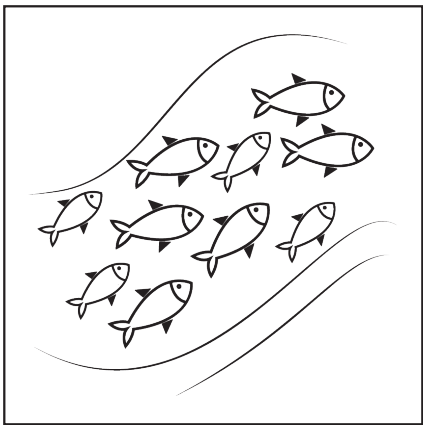


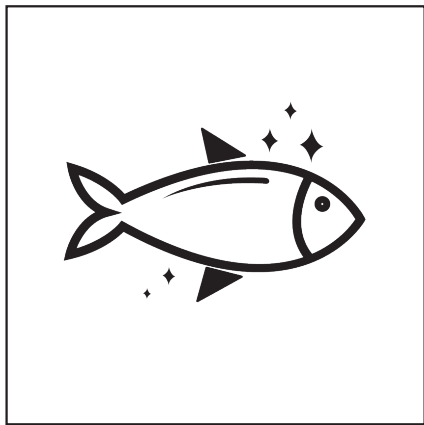
Transportation of Seed

Do you know **Finding good quality fingerlings (seed), Transportation & Stocking** are necessary for ensuring good production?

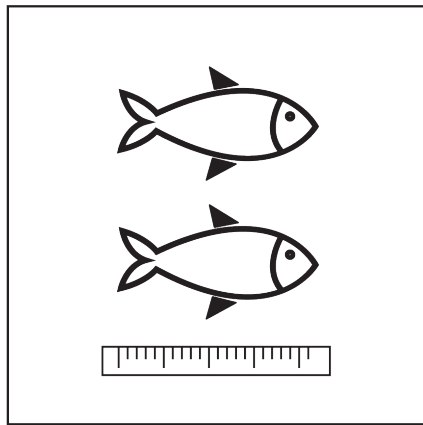




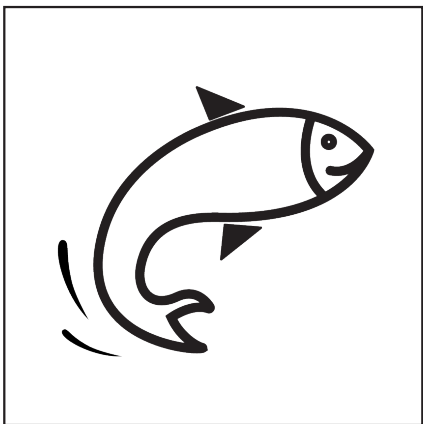
Active movement in groups



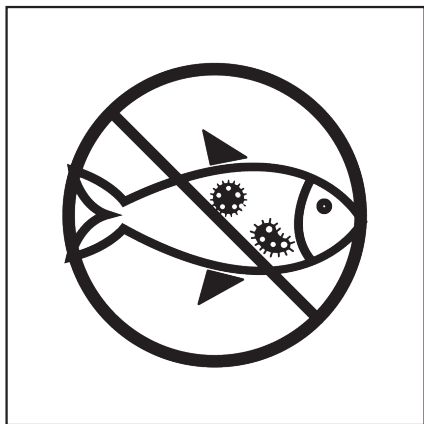
Shining body



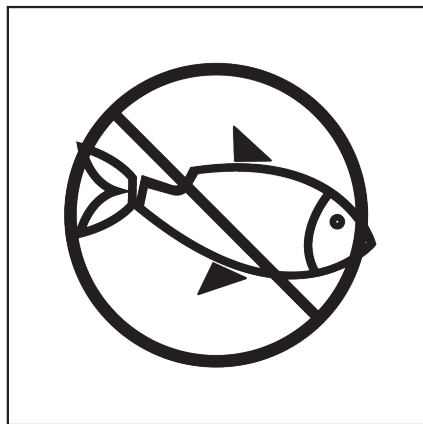
Uniform size



Healthy Appearance



Avoid fishes with external parasites



Avoid physical injury or deformity

This is how we identify good quality fish seed



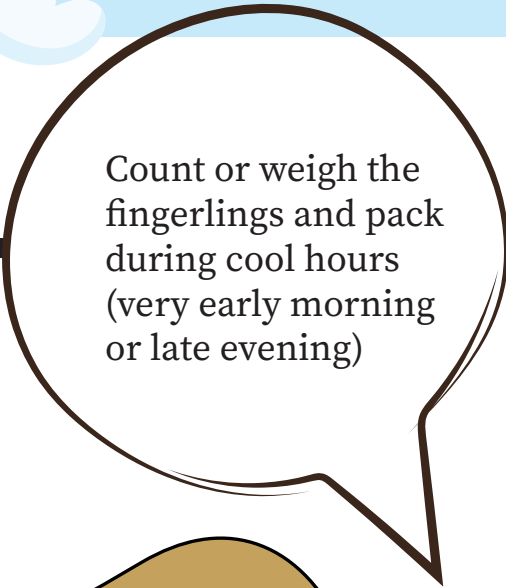


Yes Baideo, but how to prepare seed for transportation at packing place?

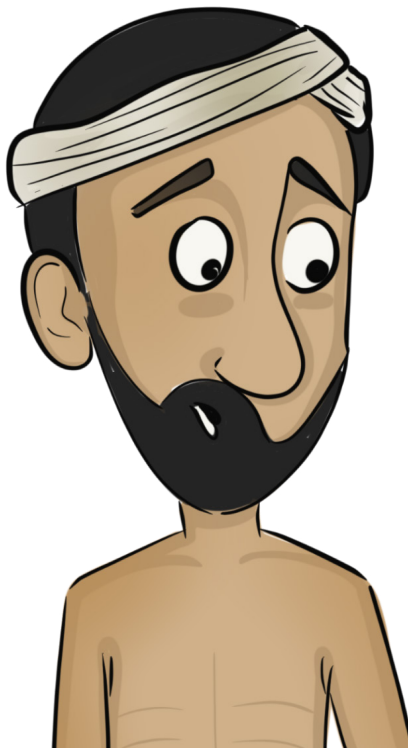
Stop feeding fingerlings 24 -48 hours prior to transportation.

Condition the fingerlings minimum of 2 hours before packing, i.e. remove excreta & keep the fish in clean water.

Remove any dead & weak fish. Keep all the packing material ready (container, oxygen cylinder, etc.)



Count or weigh the fingerlings and pack during cool hours (very early morning or late evening)



There are 2 methods of seed transportation.

1. Open system

Where fish seed is transported in an open container fitted in a vehicle with equipment for continuous oxygen supply. This is normally used when large quantities are to be transported over a short distance

2. Closed system

In closed system, fingerlings are transported in polythene bags filled with water & pure oxygen and made leak-proof by either sealing or tying with rubber bands.

This method is safe for transporting fingerlings up to 24 hours in healthy condition with no or minimal death (< 5%)

Now let's see these methods in details



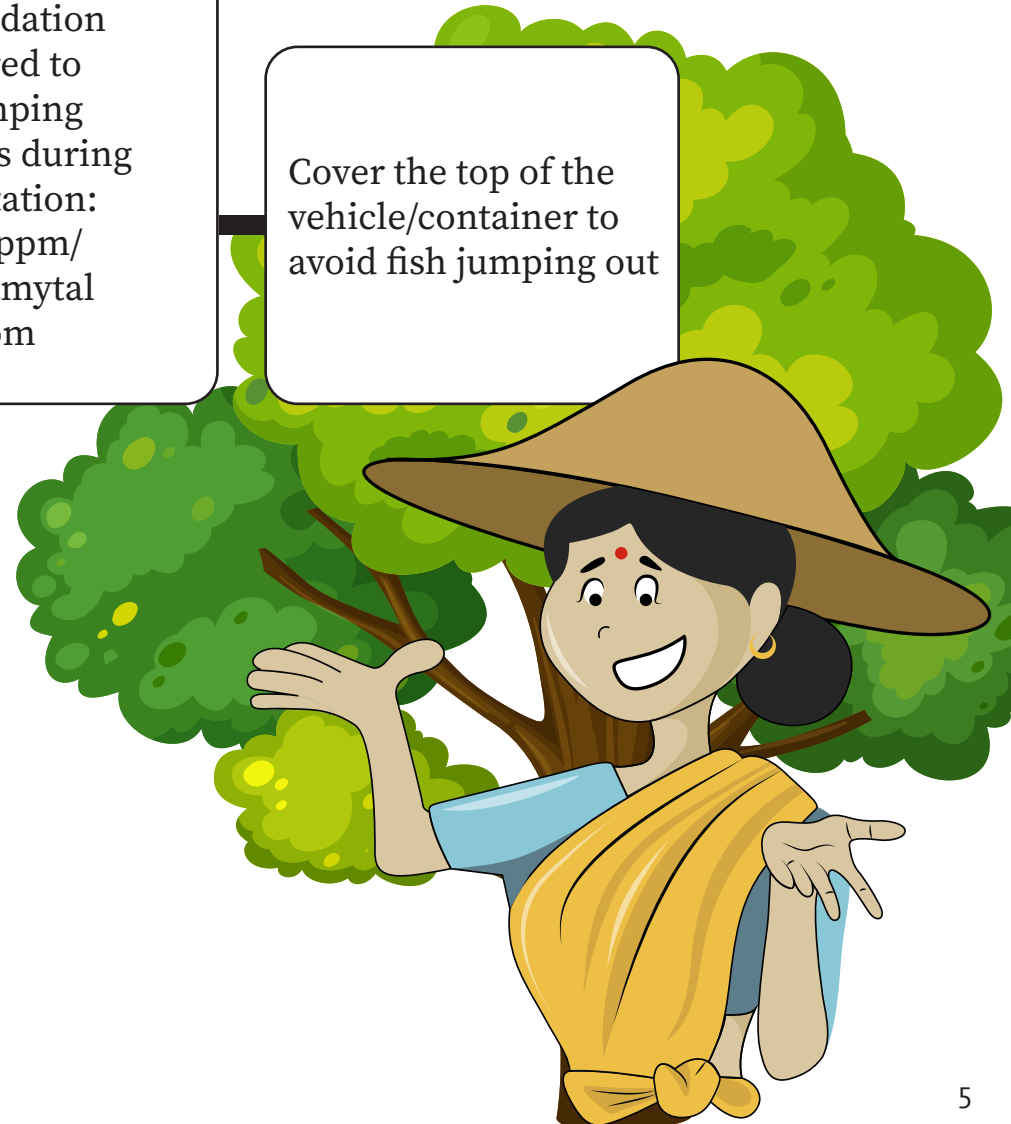
Here's how to prepare for transportation

Sanitize the vehicle/
container and the
materials used for
transporting using
KMnO₄ (Potassium
Permanganate)

1000-1500 number of
large fingerlings (50-
100g) in 1000L
syntax tank are
transported for 12-
18hr duration

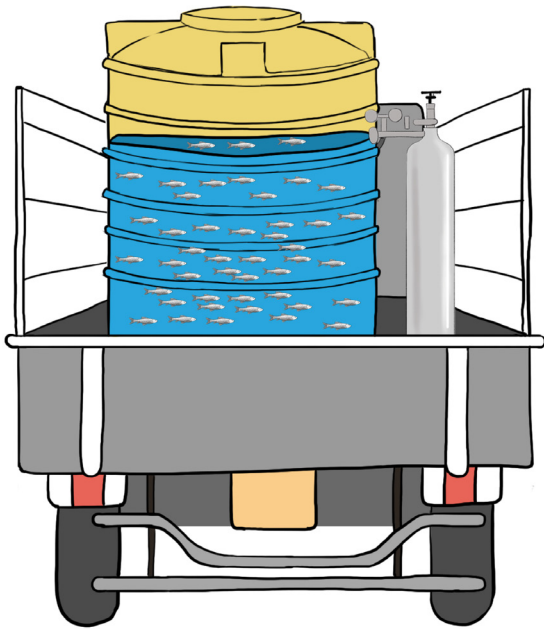
Partial sedation
is preferred to
avoid jumping
and stress during
transportation:
MS-222 5ppm/
Sodium amytal
50-100 ppm

Cover the top of the
vehicle/container to
avoid fish jumping out



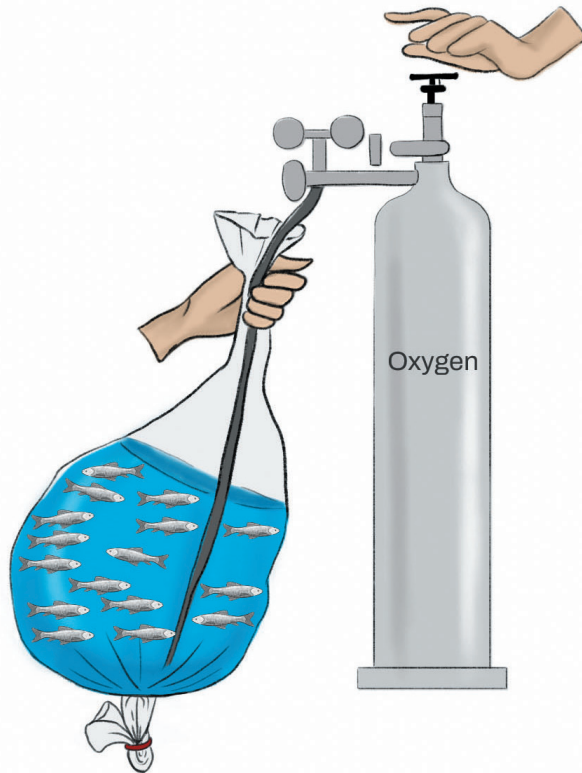
Open system transportation

Bikes, vans, trucks are used for transportation like shown here. We need to change the water partially every 200 km for long distance travel.

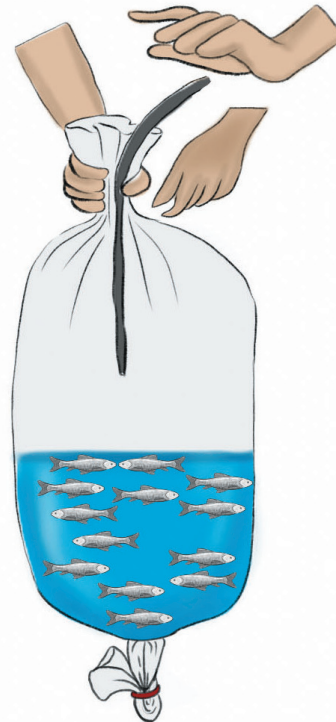


Here's how to prepare for closed system transportation

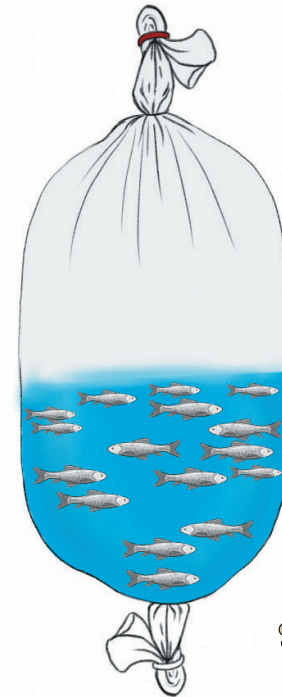
Here, we fill $\frac{1}{3}$ rd of the polythene bag with water & remaining $\frac{2}{3}$ rd with medical oxygen as shown



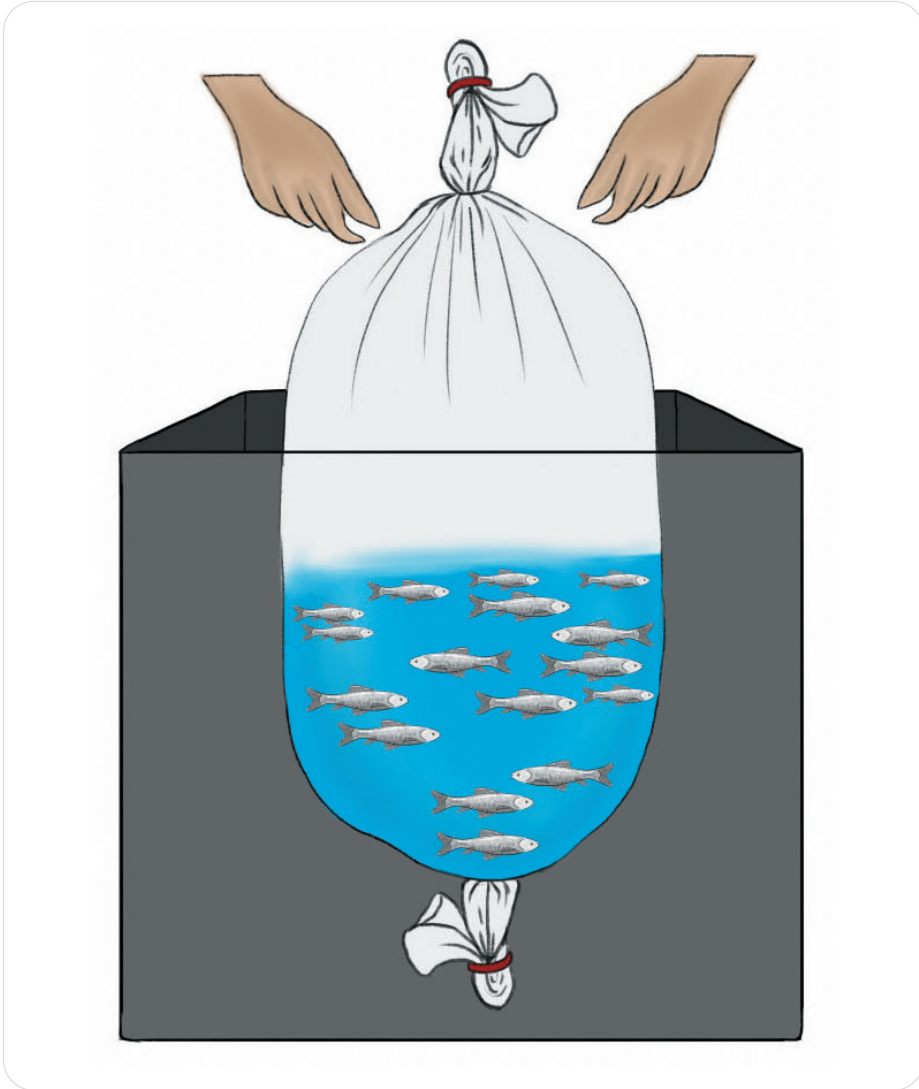
Bags are 65-75 cm in length & 40-50 cm in width with capacity of 16-18 lit



These bags are made leakproof by either sealing or wrapping with rubber band



Closed system transportation



The sealed bags are put in a container (Packing boxes with Xylo foam insulation) to insulate from heat during transport.

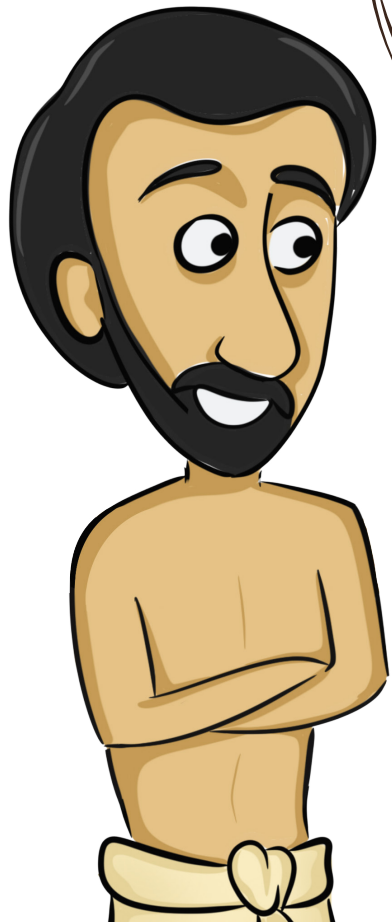
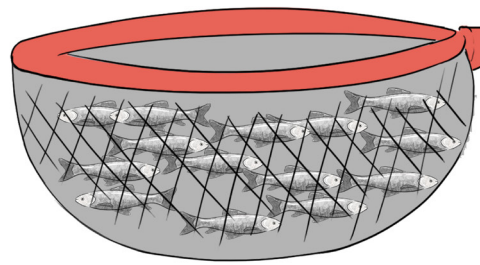
This method is suitable transporting seed for upto 24 hrs using cycle, bike, trucks, etc.



Oh, thank you for sharing that Baideo. How much seed can we transport safely using these methods?

Good question. We measure the seed density by length and weight of the fingerling.

For convenience, we count the fingerlings using cups with perforation or tea strainers; and the capacity of the cup is counted manually.





Here's a table you can refer to for suggest density of fish seed

Suggested density of Fish Seed per bag based on the fish length.

Size of the bag 65-75cm X4-50cm with 30-50 microns thickness 16-18 ltr capacity.

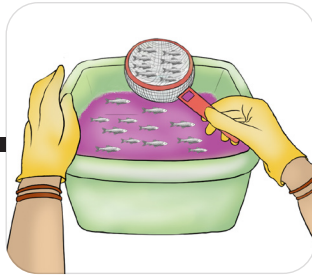
Size of the Fish	Number per Bag	Transport Duration
8-15 mm	1000-1500	Up to 24 hours & the number packed is determined by the size distance and also the number of travel hours
15-25 mm	300-500	
25-50 mm	250-400	
50-100 mm	100-250	

Suggested density of Fingerlings based on weight

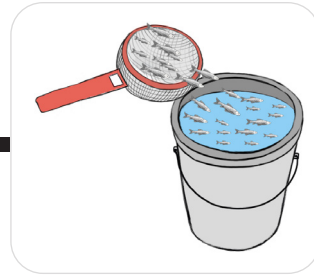
Seedling weight in grams	Number per Bag	Transport Duration
1-5	2000	12 hours
1-5	1000	24 hours
5-30	500	12 hours
30-60	20-30	8 hours
60-100	8-10	8 hours



1. Fingerlings from hatchery



2. Disinfect the fingerlings by dipping in KMnO4 solution



3. Transfer the fingerlings to the bucket to release in hapa net



4. Release the fingerlings into pond slowly in hapa net

Immediately after arrival, adjust the packed fish to pond temperature by letting the closed bags float on the water preferably in a shaded area for 15 Minutes.

During this period prepare KMnO4 solution using pond water.

Open the bag and crimp the edge several times to have a floating bowl and now mix with pond water by allowing the pond water into bag and slowly replace bag.

Catch fish in a net and dip them in a disinfectant solution prepared and release the fish into a happa.

Condition the fish for about 1 hour, remove dead fish if any and then release the fish into pond slowly.

