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Transplantation of *Sargassum horneri* using the rope seeding method

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Introduction

In recent years devastation on coasts worldwide has led to barren grounds resulting in the loss of the natural population of many marine organisms and macrophytes. Furthermore, fishery resources such as abalone, fish and seaweeds have been depleted (Serisawa and Ohno, 1995). Since 1980, many fishery scientists and phycologists have tried to create artificial seaweed beds using various technique in order to recover lost seaweed beds (Ohno, 1993; Choi et al., 2000).

This study was undertaken to examination on the effect of transplantation of Sargassum horneri, which were placed barren grounds at 5m depths in Galnam, eastern coast of Korea.

Materials and Methods

Fertile thalli of S. horneri may be allowed to sporulate over seed ropes in indoor tanks. Once ropes are seeded, they are wound around tile for building of 10cm×10cm and transferred to the site on July 2001. The tile with the seeded ropes are then firmly attached to natural rock and other seeded ropes are wound the fixed steel pipe in the bottom for growing.

After one day of placement herbivores such as sea urchins, snails and starfish were found on the upper of the tiles. Whereas a rope around the steel pipe is rare only snails and natural seaweeds such as Enteromorpha intestinalis, Ulva pertusa and Chondria crassicaulis grow on the pipe.

Results and Discussion

The surface of tiles grazed all of them by herbivores within two months after transplanted. While seeded rope on the steel pipe was found a few growth about 0.5 to 1.5cm size. The thalli of S. horneri found to be decayed in the month of September on tiles, whereas S. horneri was growing on the steel pipe. In October, the size of S. horneri was 1.5 to 5.0cm in length. The young plants of S. horneri on the steel pipe showed longer and the size of them were between 11.0 to 203.0cm in length on February 2002.

Growth of S. horneri was shown to be comparatively different on tile and steel pipe. The differences of transplantation on the different substrata were probably due to grazing pressure in their transplanted condition influencing the growth of juvenile.

Reference

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