

INTEGRATED PADDY-CUM-FISH FARMING SYSTEM LPM-610 (Unit-II)

LECTURE-3



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Practices for Integrated Paddy-cum-Fish Farming

Flooding and Weeding of Paddy:

- The paddy fields should be flooded after transplanting.
- Care is taken to keep the water level at a minimum of 5 cm to allow proper filtering and the water level kept at 30-50 cm deep till the rice matures.
- Weed control measures: Adopted by manual method by uprooting the weeds on both sides of the plots of cultivated rice 2-3 times a week.
- Chemical method of weed control: Avoided to ensure that agents capable of causing pollution to the ponds or mortality of fish are extensively avoided.



Fertilization of Rice Fields:

- The plots utilized for rice-cum-fish culture is mainly based on organic fertilization with a varieties of animal excreta and waste of plants.
 - Ashes from household brunt, remains of burnt straws after the harvest is over and compost fertilizer like decomposed straws, weeds and rice stalks etc.
 - The Fertilization of the paddy rice field is mainly practiced and was done with cow dung at the rate of 10 kg /50 m biweekly.
 - This is done by broadcasting the fertilizer evenly on the fields from various points of the dykes.
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Source of fish seed:

- The progressive fish farmers who normally produce adequate size of fish seeds by rearing in small size ponds for a period of about 1-2 months and sell it to the farmers who grow them directly in paddy fields and farms.

Culturable Fish Species:

- *Labeo rohita*, *Catla catla*, *Oreochromis mossambicus*, *Anabas testudineus*, *Clarias batrachus*, *Clarias macrocephalus*, *Channa striatus*, *Channa punctatus*, *Channa marulius*, *Heteropneustes fossilis*, *Chanos chanos*.



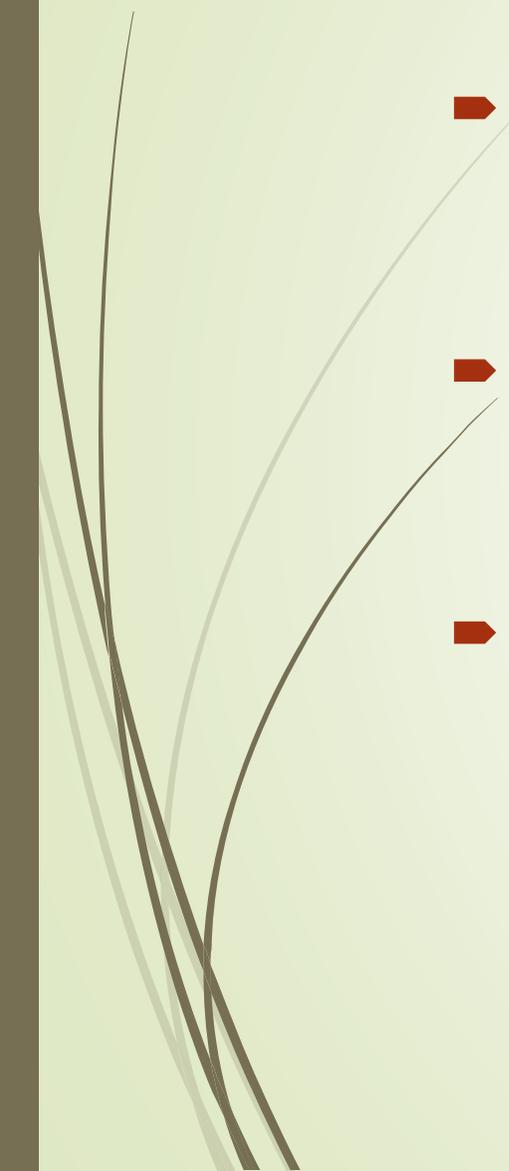
Stocking of fish seeds:

- Before releasing of fish seed to paddy field the paddy transplantation from rice seed beds to main paddy fields is done in the month of April.
- There after paddy is left for two weeks for strengthening of paddy roots, the fish seed @ 2500 nos./ha area is released.
- The fish rearing period varied from 3-6 months and the paddy rearing period is 5-7 months.



Stocking of Fish Fingerlings:

- The fish fingerlings initially of average weights upto 20-35 g are stocked at 200 fishes/50m paddy after flooding.
- Water quality parameter is measured monthly.
- Turbidity is measured with a seechi disc at the refuge trench.
- pH is determined with a pH meter equipped with temperature probe.

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- Conductivity of the water is measured with a multi-range conductivity meter.
 - The dissolved oxygen (DO) is determined with dissolved oxygen meter.
 - Plankton population densities in water are determined in accordance with the standard methods.



Feeding of stocked fingerlings:

- Feeding of the stocked fish in the paddies started immediately after stocking at established feeding spots.
- The fish are fed once in a day.
- The desired required proximate composition and quantity of the feed ingredients are must be given to the fingerlings at proper scheduled period.



Growth Rate:

- Monitoring of growth rate of fish in the pond is carried out by randomly catching the fish using a hand net.
 - The timely weight and the measurements are taken and the fish returned to the trenches.
 - Feeding rates are adjusted accordingly.
 - Feed is used to attract the fish before each sub-sampling.
 - The mean growth rates (MGR) are calculated for the fish species according to the species.
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Harvesting:

- Gears use for harvesting fishes is simple bamboo made basket called cane/bamboo.
- The fish culture for the period of 3-4 months in rice field, a production of 200-300 Kgs/ha achieved and while fish grown for the period of 5-6 months.
- 400- 500Kgs/ha yield has been reported in the same season.



Method used for harvesting:

- First the water is drained through outlet pipe for allowing fishes and water accumulated in mid channel of paddy field; and the fishes are caught with the help of hand picking.
 - Then stocking in large plastic bucket in live condition.
 - After completion of fish harvesting the paddy harvesting followed.
 - Normally paddy harvesting is made last part of September and October.
 - The paddy production ranges from 3500-4500 Kgs/ha from the same plot of land.
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Marketing:

- Fish harvested from the paddy field are marketed at the local market in live or fresh condition.
- Due to high market demand, live fish sold @ Rs. 150-200/- per Kg and fresh fish @ 100-120/- per Kg.
- During the lean season, the market price fluctuates.
- Marginal fish farmer sell their produce in fish market or in the paddy field itself.
- During the peak season, the fish production from these paddy fields also reaches in the capital markets.
- During the rearing period of paddy and fish, no chemical insecticide/ pesticide/ fertilizer apply in the entire paddy field.



THANKS