NEWSLETTER

SIMTAP in Pisa (Italy)

Several plant species are under investigation as candidate crops in marine aquaponics. The experiments focused on four halophytic species: Atriplex hortensis L. (red orache); Beta vulgaris ssp. maritima (L.) Arcang. (sea beet), Portulaca oleracea L. (purslane), Salicornia europaea L. (sinonym: Salicornia perennans Willd; glasswort). A salt-tolerant glycophyte was also investigated: Beta vulgaris var. cicla L. (Swiss chard). Were grown hydroponically under greenhouse, either in the aquaponic prototype at a salinity level of 25 g/L or in independent floating systems at salinity levels ranging from 2 to 35 g/L.

Red Orache was very susceptible to Phythium root rot and most plants died in the early growth stages, in aeroponics and hydroponics experiments. Swiss chard and glasswort were the most suitable crops, respectively, in the autumn-winter season and in spring-summer. Glasswort is a very interesting crop as 4 – 6 kg/m2 of fresh shoots can be harvested in 2-3 months. Glasswort is considered a gourmet vegetable and it has high prices on the retail market (9-10 €/kg), which are close to those of farmed sea bream and sea bass (10-15 €/kg)

Webinar and workshop

Webinar: Acquaponica sostenibile. University of Pisa; March 18 2021
https://www.youtube.com/watch?v=vNLgYCr4JGA

Webinar: The SIMTAP project for sustainable aquaponics. University of Pisa; March 19, 2021.
https://www.youtube.com/watch?v=vNLgYCr4JGA

Online workshop: Integrated Multi-Trophic systems for sustainable fish and crops production. EurAgEng 2021 conference; July 7, 2021.
https://www.youtube.com/watch?v=4gqQN3KyWIo

MSc Thesis

Bindi, Antonio: A physiological and agronomica study on halophytic species grown in hydroponics. MSc thesis

Boni, Alessandro: Hydroponic cultivation and post-harvest storage of Salicornia europaea. MSc thesis

Bassotti, Barbara: Effects of brackish water on crop yield and quality of halophytic species grown in hydroponics. MSc thesis

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