Review of: "Valorization of palm oil wastes into oyster mushrooms (Pleurotus HK-37) and biogas production"

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Potential competing interests: No potential competing interests to declare.

Dear Editor,

This article is interesting to use the wastes to cultivate mushrooms and produce biogas. However, I have some comments and suggestions as follows:

1. The researches about biogas production should be mentioned in the introduction part. Most of all are about the substrates used for cultivate the mushroom.
2. The statistical analysis has not be found in part of the methods. In addition, authors choose t-test to compare in the part of result, but they should elucidate the details of such things that they compare them, e.g., formulas.
3. Normally, the agricultural treatments had been replicated. The SD or SE should be shown in the tables and figures.
4. The experimental design has not be showed. By the results, Analysis of variance should be used to compare among the formulas and untreated and pretreated wastes should be concerned as blocks or covariates.
5. In Fig.1, bioefficiency (B.E.) compared to the yield should be concerned since B.E. is calculated from wet and dry weight of mushrooms Plurotus HK-37 and yield is calculated from wet weight compared to substrates. Authors show in the fragmented bar chart, so I think it may be confused because of the relationships among wet weights, dry weights and substrates. Please clarify this point.
6. In Table 2, I have some comments for the discussion of the cap diameter, stip length, mushroom size and number of mushroom per flush. Could you please elucidate the ingredients of substrates, including palm oil wastes in both untreated and pretreated wastes, that help the differences of the mushroom growth?
7. Methane has been concerned by separation from the total biogas. The methane yield is from degradation of lignocellose or lignin from the mushrooms. Author should show the raw material and biogas production balance to get the real yield from microbial hydrolysis.
8. By using pretreated substrates, authors indicate both food and energy production and improve the efficiency of the process. However, it should show the mass and energy balances by each formula. In addition, the breakeven point of process when authors use the best substrate to get not only mushrooms but only methane and/or total gas production.

In conclusion, I think this article give some useful data for producing mushroom and biogas. If authors can adjust some minor corrections previously, it is alright to publish in this journal.

S.P.