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The effect of different level Prebiotic A-Max Ultra (Yeast Culture of *Saccharomyces cerevisiae*) on Growth Parameters, Feed Utilization, Survival Rate and improved stress resistance in common carp fry (*Cyprinus carpio* Linnaeus. 1758)

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Abstract

This experiment was conducted to evaluate the effect of prebiotic A-Max Ultra at five concentrations of 0 (control), 0.3 (T1), 0.5 (T2), 0.7(T3) and 1(T4) g.kg⁻¹ on growth parameters, feed utilization, survival rate and stress resistance of common carp (*Cyprinus carpio*) fry Within 60 days. For this purpose, 600 common carp larva with average mean weight of 1.3±0.273g (±SD) were obtained and transferred to the laboratory. After 7 days adaptation to the laboratory conditions, the fish were randomly divided into five treatments with three replicates (four experimental treatments and the control group). At the end of experiment, the results revealed that, the highest of growth parameters and survival rate were observed in the diet containing 0.5 and 0.7 g.kg⁻¹ A-Max Ultra prebiotic supplement and the highest of feed indices were observed in the diet containing 0.3 g.kg⁻¹ prebiotic supplement that a significant difference was observed in the control treatment as compared with the other treatments. (p<0.05). In this respect, the results of linear regression showed there was a positive relationship between some growth parameters and feed utilization including FW, LW, SGR, ADG TGC, FCE, PER, LER and negative relationship between RFI and FCR supplementation level of A-Max Ultra. In addition, fry resistance to challenge tests containing acidic pH and basic pH, ammonia and thermal showed a significant difference compared with control treatment (p<0.05). These results revealed that a feeding regime with prebiotic a range of 0.3- 0.7 g.kg⁻¹ for two months led to a significant increase in growth performance, survival rate, feeding efficiency and resistance time to the challenge test in common carp (*Cyprinus carpio*) fry.

Keywords: Prebiotic, A-Max, Growth, Challenge, *Cyprinus carpio*

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