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

Enar Agirre Oregi
Agricultural Engineer
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**

- JACK F1 (kalitate fundazioa-certification of quality)
- Basque Local varieties (Rosado de Aretxabaleta and grandma´s big tomato)

**Growing systems**

- NGS (new growing system)

  **Advantage**

  **Disadvantage**
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 thuringienensis.

- Calcium deficiency
- Iron deficiency
Results KG

- NGS: 8758 Kg
- Growing bed: 16538 Kg