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The effect of preserved and shipped cryopreserved semen of giant grouper (Epinephelus lanceolatus) in dry ice (-79º Celsius) on the total protein in semen and spermatozoa

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Protein is a macromolecule that plays an important role in the living organism. e role of protein is catalysing the metabolic reaction, DNA replication, responding to stimuli and shipping the molecule from point to point. e level of protein in spermatozoa is very important because it contains DNA information which can be transmitted from paternal to the next generation. e study was conducted to determine the level of total protein in cryopreserved semen and in spermatozoa of giant grouper (Epinephelus lanceolatus) which is preserved in dry ice (-79 Celsius) and shipped with Styrofoam box and dry ice as a refrigerant. e purpose of shipping is to use the cryopreserved spermatozoa in arti cial insemination to produce hybrid grouper. e level of total protein also determined a er the frozen semen are immersed back to liquid nitrogen a er 24 hours and 48 hours in dry ice. e treatment in this study was 24 hours in dry ice, immersed back to liquid nitrogen a er 24 hours in dry ice; 48 hours in dry ice, immersed back to liquid nitrogen a er 48 hours in dry ice; and 72 hours in dry ice. e other factor in the experiment is the container for the semen are loaded: Straw and cryotube. Positive control for the experiment was the post thaw semen from liquid nitrogen, and negative control for the experiment was fresh semen. e experiment also compared the level of total protein in semen before and a er adding extender and cryoprotectant and also before and a er cryopreservation procedure. e level of protein is determined using Bradford method. e result of the study shows there are no signi cant di erences (P<0.05) on the total protein from the semen and spermatozoa were loaded with straw and cryotube. ere are signi cant di erences (P<0.05) on the level of total protein in semen before and a er adding with extender and cryoprotectant. However, there is no signi cant di erence (P>0.05) on the level of total protein before and a er adding the extender and cryoprotectant in spermatozoa. ere are no signi cant di erences (P>0.05) on the level of total protein in semen for all treatment and control groups. us, preservation and shipping the cryopreserved semen does not a ect the level of total protein either in semen or spermatozoa.

Biography

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