

2-3.12.2025

Rome

EU FOOD SAFETY FORUM

**Supporting the Food Safety Systems
of the future**

2-3.12.2025

Rome



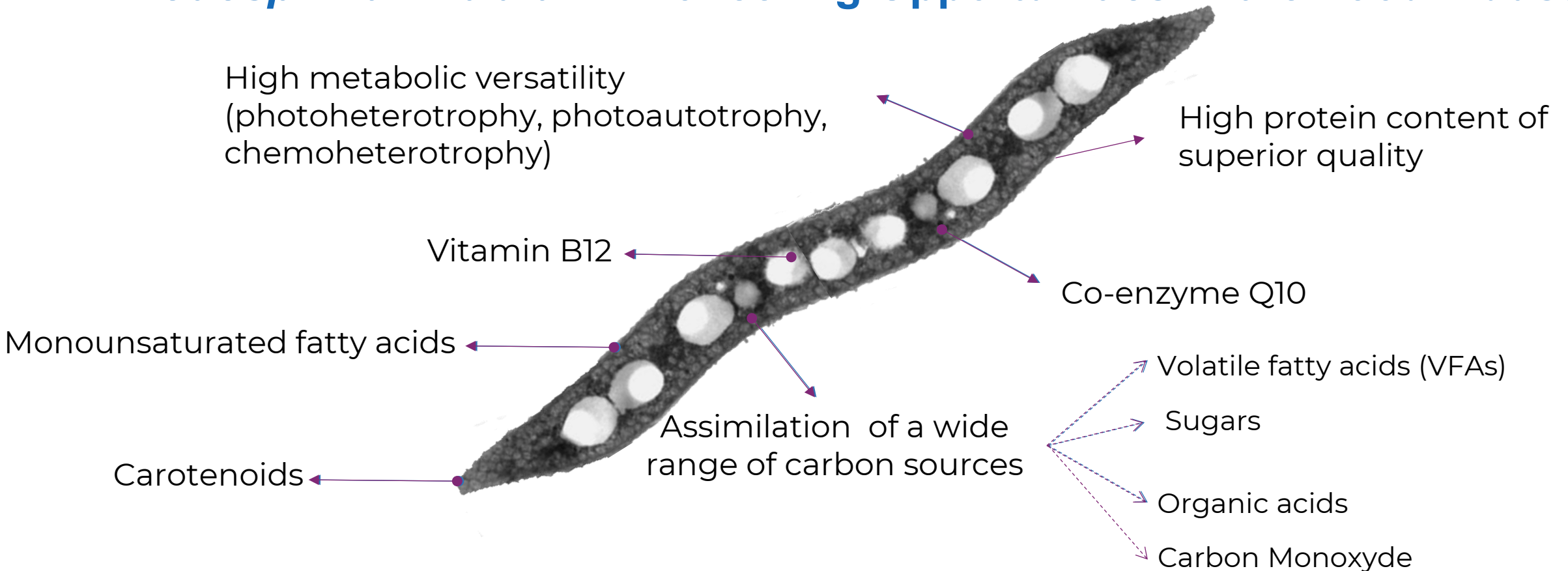
www.foodsafety4.eu



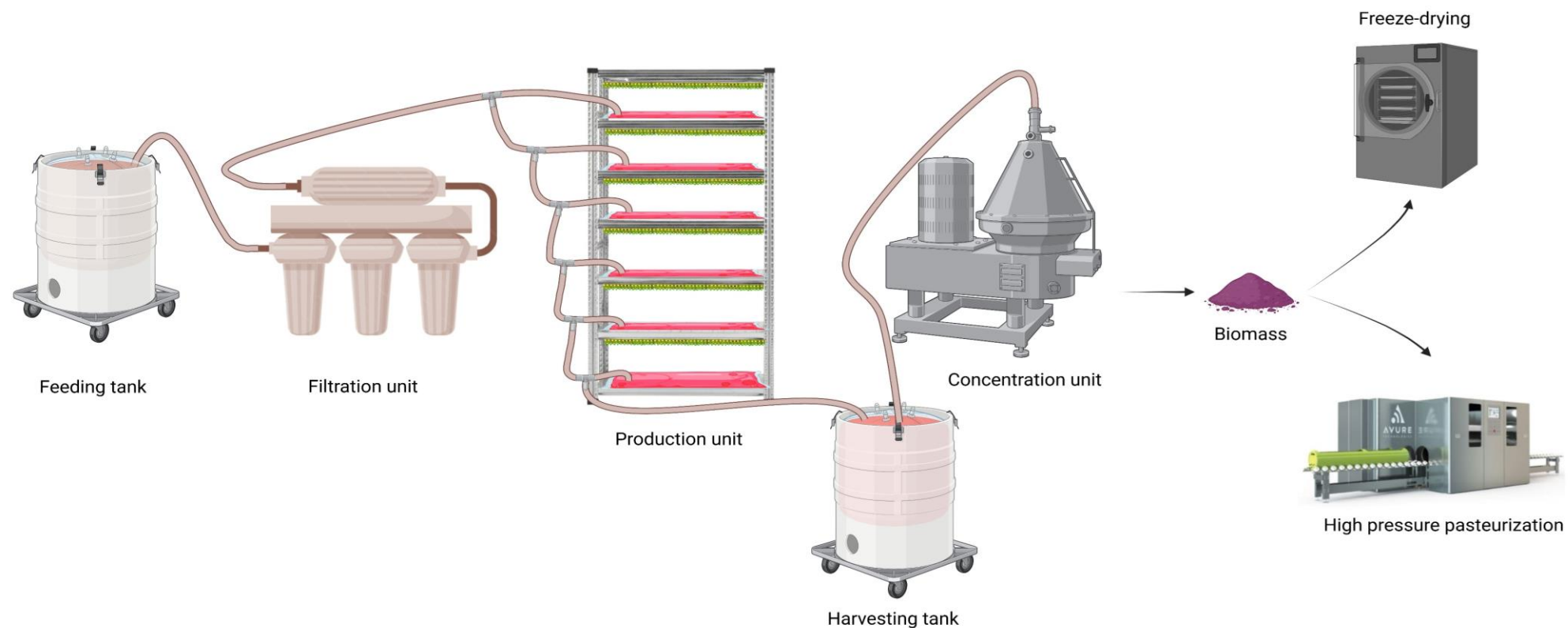
Overcoming Challenges in the Production of Food-Grade *Rhodospirillum rubrum* Biomass

Guillaume Bayon-Vicente – University of Mons

Rhodospirillum rubrum: Pioneering Opportunities in the Food Industry



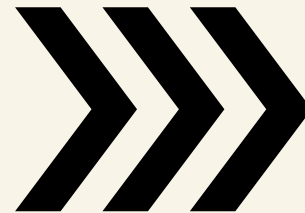
Amazing properties, amazing challenges



Feeding Cultures with Food-Grade Ingredients

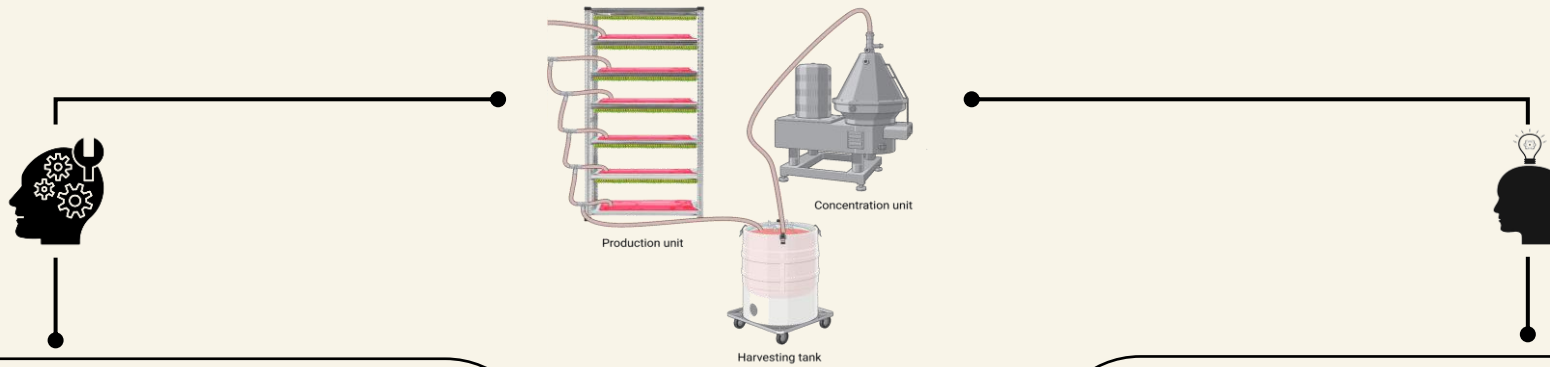


- ☐ Require food grade medium component
- ☐ Food compatible filtration unit
- ☐ Fragile medium component preservation (enzymes, vitamins)



- ✓ Design of a molasses-based medium
- ✓ Design of a sodium acetate-based medium
- ✓ Use of food additives for macro- and micro-nutrient
- ✓ Use of a potable water filtration/purification system (10, 5, 1 and 0.2µm)

Producing Food-Grade Biomass

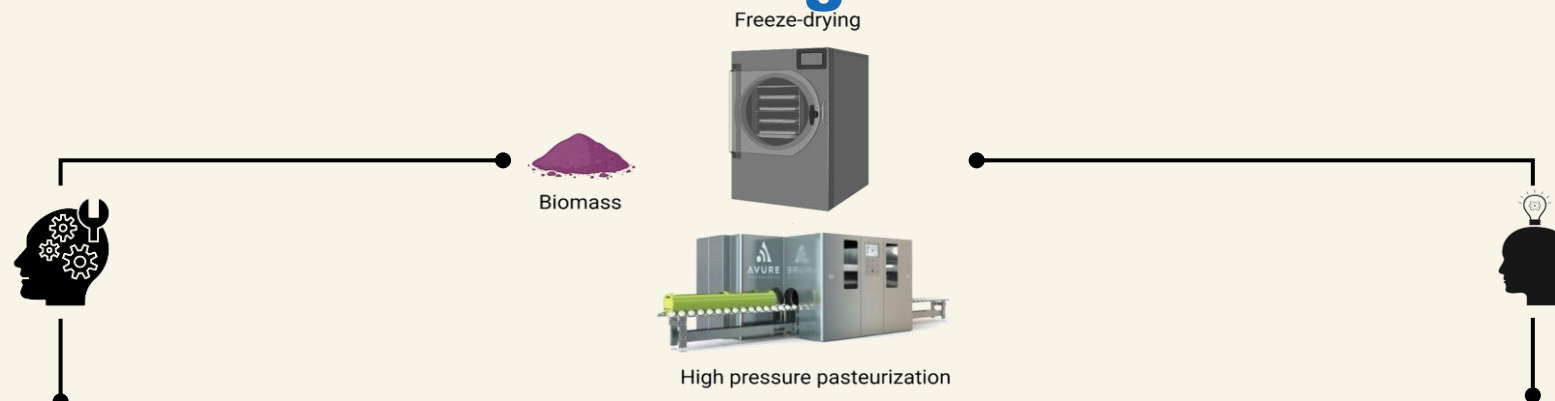


- ☐ Bag sterilization
- ☐ Food grade materials (valves, tubings, bags)
- ☐ Harvesting
- ☐ Microbial contamination reduction



- ✓ Use of food grade chemical for bag sterilization
- ✓ Food grade plastic bags
- ✓ Use of Malprene tubings and 3D printing using food grade material (PA12) and technology for valves designing
- ✓ Food grade centrifugation and « clean rules »

Feeding Cultures with Food-Grade Ingredients

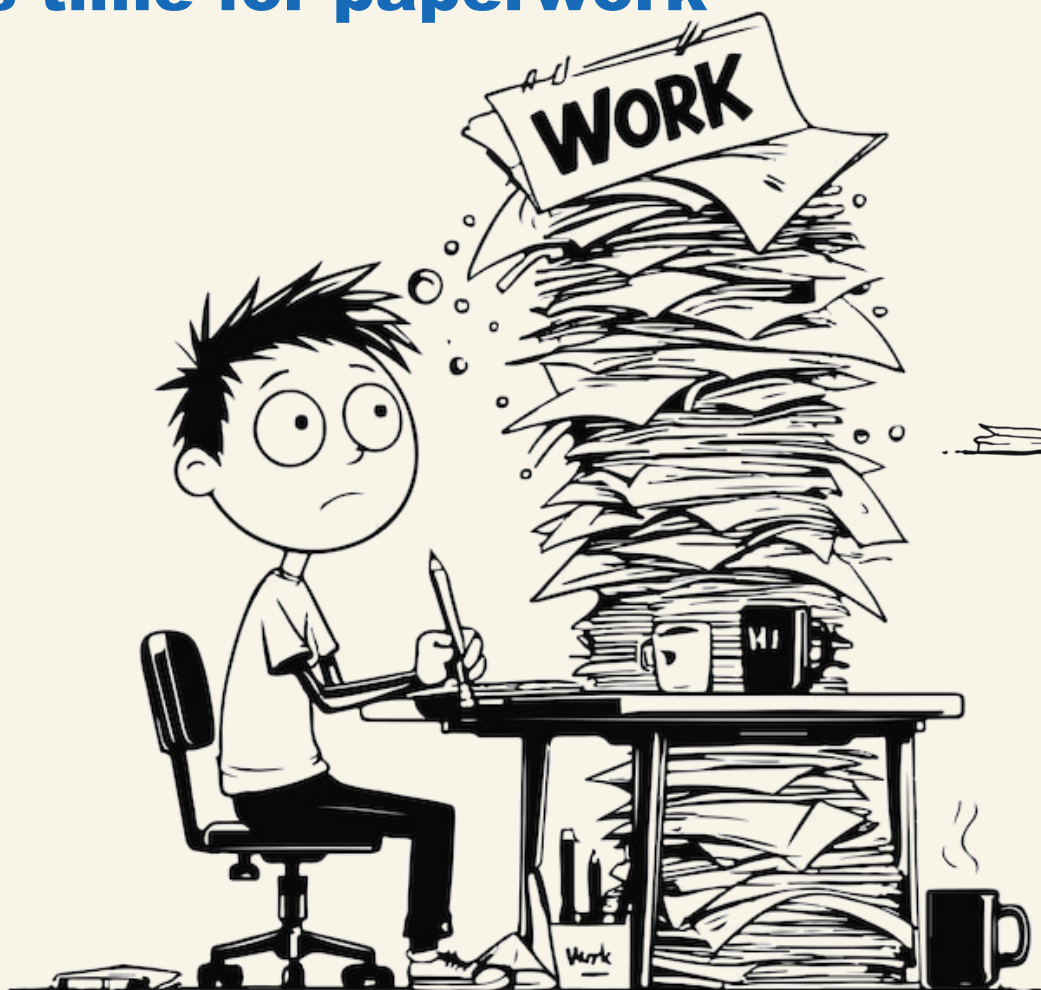


- ☐ Application-dependent biomass treatment
- ☐ Bioactive compound preservation
- ☐ Shelf-life optimization



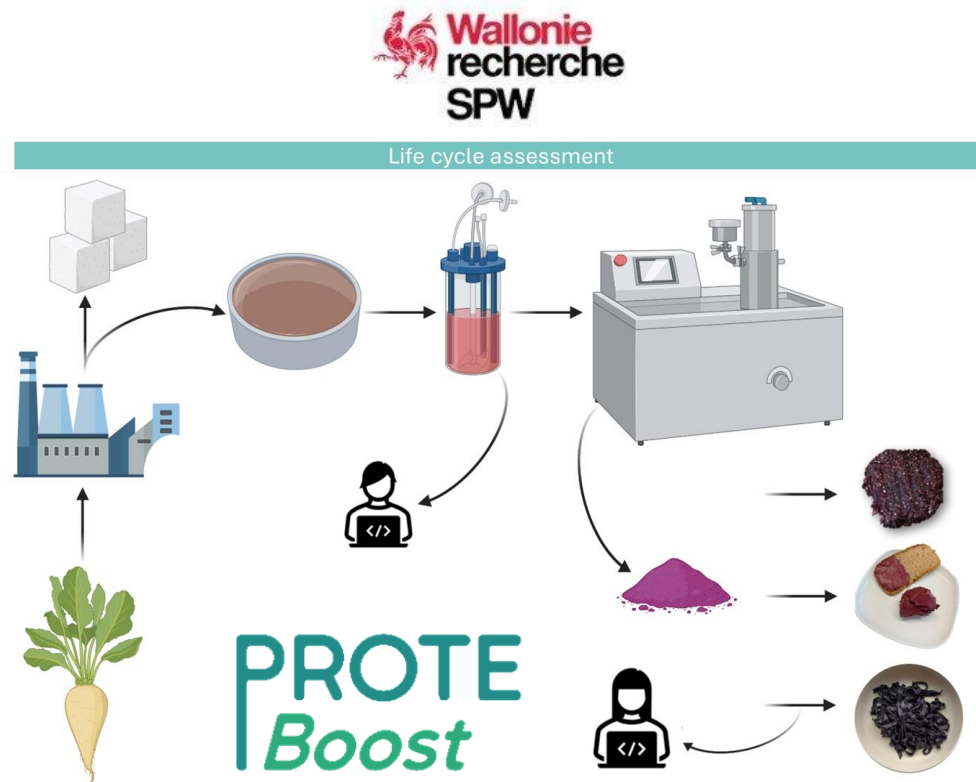
- ✓ Different stabilization scenario depending on the requirement of dried or fresh biomass
- ✓ Design of a stabilization method preserving carotenoids
- ✓ High pressure pasteurization already used in juice pasteurization → Fresh biomass
- ✓ Freeze drying already used for spirulina → dried biomass

It is time for paperwork

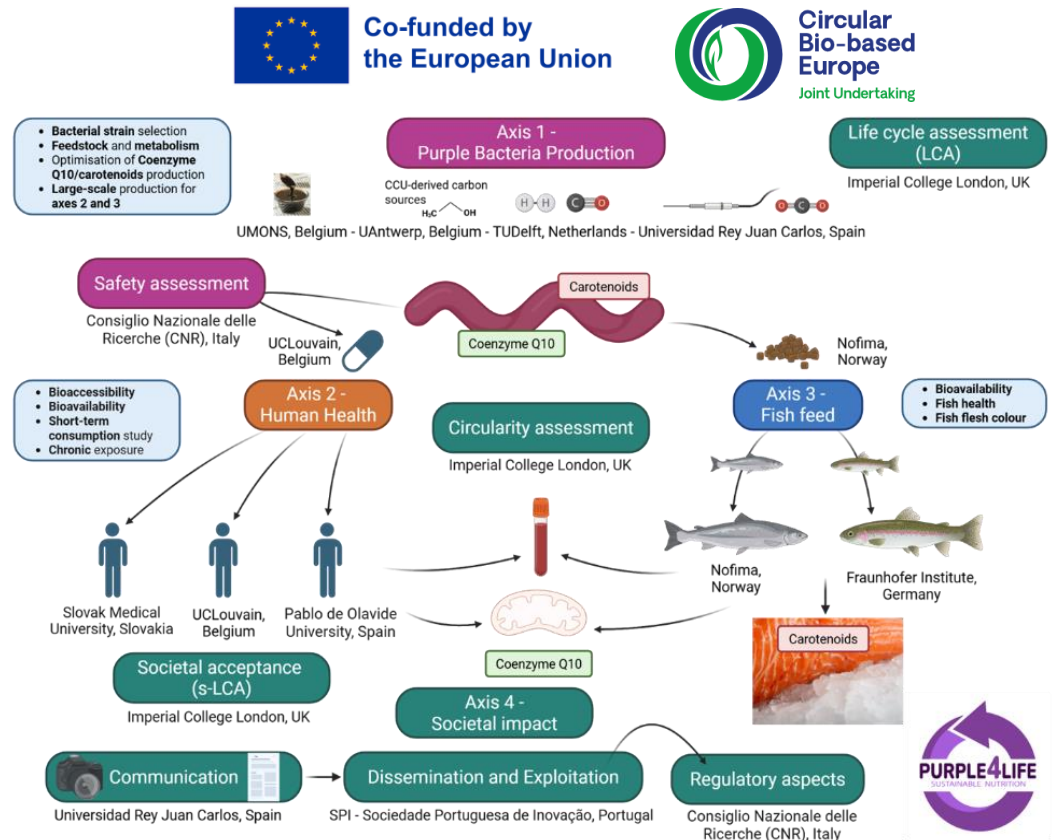


- ☐ Novel food application and health claim
- ☐ Food regulation: Codex alimentarius – FAO; food hygiene; ISO 22000, ERMG-5
- ☐ Other « industry » rules: sound standards, handling standards, water standards, working at height standard

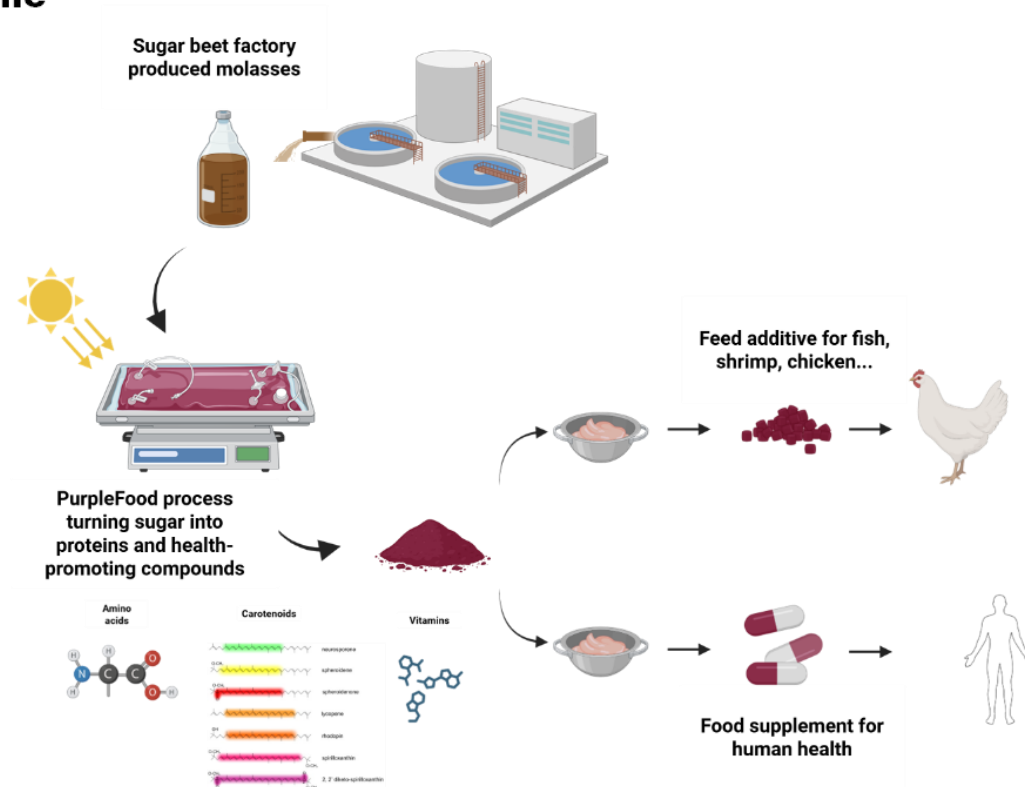
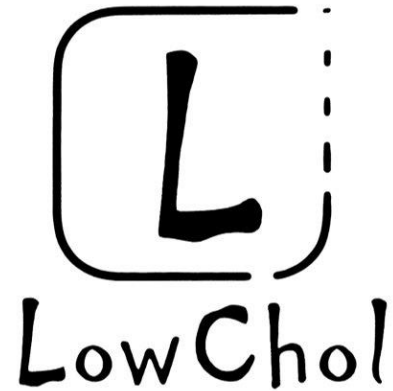
The PROTEBoost project



The Purple4Life project



The LowChol project



PurpleTech

Sustainable Innovation in Feed and Food

THANK TO ALL



Salim KICHOUH AIADI

Salim.KICHOUHAIADI@umons.ac.be



Baptiste Leroy

Baptiste.leroy@umons.ac.be



Guillaume Bayon-Vicente

Guillaume.bayon-vicente@umons.ac.be