



SDI Review Form 1.6

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	2014_AJEA_11158
Title of the Manuscript:	Effects of induced mutation on agronomic traits in barley (<i>Hordeum vulgare</i> L).
Type of the Article	Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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



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PART 1: 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	(a) The title should be amended since author (s) used only irradiation as a mutagen; there are two main types of mutagens: chemical and irradiation. (b) M2 seeds should be tested for salinity and /or water stress resistance studies; otherwise the abstract should be revised to remove the sentence of biotic and abiotic factors. I urge author (s) if they still have seeds to do germination and growth for osmotic stress studies. (c) The term mutation has been used throughout the MS to indicate the changes due to irradiation, for example lines 122 and 173 of the text. I believe that author (s) should refer to irradiation rather than mutation. So Line 122 in the text : mutation had a significant effect on, should be read as : irradiation had a significant effect..... , because at this stage you can not judge whether this was a mutation or not unless you see stable traits for a number of generations. (d) It is too early to talk about varieties to be released from this preliminary study, so the	I have retained the because title The whole idea in the paper is to show mutation can be used to solve problems in breeding. Currently the material are the M₄ and am not capable of doing the said studies at M2 I have not changed the term mutation to irradiation .,this is because by changing it will mean or rather bring out a different information as not intended



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	abstract should be revised. (e) Please follow the instructions to the authors. It seems authors were not aware of these instructions, for example the citation of the references at the end of MS and the numbers of references in the text. Author (s) did not follow the system of the citation when using numbers rather than the alphabetical order. Also, I did not see the references 3, 11, 12, 21, and 22 in the text as an example. Please authors should follow the citation system. (f) Please clarify the communication with IAEA by dates and reference numbers.	I have followed the authors instructions and made the necessary changes to the document.
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Minor REVISION comments	(a) Author (s) used the dose of 250 gy (gray), why? a reference is needed, is this dose sufficient to cause all the positive changes in the agronomic traits. (b) The origin of barley in the Middle East area was from Mesopotamia (currently Iraq) and neither Israel nor Jordan was existed at that time of the ancient history, Please read the history of the region. Epstein, E has stated in some of his articles in the seventies of the last century that the reason behind the demise of Sumerian Empire (South of Iraq), the era of the Prophet Abraham (peace upon him) thousands of years BC was because of the salinity problem so the farmers switched from wheat to barley because the latter was more salt resistant than the former. The people of that area were aware of the crop differences at that time. Some authors you referred were not aware of the history of the area. Please read some articles about these stories such as: http://en.wikipedia.org/wiki/Sumer and, Success Stories in Agriculture Salt and Crops: Salinity Tolerance Jian-Kang Zhu,¹ Ray A. Bressan,² P. Mike	I have indicated the reference I have made the changes and overhauled the introduction
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	Hasegawa, ² Jose M. Pardo, ³ ⁴ and Hans J. Bohnert	
<u>Optional/General</u> comments	(a) I believe author (s) needs more generations to get the agronomic traits stable before make any conclusion about the future of using irradiation in improving crops in coping with the abiotic and biotic factors.	This are preliminary results and more work is on going. I have made the conclusion basing on the preliminary results