Optimization of Thermal Shock for Triploidy Induction in Rainbow Trout (*Oncorhynchus mykiss*)

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Abstract

Sexual maturity is one of the most important problems for aquaculture especially coldwater fishes. Its caused to decrease growth, resistance to diseases, carcass quality and develop secondary sex characteristics in Salmonidae. Therefore, because of elimination of sexual maturity, the sterile fish production is important. This study was performed to determine and optimize the most appropriate heat shock for triploidy induction and sterilization of rainbow trout in Kohgiluye and Boyer Ahmad provinces. For this purpose, fertilized eggs were exposed to heat shocks 26 and 28 °C for 10 minutes at different times 10, 15 and 40 after fertilization. Statistical analysis of the blood cells development in offspring showed that triploidy was induced between 49-89% in farming conditions. In this study, the highest triploidy yield was obtained at 28 ° C for 10 min and 40 min after fertilization at the farm culture conditions.

Keywords*:* Rainbow Trout, Triploidy, Sterilization, Heat Shock