

### Cell-Based Crustacean Meat: Commercial Species, Cell Isolation Methods, and Culture Conditions

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Cellular agriculture, defined as the production of agricultural products from cell cultures rather than whole plants or animals, is gaining traction as a solution to public health, environmental and animal welfare concerns associated with traditional animal agriculture. In this context, the possibility of producing seafood from fish cell cultures emerges as a promising way to overcome similar challenges in aquaculture. This review focuses on the specific area of cell-based crustacean meat by examining the selection of commercial species, techniques for isolating cells, and optimal conditions for cell culture. In light of growing concerns about sustainability in aquaculture, cellular agriculture is emerging as a potential solution. The review addresses advances and challenges in the field of cultured seafood, with a strong focus on crustacean cell culture, and also interests include various methods for isolating cells, optimizing culture conditions, formulating growth media, and implementing sustainable practices. The review highlights the importance of further research and innovation in crustacean cell culture. It is emphasized that for successful commercialization, it is necessary to develop suitable cell lines, improve growth conditions and ensure consumer acceptance. Overall, this review highlights the critical role of developing the field of cultured crustacean meat to promote sustainable seafood production.

**Keywords:** Cellular aquaculture; cultivated seafood; crustacean cell culture.