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| --- | --- | --- |
|  | **Hydroponics** | **Aquaponics** |
| **Principles** | Conventional | Biological |
| **Recirculation** | Possible | Closed loop |
| **Source of nutrients** | Synthetic fertilizers | Fish waste, nutrients released due to biological activity |
| **Beneficial microorganisms** | Practically excluded | Essential part of the system |
| **Building multitrophic relationships in the system** | In some extent | Yes |
| **Balance** | One-component system | Balanced |
| **Self-regulation** | No | Yes |
| **Creating an ecosystem** | No | Yes |
| **Stability of a mature system** | Not stable | Very stable |
| **Knowledge base** | Plant physiology | Ecology, plants, fish, microorganisms |

Hydroponic and aquaponic comparison chart, Source: Savidov, 2016