

Effect of short term transportation of chilled rainbow trout (*Onchorhynchus mykiss*) gametes in moisture oxygen bags on fertilization rate

Taheri, Ali. Kalbassi, Mohammad Reza^{*}. Abedian, Abdul Mohammad

Aquaculture Department, Faculty of Marine Sciences. Tarbiat Modares University

Abstract:

Effect of transportation of rainbow trout gametes under moist oxygen packing at 1-2 °c on fertilization was studied. Gametes were transferred in polyethylene bags (20×18cm) containing 0, 25, 50, 75 and 100 % moist oxygen (in its free volume) and ten hours after transfer in a Styrofoam box with thermo gel bags, fertilization were conducted in 25 treatments (in 3 replicates) and fertilized eggs were transferred to an incubator designed for rainbow trout with recirculation system (10°C). Percentage of fertility, eyed eggs, and hatching rate were calculated as an indicator for determination of optimum level of oxygen during transportation. The best results were obtained from fertilization of eggs transported at 100% oxygen and sperm transported at 75% oxygen with $95.01 \pm 1.2\%$ fertility, $78 \pm 4.21\%$ eyed eggs and $75 \pm 3.88\%$ hatching rate which were significant different ($p < 0/05$) compared to the control (treatment without oxygen). As in fish breeding programs, gamete transfer is simpler and inexpensive than brood stock transfer, and hence this method could be applied for short term transferring of rainbow trout gametes as a simple and applicable method.

Keywords: rainbow trout, gamete, oxygen, polyethylene bags, fertilization

^{*}Corresponding Author's E-mail: Kalbassi_m@modares.ac.ir