

A Comparative Study on Culture of *Kappaphycusalvarezii* Using Cage Culture and Monocline Culture in Kiranchi Bay, Kilinochi.

Z.Ganesalingam, S.C. Jayamanne
UvaWellassa University, Baddulla, Sri Lanka.

and

V. Pahalawattaarachchi
National Aquatic Resources, Research and Development Agency

Abstract

Kappaphycusalvarezii is an economically important red tropical seaweed with a high demand due to containing polysaccharides in its cell wall and being the most important source of n-carrageenan in the world. The market for carrageenan grows rapidly since current sources of cultivated eucheumatoids seems incapable of meeting the high demand, at least in quality, price and volume for the requirements of the processing industry. Commercial cultivation of *K. alvarezii* was developed in the Philippines during the latter half of the 1960s using local varieties selected from the wild in comparison to different culture method practices of *Kappaphycusalvarezii*. The present study was conducted to find out the method more suitable for culturing *K. alvarezii* in Sri Lanka. Two culture systems, cage culture and monocline culture was conducted at Kiranchi Bay, Kilinochchi for a period of two months using cage culture and monocline method. Healthy seeds were collected from an existing cage culture and propagules approximately 100 g in weight were chosen. In monocline culture, the propagules were tied into nylon lines about 4 meters apart and anchored to the substratum at 25 cm intervals. In total, 75 kg were tied to monocline. In cage culture, cages of 1.5 m long x 1 m wide x 0.5 m height were placed in the bay. The cage frame was covered with mesh and *K. alvarezii* were tied in parallel lines. Data on initial weight, and weekly weights were taken every week and their growth was measured. The results showed that *K. alvarazii* gained 58% of initial weight within 2 months in monocline culture while 68% in cage culture. It was noted that the nutrients (Nitrite, Nitrate and unionized Ammonia) did not show a significant difference ($P>0.05$) during the study period in the two culture sites. The growth rate of *K. alvarezii* is good in Kiranchi bay using both methods are encouraging and further studies may be required to establish culture.