

Feasibility study of macroalgae mariculture in coastal tide zones, effluent channels and shrimp ponds in Bushehr province

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Abstract

Sever rainfall in recent years and the expanding crisis of reducing fresh water resources, widespread growth of diversified economic macro algae in the coastlines of Bushehr Province with 820 km of Costal lines and the strategic importance of macroalgae as feed, fodder, providing some of the raw materials medicinal and pharmaceutical industry led to the feasibility study of cultivating two species of *Sargassum bovenum* (brown alga) and *Gracilaria corticata* (red alga) macro algae on ropes in coastal tide zone of Delvar village, effluent channel and shrimp ponds in Bushehr province in 2015 in order to support of labor and national treasure and benefit from the effects of production on the country's economy. Macro algae were cultured on plastic ropes 10 meters. Each rope contained 50 fragments of macro algae with a length of 8-10 cm and a weight of 10-15 g and in 20 cm distance from each other. The two ends of each 10-meter rope were tied to intermediate ropes attached to wooden foundations immersed in the culture beds. The level of cultivation of macro algae in crop fields should be at least 30 cm below sea level forever. The results of this study showed that *S. bovenum* and *G. corticata* planting on the rope at sea produced 80 and 30 tons of algae (fresh weight) per hectare for 90 days (second half of October to second of January), but the macro algae planted in shrimp ponds, led to the high mortality to extreme evaporation. The macro algae in the effluent channels also showed high rate of death because of high mud flood in the shrimp effluent channel.

Keywords: mariculture, Brown alga, Red alga, *Sargassum* sp., *Gracilaria* sp., Bushehr.