



Can tube worms protect our coastlines?

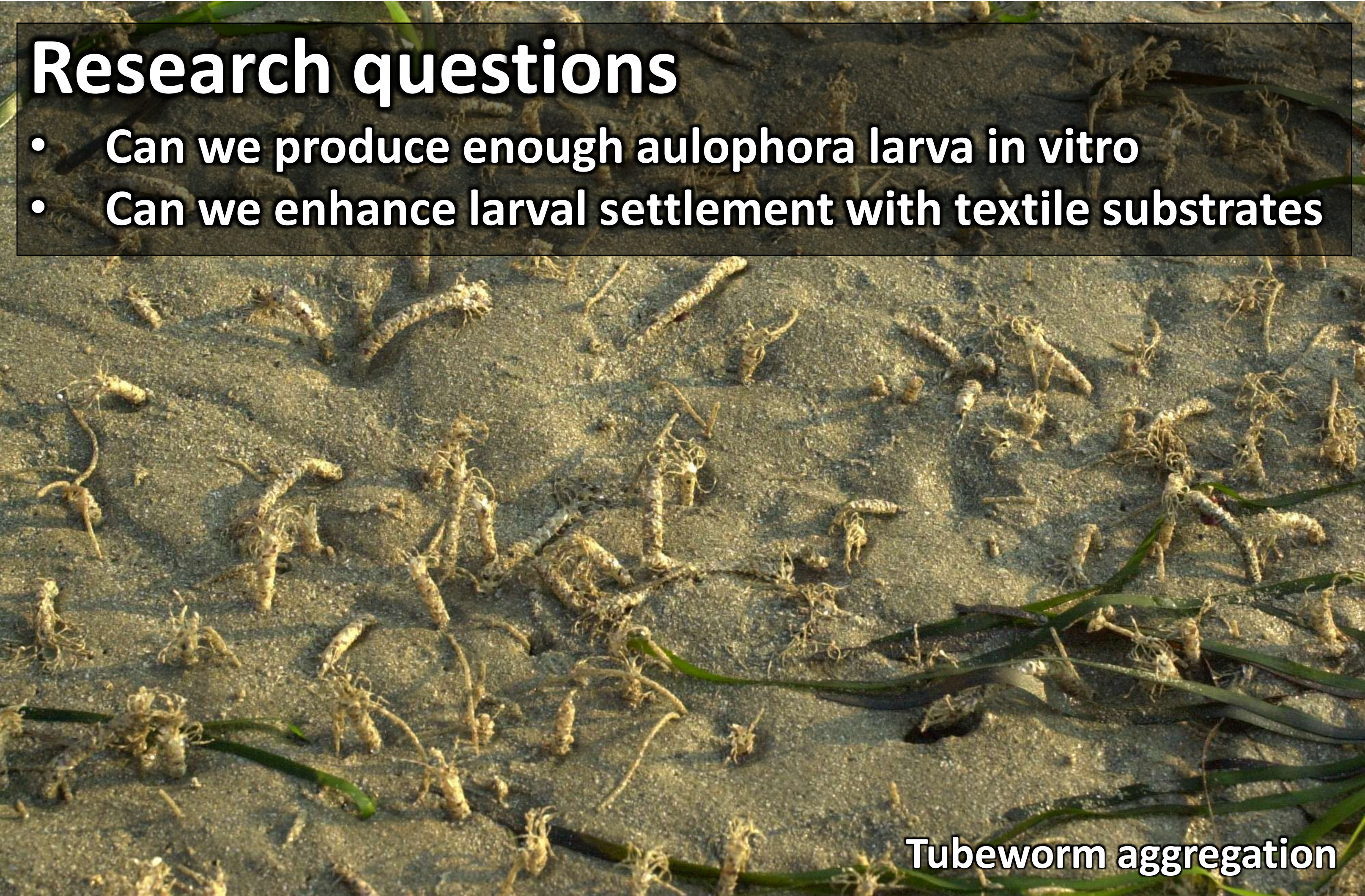
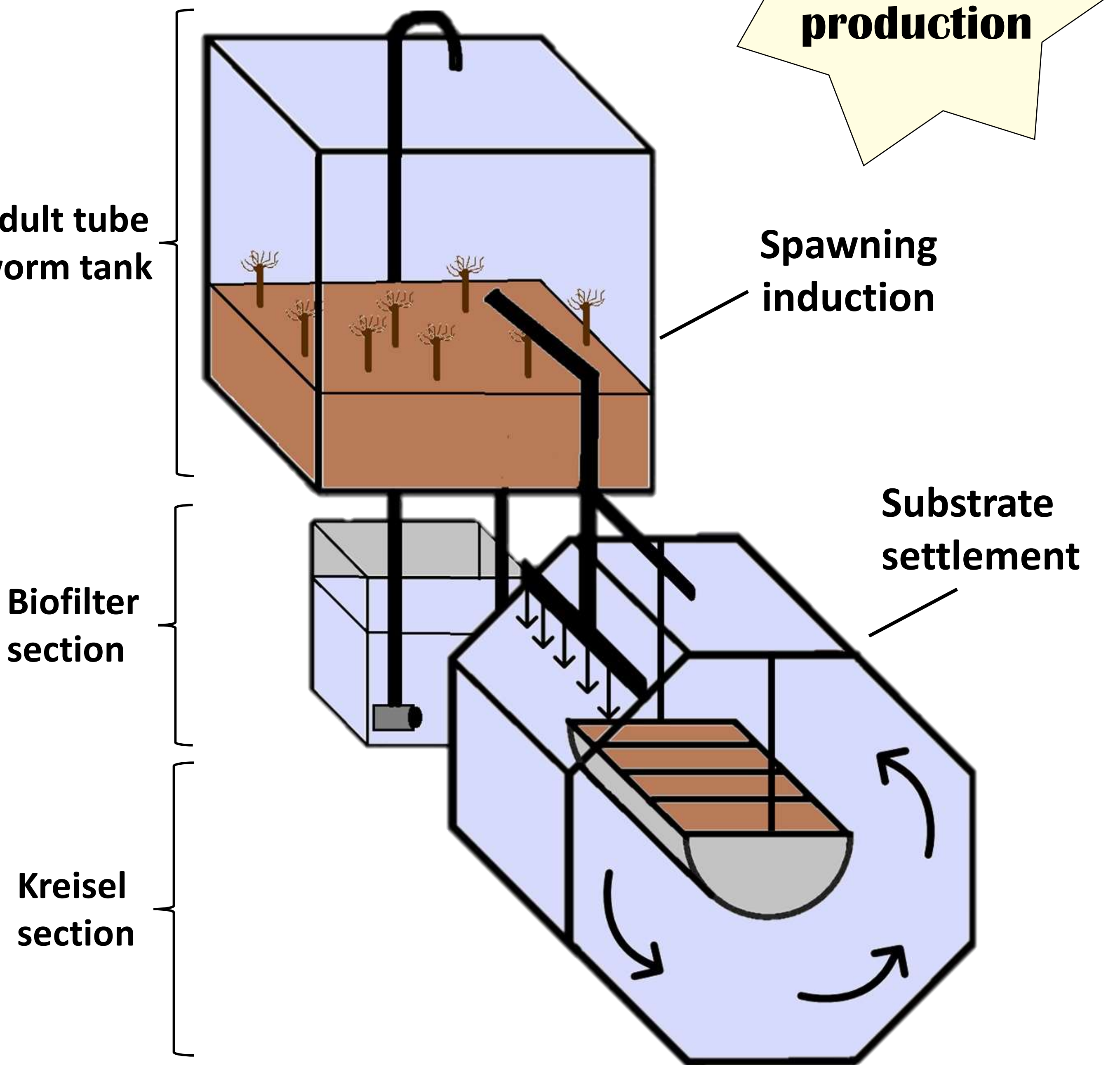
In vitro experiment on spawning induction of *L. conchilega* and substrate preference during settlement of the larvae

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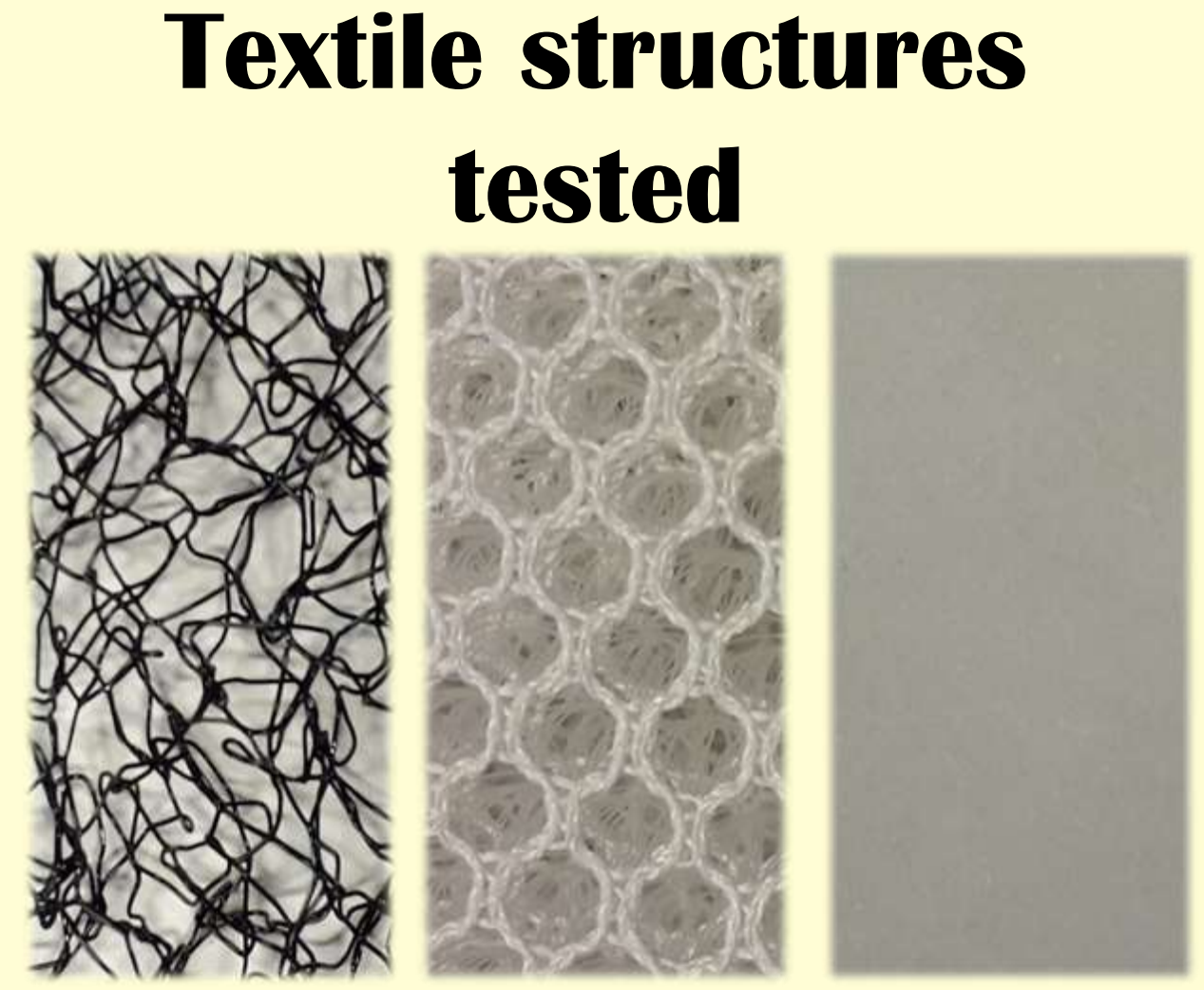
In vitro
 aulophora
 production

Research questions

- Can we produce enough aulophora larva in vitro
- Can we enhance larval settlement with textile substrates



- **Closed RAS** – Recirculating Aquaculture system
- Induced spawning of the adults through **increased temperature** (from 8°C to 15°C) and **photoperiod** (All light – 16L/8D – No light)
- The cultured larvae are trapped and kept in suspension in the kreisel section, here the substrate settlement tests are conducted.
- **3 textile substrates + control** are tested in search for the most favourable substrate for larval settlement.
- **Most efficient substrate will be used during further field studies**



- Preliminary results**
- Production of aulophora larvae not straightforward, **only in trial set-up succeeded** until now.
 - Experiment **still in progress**. If not succeeded, settling experiments will be executed with larva from the field.

nature based solutions:
 like biogenic reefs

- **improve** water quality and clarity
- **prevent** erosion and **stabilize** shorelines
- are more **resilient** against storms
- **reduce** wave height up to **66%** during storm events
- **act as** natural **barriers** to waves
- **provide** fisheries habitat, **increase** biodiversity and **promote** recreation
- **store CO2**

RESTORATION
BIOBUILDERS
INNOVATION
ENVIRONMENT
SEA LEVEL RISE
NATURE BASED SOLUTIONS
WAVE ATTENUATION

HYDRAULIC ENGINEERING
LAND DEFENCE
BIODIVERSITY
WATER QUALITY
ECOSYSTEM
CLIMATE CHANGE
SOCIETY
COASTAL DEFENSE
BIODEGRADABLE
STORM
RECREATIONAL SPACE

ILVO, eCoast, DEME, Jan De Nul and Sioen industries have gathered forces to develop a new natural way of coastal protection. Coastbusters is a project financed by VLAIO Government Agency (Flemish Flanders Innovation & Entrepreneurship) where several tools for the creation of ecosystem based flood defense (shellfish reefs/marine flora reefs/sand mason worm reefs) will be tested. These ecosystems have the capacity to reduce erosion and even storm waves and can keep up with sea-level rise by natural accretion. If the project is successful, it can be implemented globally on a large scale, creating healthy ecosystems and protecting many of the world's highly populated coastal zones.