

EMBRYO VITRIFICATION OF CARP STRAIN PUNTEN (*Cyprinus carpio* L.)  
USING DMSO CRYOPROTECTANT ON VIABILITY AND ABNORMALITY

Muhammad Khairul Hidayat

**ABSTRACT**

This study was determine the effect of DMSO in various concentrations on viability and abnormalities of Carp larvae (*Cyprinus carpio* L.) after freezing. Carp embryos used are derived from the Installation of Freshwater Aquaculture (IBAT) Pandaan, then performed vitrification and maintenance of the embryo in the Laboratory In Vitro Faculty of Veterinary Medicine Airlangga University. The embryos were vitrified using DMSO cryoprotectants with various concentrations (10, 20, and 30%) and the Sucrose (1 M) soaked for 7 minutes. Parameter measured were viability, hatchability, and fish larvae abnormalities. Data was analysis using Kruskal-Wallis test with continued Mann-Whitney test showed that the viability of embryo and hatchability of Mas fish after freezing on treatment using DMSO 20% was significantly different ( $P < 0,05$ ) with treatment with cryoprotectan DMSO 10% and 30% DMSO. The viability of Carp embryo with treatment of cryoprotectan DMSO 20% was  $5.17\% \pm 3.85$  while hatching rate of DMSO 20% fish was  $4.9\% \pm 4.15$ . Carp embrio that hatch as many as 6 embryos from 8 embryos that viability after thawing. All embryos of fish that have hatch/larvae of fish have a normal morphology seen from the head, body, and tail of the fish.

Keywords: embryo, vitrification, viability, abnormality, hatchability