

CATCOPARCO SALAZAR, CHRISTIAN MICHEL. 2009. Criopreservación de espermatozoides de anchoveta peruana (*Engraulis ringens*, Jenyns 1842)

ABSTRACT

In order to optimize the techniques of reproduction of Peruvian anchovy (*Engraulis ringens*); in captivity, a methodology of cryopreservation of spermatozoids was performed. The investigation was developed in three stages, the first consisted of evaluation the toxicity produced by each cryoprotective by means of the percentage evaluation of spermatic motility post-hatching in each of them. The cryoprotectants used were dimetil sulfoxid (ME_2SO), ethanol (ET), propilenglycol (PG) y glycerol (GL) a 3 different concentrations (0,5 M, and 1,5 M); significant differences were found between percentage of spermatic motility of the incubated in ME_2SO ($90,0 \pm 4,9\%$) versus the other cryoprotectans ($p < 0.05$; t-student with Bonfferroni's correction). The second stage consisted of evaluating 5 different rates of freezing (-10, -20, -30, -40 and -50 °C/min), using only 3 concentrations (0.5; 1.0 and 1.5 M). The highest percentage of motility post-thawing obtained ($61.3 \pm 7.6 \%$) was when freezing the spermatozoa at 1.5 M ME_2SO and -20 °C/min. Finally, in the third step the effect of a nonpermeable cryoaditive was evaluated (yolk of hen egg, VHG), in order to determine if is possible to maximize the percentage of spermatic motility post-thawing. Additionally, ME_2SO (1.5 M) + VHG a 10% v/v was used but there were no significant differences in the percentage of motility post-thawing compared with the treatment without VHG.

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