Kriopreservasi Sperma Ikan Jelawat (*Leptobarbus hoevenii*) Dengan Berbagai Suhu Penyimpanan

INTISARI

Kualitas dan kuantitas sperma ikan yang dihasilkan menurun pada saat luar musim pemijahan, frekuensi waktu kematangan gonad pada induk betina dan jantan ikan jelawat berbeda. Berdasarkan hal tersebut diperlukannya stok sperma yang disimpan melalui teknik kriopreservasi sehingga dapat digunakan dalam program pembenihan saat induk betina siap untuk dipijahkan. Tujuan penelitian ini untuk mengevaluasi motilitas sperma ikan jelawat yang disimpan pada beberapa strata suhu (Suhu Ruangan 24°C, 4°C , - 40°C, - 70°C) setelah kriopreservasi dan mengetahui efektifitas sperma yang disimpan terhadap fertilisasi. Penelitian meliputi tiga aktivitas pengamatan sperma segar, pembuatan media ekstender dan penyimpanan sperma serta mengevaluasi sperma setelah kriopreservasi. Hasil uji sperma segar dijelaskan secara deskriptif dan disajikan bentuk tabel, evaluasi sperma setelah kriopreservasi dianalisis secara kuantitatif menggunakan ANOVA dan dilanjutkan dengan uji lanjut Duncan. Sperma segar menunjukan sperma yang digunakan memiliki volume 3,8 – 5,2 ml/kg, warna putih, kosistensi kental, pH sebesar 7,9 – 8, motilitas individu sperma segar ikan jelawat sebesar 81,00% – 83,33% sedangkan gerakan massa sperma senilai 3 (+++). Kosentrasi sperma sebesar 1,88 x 10^{10} sel/ml. Perlakuan suhu berbeda yaitu suhu ruangan 24°C, 4°C, -40 °C, - 70 °C hasil terbaik motilitas pada perlakuan 4°C dengan rerata 56,67%, durasi motilitas rerata 211 detik dan viabilitas rerata 50,86% pada periode H + 14 setelah penyimpanan. Hasil pengamatan fertilisasi terbaik menunjukan nilai rata-rata 45% pada periode H +7 setelah penyimpanan.

Kata Kunci : Kriopreservasi, Sperma, ikan jelawat, Motilitas.

Sperm Cryopreservation of Jelawat Fish (*Leptobarbus hoevenii*) With Various Storage Temperatures

ABSTRACT

The quality and quantity of sperm produced decreases when outside the spawning season, is known to have different gonadal maturity period between the male and female broodstock. Based on this, it is necessary to store sperm stock through cryopreservation techniques so that it can be used in hatchery programs when the female parent is ready to be spawned. The purpose of this study was to evaluate the sperm motility of jelawat fish stored at several temperature strata (room temperature/24°C, 4°C, - 40°C, - 70°C) after cryopreservation and to determine the effectiveness of stored sperm on fertilization. This research investigated three activities of prolonged sperm, making media extender, stroage dan evaluating after cryopreservation. The results of the fresh sperm test are described descriptively and presented in a table form, sperm evaluation after cryopreservation is quantitatively analyzed using ANOVA and continued with Duncan's further test. Fresh sperm had volume of 3.8 - 5.2 ml/kg, had white color, viscous consistency, pH ranged from 7.9 - 8, 81,00 – 83,33% motility rate and mass sperm motility score of 3 (+++). Sperm concentration was 1,88 x 10^{10} cell/ml. The temperature treatment used in this research were 24°C, 4°C, -40 °C, and - 70 °C. Highest motility was found in 4°C treatment with average of 56.67%, average motility duration was 211 seconds and the sperm viability was 50.86% in the 14th Day after initial storage. The best average fertilization was 45% at the 7th day after initial storage.

Keywords: Cryopreseravtion, Jelawat fish, fish sperm, motility.