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

Mohd Faizal Mohideen Batcha[1]

1 Universiti Tun Hussein Onn Malaysia

Potential competing interests: No potential competing interests to declare.

General comments:

The authors studied the potential of combining mushroom cultivation and biogas production from several palm oil mill waste composition. The reported work is quite commendable but in my opinion, several aspects can be improved before the paper can be published.

Abstract:

1. please write in full before using acronyms such as PMF, POME, SD etc.
2. 9 blends of solid, semi-solid and liquid palm oil waste - this shall be elaborated in the abstract
3. mush yield and biological efficeiency: can these parameters described before the statistical values provided?

Introduction:

1. Malaysia and Nigeria are the world's largest producers of oil palm, accounting for 85% of the palm oil produced worldwide (Obire and Putheti, 2010; Reinhardt et al., 2007; World Rainforest Movement, 2008) - *These statement is factually WRONG and I wonder whether the references are also WRONG. Indonesia and Malaysia is the largest palm oil producer in the world, accounting about 84%+. Please check*
2. solid fiber type wastes...... palm mesocarp fiber (PMF), palm kernel shells (PKS)...*PKS is not a fiber type waste*
3. .... the by-products of palm oil extraction and processing have limited utility and commercial value *over the years, I believe a lot of improvement has been made, considering the original statement was made more than a decade ago.*

Materials and Method

1. The equations requires formatting.
2. The 105 deg.C temp. in the equation shall be explained
3. The composition of substrate - *why such compositions between EFB, POME, PMF, SD etc was chosen? And why only 9 with such arbitrary percentages?*
4. The relative humidity range during spawning was 75 - 85% - *any reason for such large variation of humidity?*
5. All replicates of substrate formulations 3, 5, 6 and 7 and 1 replicate of substrate formulations 1, 2, 4 and 8 were

respawned due to contamination and water lodging - *cannot comprehend this, please re-phrase*

6. The method for estimating methane, alkaline absorption is quite old. *Please justify this method, compared to BMF technique for instance.*

Results

1. Different yields of mushroom from different composition shall be elaborated why, *(for instance composition 1 and 9 has poor yield)*.

Conclusion - acceptable