TITLE: STUDY OF THE COMPOSITION OF AGROINDUSTRIAL RESIDUES FOR THE SUBSTRATE FOR WHITE SHIMEJI CULTIVATION.

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ABSTRACT:

The residues accumulation is a current preoccupation, especially when they are still valuable source of energetic and/or nutritional components such as the agroindustrial residues. In our work, the objective is to propose a mixture between some brewer's residues - malt spent grain (*SG*), trub (*TB*) and residual yeast (*RY*) – and discarded cocoa pod (*CP*) as a substrate for edible mushroom cultivation. The above mentioned residues are abundant around the cities of Ilhéus and Itabuna (Bahia, Brazil) and are a potential residue for *Pleurotus ostreatus* CCIBt 2339(known as white shimeji) cultivation, based on some previous experiments. The investigation for a better composition for the cultivation substrate was performed with a Simplex-Centroid Design with *SG* varying from 10 – 90 % (w/w) and *TB* and *LR* varying, individually, from 0 – 5 % (w/w), the final composition was complemented to 100% (w/w) with *CP* and *P. ostreatus* was properly cultivated.At total, 10 runs with different combination between the factors were performed in triplicate and, besides the natural variation of this kind of experiment, the results obtained indicate with good confidence that *TB* was not able to increase the biological efficiency (*BE*, %), which express the weight of fresh mushroom harvested per weight of substrate, nor the productivity (*PR*, g/(g.day)), which express the *EB* per total days until harvesting.The results suggest that around 50 to 60% of SG + 2.0 to 2.5 % of RY + 44 to 47.5 %of CP, it is possible to obtain the best results for *EB* around 65 % and *TB* around 8 %/day.

Key-words: agroindustrial residues, mushroom cultivation, simplex-centroid design, white shimeji.

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