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Development of cost-effective feeds for marine fish feeding and growth

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Presently, Singapore is importing most of the food consumed in the country due to limited farming land and fishing grounds. With Singapore aiming to raise the proportion of locally produced fish from 8% to 15%, it is important to seek the most cost-effective feeds that can support good fish growth performance. This is because aquaculture feeds are contributing 50-70% of the total production cost of an aquaculture operation. This paper will discuss a study to use black soldier fly (BSF) larvae as a substitute for fish meal in fish diets, which is a partnership with a local fish farmer. The BSF larvae, which is of animal origin has been reported to show a great potential because it is containing high levels of protein and fats. In term of cost-effectiveness and availability, the BSF larvae grown at high densities on food waste seem to have a good potential for protein (~42%) and lipid (~35%) sources for aquaculture feeds. Through this project, we are using groupers as a model of study for developing BSF larvae as aquaculture feeds. We found that groupers were initially rejected the raw BSF larvae feeds even after multiple attempts of feeding. Thus, we were attempting to make 100% BSF larvae into pellet form using a suitable liquid binder. Finally, the groupers were starting to eat the BSF larvae feeds after processing the BSF larvae into pellets.

Biography

Goh Chee Keong has obtained his Bachelor's degree with honors in Industrial Chemistry from the University of Putra Malaysia. He later received his Master of Science (Material Chemistry) and PhD at the same university. Currently, he is a senior manager at Republic Polytechnic, Singapore and is involved in development, formulation and characterization of novel encapsulated artificial feeds for marine fish larvae, such as Asian seabass (*Lates calcarifer*).

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