



SDI Review Form 1.6

PART 1:

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	MS: 2012/AJEA/2483
Title of the Manuscript:	Effect of Nitrogen Supply and Genotypic Variation for Nitrogen Use Efficiency in Maize.

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 9 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 <i>(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)</i>
<u>Compulsory</u> REVISION comments	In this paper the genetic variation for different traits related to nitrogen use efficiency (NUE) was investigated using ten maize genotypes (5 open pollinated and 5 hybrids) exhibiting contrasted responses to N nutrition. Although a large number of studies have already been undertaken to identify key elements involved in maize N economy, the study is interesting. The experiments are generally well conducted and the data clearly interpreted. However, a number of points need to be taken into account by the authors: - One of the most critical points is that the experiment has been conducted under agronomic conditions only one year. Despite the fact that heritability's for most	First of all, we are grateful for your valuable comments on our paper about Nitrogen Use Efficiency on maize. These really help us to improve the quality of our paper. Some comments and corrections have already revised as follow: - We will considerate to replicate the experiment in different year in obtaining a good result. - Yes, we have added the method for the soil composition measured (line 65-70). The residual soil N content is provided is a good suggestion, we will include it for the next experiments. - Under high N feeding conditions, though we applied N fertilizers three times but it was still under two stages of development



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	of the measured traits are high, it would have been better to know it was also the case in a different year. -Material and Methods, line 90-107. How the soil composition was measured? No information on the residual soil N content is provided. The latter issue is important with respect to the calculation of the different NUE parameters listed below. - Under high N feeding conditions, N fertilizers were applied at three different stages of plant development. This situation differs from standard agronomic conditions. It is therefore likely, that post-flowering N uptake was modified in the different genotypes thus having an impact on their agronomic NUE parameters. This point should be discussed. - In Table 3, it is a shame that plant vegetative biomass was not provided. This	plant. The first and second N fertilization were applied at vegetative phase (before anthesis) and the third N application was at generative phase (at anthesis). - Plant vegetative biomass (total dry matter) was added (line 208-212), thank you for remind us. - General discussions and conclusion have been many revised. - Minor revisions (repetition same sentences (line 139) and abbreviations in Table 1 (line 149-151)) have already revised and (comments for the references Masclaux et al., 2010 and Gallais et al. 2004) be good considerations for improving quality our paper.
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	phenotypic trait is as important as yield traits. - Although a global statistical analysis was provided in Table 1, it would have been good to have it visualized in Figure 1. The conclusion and the general discussions are very short and mostly limited to the data obtained in the study. More emphasis should be made to highlight new findings with respect to what was previously obtained on other studies. Some physiological interpretation should also be provided to explain the differences obtained for the different NUE parameters at least for the genotypes exhibiting the most contrasted responses such as Madura, Bisma...In line with this comment it is also surprising that except for Madura, the lines and the hybrids exhibit for many traits similar agronomic performances. This point should be discussed more extensively.	
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Minor REVISION comments	- The references Masclaux et al., 2010 is mostly based on experiments performed on the model plant Arabidopsis. There are a number of equivalent recent reviews dealing with crops that will be more appropriate in the context of the present study. - The reference Gallais et al., 2004 is fine, but there are more recent article and review on NUE in maize and other crops. - Result and Discussion, line 158 and line 163: repetition of the same sentence. - In Table 1 there are a number of abbreviations that should be more clearly defined to help the reader.	
Optional/General comments		