



SDI Review Form 1.6

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	2014_AJEA_15110
Title of the Manuscript:	Mechanism of nanosilicon-mediated alleviation of salinity stress in faba bean (<i>Vicia faba</i> L.) plants
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>)



SDI Review Form 1.6

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	This paper is about the mechanism involved in the ameliorating effect of nano-silicon and silicon on faba bean plants grown under different levels of salinity stress. There are some aspects that author should highlighted on: (i) Deposition mechanism of nanosilicon and silicon particle to the faba plant (ii) Ameliorating effect of nutrient based on its particle size (iii) Please highlight the important of each membrane characteristic analysis (lipid peroxidation, electrolyte leakage and membrane stability index) on the ameliorating effects of nano silicon and silicon	(i) Si deposition is explained with Ref. 71 & 72. (ii) Ameliorating effect based on particle size is shown in INTRODUCTION Sec. (iii) importance of membrane characters is shown in the Disc.
Minor REVISION comments	Author should provide some information on: Literature review: (i) Chemical and physical properties of nanosilicon and silicon particles. (ii) Other studies discuss on effect of nano particles to different types of plant, season, plant development, (iii) Interaction of nano silica in different types of plant	(i) Physical and chemical properties are shown. (ii) other studies are reported (iv) Different types are shown



SDI Review Form 1.6

	Material and method: (i) Measurement on particle size of nanosilicon and silicon particles (ii) Section 2.1: Why fertilization with Sangeral fertilizer arranged in two equal portion: seedling stage and flowering stage (iii) Section 2.1: Table 1 should state the reference used for the physical and chemical analysis of soil used in the experiment (iv) Section 2.1: Please provide the concentration and volume of NaCl used on irrigation process (v) Section 2.1: How much the pressure used for the pressure pump after addition of Tween 20 (vi) Section 2.2: How to confirm the homogeneity of leaf small pieces in TCA solution (vii) Section 2.2: Please provide the conductive analysis parameters (viii) Section 2.2: Please be specify on amount/weight of leaves needed to be dissolved in aqueous acetone for photosynthetic pigment analysis (ix) Section 2.2: Please state the different on equation used for Chlorophyll a and Chlorophyll b. Results and discussion: (i) Please explain the meaning of NSi1, NSi2, NSi3, Si1, Si2 and Si3 (ii) It much more better for date in Table 1 presented in graph (iii) Please explain the reason, how effect of stressed plants with NSi and Si can cause a significant decrease in the EL and LP value (iv) More explanation needed on effect of NaCl in the MSI	Material and methods (i) measurements are shown (NSi= 40 nm; Si= 35 µm). (ii) fertilizer arranged in 2 portions to give growth at seedling growth and increase yield because this study is completing the 1st one on the growth and yield (on press in AJEA 2014). (iii) Ref is stated. (iv) volume is listed (v) pressure is shown (vi) Type of homogenizer is shown (vii) parameters are well illustrated in the MS (viii) weight is specified (iX) different constant values and variables (E) location. Results and discussion (i) The meaning was explained in M & M section, the end of section 2.1. (ii) Too much bars may led to confusion. (iii) the mechanism is explained at the end of section 3.1. (iv) More explanation posted
--	--	--



SDI Review Form 1.6

	(v) Please provide some comparative explanation on effect of photosynthetic pigment towards NSi and Si (vi) Please explain more on effect of salt treatment on effect of salinity stress on chlorophyll content (vii) Please relate the antioxidant enzyme activities with the photosynthetic pigments content (viii) How NSi can improve structure of chlorophyll and facilitate manufacture of pigment as compared to Si (ix) Please provide mechanism on soluble sugar toward organic osmotica in V faba species	(v-vi) comparative explanation was provided (vii - viii) explanation is posted (ix) mechanism of soluble sugar is explained
<u>Optional/General</u> comments	(i) Please have the latest/update references. Most of the cited references are 2010 and below	About 35 Ref. From 2010 and above. I think some fundamental relatively old references should be referred to as basic knowledge.