

Fast Fingerling Production: Nursing Spawn in Ponds

It takes about 75-90 days to rear fingerlings. Growing spawn to fry takes 15-21 days and then fry to fingerling size a further 1.5 - 2.5 months. Thus, if spawn is stocked in a nursery on 1 July the fingerlings are usually ready by the end of September. Yet many people who have seasonal ponds like to stock with advanced fingerlings when the pond fills up (usually in July) so that they can harvest a crop of market size fish by November-December.

The “fast fingerling system” can produce advanced fingerlings about two months earlier than they are normally available from fish farms.



The farmer uses just one pond for continuous growing until fingerling size is reached, and fewer fish are stocked. A farmer with a small, seasonal pond can produce fingerlings in one month. These can then be sold for a high price because everyone wants fingerlings as early as possible.

The number of spawn stocked is low because it is important that there is no overcrowding. The manuring and feeding schedules are also different. In all other ways the fast fingerling system is similar to normal fingerling rearing.

How does the “fast fingerling system” work?

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People with seasonal ponds need to stock fingerlings as soon after the rains come as possible, to get the longest growing period.

Usually many fry are stocked in a small pond. With the fast fingerling system the number of fry stocked in the pond is less and they grow to fingerling size more quickly.

So it’s a great system for people who only have seasonal ponds!

Yes, especially in Western Orissa. It is difficult here to get large fingerlings early in the wet season. This means that it is more difficult for people with seasonal ponds to get a good crop of fish before their water dries up.

The fast fingerling system makes it easier for people with seasonal ponds to get a good crop.





What size should the pond be? Do I need to prepare it in a special way?

What else do I need to do?

You need to kill any organisms that might harm the fish before stocking your seed. To do this:

1. Spray bleaching powder on the bottom and the sides of the pond. Use 600 g per decimal (150 kg/ha).
2. Ten days after this spread mahua oilcake. Use 6 kg per decimal (1,500 kg/ha). This is poisonous. At first it kills anything harmful then acts as a fertilizer.
3. Three days after this, spread lime. Use 400 g per decimal (100 kg/ha).

Select your pond carefully. Your pond should:

- be smaller than 25 decimals
- have water less than 1.5 m deep
- have no weeds in the water or around the edges
- have no inlets or outlets.
- be in a place that will not flood
- not be easy for predators to get into
- be difficult for poachers to reach
- have less than 15 cm of silt at the bottom when full



I'm a notonectid. I love to eat spawn.

The pond is ready ten to fifteen days after you have added the oilcake. The water should be a brown color from the zooplankton (the tiny swimming animals that spawn eat). If you filter 50 l of water with a plankton net, you should get 2-3 ml of plankton.

Before stocking test for toxicity, collect some pond water in a container and add 15-20 spawn and observe them for 4 hours. If they survive, the water is no longer poisonous.

Before stocking the spawn

So when I have applied the bleaching powder, mahua oilcake and lime, the pond is ready? Can I put the spawn into the pond then?

No, no! There is one step you MUST take before your stock the spawn.

What's that?

You have to make sure that there are no notonectids in your pond. Notonectids cause havoc. They eat the spawn and they also eat the same food as spawn. It is very important to control them.

How do I do that?

Use a mixture of washing soap (70g) and any cheap vegetable oil (200ml)/decimal. Spray this over the water surface 12 hours before putting the spawn in the pond. You have to do this very carefully so as to fully cover the entire pond surface.

Can I stock the stock immediately after I have done this?

No, you should wait until the next morning, then put the spawn in the pond while the day is still cool.



This fish can talk.

That's amazing!

Stocking the spawn

How many should I stock?

In the fast fingerling system, you stock less spawn than is normal in nurseries. The rate for the fast fingerling system should be 1200/decimal (3 lakh/ha) instead of (50 lakh/ha)

The spawn must be conditioned before you release it. This means that spawn needs to get used to the new place slowly.

First rest the plastic bag in which the spawn is packed on the surface of the pond for some minutes. Then, open the bag and slowly let small quantities of pond water in. Finally allow the fry to wriggle out into the pond by itself.

How should the spawn be conditioned?

Should I grow all three species?

Do not rear one type of spawn alone. Rear spawn of all the three species - catla, rohu, and mrigal. Use these proportions: 40:30:30 or 35:30:35. Stock these together.

Caring for your spawn

The density of the spawn is lower than in a normal pond, but it will find enough food. However, you must still manure the pond so that the amount of plankton is kept high.

Make a mixture of 100 kg cow dung, 50 kg poultry manure and 25 kg mustard oilcake. Add this every seventh day after stocking.

When you make this, soak the oilcake with cow dung and poultry manure for 24 hours. Then dilute it with pond water. Broadcast it evenly over the entire surface of the pond.

The spawn needs Vitamins B and B12. These help increase the survival rate of the fish. They also help produce plankton .

To add Vitamins B and B12 to the water, spray a solution of cobalt chloride. The day before stocking spray **250 g/ha**.

Ten days after stocking spray **100 g/ha** . Then spray **100 g/ha** again 20 days after stocking.

The spawn will grow well if you give a supplementary diet of finely powdered and sieved groundnut oilcake and good quality rice bran.

This should be a 1:1 mixture. So, from days 1 to 5 the fish need 150g of feed. Of this, 75 g should be oilcake and 75 g rice bran.

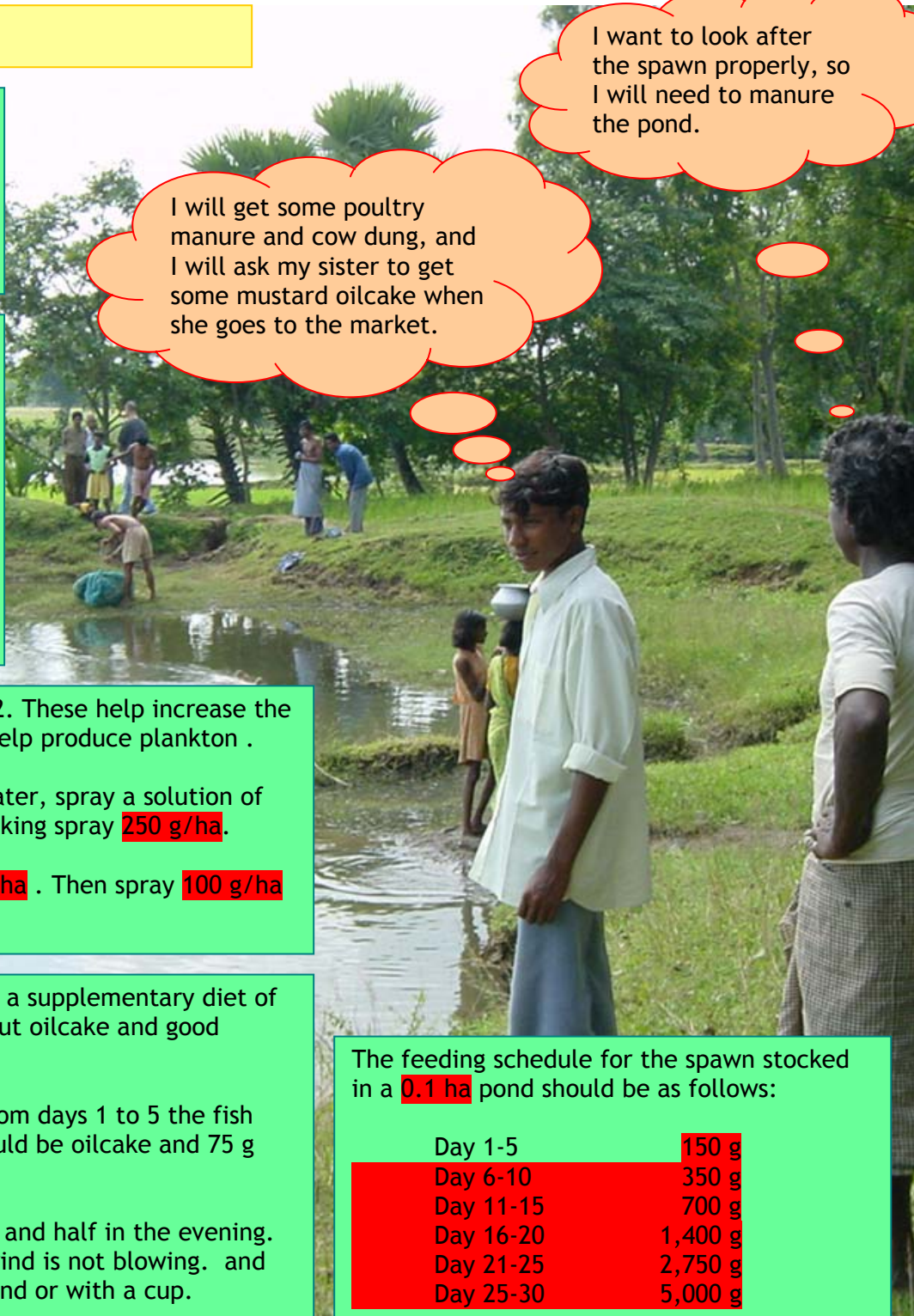
Give half of the feed in the morning and half in the evening. Make sure that you feed when the wind is not blowing. and small quantities are broadcast by hand or with a cup.

I want to look after the spawn properly, so I will need to manure the pond.

I will get some poultry manure and cow dung, and I will ask my sister to get some mustard oilcake when she goes to the market.

The feeding schedule for the spawn stocked in a **0.1 ha** pond should be as follows:

| | |
|-----------|---------|
| Day 1-5 | 150 g |
| Day 6-10 | 350 g |
| Day 11-15 | 700 g |
| Day 16-20 | 1,400 g |
| Day 21-25 | 2,750 g |
| Day 25-30 | 5,000 g |



Harvesting the fingerlings

After 30 days, the spawn will attain the fingerling size.

The fingerlings can be harvested and sold when they weigh on average about 8-10 g and measure 80-100 mm.

The fingerlings should not be fed on the day before you harvest. They should be netted early in the morning and conditioned for about three hours before packing.

The survival rate should be of 30%-40%.

A woman separates fingerlings according to size in Cambodia.



Grass carp fingerlings

A farmer in Cambodia cleans the hapa where his fingerlings are stocked.



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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