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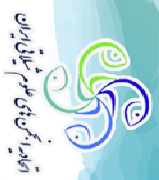
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Certificate

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Hamidreza Ahmaniaye Motlagh

Had an oral presentation entitled:

The effects of supplemented diets containing *Tribulus terrestris* saponin and *Ecklonia bicyclis* extract on the survival, growth performance, and intestinal microbiota of Nile tilapia

Co-authors: Sahar Aslaie , Sahar Roshanak , William Ka Fai TSE , Elham Nejati , Maryam Noorollahi ,
Ali Javadmanesh

In the 6th International Congress of Fisheries and Aquatic Research

16-18 November 2022

Dr. Seyed Hossein Hoseinifar
Head of scientific committee

Dr. Roghieh Safari
Head of executive committee

The effects of supplemented diets containing *Tribulus terrestris* saponin and *Ecklonia bicyclis* extract on the survival, growth performance, and intestinal microbiota of Nile tilapia (*Oreochromis niloticus*) larvae

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Hamidreza Ahmaniaye Motlagh

Aquatic animal Health & Diseases

Abstract: Nile tilapia (*Oreochromis niloticus*) larva were used to explore the effects of Tradamix on survival, growth, and the intestinal microbial population. Tradamix, a medicine used to treat sexual disorders in males, contains 450 milligrams of *tribulus terrestris* saponin and 300 milligrams of *Ecklonia bicyclis* dry extract per milligram of product. In a completely randomized design, 390 *O. niloticus* larvae (2 days after hatching) were assigned to five treatment groups with three replications. The larvae were fed diets containing 0, 50, 250, 500, and 1000 milligrams of Tradamix per kilogram of diet. The larvae were fed ad libitum for 60 days during the feeding period. On the first day of feeding, all drug-receiving groups were immersed in a 2 mg/l solution of Tradamix. On the 18th day of the experiment, a total fatality was observed in fish treated with 1000 mg/kg, however, Survival reports indicated a significant decrease in fish mortality in other treatments ($p < 0.05$). The control group had the highest final weight (0.96 ± 0.22 g) compared to the treatment groups ($p < 0.05$). The yeast and mold intestine count in 500 mg/kg increased significantly ($p < 0.05$). The count of lactic acid bacteria increased significantly in larvae receiving 50 mg/kg treatment ($p < 0.05$). Total bacteria and gram-negative bacteria count did not differ between the control and the treatments. Based on our findings, it is recommended that 50 mg/kg Tradamix be used in the form of a food supplement to improve intestinal microbiota balance.

Keywords: *Tribulus terrestris*, Saponin, Nile tilapia, Intestinal microbiota



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Abstract

Nile tilapia (*Oreochromis niloticus*) larva were used to explore the effects of Tradamix on survival, growth, and the intestinal microbial population. Tradamix, a medicine used to treat sexual disorders in males, contains 450 milligrams of *tribulus terrestris* saponin and 300 milligrams of *Ecklonia bicyclis* dry extract per miligram of product. In a completely randomized design, 390 *O. niloticus* larvae (2 days after hatching) were assigned to five treatment groups with three replications. The larvae were fed diets containing 0, 50, 250, 500, and 1000 milligrams of Tradamix per kilogram of diet. The larvae were fed ad libitum for 60 days during the feeding period. On the first day of feeding, all drug-receiving groups were immersed in a 2 mg/l solution of Tradamix. On the 18th day of the experiment, a total fatality was observed in fish treated with 1000 mg/kg, however, Survival reports indicated a significant decrease in fish mortality in other treatments ($p < 0.05$). The control group had the highest final weight (0.96 ± 0.22 g) compared to



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