Author’s response to reviews

Title: Evaluating the nutritional content of an insect-fortified food for the child complementary diet in Ghana

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Evaluating the nutritional content of an insect-fortified food for the child complementary diet in Ghana
Dear BMC Nutrition,

Many thanks for your review by the editor and two reviewers. We have made the requested edits and included a list of abbreviations after the conclusion. We have also edited the Author's contribution section below the conclusion. We have removed all highlighting within the document.

To address the comment by Reviewer #2:

“I am wondering for the peanut paste/ insect mixture, what nutrient quantities come from the peanut and what comes from the insect? How much better is insect fortified peanut paste? Insects as a food are not likely to be a staple, but an additive.”

The reviewer is correct that in processed foods, edible insects would be additive. Roasted akokono were added to roasted groundnut paste with canola oil. We have now added footnotes to the tables to indicate that the Akokono-groundnut paste was made with roasted Akokono (Table 1, table 3, Table 4).

Table 1 indicates that roasted akokono alone had significantly higher concentrations of 3 B-vitamins (thiamin, riboflavin, B-12) than akokono-groundnut paste. We have now added a line on this point into the results section on line 309-311: Roasted akokono alone had significantly greater concentrations of thiamine, riboflavin, and vitamin B-12 than when it was combined with groundnut paste and canola oil into a paste. Deductively, we can also tell from Table 1 that groundnut paste alone is a richer source of minerals iron, potassium, magnesium, and copper than roasted Akokono alone. This point was made in the results on line 301: When roasted akokono was combined with groundnut paste (and canola oil), the content of all analyzed minerals increased.
Table 3 indicates that roasted akokono alone has much greater concentrations of histidine and isoleucine and slightly greater concentrations of lysine and phenylalanine. This was already typed in the body of the results. Line 358-360: The concentrations of histidine, isoleucine, lysine, and phenylalanine + tyrosine were greater in unmixed akokono than the paste product.

In the methods section under the sub-heading of Preparation (line 170-173), we had previously stated the recipe for creating Akokono-groundnut paste (“Using a recipe created at the KNUST food technology laboratory, the akokono-groundnut paste was produced by mixing and then milling dry-roasted akokono (30%) together with local groundnuts (70%) and adding a small amount of canola oil (2 mL oil per 100 g paste) to improve the organoleptic properties of the final product”). The nutritional properties of roasted Akokono are provided in Table 4 by 100g and by 32g (a serving size). The Akokono-groundnut paste includes both roasted groundnuts and also canola oil. Unfortunately we did not separately test those ingredients before combing them into the fortified butter so we chose not to present deductions in Table 4. We previously acknowledged this limitation in our discussion section on line 488: Further analyses comparing the nutrient profile of akokono-fortified groundnut paste to that of groundnut paste alone may also provide additional insights.

We hope that our responses adequately address your comments and queries. Please let us know if you have any remaining questions.

Many thanks,

Megan & the Akokono team