بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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MONA MAGHRABY

EFFECT OF USING PROBIOTICS ON THE PRODUCTIVE PERFORMANCE OF TILAPIA FISH

By

SHAHENAZ AHMED ABD EL ATI
B.Sc. Agric. Sc. (Animal Production), Ain Shams University, 2004

A Thesis Submitted in Partial Fulfillment
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ABESTRACT

Shahenaz Ahmed Abd El Ati. Effect of using probiotics on the productive performance of tilapia fish. Unpublished M.Sc. Thesis, Department of Animal Production, Faculty of Agriculture, Ain Shams University, 2021

The research was performed at the Department of Animal Production's, Fish Laboratory, National Research Center, Dokki, Egypt. The research was conducted to assess the impact of commercial powder probiotic (ZADO®) on growth efficiency of Nile tilapia mono-sex fish *(O. niloticus)*, which were fed on basal experimental diet (the control group) and other 4 experimental diets, which was the basic diet augmented plus 0.25, 0.5, 0.75 and 1% of ZADO® for T1, T2,T3,T4 and T5, respectively. The Five experimental treatments were performed in three replicates each, the experimental aquaria were part of closed recirculating system, where environmental parameters were kept constant throughout the experimental period. Fifteen aquaria 60 × 40 × 30 cm, width, depth, height, respectively each was stocked with 15 fish. The mean individual initial body weight (4.04 g/fish) was registered at the start of the experiment. All fish for each aquarium throughout the entire experimental period were weighed every two weeks. The experimental fish were fed 32 % crude protein-based diet for (98 days). The daily feed allowances were calculated as 5% of fish body weight and were divided into 3 portions fed at 8 am, 12 pm and 4 pm. The Results of the experiment indicated that T2 had the largest significant ($P<0.05$) final body weight (FBW g/fish), average weight gain (AWG, g/fish), spesific growth rate (SGR % day), Feed conversion ratio (FCR), feed efficiency ratio (FER) and protein efficiency ratio (PER) among all the experimental groups. In addition, no substantial variations ($p > 0.05$) were found in protein productive value (PPV). Although significant effects ($p < 0.05$) have been reported in fish body crud protein (CP) and fat (EE) in T2. By

increasing ZADO® levels in experimental diets higher than 0.25% no significant effect were observed.

The second experiment was performed to assess the impact of commercial liquid probiotics (ZAD®) on water quality of the fish aquaria. Five experimental groups (in 3 replicates) were supplemented with 0, 1.5, 3, 4.5, and 6 ml of ZAD® for the T0, T1, T2, T3, T4 and T5,respectively. Fifteen aquaria (60 × 40 × 30 cm, width, depth, height) were used each aquarium was stocked with 15 fish. Daily feed allowances were calculated according to 5% of the fish body weight. The experimental fish were fed 32 % crude protein-based diet for 60 days. The daily feed allowances were calculated as 5% of fish body weight and were divided into 3 portions fed at 8 am ,12 pm and 4 pm.

The results second experiment showed that ammonia concentration in water was reduced significantly ($P<0.05$) by increasing ZAD® level in water. The lowest ammonia concentration was recorded by treatment 3 and T4 .

It could be concluded that 0,25% ZADO, and 4.5 ml was the best in terms of growth performance and feed utilization under experimental conditions.

Keywords: Tilapia, probiotics, ZADO®, ZAD®, growth Performance and feed utilization, nutrition.

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