Research Progress on Nutritional Requirements and Artificial Diets of Bivalve Mollusks: Post-print

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Abstract

Industrial aquaculture represents an inevitable trend for the sustainable development of the future shellfish industry. Since microalgae cultivation is susceptible to natural environmental conditions such as temperature and illumination, and occupies substantial water volumes, the development of artificial feed for bivalve shellfish has become a critical factor for industrial shellfish farming. This article briefly reviews the effects of proteins, lipids, and carbohydrates on the growth, reproduction, and immunity of bivalve shellfish, and elaborates in detail on the research progress of six types of artificial feeds: microalgae powder, processed macroalgae, yeast, microparticle feed, liquid microencapsulated feed, and solid microencapsulated feed, with the aim of providing a foundation for developing new types of artificial feed for bivalve shellfish and conducting industrial aquaculture.

Full Text

Preamble

Advances in Nutritional Requirements and Artificial Feed of Bivalve Mollusks

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Abstract: Factory farming represents an inevitable trend for the sustainable development of the shellfish industry. Since microalgae cultivation is vulnerable to natural environmental conditions such as temperature and light, and

requires substantial water volume, developing artificial feed for bivalve mollusks has become a critical factor for industrial aquaculture. This paper briefly reviews the effects of protein, lipid, and carbohydrate on the growth, reproduction, and immunity of bivalve mollusks, and provides a detailed overview of research progress on six types of artificial feeds: microalgae powder, macroalgae processed products, yeast, particulate feed, liquid microencapsulated feed, and solid microencapsulated feed

Note: Figure translations are in progress. See original paper for figures.