



## Effect of potassium chloride and growth hormone supplementation on survival, nutrition and growth in juvenile *Common carp* fish *Cyprinus carpio* exposed to salinity

Mustafa A.A. Albadran<sup>1</sup>, Fatima A.M. Sultan<sup>1</sup>, Salah M. Najim<sup>2</sup>

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<sup>1</sup>Department of Fisheries and Marine Resources, <sup>2</sup>Unit of Aquaculture, College of Agriculture, University of Basrah, Basrah, Iraq

### Abstract

The current study was conducted on juveniles of the common carp, *Cyprinus carpio*, which is one of the most important fish for breeding in Iraq. The study included the effect of adding different percentages of potassium chloride and growth hormone to the diet on survival, nutrition and growth rates when suddenly exposed to different salt concentrations (7 and 15) g/L. Juvenile common carp fish showed the ability to tolerate a sudden rise in salt concentrations (7 and 15) g/l when fed on diets with different percentages of potassium chloride and growth hormone compared to control diet fish. A significant increase ( $P \leq 0.05$ ) was recorded in the survival rates of treatment T3 (97%) on the fourteenth day compared to the sample T1 (87%) in the saline concentration 7 g/L. And the treatment T3 and T5 (87% and 80%) respectively compared to the sample T1 (67%) at the saline concentration 15 g/L. The results of the current study show that the growth rates increased in the treatments to which potassium chloride and growth hormone were added at the expense of other treatments. As for the feeding efficiency of juvenile common carp, it is clear that the rate of food conversion improves by increasing the proportion of potassium chloride and growth hormone in the diet.

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the increase in demand. Therefore, the workers in the field of fisheries tended to develop this sector, which is considered one of the permanent and inexhaustible resources in the light of optimal economic exploitation (FAO, 2020). The high salinity of fresh water resources in southern Iraq, especially the Shatt al-Arab estuary, is one of the most important negative factors affecting the breeding of freshwater fish in this region. The salty tongue penetrating into the Shatt al-Arab has led to environmental and material deteriorations on the fish stocks, and the region is still witnessing The salty tongue penetrating into the Shatt al-Arab led to environmental and physical deterioration of the fish stock, and the region is still

### Introduction

The large increase in the population has led to increased interest by scientists and researchers in fisheries to develop the exploitation of this wealth and maintain its sustainability to meet the requirements of animal protein (Takei and Hwang, 2016). Aquaculture is one of the most growing sectors of meat production in the world, and estimates indicate an increase in the extension of table fish by 3.1% over the previous one. While the world population increased by 1.6 percent, the average per capita consumption of fish in the world increased from about 19.4 kg / year during the sixties to 20 kg in 2017, and the percentage is expected to increase due to