



جامعة الإمارات العربية المتحدة  
United Arab Emirates University

The College of Graduate Studies and the College of science Cordially Invite  
You to a

**Master Thesis Defense**

Entitled

*AQUAPONIC EFFECT OF STOCKING DENSITY OF TILAPIA OREOCHROMIS NILOTICUS AND  
CHERRY TOMATO SOLANUM LYCOPERSICUM PRODUCTION SUSTAINABILITY IN UAE  
CONDITION.*

by

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Abstract

The present study was conducted to cultivate the tomato plants in a UVI – model aquaponics system in UAE climatic condition. The tomato plants were cultivated with Tilapia (*Oreochromis niloticus*) fish effluent water. The tomatoes were cultivated with three different densities of fishes like, (100, 120, 140) fish per cubic meter. Each green house is 120 m<sup>3</sup> plant cultivation area and 15.5 m<sup>3</sup> of fish culture area and the total water troughs volume is 58m<sup>3</sup>. Tomato plants are planted with the ratio of 3 plants/m<sup>2</sup>. The introduced fishes are fed with 35% protein based commercial floating feed at the ratio of 5% of the total weight of fish. The fishes were fed three time/ day at 4 hours interval. The total duration of the experiment period is 8 months; first three months for plant growth and flowering; the tomato fruits harvest started from fourth month onwards. Each and every month fish and plant growth parameter, water quality parameters are examined proper analytical method. Also, the experiment water, tomato fruits and cultivated fishes body proximate composition and mineral nutrient contents were analysed. Finally, the results show all significantly higher performance in high density of fish treatment yield. The present research revealed that the high density of fishes with tomato cultivation is suitable for this aquaponics system in UAE climatic condition.

**Keywords:** *Oreochromis niloticus*, aquaponic system, feeding frequency, stocking density.