

GAP based carp fattening in pond

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Background

- Fattening is a popular technique to increase biomass in animal rearing
- Practice is often followed for the production of beef cattle, crab and even fish in Bangladesh
- Carp fattening is the production of larger fish under lower stocking density within shorter period
- Carp fattening requires stocking of over wintered and larger size fish to obtain the fast growth and to achieve maximum fish biomass within shorter period.
- Initiated by ICLARM (WorldFish) through addressing problem of aquaculture in red soil/drought area during 1999-2000
- Efforts by RU/SEAF/USDA on increasing farmers capacity during 2013-214
- Gaining popularity day by day with the involvement of series of actors in livelihood/enterprise development
- Raising also some safety and quality issues
- Improvement and dissemination effort by RU/PSTU/BARC/WB during 2018-2020
- GAP based carp fattening can achieve both livelihood and ecosystem sustainability in climatically challenged area of Bangladesh

Benefit of the technology:

- a) Fast growth of fish
- b) Obtaining larger size fish
- c) Increased fish production in shorter period
- d) Harvested fish is found safe as food
- e) Natural or good taste and flavor obtained with harvested fish
- f) Very less mortality of fish
- g) Increased income with decreased production cost
- h) Effective utilization of the ponds under drought prone area and
- i) Environment friendly

Description of the technology

a) Pond selection

- Comparatively larger pond
- Suitable water depth of around 5 to 6 feet
- Rectangular pond is preferred for effective netting
- Entrance of sufficient sunlight into the pond

b) Pond management

- Remodeling of the embankment for keeping the pond flood free
- Staffing to protect soil erosion
- Removal of the aquatic weeds
- Removal of unwanted fishes and other animals through repeated netting
- Liming (1kg/decimal) for disinfecting the pond and water quality improvement; in addition to liming (2-3 kg/decimal), ash treatment (15 kg/decimal) is required in obtaining good result from ponds under *barind* area
- Enhancing natural feed production through inorganic fertilizer like urea and triple super phosphate (each @ 150g/decimal) after 5-7 days of liming

c) Fish stocking

Comparatively larger size fishes produced through overwintering are selected for stocking in fattening ponds. Fishes of different layers are stocked into the ponds after 3-5 days of fertilization as follows:

Water layer	Fish species	Stocking density (Individuals/decimal)	Stocking weight (g)
Surface	Catla	3	350-400
	Silver carp	1	300-400
Column	Rui	3	250-300
Bottom	Mrigal	2	300-350
	Carpio	1	250-300

d) Post stocking management

- Fortnightly liming (200-250g/decimal); in addition to liming, ash treatment (10 kg/decimal/month) for ponds under *barind* area
- Regular fertilization with urea and triple super phosphate (each@ 4g/decimal/day)
- Supplementary feeding (25% protein content) @ 2-5% of fish body weight (twice daily, 50% at morning and 50% at afternoon)
- Use of both commercial (70%) and home- made (30%) feed under restricted feeding regime (feed restriction for 4 days per month) to reduce the feed cost

e) Harvesting and live fish transportation

- Stocked fishes can reach the harvestable size (catla and silver carp of 2.5-3.0 kg; rui, mrigal and carpio of 1.5-2.0 kg) within 5-6 months; fish production can be obtained as 3500-4000 kg/ha/6 months
- Ensure depuration of the harvested fishes for at least 12 hours in circular tank before transportation
- Maintain less load/density (80-100kg fish per ton of water in truck) with water exchange once while transporting the fishes at distant places (250-300 km)

e) Important considerations for good aquaculture practices (GAP)

- No provision of latrine on or beside the pond embankment
- Avoid homestead activities in pond like washing cloth, cleaning utensils etc.
- Avoid bathing in pond
- No entrance of polluted water in pond from outside
- Avoid the application of organic fertilizer like cowdung and poultry dropping
- Regular test for the existence of pathogenic microbial load and heavy metal concentration at safe level