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| Book Name: | [Current Research Progress in Agricultural Sciences](https://www.bookpi.org/bookstore/product/current-research-progress-in-agricultural-sciences-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4907** |
| Title of the Manuscript: | **Proline Accumulation and Drought Tolerance in Green Gram (Vigna radiata L.) Amritha K Binukumar** |
| Type of the Article | **BOOK CHAPTER** |

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**A research paper already published in a journal can be published as a Book Chapter in an expanded form with proper copyright approval.**

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**This chapter is an extended version of the article published by the same author(s) in the following journal.**

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**DOI: 10.9734/ijpss/2024/v36i105098**

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | **The manuscript is important and sheds more light on the importance of continuing genotype improvement. However, it would have been even more important had the study been conducted for more than a season to leave little doubt regarding its findings and recommendations.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **Yes** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **I would suggest the following:**  **-that the authors p**lease state some of the nutrients  - that soil type used for the experient be stated? This is important in order to correlate, among other things, the effect on root length and diameter to other parameters |  |
| **Is the manuscript scientifically, correct? Please write here.** | **It, is scientifically correct but would be better off with results from more than one trial** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | **The references lack DOIs for easy verification.**  **They are relatively recent**  **References (34 total) are also not enough** |  |
| Is the language/English quality of the article suitable for scholarly communications? | The language is suitable but still has room for improvement in some areas |  |
| Optional/General comments | 1. ABSTRACT Authors : Green gram (*Vigna radiata* L.), a key legume crop in Asia, contributes to sustainable agriculture by fixing atmospheric nitrogen and providing valuable nutrients  **-Please state some of the nutrients**  Authors : This study aimed to identify drought-tolerant green gram genotypes by evaluating 50 accessions for root, shoot and biochemical parameters under controlled moisture stress  **-Please indicate soil type. This is important in order to relate, among other things, the effect on root length and diameter as well as other accessions**.  2. **INTRODUCTION**  Authors : Four seeds of each accession were raised in pot  **It should be stated in the abstract that the study was conducted using pot in a green/screen house**  Authors :The characters like plant height, seed weight…..  **-Kindly restate as: Growth and yield parameters like plant height, root architecture, seed weight and drop yield….**  Hence, there is an utmost need to develop drought tolerant varieties to improve crop productivity especially under the changing climate  **-Please use drought-tolerant here and in places where it is used as an adjective to describe something.**  **2.1** Estimation of Proline (μmol g-1)  Authors :To create the sample extract, 0.5 grams of fresh leaf were blended…..  **-I would prefer you saying: …0.5 grams of fresh leaf was blended…**  **In this context, “grams” is used as a singular unit of measurement.**  Authors : After adding 4 ml of toluene and thorough stirring, the toluene-containing chromatophore was gathered, brought to room temperature, and its absorbance at 520 nm  **Using which device?**  **2.2** Estimation of Chlorophyll (mg g-1)  Authors : W = fresh weight of tissue extracted  **I am sorry, I do not see “W” in any of the equations as referenced**  **3.** RESULTS AND DISCUSSION  **3.1** Assessment of Variability  Authors : The mean values of 50 genotypes for the characters namely, root length, shoot length, root diameter, total plant dry weight, root dry weight, proline content, total chlorophyll content, total phenol content are presented in Table 1 and Fig. 1.  **The study was conducted just once. Do you think that the results from a single trial are enough to allow you make recommendations?**  **-you present the mean and CV values in table 1. These are for all 50 genotypes. What is it implying? It would have presented a better picture were these values to represent each genotype over several trials.**  **- Fig. one is not readable. You said that the mean values are stated in Table 1 and Fig. 1 but I cannot relate the values on the “Y axis” to those in Table 1.**  **RESULTS AND DISCUSSION**  **3.1** Assessment of Variability  Authors : The mean values of 50 genotypes for the characters namely, root length, shoot length, root diameter, total plant dry weight, root dry weight, proline content, total chlorophyll content, total phenol content are presented in Table 1 and Fig. 1.  **The study was conducted just once. Generally, several trials are required inorder to make a sound conclusion.**  **3.1.1** Root parameters  Authors : The genotypes IC 148530 and IC 395518 recorded longer root length under stress conditions. Under moisture stress condition,….  **What do you mean by “stress conditions” and moisture stress conditions? If they are the same, please be consistent and use one.**  **Additionally, please indicate here, and in the manuscript the values obtained for these and other genotypes. For example, for shoot parameter, dry weight, root diameter, etc. when mentioning a genotype, please indicate the obtained value too.**  Authors : Genotypes with superior root architecture will be able to avoid drought.  **-Please allow me to disagree with the use of the word “avoid” in this sentence. Please use “tolerate”, or “have high tolerance under drought conditions”,…….**  **Table 1.**  **Please rephrase heading as: Differences in morpho-physiological and biochemical characters of green gram germplasm under moisture stress conditions**  I also do not think that the serial numer column is necessary in the Table 1.  Fig. 1 is not readable and Y-axis not labeled. Difficult relating it to Table 1.  **3.1.4 Correlation studies (Correlation findings would be better)**  Authors : The character root length had maximum positive correlation with root diameter (0.949) followed by proline content (0.700) and root dry weight (0.636) while a significant negative correlation was observed with shoot length (-0.331)  **This value** (-0.331) **should appear immediately after the word “correlation” Additionally, could you replace “character” with “variable”. “Character” soundsl more poetic.**  **Fig. 2.** Genotypic correlation of drought related characters in green gram  **When a Fig. consists of more than one item, each should be labeled for ease of reference. Moreover, why do you present two types of correlation results? Different software present results in different styles and so care has to be taken during presentation. Please use only one**.  **3.3** Path Analysis  Authors : Proline can be used as a criterion for screening drought tolerant varieties, hence the direct and indirect effects of the various characters on proline content was estimated and is presented in Table 3  **…the direct and indirect effects were, (not was) and are (not is) presented in Table 3**  Authors : The highest positive direct effect on proline content was recorded by total plant dry weight (0.5080)  **Kindly state the value immediately after the word effect. Also, please check this value against what you have in the table**  Authors : **Table 3.** Direct and indirect effects of drought related characters on proline content in green gram  **Please put the headings on the line**  **REFERENCES**  Please check the website to properly reference number 12 including the DOI.  Also, it would be good to include DOI for your references for ease of verification |  |

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| **PART 2:** | | |
|  | Reviewer’s comment | Author’s comment *(if agreed with the 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 detail)* |  |

**Reviewer details:**

**Francis Kloh Fukah, William V. S. Tubman University, Liberia**