

ABSTRAK

PENGARUH PENAMBAHAN L-CARNITINE DENGAN DOSIS YANG BERBEDA PADA BAHAN PENGECER SUSU SKIM TERHADAP KUALITAS SEMEN CAIR DOMBA EKOR TIPIS

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Penelitian ini bertujuan untuk mengetahui pengaruh penambahan L-Carnitine terhadap motilitas, viabilitas, dan abnormalitas semen cair Domba Ekor Tipis dalam pengencer susu skim. Penelitian ini dilaksanakan pada tanggal 9-16 Januari 2025 di Jurusan Peternakan, Universitas Lampung. Penelitian ini dilakukan menggunakan Rancangan Acak Lengkap dengan 4 perlakuan dan 4 ulangan. Perlakuannya adalah P0: kontrol, P1: SS+L-Carnitine 0,6 mg/100 ml pengencer, P2: SS+L-Carnitine 1,2 mg/100 ml pengencer dan P3: SS+L-Carnitine sebanyak 2,4 mg/100 ml pengencer yang disimpan pada suhu ruang dan diamati setiap jam. Data motilitas, viabilitas, dan abnormalitas dianalisis ragam dengan taraf 5%, dan dilanjutkan dengan polinomial orthogonal untuk peubah yang berbeda nyata. penambahan L-Carnitine dalam bahan pengencer Susu Skim (SS) penyimpanan 0 jam sampai 4 jam berpengaruh nyata ($P < 0,05$) terhadap motilitas dan viabilitas spermatozoa domba ekor tipis yang disimpan pada suhu ruang, namun tidak berpengaruh nyata ($P > 0,05$) terhadap abnormalitas spermatozoa domba ekor tipis. Hasil polinomial ortogonal motilitas pascapengenceran sampai dengan 4 jam penyimpanan menunjukkan dosis optimum dari L-Carnitine sebanyak 1,33 mg/100 ml (0 jam), 0,91 mg/100 ml (1 jam), 0,94 mg/100 ml (2 jam), 0,81 mg/100 ml (3 jam), 0,92 mg/100 ml (4 jam). Hasil polinomial ortogonal viabilitas pascapengenceran sampai dengan 4 jam penyimpanan menunjukkan dosis optimum dari L-Carnitine sebanyak 0,63 mg/100 ml (0 jam), 1,15 mg/100 ml (1 jam), 1,28 mg/100 ml (2 jam), 1,19 mg/100 ml (3 jam), 0,96 mg/100 ml (4 jam). Hasil penelitian ini menyimpulkan bahwa penambahan L-Carnitine sebanyak 1,2 mg/100ml pengencer memberikan hasil yang baik..

Kata kunci : Domba Ekor Tipis, L-Carnitine, Semen Cair, Spermatozoa, Susu Skim

ABSTRACT

THE EFFECT OF ADDITION OF L-CARNITINE WITH DIFFERENT DOSES IN SKIM MILK DILUENT ON THE QUALITY OF LIQUID SEMEN OF THIN TAIL SHEEP

By

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This study aims to determine the effect of adding L-Carnitine on the motility, viability, and abnormality of Thin-Tailed Sheep liquid semen in skim milk diluent. This study was conducted on January 13-14, 2025 at the Department of Animal Husbandry, University of Lampung. This study was conducted using a Completely Randomized Design with 4 treatments and 4 replications. The treatments were P0: control, P1: SS + L-Carnitine 0.6 mg / 100 ml diluent, P2: SS + L-Carnitine 1.2 mg / 100 ml diluent and P3: SS + L-Carnitine as much as 2.4 mg / 100 ml diluent stored at room temperature and observed every hour. Motility, viability, and abnormality data were analyzed for variance at a level of 5 and continued with orthogonal polynomials for significantly different variables. The addition of L-Carnitine in Skim Milk (SS) diluent from 0 to 4 hours of storage significantly affected ($P < 0.05$) the motility and viability of thin-tailed sheep spermatozoa stored at room temperature, but did not significantly affect ($P > 0.05$) the abnormality of thin-tailed sheep spermatozoa. The results of the orthogonal polynomial for post-dilution motility up to 4 hours of storage showed that the optimum dose of L-Carnitine was 1.33 mg/100 ml (0 hour), 0.91 mg/100 ml (1 hour), 0.94 mg/100 ml (2 hours), 0.81 mg/100 ml (3 hours), 0.92 mg/100 ml (4 hours). The orthogonal polynomial results of post-dilution viability up to 4 hours of storage showed that the optimum dose of L-Carnitine was 0.63 mg/100 ml (0 hour), 1.15 mg/100 ml (1 hour), 1.28 mg/100 ml (2 hours), 1.19 mg/100 ml (3 hours), 0.96 mg/100 ml (4 hours). The results of this study concluded that the addition of L-Carnitine as much as 1.2 mg/100 ml of diluent gave good results.

Keywords : Thin-tailed Sheep, L-Carnitine, Liquid Semen, Spermatozoa, Skim Milk.