apart….”. While this is a widely held belief, it has not been clearly shown or documented in the literature with relevant data. This is the opportunity to show that indeed, dust is a stable matrix, not much variability in short sampling periods, etc. Please revise the text in this regard.

Minor Essential Revisions:

• Title: should the word “measurement” be included so that it reads “…: an observational measurement study”.

• Abstract, methods paragraph, delete extra space after the “cypermethrin-“ so that it reads “cypermethrin-four isomers”.

• Abstract, results paragraph, the concentrations for frequently detected analytes were generally strongly correlated with each other, between samples. It is unclear what is correlated.

• While I understand the need for education and effective IPM strategies, I disagree that one reason to educate is when non-dietary intake for children is less than the RfD. I also don’t believe that this is the message that the authors wish to convey at the end of the abstract. However, that is the take home message that the reader is left with. Consider whether it is reasonable to expand the logic argument.

• Background, third paragraph, subscripts for the partition coefficients.

• Background, third paragraph, consider revising the text to read: “….lipids and organic matter and binding to particulate matter in dust. Because of this, several
studies suggest that house dust…”. I would recommend deleting the sentence stating “Human exposure results from particle-bound movement and transfer.”

• Background, fourth paragraph, second sentence, commas needed after “insecticides” and “diazinon”.

• Methods, study population paragraph, first sentence, delete the word “of” from the date to read “July through September 2006”.

• Methods, data collection paragraph, comma needed after “members” in first sentence.

• Methods, laboratory analysis section, first paragraph, second sentence, comma needed after “analyzed” so that the sentence reads “…analyzed, yielding a total of 54 dust samples.”

• Methods, laboratory analysis section, second paragraph, first sentence, it appears that this is a previously published method. Consider revising the sentence to read “To measure analytes, we modified a previously published laboratory method [10, 13].”

• Data analysis section, fourth paragraph, newly added text, consider revising to make easier to read, “…e.g., all households had at least one farmworker residing in the home and study participants generally represented the farmworker population in Salinas Valley: primarily Mexican or of Mexican descent; Spanish-speaking; low literacy; low income; frequently reported indoor pesticide applications in the home; and wearing work clothes and shoes indoors.”

• Results, dust levels section, first paragraph, second sentence, consider revising to read “Cis- and trans-permethrin were the only insecticides detected in every home.”

• Results, estimated non-dietary ingestion intake and hazard quotients section, based on this one sentence, it would appear that these children are not highly exposed to the pesticides measured in their homes. Consider whether there needs to be some sort of discussion that links the logic argument that education and IPM are important.

• Discussion, first paragraph, added text, consider revising to stress that this is an expected finding that dust is stable. Also, delete the last three words “in house dust” since this doesn’t add to the sentence.

• Discussion, sixth paragraph, last sentence in paragraph, consider revising text to read “…were higher than those observed in the previous studies [10].”

• Discussion, ninth paragraph, word needs to be added to the following sentence “We also focused on low-income homes and thus the results may not be generalizable to other populations.”

• Conclusions, first paragraph, third sentence, delete “For example” to start the sentence.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.