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.

This study was carried out with the objective of “investigating the co-production of the oyster mushroom Pleurotus HK-37 and biogas as a means to add value to palm oil waste fractions and thus reduce its impact on the environment.” The importance of this research lies in the fact that added value is being given to the waste of a local industry, to obtain not only a food product and energy but also contributes to the reduction of environmental pollution. However, it is necessary to review and improve the writing of the article so that reading is more fluid and understandable.

Below are some suggestions to improve the article.

Introduction

Most references are more than 10 years old, it would be new to use more up-to-date information.

Write in the third person.

Material and methods:

For the characterization of the substrate, it would have been important that in addition to measuring ST and VS, the chemical composition of the substrate was studied, this would have helped a lot for the establishment of the working mixtures, and also to know how the composition of the substrate influences the yield of both mushrooms and biogas.

During substrate preparation:

Indicate what criteria were taken into account to establish the 9 mixtures of solid, semi-solid and liquid palm oil waste fractions used for mushroom production, since no reference is cited.

When writing a name that will later be replaced by its abbreviation, first write the full name and then the abbreviation in parentheses, as is the case with DMBB crops.

During the pretreatment of the substrate for mushroom production, indicate whether this substrate was cut or ground and the size of the particle used.

In the phase of fruiting and development of the fruit body:

Indicate the relative humidity. Is it the same as that used for the spawning phase?

No reference is indicated that has served as a basis for developing the mushroom production methodology.

In biogas production:

Indicate the composition of the inoculum used for biogas production.

In the results:

In figure 1, place the units on each of the axes

Improve the presentation of Figures 2 and 3, preferably standardize the format.

In Figure 4, the title says “Effect of pre-treatment on methane yield of treated (SMS) palm oil waste fractions in comparison with untreated wastes. Error bars indicate the standard error of the mean of the replicates”. However, this comparison is not visible in the figure, or a more explanatory legend is needed. The wording of this title also needs to be improved to make it more understandable.

In the discussion:

The data presented in results is repeated a lot, instead the results must be analyzed, the findings compared with those of other researchers, what differences or similarities are found and what they are due to.

A paragraph could be included that indicates the limitations that arose during the research and how they were overcome.

Conclusions:

The conclusion should focus on the objectives and the demonstration of the hypothesis, and emphasize the impact of the findings.