عنوان مقاله:

Conversion of food waste via two-stage fermentation to controllable chicken Feed Nutrients by local isolated microorganism

محل انتشار:

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خلاصه مقاله:

Purpose Food waste can be referred to as edible food materials that can create problems to the environment if it is not disposed properly. Therefore, the purpose of this study is to produce chicken feed from food waste via two-stage fermentation. Methods Food waste was converted with combination of fungi A (isolated from degraded onion) and yeast B (isolated from local fermented fruit - Durian). Four batches of food waste were obtained from different sources. Food waste was fermented with fungi A and yeast B in bioreactor for ۵ days with ۸۰% moisture content. Fermented food waste was then dried in the oven. Results Glucose and carbohydrate contents were investigated during fermentation process and it was found that carbohydrate content decreased from ۰.۱۸۵۷ g/g before fermentation to ۰.۱۳۰۵ g/g after fermentation. Glucose content was found to increase at the first ۴۸ hours and then dropped from ۴۸th hour until the fermentation was done. To get consistent with the results of the last product, the process control elements such as C:N ratio, pH, aeration, agitation, temperature, antiseptic technique and sterilization of food waste were controlled. The standard of the fermented food waste was compared with the standard of chicken feed used in Malaysia. The crude protein content, crude fat content, crude fiber content, total ash content and total energy content of chicken feed met the requirement set by Malaysia standard (MS ۲۰:۲۰۰۸) of chicken feed. Conclusion Thus, it is shown that food waste has a massive potential in the production of chicken feed.

کلمات کلیدی:

Food waste . Fermentation . Probiotic . Chicken feed