

Health Management

Silver Pompano is a hardy species and disease problems are not much. When reared in high salinities infestation with parasitic copepods may occur. Periodical application of commercially available pond water sanitizers/chemicals like Iodine solution would help to keep the fish healthy. Feed supplements such as LIV-52 syrup can be given by mixing with the feed to improve the immunity levels.

Growth Pattern

During the entire culture period of the demonstration, growth pattern of Silver Pompano was monitored by sampling the fish at fortnightly intervals. Length and weight measurements are as follows:

DOC	Length (mm)	Weight (g)
1	30.59 ± 0.24	2.00 ± 0.04
30	73.42 ± 0.53	15.08 ± 0.16
60	102.88 ± 1.91	34.60 ± 0.41
90	158.39 ± 2.42	72.54 ± 1.95
120	182.30 ± 2.03	101.82 ± 3.11
150	203.71 ± 3.73	172.39 ± 4.55
180	226.51 ± 2.90	258.31 ± 5.76
210	273.07 ± 3.62	375.32 ± 8.07
240	296.88 ± 6.27	464.65 ± 10.25

Harvesting

Harvesting of Silver Pompano could be carried out by using drag net as in the case of freshwater fish ponds. To maintain the freshness and quality of harvested fish, washing in clean water and chill-killing can be done. Harvested fishes can be stocked in plastic crates by adding layers of ice in equal quantities at the bottom and top of the fish. It is suggested that harvesting of fish can be carried out during the off season period of April to June to get a better price.

Conclusion

It is well recognized that for achieving sustainable aquaculture production, species diversification is vital. The lessons learnt from shrimp farming scenario in the country, all the more emphasize the fact that diversification of marine and brackish water aquaculture with high value finfish species is need of the hour. Generally, high value marine fishes are in good demand in the domestic market and often they are in short supply. In the domestic market, Silver Pompano is in demand starting from 250 gram size onwards. Therefore, Silver Pompano Farming could be quite lucrative and emerge as a major aquaculture enterprise in the coming years.

References

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Farming Silver Pompano in Brackishwater Ponds



(Photo Credit: ICAR-CMFRI)



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Introduction

India with an annual production of about 11.41 million tonnes stands second among the leading fishing nations of the world. Quite significantly, nearly 50% of this production is from Aquaculture. However, our production or the number of species we farm or export, as compared to many other countries in the region is very low for various reasons. While we have done comparatively well in the case of freshwater fish farming and brackish-water shrimp farming, we have still a long way to go in the development of marine fish farming.

We need to develop seed production and culture technologies for a large number of commercially important and high value marine fish species. In the case of species for which seed production technologies have been developed, such as Sea Bass (*Lates calcarifer*), Milk Fish (*Chanos chanos*), Cobia (*Rachycentron canadum*), Pompano (*Trachinotus blochii*), Grouper (*Epinephelus* sp.) etc., there is need to upscale the seed production technology and raising fingerlings to promote their farming on a large-scale.

Silver Pompano, *Trachinotus blochii*

The Silver Pompano, *Trachinotus blochii* (Lacépède, 1801), also known as Snubnose Pompano or American Pomfret, belongs to the family Carangidae; it resembles the much sought after Silver Pomfret (*Pampus argenteus*). It is a tropical species, distributed in the Indo-Pacific Region, inhabits shallow coastal waters, darts about actively, grows up to 51 cm length and is found only in small numbers in the commercial marine catches along the Indian peninsula.

Aquaculture

Among the many high-value marine tropical finfish that could be farmed in India, the Silver Pompano is one of the most promising species as its growth rate is high, meat quality is good and it fetches high price in the market. Body shape, colouration and meat quality of this fish is similar to that of highly priced Silver Pomfret. In the international market, the dockside price of Florida Pompano averaged \$ 8 per kg; in India the price of Silver Pompano is about Rs.300/- per kg.

Aquaculture of Silver Pompano is being successfully undertaken in many Asia-Pacific countries like Taiwan and Indonesia. It can be farmed in coastal earthen ponds, low-cost cages installed in brackishwater canals/backwaters and in sea cages. The species can be acclimatized and grown even in low saline water of 10 ppt.

The Central Marine Fisheries Research Institute (ICAR-CMFRI) initiated research on Silver Pompano in 2008, and successful broodstock development, induced breeding and larval production was achieved in 2011. Thereafter, farming Silver Pompano by stocking hatchery produced seed was successfully demonstrated by CMFRI Scientists, for the first time, in a coastal aquaculture pond at Anthervedi Village, East Godavari District, Andhra Pradesh. An average weight of 450 grams in 240 days (8 months) was attained. It has since been

proven that Silver Pompano can be cultured in the brackishwater shrimp ponds as an alternative species achieving high survival rate, appreciable FCR and desired meat quality. Based on the trials conducted and demonstration in farmer's ponds, the following culture practices are suggested for farming Silver Pompano in coastal brackishwater ponds:

Pond Preparation

The pond bed has to be dried until cracks appear on the soil surface. Top layer of the soil containing accumulated waste matter from previous crop of fish or shrimp has to be removed. Ploughing is done to overturn the soil to a depth of 30 cm. Feeding areas, corners and side ditches in the pond have to be properly tilled, leveled and dried to avoid formation of black soil. Water pH of 7.5-8.5 would be ideal for farming Silver Pompano. Quantity of lime applied during pond preparation depends on pH of the soil; dose has to be calculated accordingly. Filling the pond with water has to be done only after firmly covering the inlet pipe with two layers of fine (100 microns) mesh to prevent entry of unwanted fishes and predators. A week before stocking, the pond must be fertilized with either organic manure or inorganic fertilizers to stimulate plankton production.

Salinity

Silver Pompano can tolerate wide range of salinities from 5 - 40 ppt. However, ideal salinity for farming would be between 15 - 25 ppt. Pond has to be filled to a minimum depth of 100 cm prior to stocking of fish seed. During the entire culture period a minimum of 1.5 metre water depth has to be maintained.

Nursery Rearing and Seed Stocking

Hatchery produced Silver Pompano fingerlings of 1 - 2 inch size are released into fine-mesh *hapas* / cages / pens of 2 metre length, 2.0 metre width and 1.5 metre depth, installed in the pond. While stocking, care should be taken not to disturb the pond bottom by the persons getting into the pond as it may increase the suspended solid load in the water and choke the gill of fingerlings leading to mortality. Initially, 4 mm mesh *hapas* / enclosures are used and after 30 days the fish seed are shifted into 8 mm mesh *hapas* / enclosures. The stocking density during rearing phase could be up to 200 nos./ *hapa*. The fish seed have to be reared in *hapas* / enclosures for 60 days or until they grow to at least 10 - 15 gram fingerlings, after which they can be released into the pond. Ideally, 5,000 nos. of 30 gram fingerlings can be stocked in a one acre (4000 sq m) pond.



Silver Pompano seed being delivered to farmers and the setup for rearing them in *Hapas* or mesh enclosures installed in the pond (Photo Credit: ICAR-CMFRI)

Nutritional Requirement & Feeding

Silver Pompano is a fast swimming marine fish with darting movements and it requires highly nutritive feed to meet its energy requirements. During nursery rearing Pompano can be weaned to any type of feed, viz., extruded floating pellet, sinking pellet feed and chopped trash fish. Ideally, Pompano can be weaned to extruded floating pellet feed to avoid feed wastage and spoilage of pond bottom.

During rearing phase, in the *hapa* / enclosure, feeding has to be done 4 times a day and during grow-out phase in ponds it could be 3 times a day. Feeding zones demarcated by 3-inch PVC-pipe floating frames of 2 metre length and 2 metre width have to be installed in the ponds. Feed has to be dispensed inside the feeding zone to avoid dispersal of floating feeds by wind/waves. At least 4 - 6 nos. of feeding zones have to be demarcated in one acre (4000 sq m) pond. The feed size should be less than the mouth size of the fish and hence, suitable size feed has to be selected for feeding the fish. Details of feed and feeding schedule for Silver Pompano are as follows:

Fish Weight	Feed Size	Crude Protein %	Crude Fat %	Feed Ration as % Biomass	Feeding per Day
> 1 gram	800 -1000 μ	50	10	30	4
1-10 gram	1.0 -1.5 mm	40	8	20	4
10-100 gram	1.8 mm	35	8	8	3
100-250 gram	3.5 mm	30	6	5	3
250-500 gram	4.5 mm	30	6	3	3

A mix of two sizes of extruded feed pellet can be used if any size variation is found among fish during regular sampling. If sinking pellet feed is used, at least 4 - 8 feed trays (80 cm x 80 cm) per pond could be placed. Regular sampling of fish once in 15 days has to be carried out to determine growth rate and to calculate the FCR. In the demonstration of Silver Pompano farming, an FCR of 1:1.8 was obtained using feed with the above given formulation.

Water Quality Management

Plankton bloom is essential during early stages (up to 100 grams) of Silver Pompano culture. If the pond water is clear without any colour, a mixture of organic manure (10-30 kg/ha) and inorganic fertilizers (1-3 kg/ha) can be applied to obtain the algal bloom. Sufficient water depth must be maintained in the ponds to prevent growth of algae/vegetation on the pond bottom. Water depth in the shallowest part of the pond should be at least 100 cm. Water quality can be maintained by exchanging 10% of the water once in a week, 20% per week after 3 months and 30% per week after 6 months. If water colour is too dark, the quantum of water exchange can be proportionately increased. To maintain water pH within an optimum range of 7.5 - 8.5, agriculture-lime has to be applied regularly. Dissolved oxygen (D.O.) level should be maintained above 5 ppm at all times. Paddle wheel aerators can be placed in the pond to circulate the water and maintain the DO level. Aeration is a must during late evening to early morning period once the fish attain 200 gram size, and above.