SCIENCEDOMAIN *international*
www.sciencedomain.org

SCIENCEDOMAIN

SDI Review Form 1.6

PART 1:

Journal Name:	American Journal of Experimental Agriculture
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)

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

SDI Review Form 1.6

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	*he MS contain original results, its well well and clear written, therefore I recommend to be published in the Journal* Because glyphosate has the broadest spectrum of weed control, no crop rotation restrictions, and low environmental and human risks[7]. Thus, most farmers use primarily glyphosate for weed control in GR crops resistance to glyphosate has evolved in an increasing number of weed species. Among the best practices recommended for resistance management is the use of herbicides with multiple modes of action in every season, with the use of soil-active herbicides being the foundation of a good chemical weed management strategy. Here, studies were conducted to determine the response of *A. palmeri* populations to tembotrione, 2,4-D and dicamba, and to determine if glufosinate tank-mixed with the aforementioned herbicides can improve control of glyphosate-resistant *A. palmeri* while also evaluating the potential interaction	

	between the mixtures. They found that mixing half doses of 2,4-D and glufosinate resulted in 100% control, demonstrating additive effects according to Colby's test. Synergistic interaction was observed when the lowest dose of glufosinate (0.18 kg ai/ha) was mixed with 0.25x or 0.5x dose of 2,4-D. The goal were 100% control which was achieved with the mixture of 0.5x 298 or 1x doses of glufosinate and 2,4-D. Tank mixes of reduced doses that result in 100% weed control are economical and environmentally friendly, but they should be tested in a wide array of environments and geographies for robustness of performance. Otherwise, if the mixture of reduced rates fails to attain 100% control, then selection for resistant plants ensues. The robustness of this treatment needs to be tested across a wide range of environments. They also found that, of the three herbicides, tembotrione has the highest risk of selecting for resistant populations. The majority of glufosinate + tembotrione and some glufosinate + dicamba tank mixtures were antagonistic. Among the alternative herbicides, tembotrione is the least favorable tank-mix partner with glufosinate in these experiments. Glufosinate and 2,4-D tank mixtures were generally additive and at reduced doses, synergistic. The half rates of	

	2,4-D and glufosinate can be tank-mixed to achieve 100% *A. palmeri* control. .	
Minor REVISION comments		
Optional/General comments		

Note: Anonymous Reviewer