

SEASONALITY CALENDAR FOR BRACKISH WATER CAGE AQUACULTURE IN KERALA

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Abstract

Aquaculture is one of the fastest growing food production systems in the world. Cage aquaculture is getting a good momentum in the country due to availability technology and resources as well. Brackish water bodies are potential resources for expanding cage aquaculture of high value fin fishes in Kerala. Presently, the local self-governments are regulating cage aquaculture and issuing necessary permission certificates to the needy farmers. Objective of the present study is to delineate the significance of Seasonality in brackish water cage aquaculture practices. Present study was conducted in Kadamakkudy, Nayarmabalam and Ezhikkara brackish water creeks located in south west coast of Kerala, India during 2012-2016 periods.

Farmers are extensively practising Cage farming of fishes such as Pearl spot, Mullet, Tilapia and Seabass in backwater bodies. Culture season is completely relayed on the seed availability period rather than any other factors. This is mainly due to the constraints in getting seeds as and when required from hatcheries.

Hence farmers initiate farming as and when they get seed this without observing season and leads. Seldom this will lead to massive mortality issues in February, March and April period. High temperature, high standing crop in cages associated with low inflow of fresh water cumulatively affect the entire water quality especially during peak summer months. Study witnessed massive fish mortality in cages during March months in consecutive years from 2013 to 2015. Water sample analysis results showed the presence of Heptachlor 0.47 µg/l and Aluminium 0.10 mg/l in the water samples. Though the pesticide and heavy metal residues were within permissible limits, the increased water temperature and reduction in water flow from upstreams cumulatively would have created anoxic and toxic environment in and around the cage locations which might have led to the mortality stages. The study unraveled that cage culture in brackish water bodies require a seasonality calendar which possibly can mass mortality and related losses. Considering the outcomes of the present study a seasonality calendar suitable for brackish water creeks of Ernakulam has been prepared to reduce the mortality risk in association with external factors.

Table 1. Seasonality chart for cage culture of fin fish in open brackish water resources

In order to sustain the cage farming sector policy level interventions to ensure supply of healthy and sufficient quantities of fingerling

Month	Work	Remarks
April	Site selection	Moderate flow is ideal for floating cages
May	Cage Preparation for new ventures	Installation of cage anchors can also finish
June	Cage maintenance for running cage units	

July	Nursery Cage installation Seed collection and Nursery rearing	Nursery rearing of Pearl spot, Mullet, Tilapia
August	Grow out cage installation and stocking for grow out farming	Grow out farming of Pearl spot, Mullet, Tilapia
September	Routine management and feeding	Seed collection and nursery of Seabass
October	Routine management and feeding	Grow out farming of Asian Seabass
November	Routine management and feeding	
December	Partial harvest and marketing	Harvesting of Tilapia and sale to reduce standing stock in cages
January	Routine management and feeding	Complete harvesting of Tilapia
February	Partial harvest and marketing	Partial harvest of Asian Seabass
March	Partial harvest and marketing	Complete harvest of Asian Seabass, Pearl spot and Mullet

size fish seeds such as Pearl spot, Mullet and Asian Seabass supply should be ensured. Linkages with government and farmer consortiums for establishing seed banks also may be considered for the betterment of this system.
