Growing Plants, Growing Minds With Educational Aquaponics Systems

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Aquaponics is a food producing method that combines fish breeding with soil-less crop producing.

This combination, using the nitrogen cycle as a basement makes it possible to naturally satiate the plant's nutrient requirement.

Agricultural aquaponics is an innovative approach to water management and water protection.

No artificial nutrient solutions or fertilizers are used.

It uses about 90% less water compared to traditional agriculture.

It can protect our rivers and lakes from water pollution.

It could offer solution for water sacristy.

I wanted to make a well-functioning mini version of agricultural aquaponics systems.

Firstly, I built an experimental system (1) to see how the nitrogen cycle sets in.

After documenting the inset with water tests and monitoring the problems connected to plant nutrition and system management, I designed the new system (2).

This system uses an extended range of processes (3) and it is capable of growing different types of vegetables.

I designed this mini system with the intension of creating a modell that could function in education as a teaching tool.

So I gave my school's students mini lectures and presentations using my system. Based on my experience I think:

Mini aquaponics can give place to gain knowledge in a wide range of subjects like biology, chemistry, physics and agricultural studies.

Seeing the joyfulness in my fellow student's eyes I am certain that it can also color the students everydays while giving them firs-hand experience.

And most importantly through its water protecting benefits it can increase the student's water awareness too.