

# FISH POND MANAGEMENT

## Introduction:

The primary requisite of fish culture is the availability of land for fish pond and quality fish seeds. Although production of seeds may be satisfactory, but rearing of those tender baby fishes in well managed Nurseries, Rearing and stocking ponds must be thoroughly known.

The above types of fish ponds are mostly found in Government managed fish farms as well as in progressive farmers. Whereas, the main objective is for fish seeds production or table-fish production through farms/ projects.

Generally, in scientific fish farming number of various sizes of ponds (as stated above) are required for rearing of various stages of fishes namely:-

- (1) **Nursery pond - rearing of Spawn to Fry stage** (approx. Size 4- 15 mm) **for about 15 days.**
- (2) **Rearing pond – rearing of fry to fingerling stage** (approx. Size: 16-40 mm) **for about 2-3 months.**
- (3) **Stocking pond- rearing of fingerling** (approx. Size 41- 150 mm) **to marketable sizes/ adult fishes.**

Of all the rearing of fishes in different types of ponds; *Nursery pond management* is considered as prime importance. In the present context. The State's fisheries –fish ponds being owned by farmers are non other than nursery ponds serving as both rearing and stocking purposes. As such, the fish pond management described in details below are aptly accounted and applicable for all types of ponds for our State.

## PRE- STOCKING POND MANAGEMENT:

As practicable as possible, any fish pond should have the following management techniques applied for proper survival and growth of fish for sustenance:-

### (1) Eradication of weeds/ vegetation:

- Weeds and grasses deprives pond of nutrients
- Provides shelter to predatory insects and animals.
- Serves as breeding grounds for they lay eggs in the leaves and stems etc.
- These be manually remove.

### (2) Dewatering of pond:

- If admissible, allow to dry up the ponds completely
- Expose the bottom to Sun so as to kill all the weed fishes, insects and their eggs.
- Mineralization of organic matter take place.
- Poisonous gases escapes.
- Removal of silt & repair of embankments.

### (3) Control of Aquatic weeds:

- Larval and adult stages of insects prey upon fish hatchlings and fry.
- They compete in food.
- **Oil soap emulsion** spraying in the surface of water before stocking of fish seeds (spawns) 12-24 hrs (early morning or late evening ) during still weather chokes the respiratory tubes while comes up periodically for breathings are killed.

**Ordinary soap** (cut into pieces & boil till dissolves ) = 20 Kgs.

**Cheap vegetable oil** (mixed thoroughly with soap mixture) = 60 litres. per Ha. ( mustard oil).

#### (4) Liming :

- Liming neutralizes soil acidity (soils of the State mostly moderately acidic in nature).
- Liming is done to increase the P<sup>H</sup> value of soil towards Alkaline.
- It changes the soil structure.
- It promotes the bacterial breakdown of organic matter.
- It supplies calcium needed for plant growth and bone formation of fish.
- It serves as a fertilizer.
- Generally quick lime more effective than slake lime.

#### (5) Manuring :

Several types are recommended.

- Raw cattle dung (RCD) applied @ 10,000 – 20,000 Kgs/ha/yr applied after 2 weeks or fortnight of liming.(In case non available of RCD dry cattle dung be applied)
- With the popularity of induced breeding techniques Plankton formation within 3- 4 days could be done through:

<b>1<sup>st</sup> day</b>	RCD	= 5000 Kgs/ha <b>soak in water</b>
	+ Single super phosphate (SSP)	=250 Kgs/ha <b>overnight and</b>
	+ Ground nut oil cake (GNO)	= 250 Kgs/ha <b>spread over the water.</b>

**2<sup>nd</sup> day** All above at ½ the dosage.

**3<sup>rd</sup> day** Stop manuring.

**4<sup>th</sup> day** Appearance of planktons.

**5<sup>th</sup> day** Rich plankton appearance ideal for stocking seeds.

- Apply 50 Kgs/ha of Ash of water hyacinth or nay other ash of succulent green plants that gives rise to production of more diatoms (zooplanktons)
- Apply 500 Kgs/ha of RCD in liquid form applied 3 days of stocking ensures continuous production of planktons.
- Apply 10 Kgs/ha Cobalt nitrate if plankton estimation is below 0.50 ml/ 150 litres.

#### (6) Parameters of water:

<b>Green &amp; blue</b>	- due to predominance of phytoplankton – <b>add RCD.</b>
<b>Brown</b>	- rich in zooplankton – <b>very ideal for fish culture.</b>
<b>Dirty</b>	- Silty suspension – <b>add little lime mixture.</b>
<b>Clear &amp; Turbid</b>	- less productive – <b>add additional manuring.</b>
<b>p<sup>H</sup></b>	- <b>7.5-9.0 highly productive for fish culture.</b>

#### (7) Estimation of plankton:

50 litres pond water collected from different areas (depth) through a plankton net add a few drops of formalin solution. Wait till the sediment is settled in the glass tube (preferably graduated – market into ml.)

If, contains 1.00 ml and above – **rich in plankton**: Contains below 1,00 **poor plankton composition – add RCD.**

## **POST STOCKING MANAGEMENT:**

- (1) **(note :-** the length & weight of Spawn approximated at:  
Length = 5- 6 mm  
Weight = 0.0014 gms/ spawn.  
Or 150 gms/ one lakh spawn)
- (2) **Artificial feeding:**  
Mustard oil cake (MOC) : Rice bran (RB) given at 1:1 ratio @ 2-3% per Kg body wt of fish /day.
- (3) **Stocking density:**  
Spawn @ 100 lakhs (one crores or 10 million)/ha for 15 days.  
Fry @ 10 lakhs (one million)/ ha for 2,3 months. Fingerling @ 10,000 Nos/ha/yr.

## **MEASUREMENT & CONVERSIONS**

**(Generally use in States fisheries)**

1 hectare (ha)	= 10,000m <sup>2</sup>
1 hectare (ha)	= 2.471 Acres.
	( or preferably we use 2.5 Acres)
1 metre (m)	= 3.28 ft. (or preferably we uses 3.3 ft)
1 metre(m)	= 100cms
Acre	= 43,560 sqft
1 Acre	= 3.025 Bighas
1 Bigha	= 14,400 sq ft or 120 ft X 120 ft.
1 Bigha	= 20 Kathas
1 Katha	= 720 sq ft.
1 Burra	= 4 Bighas
1 Cubic metre	= 1000 litres
1 Gallon	= 4.8 litres