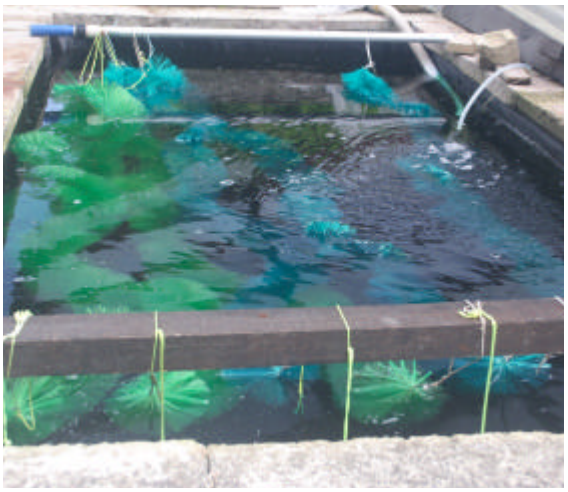
Back Yard Koi Breeding

As most of you know I have been breeding koi for a number of years. When I first started keeping koi I became interested in buying small koi (4 -6 inch) and seeing how they developed as they grew, quickly finding out that not all 'Tategoi' grow into Grand Champions. A natural development on from this was to start trying to breed my own koi and I set out with the ambition of rearing one or two worth keeping to add to my collection. The process is very time consuming, moderately expensive and success is by no means guaranteed. If things start going wrong with small fry it tends to happens very quickly. Anyway this is a diary of events for 2007.

Part one - Spawning the koi

Set Up - I am fortunate in that as well as my main pond I have a smaller 1000 gallon pond. This is covered, has its own filter system and can be heated by a 3Kw electric heater. The pond was originally built to temporarily house my koi when the main pond was rebuilt and is ideal for spawning the parent koi.



I have always spawned the koi around the middle of June for two reasons.

1. I'm on holiday the last 2 weeks in june so I have a lot more free time available.
2. The weather is warmer which cuts down on heating costs. During hatching and for the first couple of weeks I try to keep the temperature around 23^{o}C

Spawning - As my intention has always been to breed koi of a good enough quality to add to my collection I have always tried to breed a set variety of koi. My favourite variety is Showa so this year I decided to breed Showa.

My normal procedure is first to give the pond a good clean, it is usually empty over the winter. I then drain off about 500 gallons and refill out of the main pond so that the koi are not encountering greatly different water conditions. I hang the spawning brushes just under the surface of the water (see picture above) and heat up the water to around 23^{o}C which is roughly the pond temperature. The parent koi are than added added to the pond one evening and if all goes well they will start spawning early the following morning. Well that's the theory, this year after 3 days no sign of any action so the koi were returned to the main pond and pairing number two tried.

I have a pair of Gin Rin Showa. The female (bottom left) is bred by Masunosuke and four years old whilst the male is bred by Ogata and about 6 years old. I usually use 2 males to improve egg fertilisation but these two are the only gin rin koi I have. This time bingo, the koi spawned the following morning and once they had finished they were returned to the pond. Both koi still looking in excellent condition after their ordeals.

Once spawning had finished and the koi removed I treat the pond with malachite green which prevents fungus forming on any infertile eggs. I now maintain the temperature at 23^{o}C and wait a couple of days for the fry to hatch.

Back Yard Koi Breeding - continued

Hatching - After the koi have spawned you will see eggs everywhere, it's said that a large female koi can lay up to 300,000 eggs. Whilst impossible to count, there were certainly tens of thousands of eggs stuck to the spawning brushes and the sides and bottom of the pond.

As anyone who has had their koi spawn in the pond will tell you, spawning koi make an awful mess of your water quality. This is where the kaldess K1 media is a godsend. As my spawning pond has been empty over the winter it does not have a mature filter. I can transfer matured K1 from the main pond filter to the spawning pond. This will usually bring the ammonia levels quickly back to normal. It is essential that water quality is monitored regularly as infertile eggs soon start to rot and the ammonia levels can rise very quickly.

As the eggs are developing you can soon tell which eggs are fertile. The infertile eggs become opaque whilst the fertile eggs stay clear and as they near to hatching you can just make out a couple of black spots which are the eyes. This year I had very good results with few infertile eggs and no fungus. The fry will usually start hatching after about 2 days.

Early feeding - The newly hatched koi are tiny and once they have absorbed their egg sack and start feeding I feed a mixture of brine shrimp and very fine dry high protein food. Just before the fry hatch I start to breed the brine shrimp. I use four upturned 5 litre plastic bottles to rear the brine shrimp in, with a small airstone in each to keep the eggs circulating in the salt water (I use ordinary cooking salt). The shrimp are ready to harvest about 24 - 36 hrs later. Remove the airstone for about half an hour to let the hatched shrimp sink to the bottom then syphon off and feed to the fry. The above arrangement allows for two feed per day. For the last two years I have been using Siberian eggs which although they only guarantee 80% hatching are much cheaper to buy than their Salt Lake cousins.

As well as the brine shrimp I feed lots of fine powder food, increasing the feed size as the fry grow. Even with tens of thousands of fry a lot of the food goes to waste and the bottom of the pond needs siphoning regularly to maintain water quality. After about a week I give the pond a good clean out, rinsing the spawning brushes in pond water and siphoning the bottom of the pond to remove any waste and rotting eggs. I always run the water into a large bowl and then slowly empty the water to waste collecting any fry present and returning them to the pond.

Culling - The Japanese cull showa after only a few days keeping only the black fry, knowing from experience that these will be the showa. I'm waiting for about a month when the fry will be larger. This is because I have previously had some excellent gin rin kohaku from a showa spawning and hope that by this stage some white will be apparent on the predominantly orange fry. Anyway I'll let you know how I get on next month.