6th INTERNATIONAL CONGRESS ON ZOOLOGY AND TECHNOLOGY

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ANT ABSTRACT

CERTIFICATE OF ATTENDANCE

This is to certify that

Hamidreza AHMADNIAYE MOTLAGH

has participated to

«6th International Congress on Zoology and Technology“

With poster presentation of

"Improvement of male Carp (*Cyprinus carpio*) reproductive characteristics by dietary administration of Tribulus terrestris extract”

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POSTER PRESENTATION

Significant enhancement of survival, intestinal digestive enzymes, vitellogenin content, immune and antioxidants defense system of *Artemia urmiana* fed garlic (*Allium sativum*) powder

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Abstract

This study was designed to evaluate for the first time the effects of garlic (*Allium sativum*) powder on the survival, growth, reproduction, immune, and antioxidant defense systems of *Artemia urmiana*. Utilizing a completely randomized design with three replicates, three diets containing 5, 10, and 20% garlic powder feed and a control diet without garlic was used. Twelve 60-liter plastic tanks *with* a density of 20 nauplii per milliliter were utilized. During the thirty-day experiment, *Artemia* was fed baker's yeast (1.25 mg yeast per one thousand nauplies). According to the results, 10% garlic treatment resulted in the highest survival rate ($P<0.05$), while the highest level (20%) caused death on the seventh day of the experiment. Throughout the experiment, growth factors (total length and dry weight) remained unchanged. In treated groups, the activities of digestive enzymes (protease, amylase, lipase, and alkaline phosphatase), the antioxidant defense system (SOD), phenol oxidase, and lysozyme considerably increased ($P<0.05$). In addition, feeding *A. urmiana* with varying garlic powder concentrations significantly increased the vitellogenin concentration, an essential reproductive parameter. Overall, compared to the control, the survival rate, innate immunity, digestive enzyme activity, antioxidant defense system, and reproductive parameters of *A. urmiana* fed 10% garlic powder was enhanced. This could be used as a reliable feed additive for the indoor production of artemia.

Keywords: Artemia, garlic, Vitellogenin, digestive enzymes, Anti-oxidant, Immunity.