

Technical Bulletin #99:

Building Lightweight Fish Cages for Ponds

What is a fish cage?

A fish cage is a floating structure that supports a net bag in which fish are raised. The net bag allows water to move easily between the cage and the pond. Because of this water movement a relatively small cage can be used to contain all the fish that can be produced in a pond. To be effective cages should have at least half a meter of water between the outside of the net bag and the bottom or sides of the pond.

When should a fish cage be used?

If any of the following conditions exist a fish cage can be used:

- The pond is vulnerable to seasonal flooding;
- The pond is very deep.
- The pond has high steep bank;
- The pond is difficult or impossible to drain;
- The pond has deep mud on the bottom; or
- The pond will be used for the production of fry or fingerlings.



Cage Parts and Construction Considerations

Frame:

Materials: Wood, Bamboo, or Steel

Construction Considerations:

- The frame must be strong enough to reliably support the net bag, floatation, cover, and feeding ring.
- The frame should have an open top to allow for easy access to fish during sampling and at harvest.

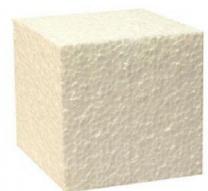
Floatation:

Materials:

- Plastic air tight containers
- Metal air tight containers
- Blocks of plastic foam

Construction Considerations:

- 1 liter = 1 kg of floatation
- Floatation containers/foam must support two times the total weight of the frame, net bag, cover, and feeding ring



Net Bag:

Materials:

- Strong fishing net with a mesh size between 2 and 4 cm

Construction Considerations:

- All edges should be reinforced with rope.
- Avoid any folds or creases that can trap and kill fish. Use plastic bottles filled with sand and tied to the outside to hold down corners of cage.



Cover:

Materials:

- Strong 70% shade cloth
- Plastic tarp

Construction Considerations:

- Cover must provide shade and security to fish. A good cover will improve feeding behavior of fish.
- Use strong sunlight resistant fabric.
- Cover top and sides of cage to the water line.
- Use bamboo frame to prevent cover from sagging.



Feeding Ring:

Materials:

- Plastic Tarp
- Feed bags

Construction Considerations:

- Feeding rings reduce feed loss and lower FCR's.
- Feeding rings should be 25% of the surface area of the net bag.
- Feeding rings should extend at least 40 cm below the surface of the water.
- Sew feeding ring into the center of the cover.
- Use plastic bottles filled with sand to hold the corners of the feeding ring down so that it remains open and accessible to fish.



Care and Maintenance of Cages

Cages should be inspected regularly for damage and tears in the net bag. Any damage or tears in the netting should be repaired immediately. If feeding behavior of fish decreases, check around the cage for escaped fish. This is a good indication that fish are escaping from the cage.

In order for cages to be effective there must be good water exchange between the cage and the pond. The net bag needs to be cleaned regularly to prevent algae and sediment from clogging the net. Use a long handled brush to clean the sides and bottom of the net bag.

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