Author's response to reviews

Title: Differential effects of natural palm oil, chemically- and enzymatically-modified palm oil on weight gain, blood lipid metabolites and fat deposition in a pediatric pig model

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Author's response to reviews: see over
Submission of a manuscript (MS: 1768808007498698 – Revised) for publication in the Nutrition Journal

Dear Nehme,

Please find attached the revised manuscript, “Differential effects of natural palm oil and chemically and enzymatically modified palm oil on weight gain, blood lipid metabolites and fat deposition in a pediatric pig model”, amended in accordance with Associate Editor’s and reviewers comments for your consideration. Two versions are attached; one with track changes and the other as the final version.

Changes made to the manuscript are detailed below -

Reviewer: Morse B Solomon
Reviewers report: Minor Revisions:
Review of Paper by Ponnampalan et al:...pig model.

Specific comments:
P2 Results section 3rd line experimental period (which was what?)
The duration of the trial has been stated. (Page2, Line2 under results)

P2 Results section 4th line delete the word were” PO were tended”
The word ‘were’ is deleted from the text. (page2, line4)

P3 Conclusions section..... these observations on plasma TG (but the researchers do not provide any results and information on plasma TG in the Abstract so I don’t think it is appropriate to mention TG in conclusions. If they want to mention them they should say something about them in the Results section.
The TG data is presented in the results section (Page2, line5 in results section) and in M&M (page 9, line2) and Table 3 (Page22).

P3 Background section: last paragraph 3rd line list some of the shorter chain saturated fats referring to.
Names of short chain fatty acids have been inserted in the background as suggested (Page3, Line2 - last paragraph 2nd line).

P4 M&M section: provide references the differences between chemical and enzymatic modification treatments
Difference between chemical and enzymatic modified palm oil has been cited and reference included in the list (Page5, Line6 – reference #17)
P5 Sample collection section: How much muscle and fat tissue collected form longissimus lumborum site. And was the fat collected only subcutaneous fat? Not intermuscular/seam fat. 
Details included in the M and M (Page5, Line8- second para)

Reviewer 2: Sukhinder Kaur Cheema 
Reviewer's report: 
A comparison between native and randomized TAGs is the subject of this paper taking into consideration the role of stereospecificity of fatty acids in metabolic processing.

-The idea of increase body weight after feeding the pigs the palm oil slurry was already published in Animal Feed Science and Technology, the response of weaner pigs to diets containing palm oil slurry, Volume 71, Issues 1-2, 31 March 1998, Pages 191-195, this reference is not cited by the authors.

It is to be noted that our study is quite different from these of Fanimo AO, Fashina-Bomba HA (1998). They only investigated the effect of palm oil slurry and reported increase in feed intake, weight gain as well as back fat thickness. In comparison, our study investigated the effect of positional distribution of palmitic acid present in TG structure of palm oil on feed intake, weight gain, back fat thickness as well as plasma lipid profile and fat deposition in the body. The results showed significant reduction in back fat thickness with natural palm oil, which is contradictory to the observation of Fanimo AO, Fashina-Bomba HA (1998). This has been included in the discussion with reference cited in the list (Page10, lines7-10, reference cited #22).

Title: needs to be more specific, the reader should get the point that EnPO is the one which is responsible for the weight gain and NPO is responsible for the decrease in LDL-C.
The title has been changed to more accurately reflect the study outcomes (Page 1).

Page 10: “there was evidence..........” , need a reference for the evidence.
These were our results and the sentence has been rephrased to avoid any confusion (Page 11, second para line 1).

-Although Authors used 20 males, 20 females in their study, they did not mention if there was Gender differences in the results.
The results for males and females have been now included in Table 2 to Table 5 (Pages 20-23). Also the differences, if any, between males and females have been reported in the results and discussed in the text.

Conclusion:
This work has no novelty and it will be better if accompanied with data from adult pigs.

We contend the statement by the reviewer 2 that this work has no novelty. It must be noted that the study reports for the first time a number of novel observations. These
include 1. A relationship between tissue fatty acid and back fat thickness; 2. A decrease in triglyceride with NPO associated with reduction in back fat thickness. These findings advance the current knowledge about the effect of palm oil (consisting fatty acids at different positions) on fat deposition, weight gain and blood lipids.

Yours Sincerely

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