Biokonversi palm kernel meal dan pola suksesi bakteri pada biokonversi palm kernel meal terkonversi oleh larva Hermetia illucens L.(Maggot)

Aulia, author

Abstrak

Indonesia is the second world producer of palm oil after Malaysia. Beside production of the palm oil, the industry is also yields a huge of amounts of palm kernel meal (PKM or Bungkil sawit). Utilization of PKM is still limited for cosmetic industrial and margarine. Hem et al. 2008a reported that PKM fermentation was used to bioconversion of maggot larvae. The most popular insect used in this particular case is the Black Soldier (BS) fly, Hermetia illucens L (maggot) (Stratiomyidae, Diptera). Hermetia illucens L. is a non-pest tropical and warm-temperate insect that has been found useful for managing large concentrations of bio-solids as well as other by-products and wastes (O'Mara et al.1999; Choct 2001).
Many research studies on the larvae of Hermetia illucens L. have also been conducted in Southeast Asian countries and expanded in Indonesia. As previously reported, Hermetia illucens L. has been found effective in reducing the mass of solid wastes (Lim et al. 2001).Research study of Palm Kernel Meal conversion and bacterial succession by Hermetia illucens L. larvae (maggot).
The objective of this research are: to observed how to PKM conversion occured, isolation the bacteria, study bacterial succession, to observe changing of physical parameters of substrate and storage room, and analyze the proximate value. The study consists of two part: (1) to describe the process of PKM bioconversion. (2) to describe bacterial succession by Hermetia illucens L. larvae (maggot). The research was carried out at the Loka Riset Budidaya Ikan Hias Air Tawar; Institut de Recherche pour le Développement (IRD) Laboratory, Depok; Microbiology Laboratory -Department of Biology, FMIPA, University of Indonesia, Depok during July 2008 -- June 2009.
The study of the Palm Kernel Meal (PKM) naturally conversion of Hermetia illusens L. larvae was carried out. The substrate of PKM was added by sterilized water with the composition of 1:2 (Hem et al. 2008a). The natural conversion was done for 7 days. Sampling and isolation bacteria from PKM bioconversion was carried out every day. The isolation of bacteria was done with dilution methods by Otoguro (2006) and purification was carried out with quadrant methods by Cappucino and Sherman (2002).