



AQUAPONICS WA

Growing your own fish and vegetables at home

CARE
GUIDE

Maintaining Your Aquaponics System

All living things require care and maintenance and your aquaponics system is no different. The following instruction is a guide to help you through this process. Additionally, we recommend that you read the book "Aquaponics in Australia" or visit our You Tube Channel (aquaponicswa) to see many educational videos. Practical weekend courses are available on aquaponics and we can recommend a course to suit you. To look after your aquaponics system and enjoy many years of healthy fish/crustacean and plant production, you will need some maintenance equipment as follows:

- ✓ Fish Food (specific to your type of fish)
- ✓ Ammonia, Nitrite, Nitrate and pH testing kits
- ✓ Broom / Brush
- ✓ Ammonia Fix
- ✓ Pond Bacteria
- ✓ AquaPro Little Sucker Pond Cleaner
- ✓ Floating Glass Thermometer
- ✓ Ag-Grow Grow Nutrient and Spray Bottle

Completing the Setup

Your aquaponics system should be installed on a level surface, in a sunny position for healthy plant growth. Follow these steps to finish setting up your system and introduce your fish/crustaceans and plants:

- 1 Rinse your expanded clay to remove dust prior to operating your pump as this will make your tank slightly cloudy.
- 2 Fill up your tank with fresh water. If not already done, insert submersible pump, air pump and air stones and/or eductor venturi and turn power on.
- 3 Add pond bacteria and leave to circulate for 24 hours BEFORE releasing any fish/crustaceans. This will allow the chlorine in tap water dissipate.
- 4 Check the temperature of your water to make sure it is suitable for the breed of fish/crustaceans you wish to introduce. Ideally, float fish in their bag before releasing. See optimal temperature guide on following page.
- 5 Now you are ready to sow your plants. If planting seedlings that are in soil, you will need to rinse the soil off thoroughly first. Some seeds can be sown directly into your expanded clay, such as basil, beans, corn, peas, spring onions, chives, water chestnuts, according to seasonality. We recommend your system be maintained on a daily basis to ensure optimal health of fish and plants.

General Information

Check that your fish are healthy and happy. One unwell fish may become a tank of unwell fish in a short amount of time. If you suspect your fish are unwell, treat the problem as high priority.

Check your equipment regularly to make sure everything is working correctly. Pay attention to submersible pumps (clean impellor every few weeks), air pumps and air stones, water flow, irrigation blockages etc.

If your plants are looking pale or yellow, you may not have enough fish to provide essential nutrients to the plants, or you may have too many plants absorbing all available nutrients. You can have around 20 fish per 1000 litres of water to have the optimal nutrient balance, however young fish/crustaceans may not provide enough nutrients to start with. Refer to **A** in "Things to do Daily" overleaf. If your plants are looking too green, it is likely that your fish/crustaceans are producing more nutrient than your plants can absorb. To overcome this, add more plants to help take up all available nutrients.

It's all advisable to make a cover for your fish tank. This will help to keep algae growth to a minimum and fish prefer a dark environment. You can use dark shade cloth (70%) which will block out enough light but also allow plenty of ventilation. In winter you can also use some black plastic or tarpaulin for extra insulation, but make sure there is adequate ventilation. If you are keeping crustaceans such as marron and yabbies, create some hiding spaces for them. They love to burrow in shade cloth and you can create your own little homes for them from 90mm PVC pipe.



Things to do Daily

1 During the first week, it is essential to perform nitrate, nitrite, ammonia and pH water tests. Once the nitrogen cycle in your system is established, you will only need to test on a weekly basis. You should aim for the following:

- ✓ Ammonia less than 1
- ✓ Nitrite less than 1
- ✓ Nitrate 2.5 or more
- ✓ pH between 6.9 - 7.5

If an ideal balance is not achieved then:

- a. Add some Ammonia Fix if ammonia is the problem (this is a short term solution). Problems with ammonia are generally due to overfed fish/crustaceans.
- b. Change 20% of the tank water for fresh water. Your tank should only need adjusting in the first few weeks, until the natural bacteria has developed and takes over this process for you. If this is not achieved, there could be other factors affecting your results. Contact Aquaponics WA for assistance.

2 Check the temperature of your tank. See guide for optimal temperatures.

3 Feed your fish/crustaceans with a premium quality non-animalia food. Aquaponics WA supply fish food that contains up to 50% crude protein and contains no land animal by-products. With fish, start with small amounts at a time and continue to feed until your fish are no longer hungry. It is important to scoop out any remaining food after 5-10 minutes as left over food will contaminate the water. If you have crustaceans, sinking pellets will take time to be eaten but any left over should be removed. Crustaceans also like to snack on carrot but replace after a couple of days. **DO NOT OVERFEED!**

4 Check your plants for overall health. If your fish/crustaceans are young, your plants may need more nutrient than is being supplied. If so, apply Ag-Grow Grow at a rate of 1ml per litre of water in a spray bottle for foliar feeding.

Note: As you harvest your plants, replace them with fresh seeds/seedlings. It is important NOT to harvest your entire crop at once while you have fish growing as this can create an imbalance to the biological cycle. If your plants have any pests or diseases, do not use any chemicals as this may be fatal to your fish. Contact Aquaponics WA for assistance.

Things to do Weekly

1 Perform ammonia, nitrate, nitrite and pH tests on the tank water, as you did in the first few weeks.

2 Using your AquaPro Little Sucker, vacuum any solids from the bottom of the tank. If you wish, you can use a broom and/or brush to scrub the sides and bottom of your tank to loosen any algae before using your Little Sucker (use a clean, new broom/brush and **DO NOT** use it for anything else as this will contaminate your fish tank). It may not be necessary to clean your tank every week, however the cleaner the tank, the healthier your fish and plants.

Species	Minimum Temperature	Maximum Temperature	Optimum Temperature
Barramundi	20°C	35°C	26-28°C
Trout	0°C	22°C	16-18°C
Silver Perch	10°C	35°C	24-26°C
Murray Cod	10°C	35°C	24-26°C
Black Bream	10°C	35°C	24-26°C
Marron	5°C	22°C	16-18°C
Yabby	5°C	35°C	25-28°C

