

How to Construct a Fish Cage

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Introduction

Many farm ponds can be used to grow fish with cage culture. Fish cages are easy to build, require minimal maintenance and provide an introduction to the world of aquaculture.

Because they offer protection from predators, provide controlled feeding, and simplify monitoring and harvesting stock, cages are a convenient approach to raising fish for personal consumption. Fish can also be reared in cages for marketing to local restaurants, sale to game clubs or stocking for fishing derbies.

NOTE: Raising fish is highly regulated in Massachusetts. **A permit from the Massachusetts Division of Fisheries and Wildlife is required** to possess game fish, even when raising them for personal consumption. Massachusetts state regulations determine what species can be grown and where cages can be located. Massachusetts Division of Fisheries and Wildlife Regulations, 321 CMR 4.09. are summarized at:

http://www.mass.gov/dfwele/dfw/cmr/dfw_cmr_400.htm.

The species and size of fish to be grown, the number of fish per cage and physical characteristics of the culture site will influence the size and shape of the fish cage. The following discussion describes the materials, tools, and methods to construct a 4' x 4' cylindrical cage. This cage is suitable for many uses.

Materials & Tools

Cage Materials

- ½" plastic mesh screening (20' length x 48" width)
- ¼" plastic mesh screening (8.5' length x 10" width)
- 8" quick-ties (1000 piece bag)
- ½" black polyethylene tubing (25'- 30' roll)
- ½" tubing inserts (2) - See Fig. 1
- ½" T-shaped tubing insert (1) - See Fig. 1
- 3" diameter Net Floats (24) or two foam "swimming noodles"



Fig 1

Optional

- coated automotive wire (to secure seams of cage)
- small bungee cord to latch the cage lid

Tools

- industrial strength scissors or cutters

Construction

Cage Body

- 1) Cut one length of ½" plastic mesh screening 8' 10" long.
- 2) Roll piece into cylindrical shape with a 10" overlap (Fig 2).
- 3) Secure body with 2 rows of quick-ties running down both ends of the 10" overlap section. Place quick-ties every 3" so there are no gaps in the overlap. Fewer ties can be used if automotive wire is used to secure the seams. Be sure to lock quick-ties on the outside of the cage body.
- 4) Cut off excess length on quick-ties.



Fig 2

Cage Bottom

- 1) Cut ½" polyethylene tubing just less than 8' in length (Fig 3).
- 2) Connect polyethylene tubing with the T-shaped tubing insert. The T-shaped tubing insert allows bottom to fill with water and submerge the cage. Drilling holes in the tubing for the cage bottom will also help submerge the cage.
- 3) Place polyethylene tube ring on the outside of one end of cage body even with the last square of plastic mesh.
- 4) Secure ring to cage body with quick-ties, placing ties every 4".
- 5) Cut one piece of ½" plastic mesh screening into a 4' x 4' square (Fig 4).



Fig 3

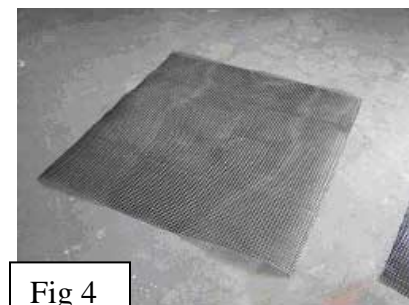


Fig 4

- 6) Place 4' square mesh piece on top of end with polyethylene pipe attached.
- 7) Connect 4' square mesh piece with quick ties, looping them through the body, the square mesh piece, and around the polyethylene pipe. Secure quick-ties on the outside of the cage, so that excess material can be cut off (Fig 5). Make sure that there are no gaps in between the body and the bottom of the cage, using zip ties or automotive wire.
- 8) Cut off excess square mesh material hanging off the base of the cage.

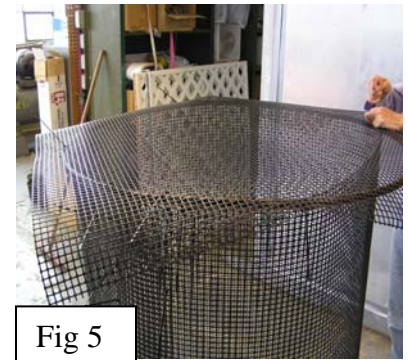


Fig 5

Cage Top Support

- 1) Cut another piece of ½" polyethylene tubing to just under 8' in length.
- 2) Connect tube with straight tubing insert.
- 3) Place tube on top end of cage even with the last ½" square mesh.
- 4) Connect tube to cage body with quick-ties. Space evenly around the ring for support. (Fig 6, see arrow).

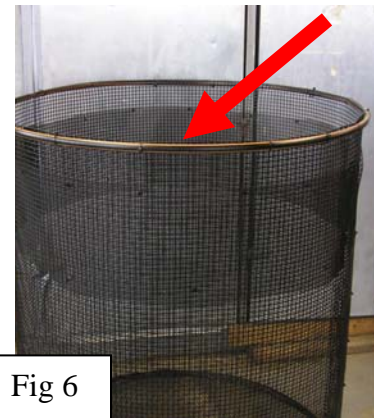


Fig 6

Cage cover

The cover provides shade, prevents escape and deters predation by birds.

- 1) Cut a piece of ½" square mesh screening 4' square, as above.
 - 2) Cut another piece of ½" polyethylene tubing just less than 8' in length. This lid frame should be large enough to encircle the tubing at the top of the cage body.
 - 3) Connect polyethylene tubing with straight tubing insert and place on top of 4' piece of ½" plastic mesh screening.
 - 4) Secure poly-tube to plastic mesh with quick-ties.
 - 5) Cut off excess plastic mesh screening from the corners.
 - 6) Use 4 quick-ties to make hinges connecting one end of the cage top to the lid.
- Note the small bungee cord in Fig 7, used to secure the cover.



Fig 7

Feed Ring

The feed ring prevents feed from floating out of the cage.

- 1) Cut one piece of ¼" plastic mesh screening 8' 4" in length and 10" wide.
- 2) Place ¼" plastic mesh screening inside the cage, with the upper edge 4" from the top of the cage body. There will be a 4" overlap at the end of the feed ring.
- 3) Secure with two rows of quick-ties, making sure to lock the quick-ties on the outside of the cage (Fig 8)
- 4) Cut off any excess material from the quick-tie ends.



Fig 8

Floats

Using quick ties, secure floats or swimming noodles just below middle of the feed ring (Fig 9).



Fig 9

Suppliers

While some materials can be obtained from hardware stores, specialized materials for this cage were obtained from:

Aquatic Eco-systems, Inc.
2395 Apopka Blvd.
Apopka, FL 32703
(877) 347-4788 --- toll free
www.aquaticeco.com

Further information

- Massachusetts Division of Fisheries and Wildlife Regulations, 321 CMR 4.09. http://www.mass.gov/dfwele/dfw/cmr/dfw_cmr_400.htm.
- [The Viability of Farm Pond Aquaculture—The experiences of Paul Catanzaro of Chesterfield MA with cage culture.](#)

Additional cage culture publications can be accessed from the UMass Extension Aquaculture Team resources site:

<http://www.umass.edu/aquaculture/resources/index.htm>