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920 HIGH YIELD OF *ACANTHOPHÓRA SPICIFERA* FROM CULTURE AT MINICOY LAGOON, LAKSHADWEEP

Gulshad Mohammed

Minicoy Research Centre of CMFRI, Minicoy Island, 682 559, U.T. of Lakshadweep, India

Culture of economicaly important seaweeds is carried out along the Indian coast for the last three decades. *Gracilaria edulis, G.crassa, Gelidiella acerosa, Acanthophora spicifera, Hypnia musciformis* and *H. valentia* are the important species selected for culture by CMFRI and Marine Algal Research Station of CSMCRI at Mandapam. In the present study *Acanthophora spicifera* was selected to understand its production potential in culture at Minicoy lagoon, Lakshadweep.

Red alga *Acanthophora spicifera* is a lampda carrageenan yielding as well as edible seaweed. In Japan, China, Malaysia, Korea, Philippines and Fiji Islands *Acanthophora* species is consumed as vegetable and also used in salads, soups, porridges and pickles.

In an earlier study by CMFRI culture of *Acanthophora spicifera* in the nearshore waters of Mandapam by vegetative propagation method yielded 2.6 fold increase over weight of seed material in 25 days. In this method, vegetative propagation using polypropylene straw fastened with nylon monolines were employed. In yet another study *A. spicifera* cultured in a pond at Mandapam using rope net method obtained a 3.6 fold increase over seed material after 45 days.

To find out the feasibility of *Acanth - ophora spicifera* culture in Minicoy lagoon, experiments were conducted for one year to choose suitable season for culture and to estimates the rate of production. Two sites were selected for this purpose, namely Park, near Fisheries Jetty and Southend near helipad. Single line bottom coir rope method was adopted for the culture in the intertidal area of the lagoon. Vegetative fragments of *A. spicifera* collected from the wild were inserted between the twists of coir ropes of 7m in length, both ends of which were tied to a 15 cm square cement block anchor and placed in the intertidal area of the lagoon.

Encouraging results were obtained at Minicoy in comparison to the results from earlier works. Maximum production was during monsoon from park site after the second harvest. After the first harvest the remnants of *A. spicifera* on the coir ropes were reintroduced for culture and these reintroduced ropes when harvested recorded maximum yield of 36 fold increase in 42 days (Table 1). Almost the same rate of production was realised the same site and season with 30.1 and 30.0 fold increase in 36 and 42 days respectively. Among the sites, park site recorded the maximum production than at southend during both the first and second harvests.

Fig. 1. Coir ropes with seed material before introduction in to the lagoon.

Fig. 2. Growth of *Acanthophora spicifera* in the second harvest. 36 fold increase (top rope); 30 fold increase (bottom rope).

Remarks

During monsoon intertidal water of the lagoon is rich with nutrients due to the land runoff which might have led to higher production in both the sites in monsoon. After the first harvest more branches grew on the reintroduced rope from the remnants and took less time for the seaweed to eastablish on the rope leading to the higher production at the time of second harvest. When the seeded material was introduced at first the *A. spicifera* took some days to establish on the ropes and hence the first harvest was always low in both the sites in three seasons. Heavy grazing was observed in the case of *Gracilaria edulis* which was cultured simultaneously while in *A. spicifera* grazing was nil. Culture of this species can be undertaken successfully at Lakshadweep as a source of additional income to inhabitants during monsoon period when fishing activity is less.

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Table. *Culture and harvest details of* Acanthophora *spicifera during 1998 at two sites*

Site	No. of ropes	Season	No. of days	Wt. of seed introduced (in kg)	Wt. of crop harvested (in kg)	Increase in yield
First harvest						
Park						
	1	Pre mon.	33	0.300	1.050	3.5
	3	Monsoon	33	0.300	2.880	9.6
			42	0.300	2.340	7.8
			70	0.300	3.600	12.0
	1	Post mon.	40	0.300	1.740	5.8
Southend						
	1	Pre mon.	48	0.300	1.000	3.3
	1	Monsoon	52	0.300	2.760	9.2
	1	Post mon.	47	0.300	2.550	8.5
Second harvest						
Park						
	1	Pre mon.	43	0.150	1.065	7.1
	3	Monsoon	36	0.150	4.515	30.1
			42	0.150	5.400	36.0
			42	0.150	4.500	30.0
	1	Post mon.	45	0.150	1.410	9.4
Southend						
	1	Pre mon.	45	0.150	1.725	11.5
	3	Monsoon	56	0.150	1.725	11.5
	1	Post mon.	48	0.150	1.560	10.4

Pre monsoon : Feb. - May; Monsoon : June-Sep.; Post monsoon : Oct. - Jan.

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