

Abstract

Discoloration of *nori*, *Porphyra yezoensis*, is a terrible economic problem for the fisheries. One of the reasons for the discoloration of *nori* is suggested the decreasing concentrations of nutrients, nitrogen and phosphorus. The red tide by some diatom, rainfall, and so on cause the bad balance of water quality. Recently, it was showed that iron is important for the color maintenance of *nori*. Sea desertification, *isoyake*, can be seen in some Japanese coastlines. It is suggested that one of the reasons for this phenomenon is the decreasing concentrations of nutrients and iron. Against this backdrop, the fertilizer has been produced using steel-making slag and humus soil, which can stably supply iron and some nutrients. We have demonstrated the effect of the fertilizer on algal growth in Japan. In this study, we studied the effect of the fertilizer to the growth of *nori* by the mesocosm experiment. Both of experimental tanks for the mesocosm were set up *nori*-meshes, and 60 kg fertilizer in one side, while the other tank was no fertilizer as a control. We surveyed the concentration of nutrients and trace metals, and the growth of *nori*. As a result, in the fertilizer containig tank the concentration of nitrogen, phosphorus and iron were raised, in brief the nutrients and iron eluted from the fertilizer. And only in the fertilizer containig tank, *nori* grew up over 10 cm in length. On the other hand, we could not identify the growth of *nori* by visual observation in the control tank, fertilizer not containing tank.