



SDI Review Form 1.6

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	2015_AJEA_16332
Title of the Manuscript:	SCREENING FOR STEM RUST(<i>Puccinia graminis</i> f.sp tritici, Eriks. and E. Henn.) RESISTANCE IN MUTANT BARLEY (<i>Hordeum vulgare</i> L.) LINES
Type of the Article	Original 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	The manuscript represents an important study on creation of new sources of genetic variability in barley (<i>Hordeum vulgare</i>) via mutational breeding. Gamma irradiation of barley line Nguzo has led to production of several lines, some of which reveal an improved resistance to stem rust race Ug99. The study shows that mutational breeding has a great potential to increase genetic variability and to improve plant resistance to several pathogens including stem rust (<i>Puccinia graminis</i> sp. <i>tritici</i>), the harmful race Ug99. The manuscript provides results of survey of irradiation-derived lines from barley cultivar Nguzo regarding their resistance to Ug99. The results are summarised in Table 1. However, in Table 1, I do not understand the second column - Seedling resistance infection type (IT) - the authors do not provide an explanation what the numbers 1 to 4 in this column mean. Moreover, in the third column entitled "APR (adult plant resistance) Severity (%) and infection type", I would recommend to make at least a space between the numbers representing the percentage of severity and the category of resistance. Otherwise, I have only minor comments on formal aspects of the manuscript such as spelling, etc. Revision of Table 1 and formal revision of the manuscript text - see below.	Mutation breeding has a potential in improving varieties, lines and cultivars not only in barley but also to other crop to combat biotic and abiotic stress. I have made the suggested changes on the manuscript and highlighted the changes in yellow



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<u>Minor</u> REVISION comments	Lines 83 and 85: Zadoks' scale should be written as "Zadoks' scale", not "Zadok's" Line 65 and further: The name of the barley variety Nguzo should be written with capital letter "N", i.e., "Nguzo" Line 64 and further: The word "irradiation" has to be written with double "r" There has to be placed a space between a number and corresponding unit, e.g., "125 m", "40 m", "125 kg/ha", etc. Line 55: "agro-ecological zone LH3" - should be explained or at least a reference on a literature source should be given. Line 119: "especially for the gene governing stem rust (Ug99) resistance." - the gene should be specified. I have heard of Sr35 gene conferring resistance to Ug99 stem rust race in wheat, but what about barley? Abstract, line 21 (the last sentence): Be more concrete instead of "It" - write "Mutational breeding is therefore recommended for continual screening of these lines...." Introduction, line 28: "...about 30,000 ha of land is used for the crop...." Line 33: Start the new sentence with a capital letter "In the current study, mutation breeding..." Line 36: Start the new sentence with a capital letter "More than 1800 cultivars...."	I have made the changes I have made the suggested changes. I have made the suggested changes. I have referenced the LH3 and made the necessary changes I have included and specified the gene that governs Ug99 resistance. I have made the suggested changes I have made the suggested changes I have made the suggested changes
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	Line 38: Insert a space between a word and a reference "...peanuts [5]."	I have made the suggested changes
<u>Optional/General</u> comments		