

Comparation of two tomato (S.Lycopersicum L.) growing systems: NGS and Expanded grey growing bed in a Tilapias Aquaponics installation.

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Agricultural Enginner
Responsible for the plant area.**

Breen



Introduction

- This aquaponics installation is in Hondarribia, Gipuzkoa, in the north of Spain.
- Aquaponics is the combination of aquaculture and hydroponics systems.
- Tilapia is a very hardy fish species.
- Policulture (salad, tomato, Gernika peppers, aromatic vegetables, papaya, pineapple, banana tree,...)













Materials

- | | |
|---|---|
| Tomato variety | Growing systems |
| <ul style="list-style-type: none">• JACK F1 (kalitate fundazioa- certification of quality)• Basque Local varieties (Rosado de Aretxabaleta and grandma's big tomato) | <ul style="list-style-type: none">• NGS (new growing system) |

Advantage
Disadvantage









OBJETIVOS BRECH

AQUAPONIA 1



TOMATE
ACETABALETA
(1)







**What about
production????**

Growing bed

- Expanded grey clay.



Methods

Nutrition

- pH
- Temperature
- Dissolved oxygen
- Electrical conductivity
- Nitrate concentration

Culture management

- Typical form an hydroponic culture.
- 8l/h



Detected problems

Pest and diseases

White flies.

- *Nesidiocoris tenius*
- *Encarsia Formosa*.

Nutrient deficiencies

Tuta Absoluta

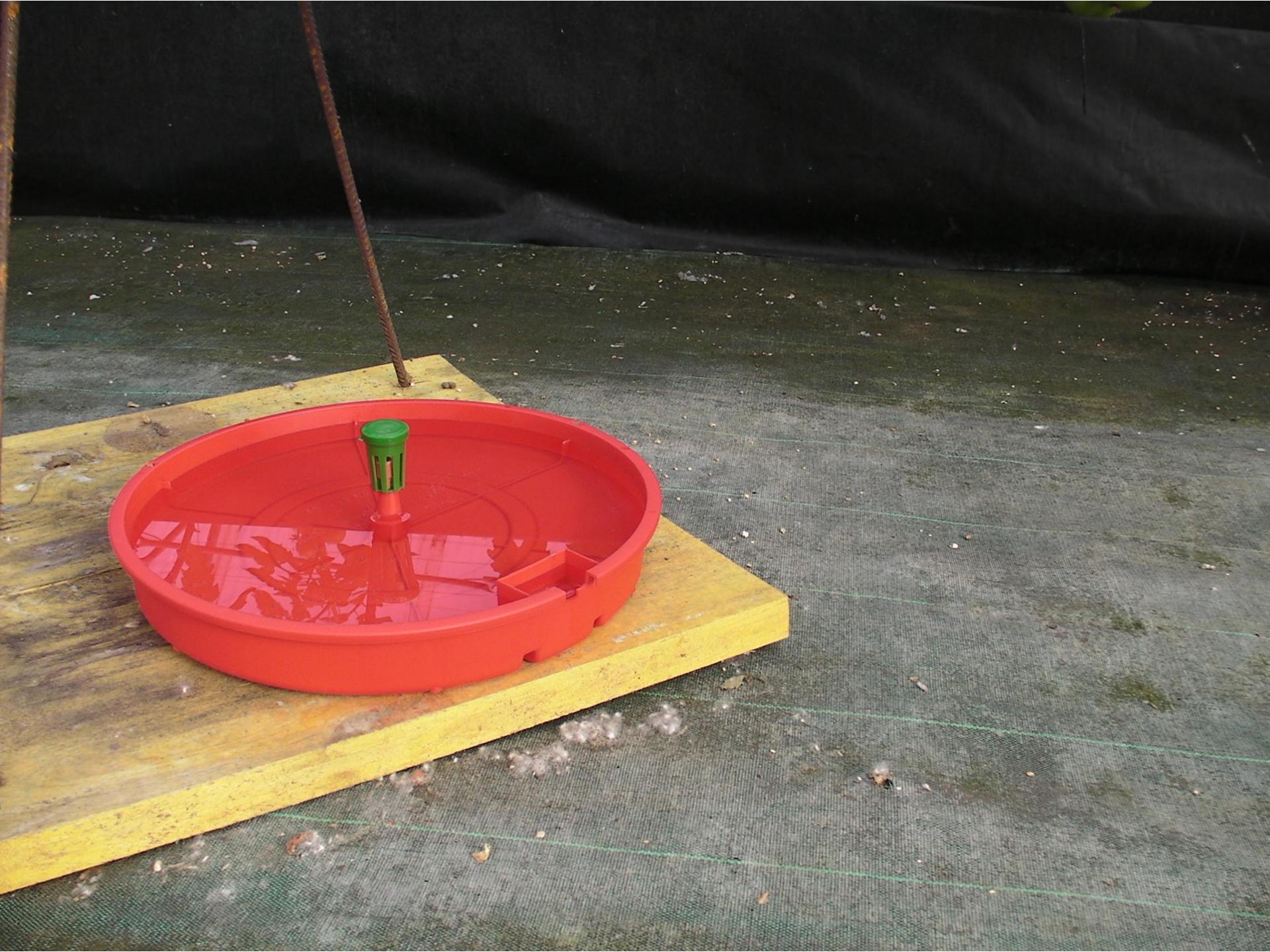
- *Bacillus thuringiensis*.

- Calcium deficiency

- Iron deficiency

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KOPPERT
BIOLOGICAL SYSTEMS





Results KG

- NGS: 8758 Kg
- Growing bed: 16538 Kg













