



Greenhouse Tilapia Culture in aquaponic system

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Abstract

The aquaponics system is the integration of a hydroponic system with aquaculture in a recirculating system that removes wastes and metabolites produced by farmed fish through nitrification and their uptake by plants. Bacteria associated with plant roots are involved in the transfer of nutrients. Red hybrid tilapia *Oreochromis* sp. was used for intensive production in the aquaponics system with stocking density 120/m³ in round polyethylene tanks. Cultivation of vegetables including basil, common mint, peppermint, pennyroyal, lettuce, beets, Swiss chard, water cress, celery and okra in the floating beds led to proper production. Given the large number of dormant greenhouses in Iran and the limitation of water resources in these regions and the need to strengthen production and employment, commercial production in aquaponic system seems a very appropriate program for aquaculture and agriculture improvement.

Keywords: Tilapia, Greenhouse, aquaponic, Iran