

Broodstock Collection, Transport and Maintenance

Broodstock are adult fish used for breeding. Many hatcheries cannot keep broodstock. Broodstock cost a lot and are easily stolen. They take up a lot of space. The cost of feeding is high.



Hatcheries without broodstock have to collect adult fish from nearby ponds, tanks or small reservoirs.

When should I collect broodstock?

If you collect them before the season, you can hold them in small ponds for some days to improve their condition. Broodstock can also be put directly into a breeding pool for spawning.



Collection of broodstock

I have never had broodstock before, should I handle them myself?

Broodstock need to be handled very carefully, you can learn from an experienced fisherman.

Injured fish can get an infection, and may die.

Fish with eggs will not spawn if handled roughly.

How should broodstock be collected?

The best way is by drag-net early in the morning when it is cool.

Then put the fish in net enclosures or hapas in the same water body for 1 to 2 hours.

They get used to a limited space and stop trying to escape (then they don't get injured). They also excrete any waste so it won't foul the water during transport.

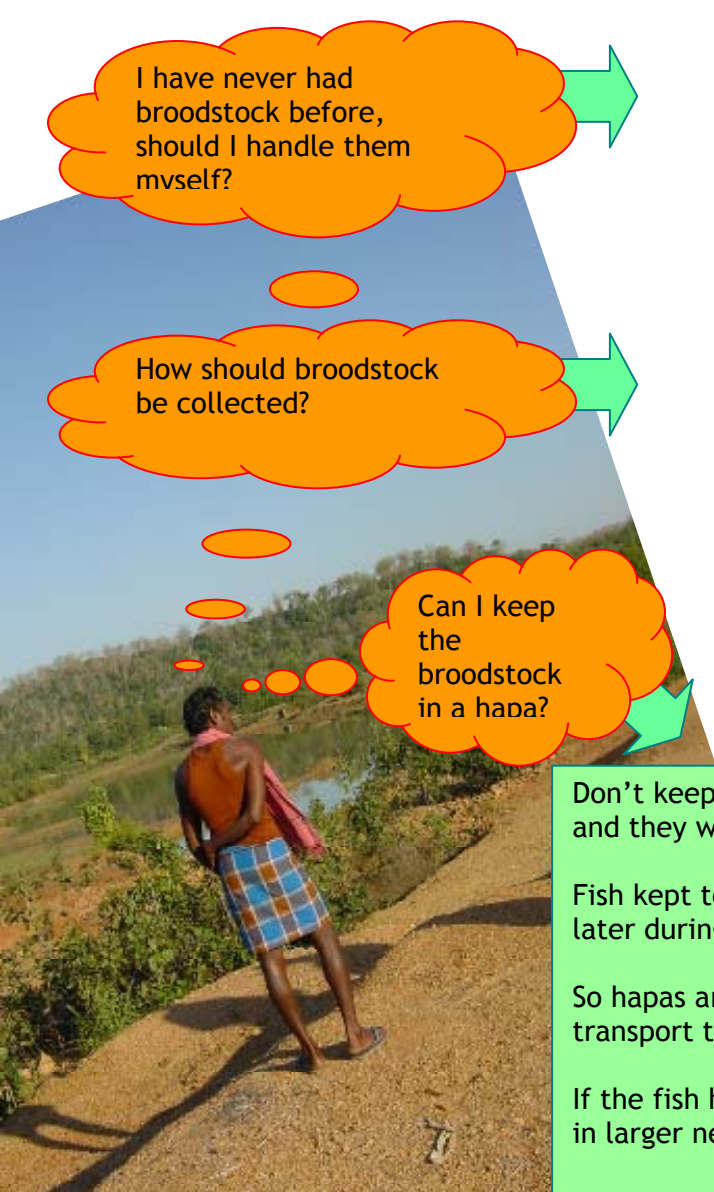
Can I keep the broodstock in a hapa?

Don't keep fish too long in hapas. There is not much space or oxygen, and they will produce lots of waste.

Fish kept too long in hapas become stressed and can die in the hapa, later during transport or maybe even after they are stocked in the pond.

So hapas are good for fish up to 3-4 kg kept for a few hours before transport to a nearby hatchery.

If the fish have to go on a longer journey it is better to get them ready in larger net enclosures with a bigger mesh.



Transporting broodstock



Fiberglass containers are good for transporting fish.

- Fiberglass containers have been developed specially for fish transport
- Fiberglass is strong and light
- The containers can fit on a small flatbed truck and can be easily used together with aeration or an oxygen cylinder and a diffuser.

The fish are transported in a tank on a flat-bed truck. A hapa is put inside the tank so that it is easier to catch the fish.



When the truck reaches the hatchery the fish are taken carefully out of the tank and transferred to the holding tank.



The fish are put into hand nets or hapas in a bucket and carried to the holding tank.

The fish are dipped into a bucket with 5 l of water and a 1/8 teaspoon of potassium permanganate.



Some important tips for transporting fish:

- The tank should be completely full of water so the fish do not get injured
- Putting a hapa in a tank help to get the fish out without stress
- The water should be the same temperature or slightly cooler than their pond
- If you bubble oxygen slowly through the water the fish will always have enough

A holding tank has already been prepared. The water is slightly cooler than the pond they came from.



The fish are put into a hapa inside the tank. This makes it easier to catch them if we want to sort them.

A shower puts oxygen into the water, makes the water circulate, and, like rainfall, stimulates breeding.

The tank is covered with a net so that the fish don't jump out.



Looking after Broodstock

What ponds are broodstock kept in?

Broodstock are usually raised in perennial ponds of 50 - 125 decimals (0.2 to 0.5 ha) and 2 to 3 meters deep.

When should the broodstock be stocked?

A larger hatchery will keep broodfish all year and select the best ones for spawning.

A smaller hatchery may buy broodstock before the breeding season in February or March keeping them in a well-fertilized pond free of other fish.

A very small hatchery may buy broodstock and put them directly into a breeding pool for spawning.



Mahua Oil Cake

How about fertilizer?

Here are 3 ways to fertilize a pond and make food for the fish:

- Mahua trees grow all across Eastern India. People get oil from the seeds and also mahua oilcake. You can add mahua oilcake to the pond before you stock the fish. 10 kg per decimal kills unwanted fish and insects. After 10-15 days it is no longer toxic and becomes a good fertilizer for ponds. It creates a lot of zooplankton (tiny swimming animals) that Catla eat. [If there are no unwanted fish 5 kg per decimal will be enough]
- Adding cattle manure or a mixture of cattle manure and poultry manure makes the water green with food (phytoplankton) for Rohu and silver carp after a few weeks.
- Sometimes farmers use fertilizer in bags (NPK). This creates plankton quickly. One problem with NPK is that it gets quickly used up and sometimes the plankton die in large numbers. This takes the oxygen out of the pond so the fish may also die.



Rice Bran and Groundnut Cake

How about feeding?

You can feed the broodstock everyday, early morning and late evening with a mix of rice bran and groundnut oilcake.

My pond is 10 decimals and I have 60 kg of broodfish in it. I need to feed them 1.2 kg of feed a day; half in the morning and half in the evening.

My pond size is:	7.5 dec.	10 dec.	12.5 dec.
Fish:	45 kg	60 kg	75 kg
Rice bran:	450g	600g	750g
Groundnut oilcake	450g	600g	750g

My pond size is:	5 decimil	7.5 decimil	10 decimil	12.5 decimil
Fish:	30 kg	45 kg	60 kg	75 kg
Rice bran:	300g	450g	600g	750g
& groundnut oilcake	300g	450g	600g	750g



How do I ensure good water quality?

Top up the pond when you can. Feed enough, but take care not to make the water go bad. Adding too much feed can use up oxygen in the water that the fish need.

When will the fish be ready to spawn?

If you look after your broodstock well, you will be able to spawn before the monsoon. If you feed the broodfish well and make sure the water is clean, you can spawn the same brood fish again after about two months.

Any questions...?

How do I know if the broodstock I am collecting are healthy?

The fish should look well fed. The fins should be full not ragged. The gills should be red in color and look fresh.

Check that there are no lice or worms attached to the fins or the body.

How can I choose fish that will spawn?

Not all adult fish are ready for breeding.

The belly of the female should look full. With males you touch their abdomen and the milt comes out.

Useful Contacts

Other Better-Practice Guidelines

There are many more Better-Practice Guidelines in this series.

You can get more copies of this and other Better-Practice Guidelines from your local One-stop Aqua Shop, STREAM India Communications Hub, from the STREAM Regional Office or from the STREAM Website.

www.streaminitiative.org

We would like your feedback about these Better-Practice Guidelines. You can let us know by phoning, emailing or writing to the Communications Hub Manager at your STREAM Country Office.

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