Worm Feed from Palm Oil Waste

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Thailand’s palm oil production is 1,340 million tons/year, the third in ASEAN. However, oil palm kernel cake, waste of the production, causes disturbing smell upon piling up and is a breeding ground for house flies. Since the size of this house fly larva is big, we see the opportunity to use oil palm kernel cake as feed ingredient for yellow mealworm (T.molitor) which is a good protein source for fish. In this study, mixing oil palm kernel cake with wheat bran and dried brewer’s yeast as feed at 10:10:1(w/w) could increase mass and birth rate of mealworm by 31.29% and 34.20 % respectively, compared with wheat bran feed. Addition of green papaya to increase feed water content could raise the mass and survival rate. The chemical composition of the mealworm fed with the developed feed composed of 28.91% protein, 13.50% fat, and 5.61% fiber. Catfish fed with our mealworm showed higher feed conversion ratio and average daily growth than those fed with commercial feed. In order to reduce waste, the mealworm cast was used as bio-fertilizer for morning glory and the worm slough was extracted for chitosan. The results showed that they can be a better fertilizer and good source of chitosan. Mealworms raised with feed formulate containing oil palm kernel cost much less than traditional fish feed but can be sold at compatible price while environmental problem of oil palm waste is eradicated.

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