

## Review Form 1.7

Journal Name:	<b>International Journal of Environment and Climate Change</b>
Manuscript Number:	<b>Ms_IJECC_99450</b>
Title of the Manuscript:	<b>Phenotypic Traits Analysis of Cucumber Germplasm in Qatar and Indian Agro-climatic Zone</b>
Type of the Article	<b>Original Research Article</b>

### **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:

(<https://www.journalijecc.com/index.php/IJECC/editorial-policy> )

**Review Form 1.7**

**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)
<p><b>Compulsory REVISION comments</b></p> <p><b>1. Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</p> <p><b>2. Is the title of the article suitable?</b> (If not please suggest an alternative title)</p> <p><b>3. Is the abstract of the article comprehensive?</b></p> <p><b>4. Are subsections and structure of the manuscript appropriate?</b></p> <p><b>5. Do you think the manuscript is scientifically correct?</b></p> <p><b>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p> <p><b>7. Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments.</b></p>	<p><b>1.</b> Epidemiological and nutritional studies indicate that cucumbers, a fruit in the <i>Cucurbitaceae</i> family, have numerous benefits internally as well as externally. Aside from their cooling effect on the skin, cucumber slices offer many benefits to the eyes and surrounding tissues through their hydrating properties, which work to reduce dehydration (cucumbers offer superior hydration, as they are about 95% water), their high levels of vitamin K that help reduce dark circles, and the lignans they contain for reducing inflammation. Furthermore, cucumbers can be used to treat wrinkles and sunburns and they may be used as a moisturizer and skin brightener by inhibiting tyrosinase. Additionally, phenotype data are used to recognize, define, and diagnose pathological conditions in plants (as well as in animals, and other organisms).</p> <p><b>2.</b> in reality, this work rather investigates the impact of four genotypes (IC257296, IC420405, GYNE-5, and PUSA SANYOG) of the cucumber germplasm - grown in two regions of Qatar and India - on the phenotypic traits of this fruit (according to the <i>botanical definition</i>, cucumbers are considered fruits). So, in my opinion, a good title could be: "Study of Four Cucumber Germplasm Genotypes, Grown in Qatar and the Indian Agro-climatic Zone, Based on its Phenotypic Traits".</p> <p><b>3.</b> In my opinion, the abstract is too long, and at times it enters into details that could be delegated in the section "Materials and Methods". It would be much more attractive if the abstract summarizes the results of the present work by comparing them with those that recently appeared on this topic in the literature.</p> <p><b>4.</b> Not really. The section describing in detail the statistical analysis and principal component analysis (PCA) carried out by the author is missing. Additionally, other key parameters such as heritability estimates, genetic variability, etc. are not herein discussed (see the suggestions in point 7. below).</p> <p><b>5.</b> In general yes, even if the statistical analysis and other important issues are not described in a satisfactory way or even not mentioned at all (see the suggestions expressed in point 7. below).</p> <p><b>6.</b> I suggest citing the following works as well: [1] M.A. Griere, <i>Modern Herb</i>, Tigers Books International London, 1st Ed., 1, 239 (1992). [2] A.D. James, <i>The Green Pharmacy</i>. Rodale Press Emmaus, Pennsylvania, 394 (1997). [3] L. Lopes, F. Speretta, and M. Bentley, <i>Enhancement of skin penetration of vitamin K using monoolein-based liquid crystalline systems</i>, <i>European Journal of Pharmaceutical Sciences</i>, <b>32</b>(3), 209 (2007). [4] R. Hooda, <i>Antiwrinkle herbal drugs</i>, <i>Journal of Pharmacognosy and Phytochemistry</i>, <b>4</b>(4), 277 (2015). [5] U. Afangideh, and E.A. Uyoh, <i>Genetic variability and correlation studies in some varieties of cucumber (Cucumis sativus L.)</i>, <i>Jordan Journal of Agricultural Sciences</i> <b>3</b>(4), 376 (2007). [6] U. Afangideh, U., E.A. Uyoh, M. Ittah, and A.E. Uko, <i>Morphological characterization of some cultivars of cucumber (Cucumis sativus L.)</i>, <i>Journal of Sustainable Tropical Agricultural Research</i>, <b>14</b>, 13 (2005).</p> <p><b>7.</b> The present work contains several gaps that need to be filled. For reasons of space, I shall limit myself to mentioning only a few, which have to be understood as tips for the revised version. <b>7a.</b> The statical analysis carried out by the author is not sufficiently well. Described. Please, specify which statistical technique (e.g., the ANOVA tool) has been used to <i>collect data</i> and calculate the <i>variances</i> (important parameters as they indicate if the means of two or more groups are significantly different from each other). <b>7b.</b> As known, to show <i>variability among genotypes</i> it is necessary to compute the relevant genetic parameters such as the GCV (<i>genotypic coefficient of variation</i>), the PCV (<i>the phenotypic coefficient of variation</i>), the ECV (<i>environmental coefficient of variation</i>), the GV (<i>genotypic variance</i>), the PV (<i>phenotypic variance</i>) the EV (<i>environmental variances</i>), the CV (<i>coefficient of variation</i>), and GA (<i>genetic advance</i>). Did the</p>	

**Review Form 1.7**

	<p>author calculate the above parameters? Please, insert a table reporting the values of these parameters.</p> <p><b>7c.</b> The <i>phenotypic variation</i> for each trait is separated into genetic and non-genetic factors. Did the author estimate these factors? If yes, please specify which mathematical expressions were used.</p> <p><b>7d.</b> Please also specify which method was adopted for the estimation of the <i>genetic advancement</i> (assuming that the author has calculated this factor).</p> <p><b>7e.</b> As known, <i>heritability</i> is a measure of how well differences in people's genes account for differences in their traits. it is defined as the proportion of variation in a population trait that can be attributed to inherited genetic factors. Please, specify the heritability estimates found in this study.</p> <p><b>7f.</b> The <i>principal component analysis</i> (PCA) is an important multivariate technique used to examine associations between characters and measure genotype genetic diversity. If PCA was performed in this work, the author is asked to show the result of PCA for the traits of cucumber genotypes evaluated by him.</p> <p><b>7g.</b> As known, <i>cluster analysis</i> is a data analysis technique that explores the naturally occurring groups within a data set known as clusters. This method is very important as allows to classification of a sample of subjects on the basis of a set of measured variables into a number of different groups such that similar subjects are placed in the same group. Has the author performed cluster analysis? If yes, please report the results obtained.</p>	
<b>Minor</b> REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?	1. The English of the manuscript should be double-checked; several typos were found.	
<b>Optional/General</b> comments	As mentioned above, the research topic is interesting and current. However, the work contains several flaws and gaps that need to be filled. I encourage the author to heed the above suggestions.	

**PART 2:**

	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)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

**Reviewer Details:**

Name:	Giorgio Sonnino
Department, University & Country	Universite' Libre de Bruxelles, Belgium