



SDI Review Form 1.6

PART 1:

Journal Name:	<u>American Journal of Experimental Agriculture</u>
Manuscript Number:	2013_AJEA_5322
Title of the Manuscript:	Synergistic interaction of sublethal doses of 2,4-D and glufosinate on glyphosate-resistant Amaranthus palmeri
Type of the Article	Research Paper

General guideline for Peer Review process is available in this link:

[\(http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline\)](http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline)

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Information on plant size and condition at the time of spraying the field interaction study is lacking and should be included. L 127 Justify the doses tested, specifically why 0.25x and 0.5x doses of tembotrione were tested when only 1x and 2x doses of dicamba and 2,4-D were tested. Also justify using MSO with 2,4-D and dicamba treatments, especially since the Clarity labels recommends not using an adjuvant for in-crop applications. I realize these were not in-crop experiments, but the implication is the treatments would be for in-crop use.	Plant size was added to the methodology for field experiment. The lowest rate (0.25x) of tembotrione was dropped because it did not provide additional information, anyway. Differential tolerance was already apparent at the 0.5x rate. Regarding adjuvant statement: This was a mistake. MSO was used only with tembotrione. The text was corrected.
Minor REVISION comments	More than 40 references are cited; this is many more than necessary. Limit the references to only the most pertinent. L 90 Revise statement. Use of residual herbicides does not <u>ensure season-long control</u>, especially species such as Palmer amaranth that emerge throughout the season. L 211 Neither right nor wrong, but something to consider. When does injury become control?	Not many references can be removed. Another reviewer recommended adding references. IN the end, a net of 4 references were added. L90: The statement was modified to reflect extended weed control period. L211: Regarding the use of injury vs. control – In the differential tolerance experiment, we had to use injury to



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	Generally, injury is used when describing crop response and control is used when describing weed management. Certainly it can be argued that phytotoxicity at less than a commercially-acceptable level might best be described as injury rather than control, but I don't equate >80% phytotoxicity as injury. I note that you use control in the tables, in some of the discussion, and when citing other studies. The discussion and tables should be consistent. L 212 I don't doubt there were visible differences, but I see no statistical measure to support this statement since the LSD shown is across doses rather within the 1x dose. Why is Mis-C not included since it is only 1% different from Mis-B? L 315 You state antagonism of both herbicides. I agree that tembotrione antagonized glufosinate but I don't see that glufosinate antagonized tembotrione. Please clarify. L 341 On what basis do you make this statement? Explain and defend.	distinguish this from mortality. 'Control' is a total response, encompassing reduced weed density and the visible phytotoxicity on the remaining plants. In our evaluations for each seedling, we recorded whether it is dead or alive and the level of observable injury on each surviving plant. For the herbicide interaction experiment, we used overall control (Tables 3 and 4). Results of research done by others, are all reported as 'weed control' data as is commonly done. It is only in our bioassay experiments where the distinction was made between the level of damage incurred on surviving plants and total death of plants. The use of terminologies was harmonized throughout according to these limits. L212: Yes, Mis-C should be included. The text was revised to reflect this. The second LSD value for the tembotrione experiment is for comparing means within a dose. L315: The statement was revised to reflect that antagonism was observed, but because we do not have data to determine which compound was being antagonized in the
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		mixture, we did not extrapolate on that aspect. L341: This statement was made based on the survival frequency and level of injury of survivors. However, with this comment from the reviewer, we could see that the statement could incite a lot of contention. We decided to delete this statement and wait to see what the on-coming years of tembotrione use will look like in growers' fields.
<u>Optional/General</u> comments	This manuscript is generally well written and contributes useful information on management of glyphosate-resistant <i>Amaranthus palmeri</i>. Experimental results are mostly accurately interpreted (exceptions noted above) and discussed and appropriate conclusions are drawn.	