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A study on microalgae filtered and digested by hard clam (*Meretrix lusoria*)

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Microalgae are widely considered as the major component of the feed fed by hard clam. However, the information about which concentrations of microalgae inducing the pseudo feces production of hard clam and the digestibility of microalgae by hard clam is limited. Two species of microalgae, *Tetraselmis chui and Isochrysis galbana* are used in this study. Five concentrations of *T. chui* and ten concentrations of *I. galbana* were used in the experiment of pseudo feces production of hard clam. The concentrations of *T. chui* and *I. galbana* inducing 50% population of hard clam to produce pseudo feces are 9300 cells/mL and 95000 cells/mL, respectively. Feces collection was carried out in four time periods, 0-3 hour feeding period, 0-4, 4-8 and 8-20 hours period after hard clam transferred to clean sea water. Protein content and carbohydrate content in the feces of hard clam fed with *T. chui* and *I. galbana* in 0-4 hour period after hard clam transferred to clean sea water were the maximal. The digestibility of microalgal protein/carbohydrate by hard clam was evaluated by the ratio of the amount of protein/carbohydrate in feces collection divided by that in microalgae fed by hard clam. Protein and carbohydrate digestibility of *T. chui* by hard clam were 52±2.6% and 70±8%, respectively. Protein and carbohydrate digestibility of *I. galbana* by hard clam were 81.3±2.3% and 88.1±2.2% respectively.

Biography

An-Chin Lee earned his Master Degree from National Taiwan Ocean University, Taiwan and PhD from University of Maryland at College Park, USA. Currently, he is working at the department of Aquatic Biosciences, National Chia-Yi University, Taiwan and also at NCYU as Secretary General. He paid his attention to the project of anaerobic metabolism of hard clam (Meretrix lusoria) for many years. He is also interested in looking at filtering behavior of hard clam and will try to prepare supplemental diet of hard clam.

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