

Design and Evaluation of an Aquaponic System for Local Food Production

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Abstract:

We live in an increasingly global society; however, many sustainable solutions to environmental and social problems are executed at the local level. This project will evaluate the sustainability of aquaponics as a method of local food production. Aquaponics combines aquaculture, the cultivation of fish for food, and hydroponics, the soil less growth of plants, using water recirculation. An interdisciplinary team will review the social, environmental, economic, and health aspects of a pilot scale aquaponic system, which will be constructed at the USF Botanical Gardens. Objectives of the project include: 1) analyze the sustainability of the system through a life cycle analysis, 2) model nitrogen movement in the system to improve fish and plant production, 3) assess public health concerns through microbiological water quality measurements, and 4) share findings and explore options for implementation in the Tampa Bay area.