Growth and production of vertically and horizontally suspended mussel ropes in estuarine culture

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A n experiment to compare the growth and production of vertically and horizontally suspended mussel ropes was conducted in the CMFRI Demonstration cum Research Farm in Chaliyar Estuary, Karuvanthiruthy, Kozhikode. Approximately 13.5 m of vertically suspended and 24 m of horizontal ropes were set in the farm in January 2005. The growth in terms of length and weight was monitored at monthly intervals. The mussels were harvested on 25.5.05 after 106 days.

A total harvest of 587.7 kg shell-on mussels were obtained of which 249 kg was from vertical and 339 kg from horizontally suspended ropes. The production per meter rope was 18.4 kg and 14.1 kg in case of vertically and horizontal suspended ropes respectively. The average production per metre of rope was 15.7 kg at the rate of 38 numbers per kg. The meat constituted 34% of the total weight.

The hydrological conditions at the farm site were: salinity 28 to 35 ppt, pH 7.3 to 7.5, transparency 40 to 130 cm and dissolved oxygen 2.2 to 4.6 ml/l.

The horizontally suspended mussels registered marginally better growth (Fig. 1) and production compared to vertically suspended mussels. However, statistical analyses showed that there was no significant difference in growth and production between vertically and horizontally seeded ropes. Nevertheless, from the above study it is clear that, in a large scale commercial production system, horizontally suspended culture system in estuaries will yield higher production and economic benefit.

Fig 1. Growth of vertically and horizontally grown mussels: Karuvanthurity, Chaliyar estuary 2005

Stock enhancement of sea cucumbers - a solution for the depletion of natural stocks of Holothuria scabra along Gulf of Mannar

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As in many countries of the Indo-Pacific areas, sea cucumbers form a valuable source of income for the poor fisherfolk along Gulf of Mannar and Palk Bay areas of South-east-coast of India. The dried product from sea cucumbers (families Stichopodidae and Holothuridae) called beche-de-mer (trepang or hai-som) has very high export value in the South East Asian countries as a protein rich food. Recent findings indicated their potential in the biomedical research, as they are rich in chondroitin sulphate and glucosamine and other bioactive substances with anti-inflammatory and anti-tumor activities as well as fungicidal properties. Several commercial products formulated from sea cucumber extract, like ArthiSea and SeaCuMax (arthritis medicines, nutritional supplements and Sea Jerky) have been introduced in the market recently.

Owing to the high demand in international market and inadequate fishery management practice, the commercial sea cucumber species have been over-exploited leading to the extinction of sea