Methodology and Usage of Cryoprotected sperm of

Humpback Grouper, Cromileptes altivelis (Valenciennes, 1828)

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Abstract

Study on method and using of cryopreserve of Humpback grouper Cromileptes altivelis spermatozoa were conducted in 5 experiment. i.e. 1) Compared the concentration of spermatozoa at the beginning and the end of the spawning season. 2) The efficient of HCG on fertilization and hatching rates. 3) Pattern and freezing rate in various cryogenic steps. 4) Variation of dilution ratio of sperm : extender. 5) The efficient of fresh chilled and cryopreserved milt and duration of preservation. Results showed high statistical different (p<0.05) in the concentration of live spermatozoa at the beginning of spawning season among treatments. The effect of HCG on fertilization and hatching rates capacity had no significantly different (p>0.05). The results from 3 different freezing rates were significantly (p<0.05) difference. The modified prefreezing method using polystyrene box showed higher hatching rates more than under vapour and cryogenic condition in liquid nitrogen tank. The effect of different freezing rates (preserved under cryogenic) were significantly difference (p<0.05). The final temperature of -80 °C from various freezing rates 5 10 and 15 °C per minute had highly motility and viability of sperm than the final temperature of -40 °C. The fertilization and hatching rates capacity on different dilution rations of 1:1, 1:9 1:49, 1:99 and 1:199 (The different dilution rations of 3.4x10^5 3.4x10^6 3.8x10^7 4.2x10^5 and 5.4 cells) were significantly different (p<0.05). The dilution rations of 3.4x10^5 cells was high hatching capacity. The duration of preserved spermatozoa were not significantly different (p>0.05)

Key words: Humpback Grouper, Cromileptes altivelis, Sperm cryopreservation, Usage

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