



SDI Review Form 1.6

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	Ms_AJEA_24071
Title of the Manuscript:	Genetic variability for water logging and salinity tolerance in pigeonpea (Cajanus cajan (L.) Millsp.) under in vitro and in vivo conditions
Type of the Article	Original Research Article

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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.

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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 abstract lacks brief methodology description Introduction is OK Material and methods a) According to USDA-ARS, 2008, cultivated soil is considered saline once its ECe becomes greater than 4 dS/m, which is equal to approximately 40 mM NaCl and you used 30mM can we considered that the condition of your treatment is saline at all? b) For the in vitro experiment, why did you use the same volume for the two abiotic stress? In this case, the salinity experiment can be considered as under water-logging and salinity c) For in vivo, what was the volume of salinity you applied every day for the 5 days that lasted the salinity treatment? Or do you mean the water level was also maintained at top surface level of pots as in the case of water-logging? If so, why? d) After removing pots from the ponds, did you water plants treated with salt with water for their recovery process? e) Line 79, replace "paper" by "paper" Which scale did you use for leaf senescence or how did you measure it? Results In line 144 and 148, data not show should be removed since zero value for those parameters was recorded. In line 186, Separate "brackets from in" In line 187, separate conditions from brackets In line 193, separate 15 from showed and brackets from and In line 197, separate conditions from brackets f) What kind of salt did you apply to start observing leaf	a) It is submitted that threshold level of salinity for irrigation water is 2 dS/m, equal approximately to 20 mM NaCl, So a 30 mM NaCl solution makes it a saline treatment. b) To maintain the uniformity of both the treatments, the same volume of water was used. Yes, salinity experiment can be considered as water logging and salinity. c) The water level was maintained at top surface level of pots as in the case of water-logging because generally the water logging and salinity occurred together in saline affected areas. d) After removing pots from pond, the plants were given normal water as and when required for their recovery. e) All typographical mistakes in Lines 79, 144, 148, 186, 187, 193, 197 have been corrected. f) NaCL was applied which was very toxic to the plants and leaf senescence started 2 days after salinity treatment, may be due to high temperature.



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	senescence 2 days after salt application? This is strange. g) What are the leaves you used for measuring chlorophyll content with SPAD then? h) Why did you measure chlorophyll during abiotic stress? i) From line 284 to 291: You did not measure those parameters. Why bring them in the discussion then? It could appear in the introduction but not in the discussion. j) From line 300 to 303, you did not measure chlorophyll fluorescence but chlorophyll content with SPAD-502. So, your correlation between photosynthesis and chlorophyll content is wrong, because quantum mechanism which can be revealed by chlorophyll fluorescence explain efficiency of photosynthesis. In effect, your conclusion is false. k) In line 304, Replace “genetic variability” by “phenotypic variability” because you did measure any genetic parameters.	g) Third leaf from top was used to measure chlorophyll content (It is already mentioned in M&M section. h) Chlorophyll degradation is the earliest symptom that appeared after any abiotic stress in plants. i) These lines shifted to Introduction section as suggested. j) Modified as suggested. k) Modified as suggested.
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		