Investigation on the effect of Genistein on sex ratio of Ranbow trout larvae during labile period

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Abstract:

Phytoestrogens are plant-based and affect gonadal development and sexual differentiation of fish. Phytoestrogens may have similar effects to estrogens or Block the effect of estrogens in different species. One of the plants used in fish diets is soy and its derivatives. Genistein is a type of isoflavone and is found in high concentrations in soy. The aim of this study was to compare the possible effect of different doses of Genistein on sexual differentiation during the larval period of rainbow trout and to compare this function with two hormones: 17-beta estradiol and 17-alpha methyl testosterone. Genistein treatments had doses of 40 mg, 400 mg and 800 mg / kg of food. Also, in this experiment, a treatment with a dose of 40 mg / kg of 17-beta estradiol (E2) hormone and a treatment with a dose of 0.5 mg / kg of methyl testosterone (MT) were considered. The larvae in the control treatment of the test received the same feed without hormone throughout the test. Each of the treatments was performed in three replications, with 500 larvae of salmon in each replication. Feeding to the larvae began when 50% of the larvae began to swim. The feed used in this experiment was given to larvae for 60 days. Food was consumed an average of 8 times a day. Examination of the sex ratio of the larvae revealed that the ratio of males increases with the increase in Genistein in the treatments. The results also showed that the growth of larvae of treatments containing Genistein was significantly higher than other treatments ($P \leq 0.05$).

Keywords: Sex ratio, Ranbow trout, larvae, labile period