



SDI Review Form 1.6

PART 1:

Journal Name:	<u>American Journal of Experimental Agriculture</u>
Manuscript Number:	2013_AJEA_5122
Title of the Manuscript:	Roots of hydroponically grown tea (Camellia sinensis) plants as a source of a unique amino acid, theanine
Type of the Article	Others

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- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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. The result of the manuscript showed that tea roots obtained by the proposed method were a good source of theanine because they contained much higher theanine than those grown in soil. As a source of theanine, the root yield is important. However, the manuscript had little information about the yield of roots produced by the proposed method. 2. Determination of theanine: It reads that the amino acids in the filtered supernatant was analyzed using an L-8500 automatic amino acid analyzer. However, the subtitle 2.2 was HPLC analysis. 3. Lines 66-67: ...high PPFD inhibits the accumulation of theanine in leaves. There were on experimental results in the manuscript showed this. It was published by someone else, the reference should be cited. 4. Line 71: shade inhibits the decomposition of theanine: reference should be cited.	1. The yield of roots of a tea plant produced, was individual, and it depends on the growth. The information about roots cultivated in soil was described in the introduction; however, the total amount of roots per plant was not mentioned. The most important evidence was that white taproots (showed in Fig. 1) contain a high amount of theanine. 2. The subtitle was changed; 2.2 Determination of theanine 3 and 4. The reference [8,9] was cited. However, we also confirmed that high PPFD inhibits the accumulation of theanine in leaves, and that shade inhibits the decomposition of theanine.
Minor REVISION comments	1. Lines 75-76: In addition, recently a synthetic method using bacteria was developed, but this method of production is artificial [10]. Consequently, no synthetic method is currently used to obtain natural theanine: Biosynthesis of theanine using bacteria is now an important source of natural theanine. 2. Line -60: Tea roots cultivated hydroponically were ideally suited for the analysis and biosynthesis of theanine. The manuscript had no evidence showing that "Tea roots cultivated hydroponically were ideally suited for the analysis".	1. The sentence in the manuscript was modified; a synthetic method of theanine using bacteria was developed, which is now an important source of theanine [11]. However, the product obtained by this method is not the genuine theanine from the Camellia genus. 2. In hydoroponics, the roots of a tea plant showed fine white roots containing theanine in large quantities. These important results were showed in Table 1 and Fig.1.
Optional/General comments	The demands for theanine are increasing and theanine is now mainly extracted from tea leaf. Though the topic is not novel, the manuscript reported a new source of theanine-- fine white roots by hydroponics. It is interesting. However, the substantial academic contribution to the research filed was clearly discussed in the manuscript.	