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Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2013_BJAST_8459
Title of the Manuscript:	INFLUENCE OF BULB SIZE AT PLANTING AND DROUGHT STRESS ON GROWTH AND DEVELOPMENT OF ONION (<i>Allium cepa</i> L) IN THE NORTHERN REGION OF GHANA
Type of the Article	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	1. Dietary and medicinal importance of onion as mentioned in the INTRODUCTION are out of context for this article and hence should be omitted. 2. Meteorological details are to be given in terms of mean monthly average over a period of a minimum of 5 years. This information should be included in the article. These can be represented as a table and provided as supplementary information and not included in the Materials and Methods section. 3. The bulbs are grouped into weight categories and not size categories (lines 13, 85), hence it would be more appropriate if manuscript reflects the same wherever applicable, such as TITLE, tables, text, etc. 4. The authors do not mention whether the plants were grown indoors or outdoors. While timeline of the period of the study was provided, there was no information on the temperature range, rainfall, R.H., etc during this period of study. Furthermore, the soil moisture content of the soils used at the beginning and at the end of the experiments was not provided. This information would be helpful in evaluating effect of the watering strategies on the drought stress and overall development of the plants. 5. ".....watering plants throughout the experimental period as and when watering was necessary." (line 88,	Information on Dietary and medicinal importance of onion in the introduction has been omitted as suggested by the reviewer. Meteorological/climatic data for the area (Table 1) as suggested by the reviewer has been provided in the text. ‘Bulb’ size has been replaced with ‘bulb weight’ in the text in accordance with the recommendation by the reviewer. In the text (see Abstract) we stated that the study took place in the plant house and this means that the plants were grown indoors. Data on weather/plant house conditions (Table 1) i.e. Temp., RH recorded during experimentation has now been incorporated in the revised version. In actual fact, data on soil moisture content were not collected but data on weather parameters – min and max temp. And RH provided will give an indication of the rate of evapotranspiration in the plant house and thus suggest variation/trend in soil moisture. We have also incorporated data on climatic



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	89). Periodicity of watering will affect soil moisture content and hence should not be carried out randomly. The authors should clarify what parameters were considered when they decided watering was needed for the plants. 6. Scoring of plants on the basis of morphological characteristics is very subjective. The authors can provide representative images of the different categories of plants as indicated in lines 98 and 99. 7. The data for each experiment has been derived from 3 replicates. However, the authors fail to mention how many plants were used for each replicate. This needs to be mentioned clearly in the Materials and Methods. 8. The authors mention in the DISCUSSION about the observed increase in tiller number and bulb fresh weight from large bulbs watered up to three weeks of planting as compared to the other watering strategies used. However, there is no explanation as to why this should happen. This could be an important observation and should be given more attention in the DISCUSSION. Further did the authors perform similar experiments with other varieties of onion to check whether the observations hold true only for the variety of onion used or whether other varieties also show the same trends. The authors also did not mention how many weeks after planting were the bulbs harvested. Also while authors provide information on bulb weight, there is no information on how bulb quality was measured (line 265).	conditions (Table 2) prevailing in the whole area. The analysis of variance data has been incorporated (See Tables 3) to explain further the vigour scores in this revised version of the paper. Four bulbs per each weight group were planted. The planted bulbs were subjected to three levels of watering regimes after emergence: This has now been clearly stated in the revised version of the manuscript in accordance with the reviewer's query. We reported that when plants were subjected to water stress at 3 weeks after planting, the plants obtained from the large bulb significantly recorded the higher vigour rating (plant vigour), tiller number and bulb fresh weight than those from the other watering regimes. We further explained that subjecting plants to drought stress at 3 weeks after planting implies that these plants had a longer period of drought stress than those stressed at five weeks after planting. Thus when plants were stressed for this longer period (watered up to 3 weeks after planting), only plants obtained from the large bulbs were vigorously growing probably because of the higher storage reserves and water content of the large as compared with those of small or medium bulbs. Enough explanation has been mentioned in the text.
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Minor REVISION comments	1. Lines 134, 136 and 138 should be Fig 2a, Fig 2b and Fig2c instead of Fig1a, Fig1b and Fig 2c. 2. In Tables 1 and 2, the mean values on the bottom row of the tables are confusing. Can the authors justify why the different bulb weights are taken together for calculating the mean? 3. Abbreviations such as CEC, LSD, etc are not explained in the text. 4. In some instances in the article the [reference number] is used instead of the Author. E.g. Line 47 should read "Ashrafuzzaman et al., [5] reported that in bulbous crops....." instead of "[5] reported that in bulbous crops....." . This needs to be rectified wherever applicable in the text. 5. Axis legend in Fig 1a needs to be re-adjusted 6. Line 263 "..... Perhaps the variety of onion used was tolerant of drought". The same is mentioned in line 234-235. The authors should verify this since the information provided in the article is not enough to substantiate such a statement. It would also not hurt to remove the statements entirely as it does not add much value to the article. 7. "Onion farmers in the Northern Region of Ghana should use large (44.3g) bulb size....." It is important to note here that only one variety of onion was used as mentioned in line 84. Therefore, the authors should understand that the results of the current study need not be applicable for other varieties and hence should avoid such general statements.	Correct labelling of figures has been made here. Means were indicated in the tables to give an idea of the main effects, though the interaction effects were of more importance both in the presentation of the results and the discussion. Though different bulb weights were used, this is not the first time in publishing that means are used in presenting results together with the interaction. Means only help to give an idea of the trend in performance of the main effects of the factors used in the factorial experiment. The authors believe that since already the values of the interaction have been provided, the tables can be left as they are and the results of the study are publishable. CEC (cation exchange capacity) is a standard unit in mineral nutrition and the authors thought that, just like the use of cm (centimetre), all scientists will understand the meaning of CEC and defining the term was unnecessary. However, information on site description has been omitted to satisfy what one reviewer suggested. Please kindly see the section on Data collection and analysis where LDS was defined. The generalization used here has been avoided by modifying the sentence to read as 'Onion farmers who grow 'Bawku red' cultivar...' Referencing type (Volaire, 2002) has been Corrected...
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	8. Referencing style in line 255 does not conform to that used throughout the article. 9. Table 2 does not indicate the unit for bulb fresh weight. 10. Typographical and grammatical errors must be corrected	Units of bulb fresh weight in Table 2 have been inserted. Typos and grammatical errors checked.
	The article "Influence of bulb size at planting and drought stress on growth and development of onion (<i>Allium cepa</i> L) in the Northern Region of Ghana" reports the effect of bulb weight at time of planting on the overall growth and development of onion. Using a combination of different bulb weights and watering regimes, the authors conclude that of the three weights tested, onion bulbs weighing 44.3 gm are the most ideal for achieve good quality and high bulb yield at harvest. While the results look interesting, there are several critical questions that need to be addressed before the article can be published as a research report.	The several questions/queries raised by the reviewer has been addressed but it is important to note that The study was conducted in year 2012 and repeated in the same period and manner in year 2013. Means of data collected for the two years were computed prior to entering them into the spread sheet for statistical analysis of variance. This has been clarified now in the revised version of the paper.