

Abstract

This research was carried out to compare the physicochemical properties of existed water in octagonal, rectangular and rounded pools in Sistan region. For this purpose, with the commencement of the breeding season of carp in March and the distribution of fish baby by the Sistan Fisheries Directorate, fish farming was started by native breeders. The study consisted of three treatments of three forms of a pool (octagonal, rectangular and round), which for each treatment, 4 replicates was performed in the Sistan area, which sampling from the pool water was done during the six-month period of breeding, every 15 days. In each of the pools the physical and chemical properties of water including temperature, inlet water discharge, transparency, salinity, calcite, hardness, nitrate, nitrite, non-ionised ammonia, sulfate, phosphate, acidity and dissolved oxygen was measured from three locations (entrance, middle and outlet). Also, fish growth indices such as specific growth rate, status index, body weight gain, daily growth rate and feed conversion factor were calculated. According to the results of physicochemical factors of water, it was determined that the input oxygen of pools has a significant difference with other areas. Also, the pH level was neutral in all pools, and salinity levels of the pools were variable and were recorded between the sweet to the salty. Additionally, the amount of ammonia and carbon dioxide were increased as we went to outside. There was a significant difference between the growth rate and feed conversion ratio between octagonal and rounded pools with rectangular pools ($p < 0.05$). According to the results, octagonal, rounded and rectangular pools have better yields in common carp (*Cyprinus carpio*) production in Sistan region.

Keywords: Octagonal Pools, Physicochemical Conditions of Water, Sistan Area, Common Carp



University of Zabol
Faculty of Natural Resources
Department of Fisheries
The Thesis Submitted for the Degree of Master of Science
(In the field of Fisheries)

Subject:

Reservoir pools hydrotechnique assessment of production *Cyprinus carpio*
performance in Sistan region

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2018