

## **Abstract**

The present study is conducted to investigate the effect of Zingerone powder growth indices and also *SOD*, *CAT*, *GPX* gene expression on the liver common carp. 120 individuals of fish with initial average weight of  $14 \pm 1.95$  g were stocked in 12 aquariums (50L). four dietary treatments including treatment 1 (control) that feeding with basal commercial diet without Zingerone powder and the other treatments from 2 to 4 were feed with doses containing 0.5, 2 and 5 g Zingerone powder per kg of diets; respectively. The experimental trail was carried out in triplicate per treatment for a period of 8 weeks. fish were feeding (3% body wet weight) as daily at 8:00 and 17:00 hrs. At the end of the experiment growth factors and *SOD*, *CAT*, *GPX* gene expression of fish livers were evaluated by 'Real time PCR' technique. The results reveals that the treatment which contains of 5 gr Zingerone powder per kg diet had a significant weight gain and specific growth rate than to control treatment ( $p < 0.05$ ). But , Zingerone powder in all treatments decreased significantly gene expression of *CAT* and *SOD* than to control treatment ( $p < 0.05$ ). treatments contain, Zingerone powder increased significantly expression of *GPX* gene all in compare to control group ( $p < 0.05$ ).The results suggested that can Zingerone be used as a growth appetizer in common carp. Although the use of these plants needs more investigations in order to reinforce antioxidant system.

**Keywords:** Gene expression , Antioxidant system, Zingerone , *Cyprinus carpio* , Real time PCR



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**Subject:**

Effect of dietary Zingerone (*Zingiber officinaie*) on gene experection of *CAT,SOD,GPX*; survival and growth parameter of Common carp (*Cyprinus carpio*) juvenile

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