



Milkfish (*Chanos chanos*) farming in Solomon Islands



RESEARCH PROGRAM ON
Aquatic Agricultural Systems

The purpose of this information sheet is to provide basic details on how to grow or farm milkfish. Other information sheets will provide more details on pond construction, maintenance and feeding the fish you farm.

What is Milkfish?

Milkfish is a common marine fish that is native to Solomon Islands. Its scientific name is *Chanos chanos*. Milkfish has various names in different languages in Solomon Islands as listed below:

Lau Lagoon, North Malaita	Hakwa
Nggela	Lalahae
Guadalcanal (Weather-coast)	Lasi
Kia (Isabel)	Kekeo
Shortlands (Western Province)	Ping (small ones) or Aoo (big ones)
Areare (Malaita)	Rawa

Milkfish can live in both sea water and freshwater but only breed in pure sea water. This means they will not breed in a pond or a lake, like tilapia.

1. How to recognize baby milkfish

If you want to grow milkfish in a pond you will have to catch babies from the sea to put into your pond. Baby milkfish look like glass, - you can see through their body. To be certain you have collected baby milkfish, they must be about 1.5 cm long, nothing smaller. Other types of fish can look exactly the same when they are smaller, and some of these will kill your milkfish babies as they grow. Any fish that are smaller than 1.5 cm should be left behind.



Adult milkfish caught from the sea and sold at Gizo fish market.

When baby milkfish are about 1.5 cm long, they will have two black dots on the head: those are the eyes. When the babies are big enough and start to eat, you will see a black dot in the middle

of the body. When they are still very small and have not started feeding yet, you might not see the black dots.

side view



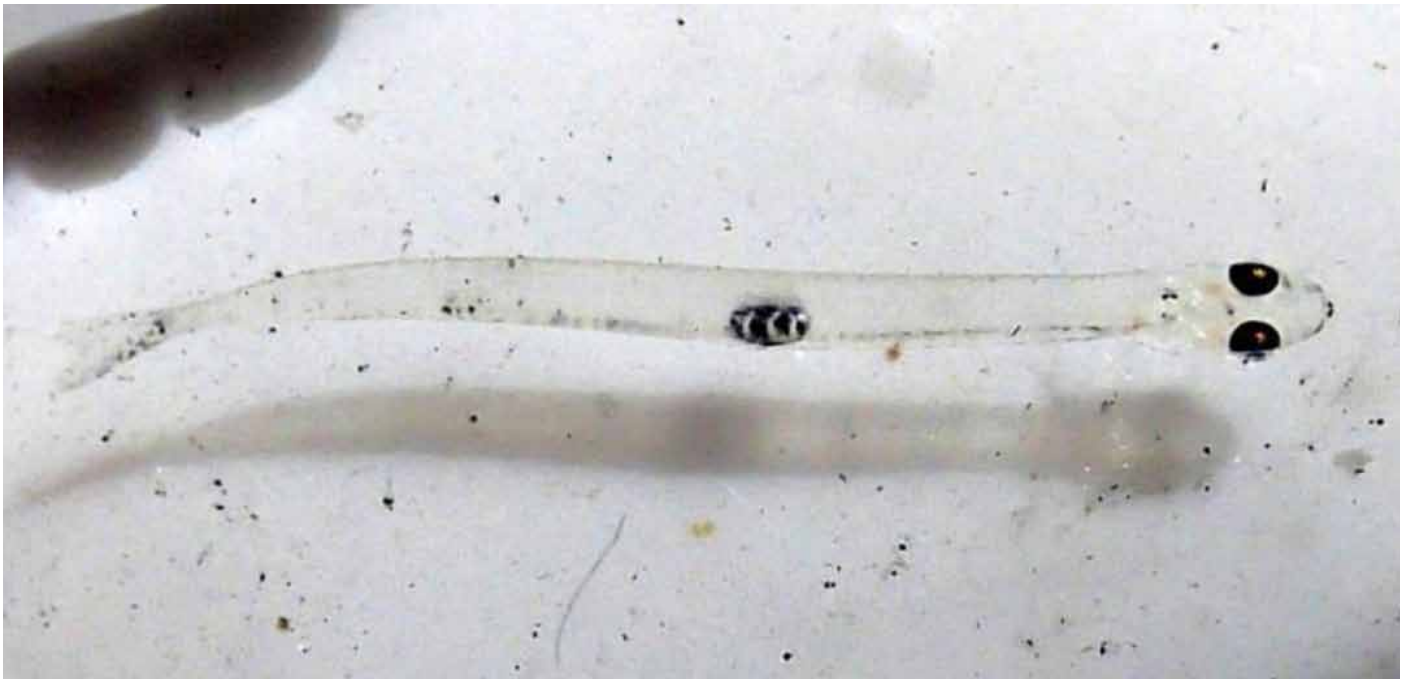
ventral view



2 mm

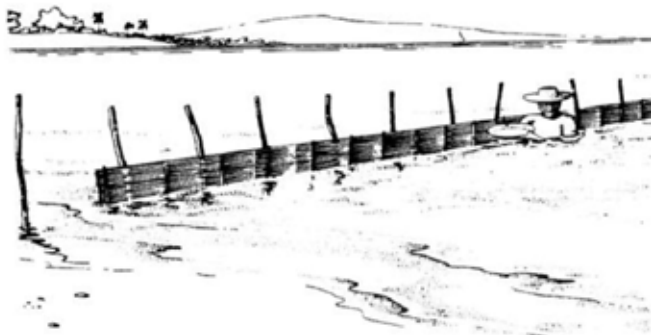
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Drawings of milkfish babies; the top drawing is a side view of the fish, while the bottom one is an aerial view.



Photograph of milkfish babies at 1.5 cm long. This is the size that you want to collect for your pond.

Some methods for collecting baby milkfish are by using: barrier nets, skim nets, dozer nets, and dip-stick-seine net, as shown in the pictures below.



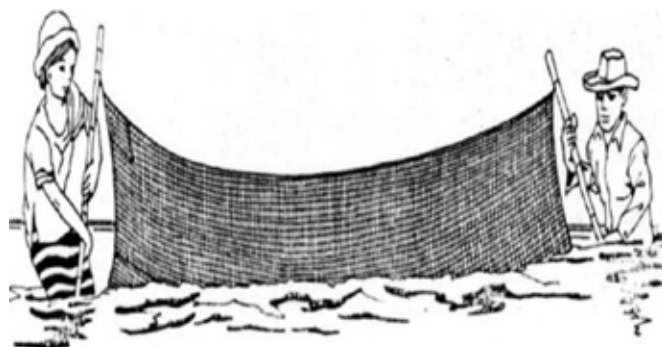
Barrier net



Skim net



Dozer net



Dip-stick seine net

(Source: Baguarinao et al. 1986)

3. How to look after baby milkfish after collection

Once the baby milkfish have been collected from the sea, slowly get them used to being in fresh water. You should also feed them.

You can keep the baby milkfish in a large basin for 1 to 2 weeks under the shade while you slowly add fresh water to the basin. This is a very important step. If you change from sea to fresh water too soon the fish will die. Twice a day take out one small Szeba bottle full of sea water from the basin and replace it with one Szeba bottle of freshwater. After you have done this for a week, taste the water in the basin and if it still tastes salty continue adding fresh water. When you no longer taste any salt in the water, the fish are ready to be moved into a pond.

While the babies are in the basin the best food to give them is the yellow part of a cooked egg (egg yolk). For every 20 fish give only a very small pinch (less than 1 gram) of egg yolk twice a day (once in the morning, once in the evening).

If your pond is more than an hour from where you are holding the baby milkfish it is a good idea to stop feeding the baby milkfish one day before you move them. This helps increase survival.

To move the fish from the basin to the pond, float your basin on the surface of the pond water and splash in water from the pond until the basin is full, then dip the basin into the pond water slowly and let the fish swim out. Do not put baby milkfish together with adult milkfish or any other different types of fish. You should stock



Photograph of baby milkfish in a basin just after being collected.

5. What to feed your milkfish when you grow them in the pond

The food that the small milkfish require in the pond differs from what they are fed in the basin. Because milkfish feed on algae growing in the water (lumlum) your pond should be green before stocking baby milkfish. There is a separate information sheet that tells you how to construct and make your pond green. The algae will be enough to keep the baby milkfish alive although they will not grow very fast, so you will need to give them extra food. You can make fish food yourself from ingredients in your garden. There is a separate fish feeding information sheet that tells you how to make food for milkfish.

6. Growing milkfish

A milkfish is considered to be market size when it is about 30 cm long. If conditions are good, growing milkfish (from 1.5 cm) to market size usually takes 7-10 months.

To maintain good growing conditions, it is important to keep the water healthy and green and to feed the fish regularly. The pond must be topped up with fresh water a few times per week to make up for water loss from evaporation. A good green color should be maintained, so that there is always natural food for your fish (refer to pond construction and maintenance sheet on how to make your pond green.). Keep your pond clear of tree branches and other materials that may fall into the pond. Milkfish like an environment where they can swim freely, so keeping your pond clear and clean without anything to disturb their movement will reduce fish stress.

7. Harvesting

There are four suggested options to harvest your fish. You may be able to invent others.

1. Drain your pond until the water is up to your knees and then use a net to catch the fish.
2. If you do not have a net, drain the pond completely and collect fish from the pond floor.
3. If you cannot drain your pond, and you have a big net then walk a net through your pond three or four times to collect all the fish. The fish will jump so hold your net up above the water level.
4. If your net is too small to cover the whole pond, feed your fish in the same place every day at the same time. When you are ready to harvest the fish, lay a fish or mosquito net along the pond floor where you feed the fish. When the fish gather to feed, use a rope to gently lift the net and trap the fish. You will need to do this over a number of days to collect all the fish in the pond. It is good to think about whether you can sell all of your fish before you harvest them. If you can sell only a few at a time then it is advisable to harvest only a few at a time.



30 cm long milkfish harvested after 8 months of farming.

For more information:

Please contact WorldFish office in Honiara (phone 25080), Auki (phone 40633), Gizo (phone 60022) or the aquaculture section of the Ministry of Fisheries and Marine Resources (phone 39143).