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Effects of Dietary Nucleotides on Survival and Activites of Serum Complements C_3 and C_4 of Rainbow Trout (*Oncorhynchus mykiss*) Challenged with *Streptococcus iniae*

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Abstract

The present experiment was conducted to examine the effect of dietary nucleotides on complements C_3 and C_4 and resistance of rainbow trout fingerlings to *Streptococcus iniae*. A basal diet supplemented with 0 (control), 0.05, 0.1, 0.15 and 0.2 percent to formulate five experimental diets. Each diet was randomly allocated to triplicate groups of fish with initial average weight of approximately 23 g. After 8 weeks of feeding trial, levels of serum complements C_3 and C_4 in fish fed the nucleotide-supplemented diets were significantly higher than that of the control group. Fish were challenged by an intracoelomic injection with 9×106 colony-forming units/ml *S. iniae*. Mortality rate was recorded for 3 weeks after bacterial challenge. The challenge experiment showed that survival increased significantly ($P<0.05$) in fish fed the nucleotide-supplemented diets lower than of control treatment. The results suggest that dietary nucleotides administration at 0.15 and 0.2 percent exerted positive effects on serum complements C_3 and C_4 and resistance against *S. iniae* in rainbow trout.

Keywords: *Rainbow trout, Nucleotides, Streptococcus iniae*