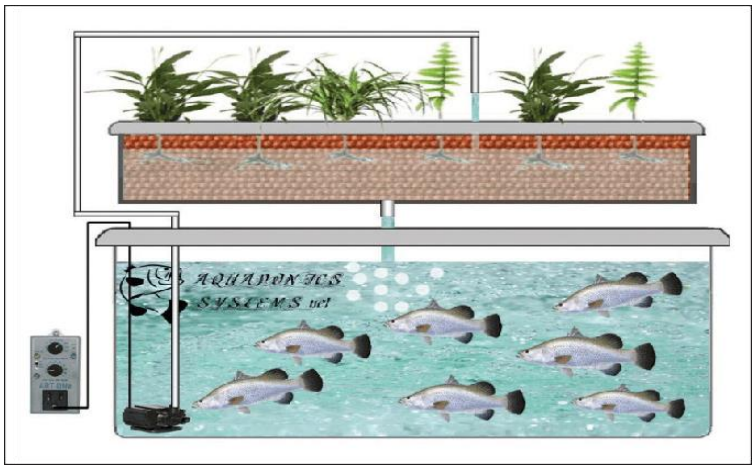
Aquaponics

Aquaponics is an integrated fish and plant production technology, essentially comprising of two systems, 'Aquaculture' and 'Hydroponics'. The underlying principle is to efficiently utilize water to produce two crops rather than one and to partition and share nutrient resources between fish and plants. This farming system is commonly used in resource limited and urban areas to raise both fish and vegetable in an integrated system. Aquaponics involves culture of horticulture plants along with fishes. Many plants are suitable for aquaponics systems, though which ones work for a specific system depends on the maturity and stocking density of the fish.

Green leafy vegetables with low to medium nutrient requirements are well adapted to aquaponics systems, including capsicum, tomatoes, lettuce, cabbage, lettuce, basil, spinach, chives, herbs, and watercress. It is basically a Recirculation Culture System, wherein fish are fed with quality floating pellet feed and waste generated from fish are pumped into bio-filter troughs having horticulture plants, the flow rate of water is to be adjusted with the help of the timer. The fishes and plants grown in aquaponics system are totally organic.

Even though the initial investment of the system is high, the recurring cost is less and gives reasonable returns. This system is having the advantage of using less water, lesser area of land, waste renewal, less labour, etc. Plants and animals in an Aquaponic System have a symbiotic relationship with each other. The fish excreta provide nutrients for the plants, while the plants clean the water, creating a suitable environment for the fish to grow.



Diagrammatic representation