

What is Aquaponics?



Herbs



Sleepy Cod



Plants



Barramundi

Aquaponics is the combination of aquaculture, and hydroponics. It allows you to produce fish and plants in the one system with a large reduction in water use.

How does it work

The two main components of the system are the fish tank and the grow beds with a small pump moving water between the two. The water passes through the roots of the plants before draining back into the fish tank. The plants extract the water and nutrients (fish waste) they need to grow, cleaning the water for the fish.

There are a number of different styles of grow bed designs, the two most common being flood and drain and floating raft style.

Flood and drain style grow beds

Water is pumped from the fish tank up to the grow beds which contain the plants. Water then flows through the grow bed consisting of expanded clay balls and is gravity fed back to the fish tank. The water level in the grow bed is controlled via a syphon arrangement that alternates the flooding and draining of the grow bed.

Floating raft style grow beds

Water is pumped from the fish tank up to the grow bed. Plants are grown suspended via foam in the water-filled grow bed. A bio-filter converts ammonia to nitrates which are utilised by the plants. Air stones are used to provide aeration to the plants roots.

Benefits

- The main benefit from a system like this is the ability to grow fish and plants for consumption in the one system.
- Aquaponic systems use about 1/10th of the water used to grow plants in the ground.
- Aquaponic systems can be incredibly productive, producing large amounts of produce.

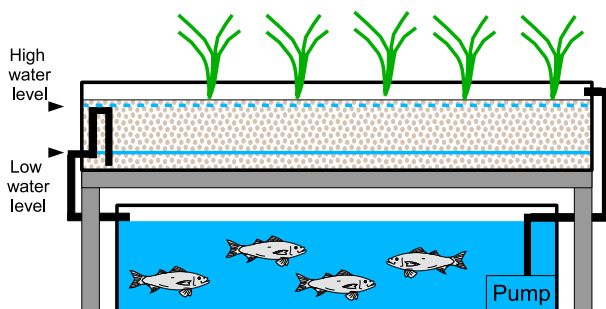
Plants

Suggested plants to use include many Asian vegetables, as well as tomatoes, basil, cucumber, various herbs, melons, eggplants and chillies.

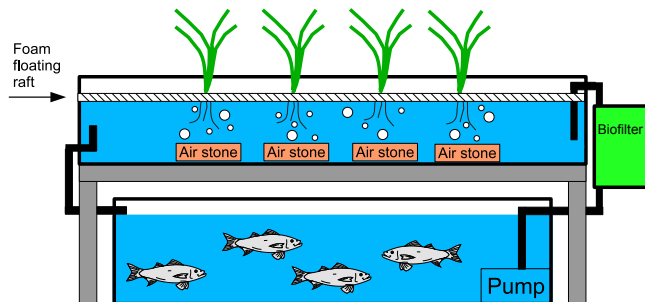
Fish

Suggested fish for use in an NT aquaponics system are sleepy cod and barramundi. During the cooler months a small water heater may be required for barramundi.

For more information please call the Darwin Aquaculture Centre on 08 8924 4260



FLOOD AND DRAIN STYLE GROW BEDS



FLOATING RAFT STYLE GROW BEDS