Amino acids as chemoattractant and feeding stimulant for the commercially farmed decapod crustaceans: A brief review

ABSTRACT

The aquaculture of decapod crustaceans is expanding continuously to supply protein source for human consumption. Therefore, intensive research is necessary to improve the quality of the feeds in decapod crustacean farming. Decapod crustaceans are slow feeders, and dietary inclusion of plant proteins reduces their intakes on the feeds. Dietary supplementation of chemoattractants (CA) (to reduce food searching duration) and feeding stimulants (FS) (to stimulate ingestion) is therefore necessary to solve these problems respectively. Amino acids are commonly used as the CA and FS in aquaculture, and the feeding response of aquatic animals to amino acids is species-specific. As the chemosensory systems of decapod crustaceans are complicated, and their feeding responses are different from fish, it is essential to understand which amino acids can function as the CA, FS or both to the targeted farmed species. This review provides an overview on the acceptance of some commercially farmed decapod crustaceans to amino acids. Topics related to the efficiency of amino acids being a CA and FS were discussed, and recommendations on how to present amino acids as a CA and FS efficiently in decapod crustacean farming were also made.