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What do I need to get started in Aquaponics ?

It is a bit difficult to know where to start when tackling your first Aquaponics project, but here is a list that might give you a few ideas.

1. Find out all you can about Aquaponics. There is information on the web. Do a search on Google for "Aquaponics", and you will turn up some reading material. There is some good information, but a word of advice. Take note if the person giving the advice is actually doing Aquaponics, and is not some "armchair" aquaponics expert.

I strongly recommend buying the book by Joel Malcolm, "Backyard Aquaponics". You can get it from our website at \$97.90 retail or at a reduced price for Members. Another source of good information is the Backyard Aquaponics Forum. There you will meet people who are starting out, and some that are actually running successful systems.

Also, as a member of "Practical Aquaponics" for everyone, you can access our "Knowledge Base", ask questions and get instant answers.

2. Decide how big a system you can build.

Two questions need to be answered here. One, how much money can I realistically afford to purchase equipment? And two, Where can I put my system?

A mini starter system can cost as little as a few hundred dollars, or a good sized domestic system can cost up to four thousand dollars. It is better to start with a smaller project that is manageable both in money terms and in physical size/space. Once you have the small system running well, then it is not too hard to upsize. Make sure you can manage the system you decide to start.



Strawberries grown in a tower made from 90mm PVC pipe.

I started with a 230 litre tank as my fish tank, and I built a vertical tower from 90mm pvc pipe as a grow bed that produced a nice crop of strawberries.

Looking back now I am very glad I started with a small system even though at the time, I wanted to rush out and buy a big tank and really get stuck into a big scale project. There's heaps to learn in the early stages and I strongly recommend starting small.

Later, when you have mastered the small system you can then better decide just how big you really want to go, and the small sized equipment will not go to waste you will find. It is easily sold or passed on to someone else.

3. New or second hand equipment?

It is possible to get a system going using recycled materials.

Fish Tank:-

IBC's are available in most places in Australia. An IBC in good condition can usually be obtained for a couple of hundred dollars. An IBC is 1M x 1M x 1M which has a total capacity of 1000 litres.



An IBC is an ideal size for a domestic sized Aquaponics system fish tank. Fibreglass fish tanks are available from our website if you choose to go that way.

Poly rainwater tanks are made in all parts of Australia. Many people purchase a suitably sized rainwater tank and cut the top out of it to make an ideal fish tank. Some Poly Tank manufacturers in rural areas make poly cattle watering troughs, and some of these are made to a suitable size. Remember the fish are much more comfortable with a bit of water depth. Tanks that are too shallow are not conducive to fish happiness. It is good to have a water depth of at least 750mm.

Suitable Grow Beds are a little less common to source, and varying products harder to find.

Grow Beds:-

See the story on the next page re depth of Grow Beds.

We have fibreglass Grow Beds at www.aquaponics.net.au if desired. However, old bath tubs are ideal for grow beds. A friend of mine placed an advert in the local paper asking for old bath tubs and he had more than he needed. Picking them up and getting them home was the hardest part.

Pumps:-

It is ultimately false economy to buy under-capacity and low quality pumps. I have seen people short change themselves by buying a low quality pump. Pumps obtained on internet auction sites can be good, but more than likely they are a no-brand pump with minimum warranty, fitted with plastic bearings that will flog out early. By purchasing a good quality pump with one or two years warranty, with ceramic bearings, your money is not wasted, even if it turns out that the pump is too small as your system expands. You will always find a use for that pump, perhaps on a mini test system or on a Nursery Tank.

4. Which fish Species will I use?

In Australia we are blessed with wonderful native species that are very suitable for tank culture. Possibly the easiest and most forgiving species is Silver Perch.

These are available from Fish Hatcheries all around Australia and can be purchased in small quantities (say 20 fingerlings upwards) from most hatcheries for around \$1.00 + GST per fingerling. Quantities below 100 fingerlings may cost a little more

A list of fish hatcheries can be found on our website. We will expand on this topic in our next issue.

What do I need to get started !

- Find out all you can about Aquaponics
- Decide how big a system you want to have
- New or recycled equipment
- Which fish species will I use
- Get started ! And have fun..

How deep should my Grow Beds be ?

Thanks to Lee of Coffs Harbour for this question. It is a good question re grow bed depth. Many people who come to Aquaponics from a hydroponics background do not understand that there is a fundamental difference between the two processes.

Aquaponics relies on the good bacteria that forms in the grow beds to process the fish waste into compounds that are readily taken up by the plants, whereas in hydroponics the nutrient needs of the plants are made available via pre prepared chemical solutions.

It has been well demonstrated over many years

that a grow bed needs to be at least 300mm deep to properly support a robust, efficient good bacteria colony.

If you were to use shallower grow beds such as is commonly available from hydroponic outlets, you will get plant growth. However, because the good bacteria cannot establish properly, plant growth will not be as full-bodied as would be the case with 300mm or deeper grow beds. Additionally, because the bacteria is not as robust as it could be, the water quality will not be as good for the fish. Difficulties will arise in keeping the system in balance.

If for some reason you de-

cide to use shallow grow beds, it is advisable to add a bio-filter to your system in order to make sure the water quality is good for the fish.

Correct depth grow beds are, in the end, the easy and simple way to run an Aquaponics system. In an Aquaponics system the correct depth Grow Beds are the bio-filter.

The simplicity of Aquaponics is what makes it so attractive and interesting. Additionally, there is no need for artificial chemicals in the system to grow your plants, and no need to add additional equipment such as bio-filters to regulate water quality. Grow Beds of 300mm deep or more are the bio filter in the Aquaponics system.

Grow Beds of 300mm deep or more are the bio filter in an Aquaponic system.

RIGHT: - Fiberglass Grow Beds being set up ready for planting. If you are starting out and want to stick to a strict budget, try finding some old bath tubs from your local recycling place. Old Bath tubs make ideal Grow Beds, they are usually deeper than 300mm, they are comfortable width and they already have a plumbing outlet ready for hook up.



Additional fish tank - nursery tank.

I have decided to add another fish tank to my system to house some new fingerlings I have ordered. The new fingerlings will be 100 Silver Perch. They are new season fingerlings so they should do well.

The nursery tank that I have set up is a 250 litre tank that I used when I first started out in Aquaponics. I got it back out of storage and cleaned it up, a fresh coat of flow

coat on the outside and a bit of a clean on the inside.

The tank is 1400mm Long x 540mm Wide x 350mm Deep having a total capacity of 250 litres but from the overflow outlet it has an effective capacity of 235 litres.

Fibreglass is an excellent material for Aquaponics being very strong, stable, and once cured, it is inert.

I have welded up a stand from 50x50x5mm angle

iron. The stand has been coated with "Metal Armour" paint for metal, "New Roof Silver Satin" colour, which I applied with an ordinary low pressure spray gun. This brand of paint is very easy to spray and cleans up easily with Mineral Turps.

I positioned the tank in-between the existing 2300 litre tank and the second grow bed right in front of the common grow bed sump.

The plumbing was the next step. I decided to use water that is being pumped from the return sump back to the main fish tank.





ABOVE: The overflow and return pipe to the sump can be seen.

Continued from Page 3

This water has already been through the Grow Beds and it has therefore been cleaned by the system. It is a simple step to cut into the return line from the sump pump to the main fish tank, fit a "T" piece, and carry the plumbing to the opposite end of the new tank. The water flow is regulated into the tank by the use of an inexpensive ball valve. The water is regulated in order to make sure that the majority of water from the sump pump returns to the main fish tank, and only as much as is necessary comes into the new smaller tank.



LEFT:- The water comes into the tank via a venturi tube which sucks air into the water creating an excellent source of aeration for the fish. The air bubbles can be seen rising in the water.

This tank has been used to house some new season Silver Perch fingerlings. The bigger fingerlings were graded out into the main tank a few days later. I am observing that Silver and Jade Perch of various sizes co-habit quite happily in my 2300 ltr main fish tank.

That is a wonderful characteristic of Silver and Jade Perch. The bigger fish do not bother the smaller fish in the tank, so it is possible to have fish from large ready-to-harvest fish, living together with other various sized fish right down to large fingerling size. This is very beneficial to the home Aquaponist. With good planning it is possible to have fish coming to maturity and ready for harvest every week or fortnight.....

The water then travels through the tank and out flows down to the grow bed sump to enter the main system again.

Silver and Jade Perch co-habit quite happily !

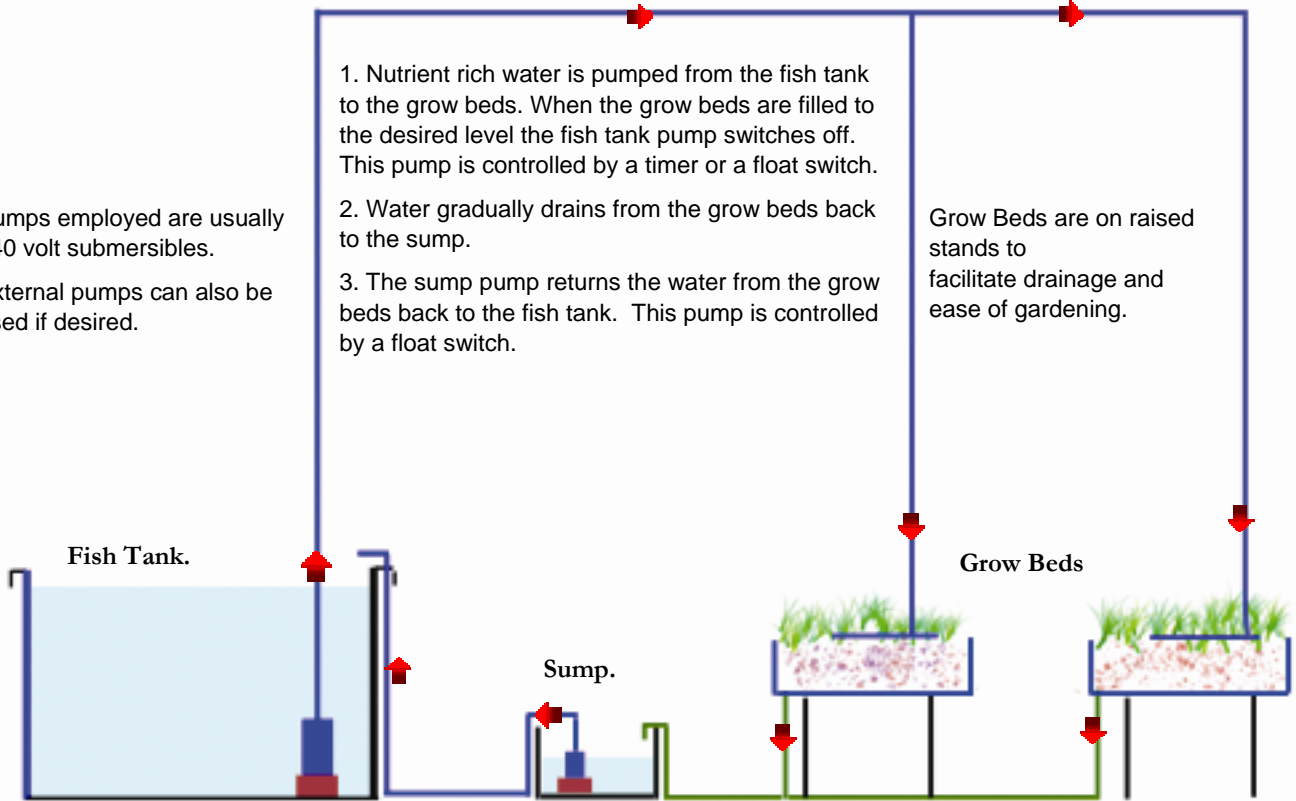
Schematic of a typical Flood & Drain system...

Pumps employed are usually 240 volt submersibles.

External pumps can also be used if desired.

1. Nutrient rich water is pumped from the fish tank to the grow beds. When the grow beds are filled to the desired level the fish tank pump switches off. This pump is controlled by a timer or a float switch.
2. Water gradually drains from the grow beds back to the sump.
3. The sump pump returns the water from the grow beds back to the fish tank. This pump is controlled by a float switch.

Grow Beds are on raised stands to facilitate drainage and ease of gardening.



Water from the fish tank to the grow beds and return water from the sump back to the fish tank.

Water returning from the grow beds to the sump - gravity feed.

Setting up your Float Switches

There are two ways you can control the pump cycle in your Aquaponic system. One is by the use of a timer and the other is by the use of float switches. I have a preference for float switches, although I cannot say there is any inherent problem with using a timer to switch the pumps on and off.

In my flood and drain system there is one float switch that switches the main 15,000lph pump that moves the water from the fish tank to the grow beds, and another float switch that is part of the 8000lph pump that moves the return water from the sump back to the fish tank.

The main float switch with piggy-back plug is seen in the photo at left. This float switch is attached to the water pipe coming up from the submersed 15,000lph pump by using a cable or zip tie. The float switch will turn on and cause the pump to move water when the water in the tank is at its' uppermost level. As the water is pumped out of the tank, the water level drops and so does the float switch head, until it reaches the bottom extent of the lead, and then switches off the pump. The length lead determines the upward and downward swing arc of the float switch head.

As can be seen in the two photos on the right, the length of lead is determined by the position of the cable tie on the pipe, higher or lower, and also by the length of the chord from where it is held by the cable tie to the float head of the float switch.

Small adjustments need to be made to the length of the chord from the cable tie anchor point by pulling it through the cable tie to either lengthen it, thereby increasing the time of the pump cycle, or shortening the chord and thereby shortening the pumping time.

It requires a bit of patience when setting up the tank pumps, adjusting the float switch to get just the right amount of water pumping into the grow beds, but it does not take all that long really.

Watch the pump cycle and see when the beds are filled to just the right amount, then carefully pull the chord back through the cable tie to cause the float switch to switch off. Only very small movements of the chord are necessary. You will very soon get it right



The float switch with piggy-back plug is very good and can be used to control any type of mains power pump, either a submersible or external pump.

The same adjustment method can be seen on the smaller 8000lph pump employed in the sump. Here the float switch that comes as part of this pump is held to the handle of the pump by a cable tie and adjusted in the same manner as the other float switch for the fish tank.

This is important to ensure that the pump switches on before the sump overfills, and switches off at a point that still leaves about 25mm of water in the bottom of the sump. It is possible to have the float switch too low, and thereby coming in contact with the bottom of the sump, and not having enough down angle to cause the ball inside the head of the float switch to fall to the

end of the chamber, and turn the pump off. In this case the pump will run continuously and there not being enough water to pump.

It is possible that the pump could overheat and become damaged. With some careful observation and some small adjustments the sump pump will perform flawlessly....

It pays to purchase good quality pumps and float switches for reliable long term work.

What plants can I grow in my Aquaponics System.?



It is possible to grow almost anything using Aquaponics, but having said that, Aquaponics is particularly suited to growing green leafy vegetables of any kind.

In the Grow Bed above we can see, Lettuce, Parsley, Cucumber, Tomato, Basil, Silver Beet, and Marigold Flowers (they are there to help with insect control)

In other Grow Beds I have Bok Choi, Silver Beet (Fordhook Giant), Dwarf Beans, Strawberries, Capsicum (two varieties)

Tomatoes (Beefsteak and Grosse Lisse), Lettuce (Cos and All Seasons) and some Climbing Beans that are almost finished. We have enjoyed eating Rocket and Italian Parsley as well.



This beautiful "Russian Black" tomato grown in my Aquaponics System, without fertiliser, and without chemicals.

At Practical Aquaponics we are about to trial Potatoes and Carrots to see just how well root crops will grow. We are going to grow them in Coco Peat and modify the flood cycle to that Grow Bed, so it will be very interesting to see how that works out. We will keep you posted on the progress in the next issue of Practical Aquaponics.....



Left:
Mini Sweet Chocolate Capsicum . Each capsicum is 40mm across and is a delightful addition to any salad.

An Heirloom plant that is available from "The Diggers Club"

Another example of the variety of fruiting plants that can be grown in your Aquaponics System.

Backup power switching relay.

There are two good reasons to install a Backup Power Switching Relay.

The first is to hold the fish tank aerated for an hour or two, if power went out for any reason during the night or while you are at work.

The second is to safely move water from the sump back to the fish tank. In a flood and drain system the water returning by gravity to the small sump would overflow and be lost in the event of a mains power outage. A second 12 volt pump in the sump triggered by the switching device will easily return the sump water to the fish tank.

I have learned the hard way the effects of no aeration in the fish tank for very short periods of time, especially with high density fish stocking as in Aquaponic systems.

If there was a long term power outage due to a cyclone, bush fire or similar, and the mains power is out for several hours, or a day or more, then you would only expect this device to aerate the fish tank until one could get a 240 volt generator set into place to run your normal pumps etc.

How Does it Work ?

While there is 240 volt power the relay is held open and no 12 volt power flows to the 12 volt water pumps.

When 240 volt goes off the relay closes and 12 volt power flows through from the 12 volt battery to

the pump for aeration and the 12v sump pump. The instant the 240 volt goes off the 12 volt system will start, and the instant 240 volt mains power is restored the 12 volt system switches off.

My choice of an emergency aeration device is a 12 volt marine bilge pump sending water through a small upright pipe. A diffuser spray head at the top will create a waterfall effect thereby breaking the water surface and providing very effective aeration of the fish tank water.

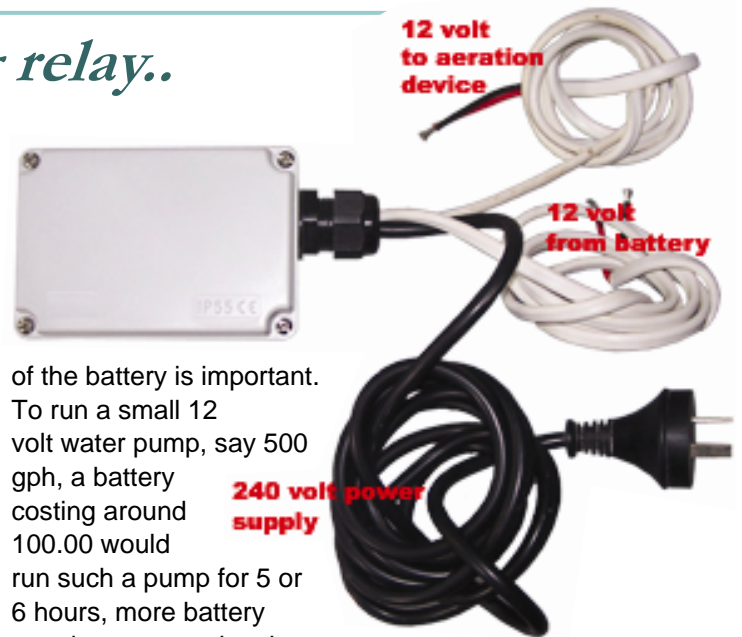
The device will also switch a second pump in the sump to clear water back to the fish tank.

This second function makes it worthwhile to set up this system.

If the mains power fails and there is still a large volume of water in the grow beds that will continue to drain into the sump, a 12 volt sump pump is very necessary to move this water back to the Fish tank. The sump will overflow and precious water will be lost. This only applies to systems that use flood-and-drain incorporating a small sump (say 100 litres) to collect water from the grow beds.

To complete the system you will need a good sized car or truck 12 volt battery and a reliable battery charger.

The bigger the battery the longer the standby pump-device will run. The size



of the battery is important. To run a small 12 volt water pump, say 500 gph, a battery costing around 100.00 would run such a pump for 5 or 6 hours, more battery equals more running time.

The Backup Power Switching Relay is plugged into a 240 volt power supply, the same one as the pumps in your system are being run from. One of the leads goes to the battery terminals and the other lead goes to the 12 volt pumps. The battery charger is plugged into the 240 volt supply and is used to keep the battery fully charged at the ready.

After the system has been activated due to a mains power outage, and the mains power has been restored, the battery charger will automatically re charge the 12 volt standby battery ready for the next emergency....

Below:- Backup 12 volt pumps in operation. One is returning water from the sump and the other is circulating water from the tank itself for aeration purposes.



Hardware items for your Aquaponics System.



Biological Filter - Pressurised - 2500 lph Max Flow Rate - 5000 ltr pond

Bioeasy-UV1 very suitable for your garden pond or your Aquaculture project

Extreme effectiveness with triple filtering action:

This bio-filter is freight free in Australia!

- 1. Mechanical action:** water passes readily through the sponge to eliminate the particles in suspension.
- 2. Biological action:** water passes the plastic biological supports at low speed and the high-porosity substrate where the beneficial bacteria eliminate waste organic substances.
- 3. Anti-algae action:** the passage with the maximum exposure to the **ultra-violet** light makes the algae clump together allowing their subsequent elimination.

Three sizes available - 2500 lph. Price = 396.00 Member Price = 355.00 Order Code 554/060

Float Switch - Pump Control Switch. For controlling 240 volt pumps.



This float switch is round in shape which helps to avoiding fouling in the tank.

Float Switch switches **ON** when the float is in the **UP** position.... The switch switches the pump **ON** when the tank is full. Then the pump being switched on will pump to empty the tank or to level as set by the length of the cord. Comes fitted with 5 mtrs of PVC. Cable and piggy-back plug ready to just plug into the wall socket and the pump lead plugs into the piggy-back socket. No need for an Electrician.

Price = 74.80 Member Price = 65.00 Order Code 553/001

Fibre Glass Grow Bed. 585 litres capacity.



This Grow bed is the premium Grow Bed for use in Aquaponic projects..

Long lasting and very smart complete with drain up-stand which has 19mm male threaded outlet underneath.

Internal measurements	2120mm x 920mm x 300mm deep
External measurements	2260mm x 1050mm x 300mm deep .

Order Code

White Gelcoat Finish. Price = 374.00 Member Price = 337.00 550/001

Natural Industrial Green finish. Price = 340.00 Member Price = 315.00 550/002

Fibre Glass Grow Bed. 250 litres capacity.



This Grow bed is the premium Grow Bed for use in Aquaponic projects..

Long lasting and very smart complete with drain up-stand which has 19mm male threaded outlet underneath.

Internal measurements	1400mm x 535mm x 350mm deep
External measurements	1440mm x 585mm x 350mm deep .

Order Code

White Gelcoat Finish. Price = 209.00 Member Price = 185.00 550/003 -1

Natural Industrial Green finish. Price = 155.00 Member Price = 135.00 550/003 -2

NB - This Grow Bed is very suitable for use as a Fish Tank.

Fibre Glass Fish Tank . 2300 litres capacity.- approx 2100 litre useable capacity (filled to within 100mm of the top.) This tank is flat bottomed and can be placed directly on concrete, or a bedding sand base, or other similar smooth soil base.

The inside of the tank is finished with Marine Grade White Gel Coat.

The outside is coated with polyester resin flow coat which is UV stabilised.

Fibre glass is a very resilient material, will withstand flexing, will not crack or break with normal use, and is inert.

Internal measurements = 2100 x 1150 x 975 high

External measurements = 2320 x 1390 x 975 high

Pricing on all products includes GST.

Order Code

White Gelcoat Finish. Price = 990.00 Member Price = 890.00 559/001

Natural Industrial Green finish. Price = 890.00 Member Price = 815.00 550/002



Submersible Pump. Auto Operation. Handles soft solids up to 10mm.

This pump has been designed especially for the Aquaculture/Aquaponics project in mind. It is capable of salt water operation with stainless steel shaft and fittings. This is the pump to buy for reliable non stop work. Electrical wires are tinned copper wire, to marine standard. All seals are EPDM Rubber. Stainless Steel Shaft and fixings It is a rugged Italian Engineered and Manufactured Pump. Maximum head = 7.0 mtrs. Capacity = 8,400 lph (140 lpm.) Power consumption = 280 watts x 240 volts. **This pump is freight free in Australia !**

Price = 258.50 Member Price = 245.00 Order Code 551/410-A



Submersible Pump. MANUAL Operation. Handles soft solids up to 10mm.

This **MANUAL** quality robust pump is very useful for Aquaponic and Aquaculture purposes. Pump out from fish tank to grow beds, or from grow bed sump back to the fish tank at the rate of 15,000 lph or 250 lpm. This pump will comfortably move water from fish tank to 6 or 8 grow beds. This pump has a triangular body so it can be used standing up or laying on its' side or back which makes it easy to hide the pump in shallow ponds or tanks. Has very high flow rates making it ideal to create waterfalls in tanks to improve aeration. Very quiet operation making it ideal for indoor or outdoor operation.

Made in Italy
Volts = 240 x 700 watts
Head = 10 mtrs
Flow rate = 15,000 lph (250 lpm)
330mm tall x 160mm x 170 wide.

This pump is freight free in Australia !

Price = 374.00 Member Price = 345.00 Order Code 550/001



The **Model 400 Submersible** has a filter grid, great to keep those small fish from getting sucked into the pump. The filter grid can be removed for maintenance and cleaning. Made from ABS Marine grade plastics. This pump has ceramic shaft bearings for long life. Vortex impeller making it capable of handling soft solids. Very low operating cost. Will cost approx A\$72.00 per year if run continuously 24/365 Pump comes with some plumbing outlets as shown in the image.

Price = 145.20 Member Price = 135.00 Order Code 551/400

This pump is ideal for a medium size backyard Aquaponic system or pond. **This pump is freight free in Australia !**
.....Power = 240 volts x 75 watts ...Max head = 2.6 mtrs...Outlet = 3/4 BSP
Max flow = 3750 lph (66 lpm)...Warranty = 3 years....Has 10 mtrs lead with 3 pin 240 volt plug.
225mm long (including filter screen) x 90mm high x 110mm wide...Compact pump...Salt or fresh water use.



Fish Food : Floating and Sinking pellets for Australian Natives. 1.5kg Pack

Fish feed features:
 · Floating pellets 4.5mm size ... Sinking pellets 1.5 to 2mm pellets.
 · Developed specifically for fresh water finfish
 · High performance for fast growing
 · Land Animal Protein Free (LAP Free) - a pre-requisite for export product and consumer approval
 · Fast growth and low FCR throughout all sizes

Crude Analysis	4.5mm floating pellets. 1.5kg	Order Code
Protein Min 35 %	Price = 9.90 Member Price = 8.90	440/003-1.5
Fat Max 10 %	1.5 to 2mm sinking pellets 1.5kg	
Moisture Max 10%	Price = 9.90 Member Price = 8.90	440/009-1.5

Bees are very necessary for pollination

The photo shows a lone honey bee from my nearby beehive hard at work on a sweet basil plant.

Some plants such as cucumber do not do well at all without the services of honey bees.

I have kept a beehive or two for many years up until a couple of years ago when my last bee hive died out.

I became aware that there were no bees at all working my plants.

One would think that there would be a hive of bees somewhere nearby to do the job, but there was not.

I had to resort to hand pollinating my cucumbers to get some reasonable yield.

The lack of bees would also affect the yield of the tomato plants.

I have a mate who keeps a large number of beehives, so I asked him to sell me a small hive, and there you have it, bees working away on the flowers of my aquaponic plants.

Having a bee hive again is very satisfying, it adds to the overall dream of self-sufficiency, or trying to get as close as possible to that anyway.

If you are thinking of getting a bee hive there are some things that need to be considered, especially if you are in a suburban area.

Beekeeping is becoming increasingly popular across Australia as people seek to enjoy the benefits of their own home produced honey, keen gardeners, (aquaponics fanatics) want to improve pollination of plants, and others just want to enjoy observing the wonders of a working bee hive. It is a wonderful hobby for teenagers and goes well with an interest in Aquaponics. Most local Governments and Councils have rules and regulations regarding the keeping of bees in urban environments, so ask your local Council if they have any rules that might apply to your area. In Queensland you are required to register your bee hive if you keep one or more hives. There is an annual fee of \$11.10 for registration.



Your house block must be a minimum of 400 sqm in order to keep a bee hive.

Give some thought about where you place your hive so that the working bees will not annoy your neighbours or passers-by. It is a good idea to face the hive towards the longest part of your block so that their natural flight path will take them mostly over your block as they gain altitude on their way to work.

If you have to place the hive against the back fence of your block, make sure the fence is at least 2 metres high at that point and is that high for at least 3 metres either side of the hive. The back fence can be easily extended upward by adding a light but good quality frame of the same material as the existing fence and attach 50% shade cloth to the framework. You could build a screen like this in front of the hive at least 2 metres spacing from the hive. The bees will then fly up and over the shade cloth barrier on their way to work.

Remember to consult your neighbour. Explain to them the steps you intend to take to make sure the bees do not bother them. In actual fact the bees will prove to be no trouble at all, but most urban dwellers do not understand bees and are therefore a little apprehensive if a bee hive suddenly appears next door...

Cash for your Story....

Write a short story for Practical Aquaponics and get paid for it. Write about your Aquaponics System, include some digital photographs, and if we publish your story we will pay you \$100.00 People are interested in how you put your system together, even the smallest system. We can all learn from each other. Send in your story by email to murray@aquaponics.net.au together with digital photos and we will do the rest. Become a regular contributor . We reserve the right to edit the story to comply with space and size requirements.



Knowledge Base....

Have you looked through the new Knowledge Base that has been added to www.aquaponics.net.au website?

The Knowledge Base is in the form of questions and answers. A visitor to the Knowledge Base can submit a question and have it answered, usually within 24 hours. If the question and answer is considered to be of interest to others then the question and the answer will be made available on the Knowledge Base.

The two most viewed questions in each Topic Division are displayed for ease of use.

There is a search facility that will enable you to search using ordinary language. There is also a print button at the top which will allow you to print out the particular question and answer that is useful to you.

Due to the amount of work involved in establishing and servicing the Knowledge Base, and the immense value it is proving to be for visitors to

the website, we will soon move it into the Members Only area of our website. This will make it more meaningful and a privilege of membership.

In the first four weeks of operation the Knowledge Base has had 2500 visitors. Just amazing.

So please submit your questions no matter how simple and elementary you may think they are.

Your particular question and answer may be of great assistance to someone else.

Fish hatcheries

Listed are Fish hatcheries located in South East Queensland.

South East Queensland Hatcheries
1044 Beenleigh-Beaudesert Road
Luscombe
Ph 07 55 464 462

Silver Perch, Jade Perch and aquarium fish.
Ring ahead to order. Very helpful and easy to deal with.

Ausyfish Pty Ltd
P. O. Box 324
Childers Qld
Ph 07 4126 2226

Silver Perch, Jade Perch, Golden Perch, Sleepy Cod.
Very helpful, delivers by courier Australia wide.

Queensland Native Hatchery
Childers Qld
07 4126 1844

Silver Perch, Jade Perch. Delivers to Brisbane weekly
Delivers state wide by courier
Very helpful and a pleasure to deal with..

Right:
Jade Perch Fingerlings hiding in a piece of 90mm down pipe. This batch of Jade Perch are now around 900g each in size and are almost ready for the BBQ.



In the next issue

Running your system using timers....
So I have the grow beds and fish tank set up, what do I do now?..
What do you feed your fish?..
How many fish should I get for my tank?..
Why I chose Silver Perch and Jade Perch in my system....
Plus much more information and interesting stories....

Visitors are welcome, but....

We are located 45 kilometres south of Brisbane CBD towards Beaudesert Qld.
Visits to see my Aquaponics system are welcome but by appointment only. Ring 07 3200 0272



Murray Hallam

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21 - 31 Hives Road
North Maclean 4280 Queensland.

21 - 31 Hives Road North Maclean Queensland 4280

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E-mail: murray@aquaponics.net.au

We are on the Web at
www.aquaponics.net.au

Aquaponics is Spoken Here !

Practical Aquaponics for Everyone.

Editor's Introduction.

What is Practical Aquaponics for Everyone, and who is Murray Hallam .

This Magazine is about my experiences and the experiences of others in Aquaponics from a very practical viewpoint.

I am just an ordinary bloke who loves gardening, fishing and the like. I do not have a degree in Aquaculture, I haven't even completed a TAFE course in Aquaculture or Hydroponics, but I do have a degree in the School of "Hard Knocks" .

I have been intensely passionate and involved in Aquaponics since I first heard about the concept.

I feel that Aquaponics provides an intensely interesting hobby that is satisfying in all sorts of ways that I have not found before.



As I've already explained, I'm no big time expert, just an Aquaponist (if there is such a word) who has found out lots of "do's and don'ts by giving it a go.. There has been a load of fun, and some pretty frustrating moments when I have managed to kill a lot of my fish, but what I lack in formal qualifications, hopefully I make up for in experience.

Well here goes for the first "in print" episode of My Practical Aquaponics for Everyone. Enjoy !!

How I got Started in Aquaponics.....

My personal discovery of Aquaponics was in early 2006 , by a chance conversation with a commercial fisherman from Western Australia. He told me how he believed the wild fish stocks were disappearing rapidly all around the world and that he believed the future of edible fish production for the average Joe lay in Aquaponics.

Aquaponics ? What is that ?

"A way of growing fish and vegetables together, and it can be done in your own backyard with minimum expense", he said.

I was absolutely intrigued by this whole idea. Fancy being able to grow my own

fish and vegetables in a system that worked together ! It sounded a bit too fantastic to be true.

Much "Google-ing" followed. Information available on the internet was actually a bit scant, but fortunately I came across the book "[Backyard Aquaponics](#)" by Joel Malcolm, which I immediately purchased. The idea of being able to grow edible fish and vegetables together, at home, was amazing. I have always been keen on vegetable gardening, but with little actual success.

Poor soil and very low rainfall don't make for good gardening conditions. Yes, it can be done, but the crops grown in

such conditions are very hard won.

I wanted to get started on this fantastic project. The possibility of growing my own fish and vegetables in a system that was, evidently, so efficient in regard to water usage and vegetable growing quality, immediately became one of those "must do" projects.

At my place we do not have town water, so regular gardening is near impossible during this current drought.

I set out to find a fish tank and some grow beds.

It just made so much sense to get this Aquaponics thing going at my place. Now it is all working, and it is just so much fun.

Membership has its' Advantages.

Become a member and you will receive:

- **Six mailings of "My Practical Aquaponics for Everyone" per year.**
Enjoy reading "Practical Aquaponics for Everyone" with pages of Aquaponic advice and ideas with loads of colour photos in each edition.
- **Members pricing on purchases from aquaponics.net.au**
If you are setting up your aquaponics system you will receive discounts on equipment purchases , repaying your membership investment many times over.
- **Access to telephone advices re the setting up of your Aquaponic system. (terms and conditions apply to this service)**
- **Access to our PRIVATE on-line, no nonsense Knowledge Base where you can ask questions and get answers.**
- **Membership gives you access to more practical and relevant information than expensive academic style books.**

I have been building and running websites for a number of years, so it was just natural for me to create a website to share my Aquaponic experiences and to gather up the experiences of others, to provide a Knowledge Base on Aquaponics. Hence the creation of www.aquaponics.net.au and the running Journal of my Aquaponic adventure (and the adventures of others)

I would love to hear from anyone who has started down the road of Aquaponics, even if you have a mini system in the corner of your front porch, or are setting up a commercial size system, we can all learn from each other by sharing information.