

Impact of Nitrogenous Wastewater and Seawater Acidification on Algae

Authors : Pei Luen Jiang

Abstract : Oysters (Ostreidae) and hard clams (Meretrix lusoria) are important shallow sea-cultured shellfish in Taiwan, and are mainly farmed in Changhua, Yunlin, Chiayi and Tainan. As these shellfish are fed primarily on natural plankton, the artificial feed is not required, leading to high economic value in aquatic farming. However, in recent years, though mariculture production areas have expanded steadily, large-scale deaths of farmed shellfish have also become increasingly common due to climate change and human factors. Through studies over the past few years, our research team has determined the impact of nitrogen deprivation on growth and morphological variations in algae and sea anemones (Actiniaria) and identified the target genes affected by adverse environmental factors. In mariculture, high-density farming is commonly adopted, which results in elevated concentrations of nitrogenous waste in the water. In addition, excessive carbon dioxide from the atmosphere also dissolves in seawater, causing a steady decrease in the pH of seawater, leading to acidification. This study to observe the impact of high concentrations of nitrogen sources and carbon dioxide on algae.

Keywords : algae, shellfish, nitrogen, acidification

Conference Title : ICABB 2018 : International Conference on Algal Biology and Biotechnology

Conference Location : New York, United States

Conference Dates : June 03-04, 2018