

عنوان مقاله:

Research Article: Dietary supplementation of garlic (*Allium sativum* L.) extract enhances haematological, humoral immune responses and disease resistance of *Mugil cephalus* Linnaeus ۱۷۵۸, larvae against *Photobacterium damsela*

محل انتشار:

مجله علوم شیلات ایران، دوره 20، شماره 4 (سال: 1400)

تعداد صفحات اصل مقاله: 16

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خلاصه مقاله:

This study was carried out to investigate the effect of dietary supplementation of garlic (*Allium sativum*) extract on growth parameters and hematological parameters and immune system response of *Mugil cephalus* larvae encountered with *Photobacterium damsela*. Two hundred and forty *M. cephalus* larvae with a mean weight of ۵g were randomly divided into ۱۲ equal groups, each containing ۳ replicates. Fish were fed with diets containing ۵۰، ۱۰۰ and ۲۰۰mg garlic extract/Kg of food for ۸ weeks. Based on the results, significant difference was observed comparing final weight, specific growth rate (SGR), daily growth rate (DGR), protein efficiency ratio (PER) and feed conversion ratio (FCR) of ۱۰۰ and ۲۰۰mg garlic extract/Kg of food treatments and other treatments ($p<0.05$). Also, in ۱۰۰ mg garlic extract/Kg treatment, red and white blood cells, hemoglobin, PCV counts, globulin, total protein and albumin were

significantly higher than those of control and ۲۰۰mg garlic extract/Kg of food ($p<۰.۰۵$). The immune indices (lysozyme activity, serum total immunoglobulin (Ig) content, phagocytic activity and respiratory burst activity) significantly increased in ۱۰۰mg garlic extract/Kg treatment compared to those of other treatments, especially control ($p<۰.۰۵$). The results revealed that treatments containing ۵۰ and ۱۰۰mg garlic extract/Kg food had the highest survival after challenging with *P. damsela* compared to survival of other treatments ($p<۰.۰۵$). In conclusion, results suggested that dietary administration of garlic extract; especially in ۱۰۰mg garlic extract/Kg concentration is recommended for enhancing growth performance, nutritional function, immunity and resistance of *M. cephalus* larvae against the bacterium *P. damsela*.

کلمات کلیدی:

Allium sativum, *Mugil cephalus*, Hematological parameters, Immune response, *Photobacterium damsela*

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