



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Aquaponic system

*Beatrix Alsanius
Departement for Biosystem and Technology
Box 103
230 53 Alnarp*

What is aquaponic?

A system based on the integrated production of fish (aquaculture) and vegetables (hydroponic cultivation) with continuous flow of water and minerals.





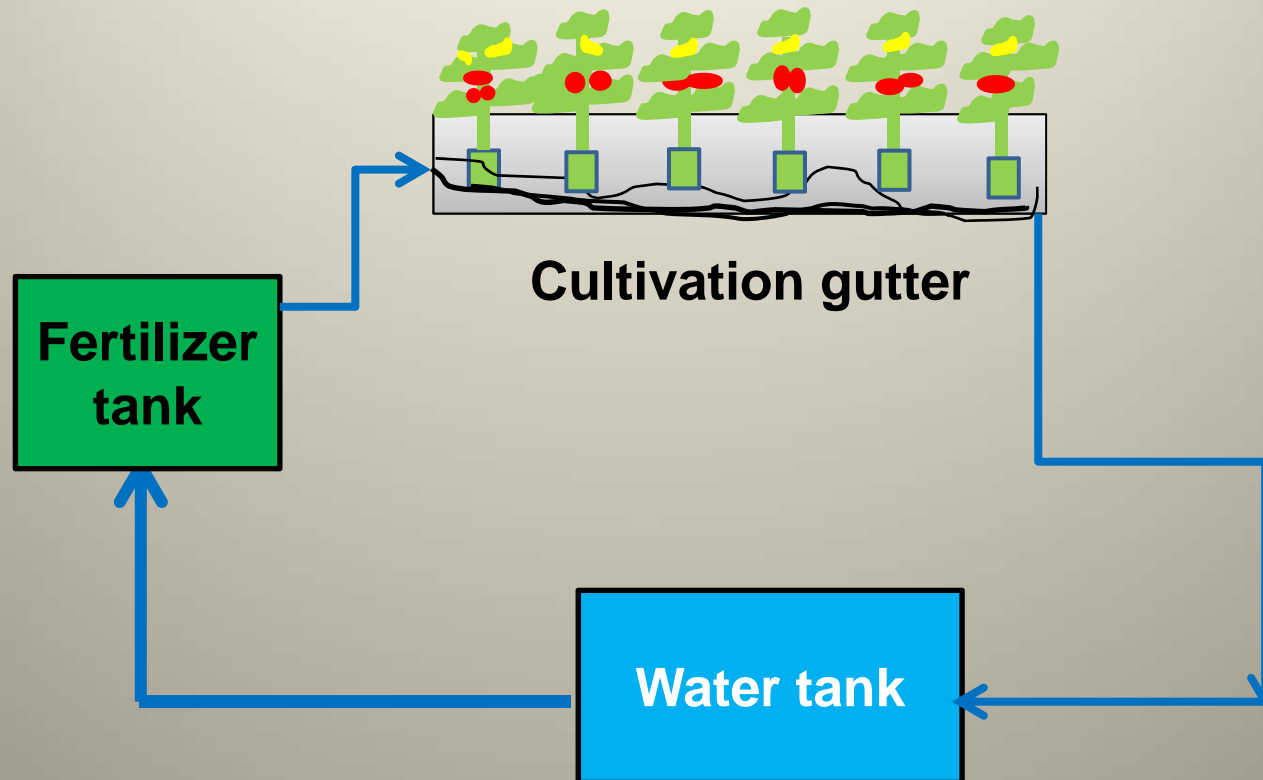
Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Cultivation
system

Hydroponic/
soilless system

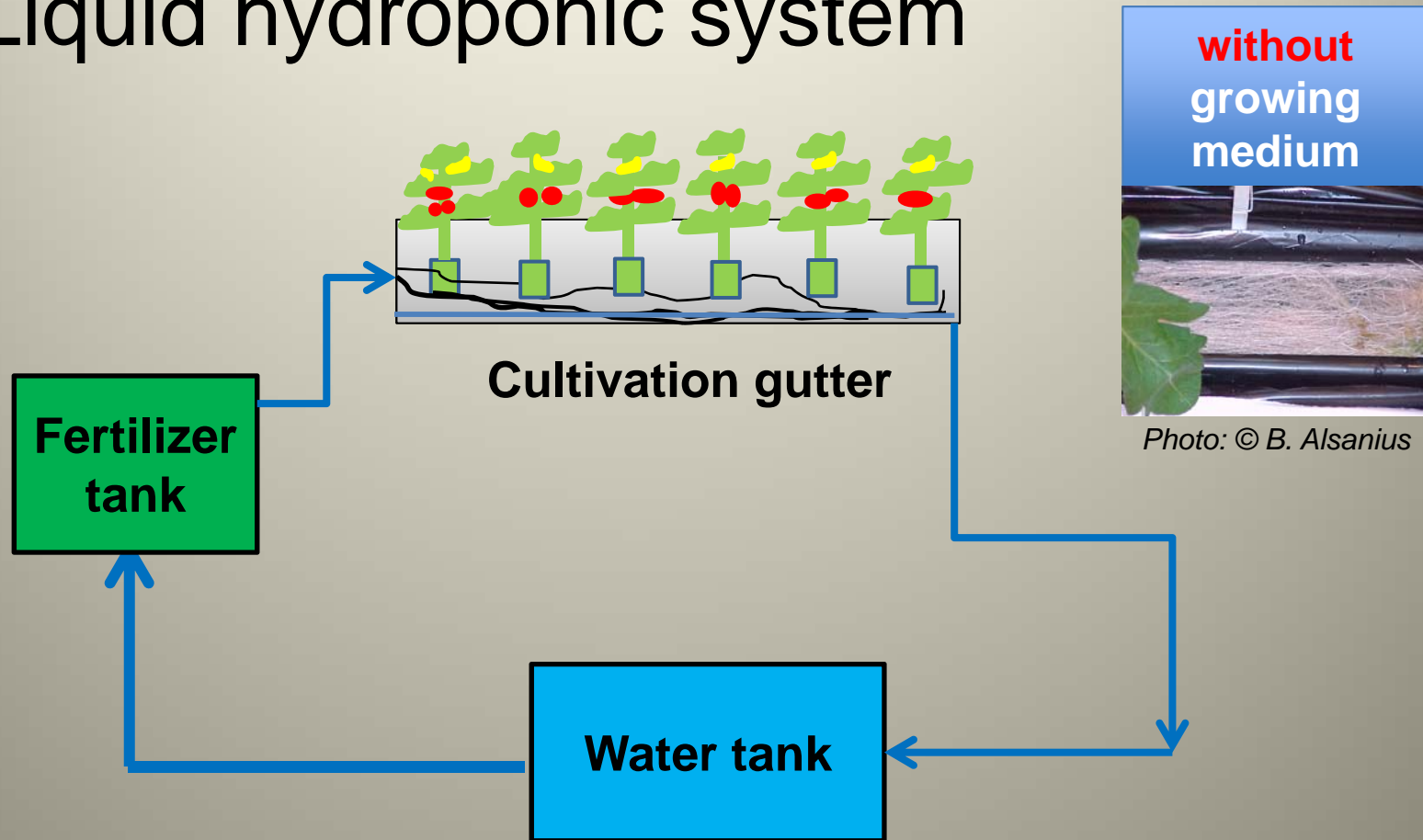
National
competence

Closed cultivation system

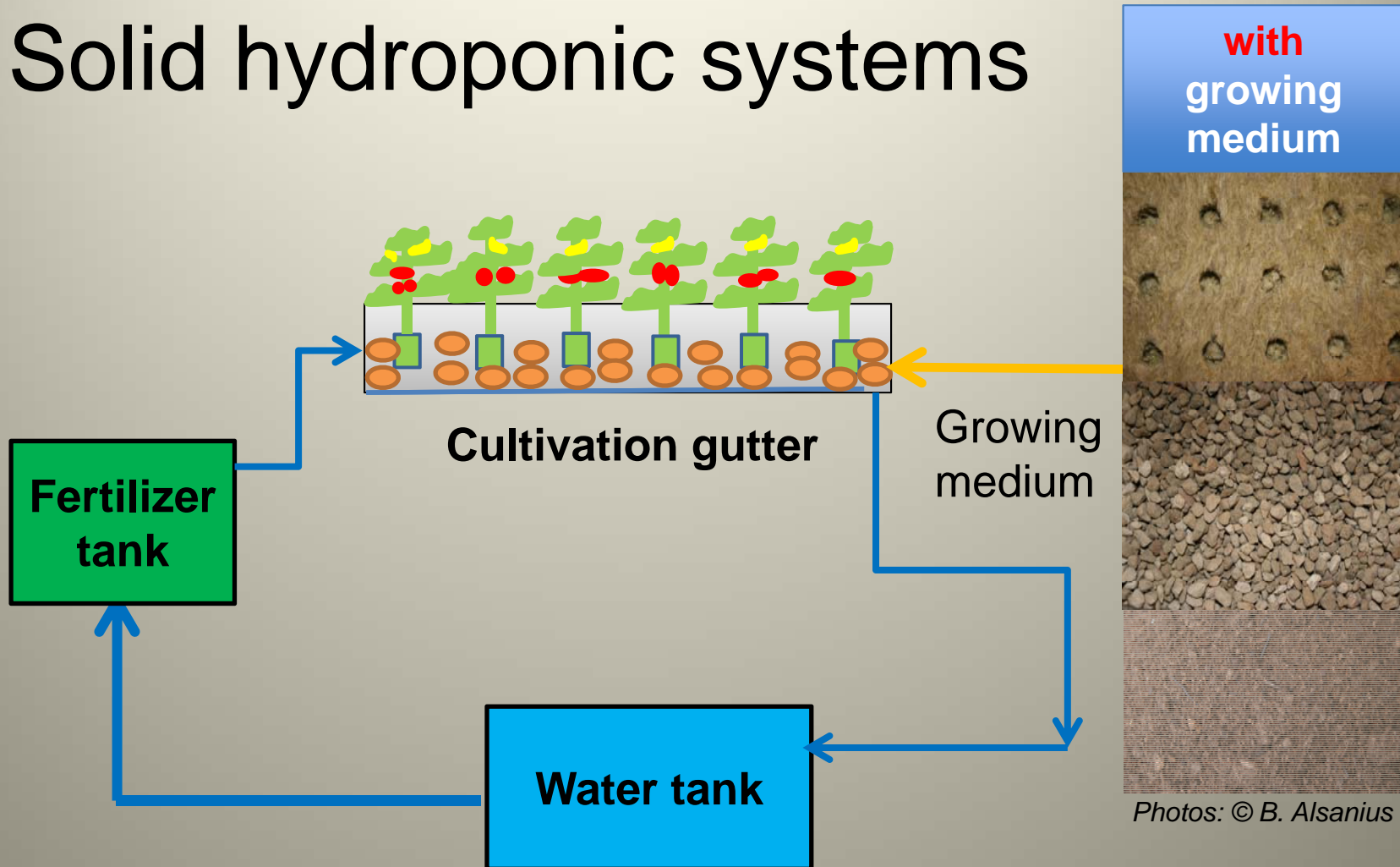


Schematic picture of a simple closed hydroponic system

Liquid hydroponic system



Solid hydroponic systems



Photos: © B. Alsanius

Eutrophication

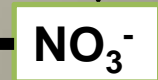


Fish feed (N)



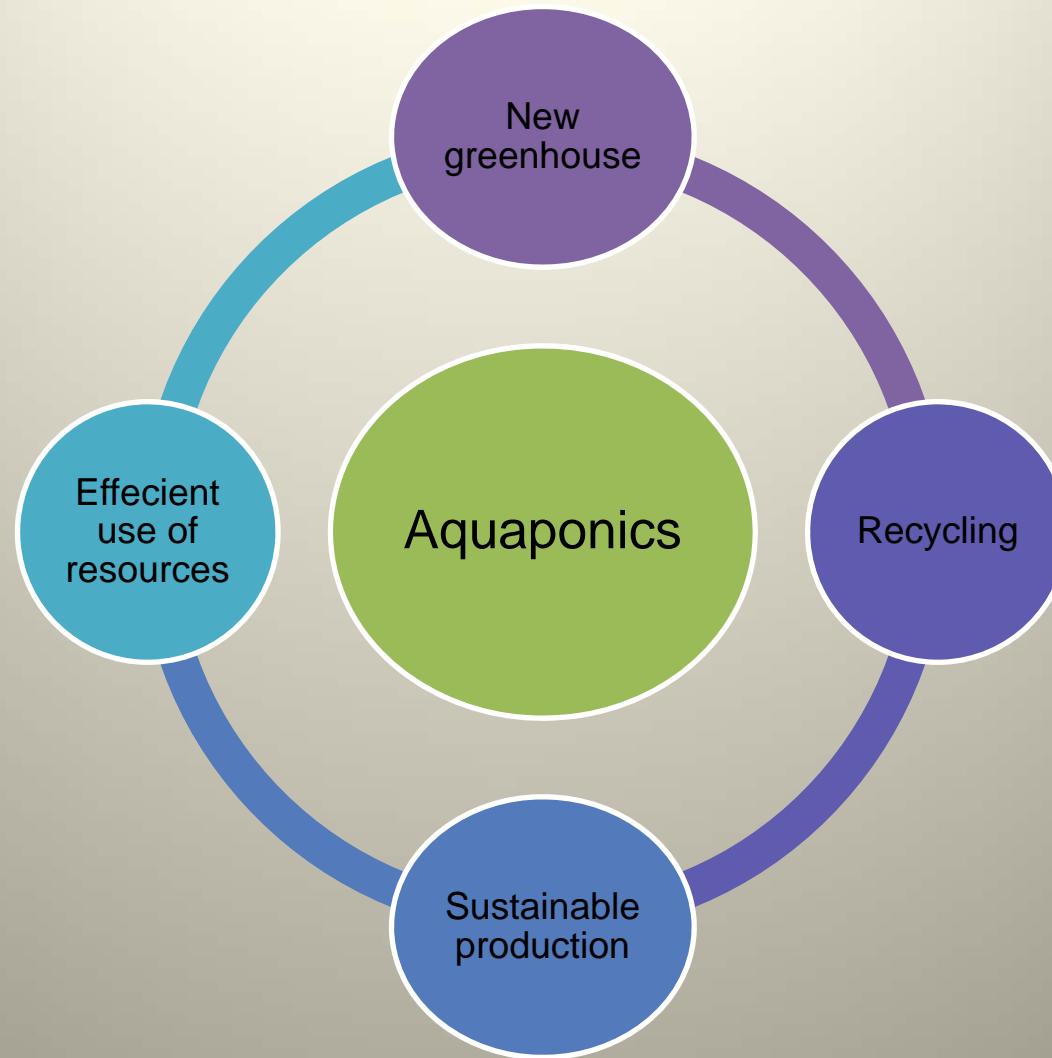
Biofilter

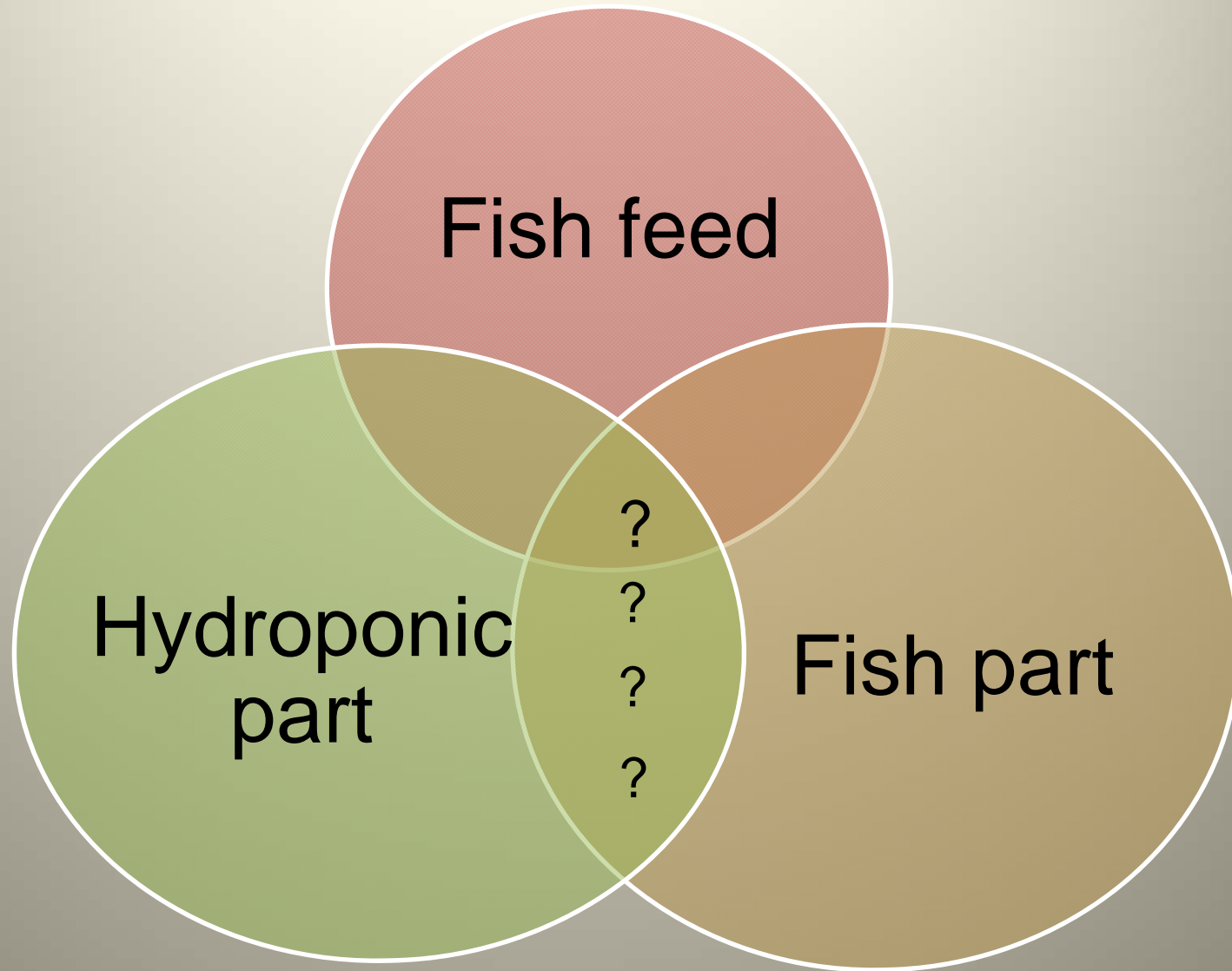
Nitrification



Why do we need aquaponic?

- Food security
- Production of healthy and nutritious products when it comes to vegetables and proteins
- Increase sustainability in food production by reducing waste in food supply chain and limiting environmental impacts





Projects

Product quality in plants cultivated in aquaponic system

Effect of water temperature on the growth of fish and crops in aquaponic system