ABSTRAK

PENGARUH PENAMBAHAN L-CARNITINE DENGAN DOSIS YANG BERBEDA DALAM BAHAN PENGENCER SITRAT KUNING TELUR TERHADAP KUALITAS SEMEN CAIR DOMBA EKOR TIPIS

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Penelitian ini bertujuan untuk mengetahui pengaruh penambahan L-carnitine terhadap kualitas semen cair (motilitas, viabilitas dan abnormalitas) dalam pengencer sitrat kuning telur pada semen Domba Ekor Tipis. Penelitian dilaksanakan pada Desember 2023 bertempat di Laboratorium Fisiologi dan Reproduksi Jurusan Peternakan, Fakultas Pertanian, Universitas Lampung. Rancangan yang digunakan adalah Rancangan Acak Lengkap dengan 4 perlakuan dan 4 ulangan, P0: tanpa penambahan L-carnitine (kontrol); P1: penambahan L-carnitine 0,6 mg/100 ml pengencer; P2: penambahan L-carnitine 1,2 mg/100 ml pengencer; dan P3: penambahan L-carnitine 2,4 mg/100 ml pengencer. Data yang diperoleh dianalisis ragam dengan taraf 5% dan 1% kemudian diuji lanjut dengan uji Beda Nyata Terkecil untuk peubah yang berpengaruh nyata. Hasil penelitian menunjukkan bahwa penambahan L-carnitine dalam bahan pengencer Sitrat Kuning Telur berpengaruh sangat nyata ($P<0,01$) terhadap motilitas dan viabilitas pasca pengenceran, namun tidak berpengaruh nyata ($P>0,05$) terhadap abnormalitas spermatozoa pasca pengenceran. Penambahan L-carnitine dalam bahan pengencer Sitrat Kuning Telur tidak berpengaruh nyata ($P>0,05$) terhadap motilitas, viabilitas dan abnormalitas spermatozoa pada penyimpanan 3 jam. Penambahan L-carnitine 0,6 mg/100 ml pengencer (P1) menunjukkan kualitas terbaik dibandingkan dengan perlakuan lainnya dengan nilai motilitas (71,75 ± 2,22%), viabilitas (72,38 ± 1,96%) dan abnormalitas (1,50 ± 0,78%) pada pasca pengenceran. Hasil penelitian dapat disimpulkan bahwa penambahan L-carnitine dengan dosis 0,6 mg/100 ml pengencer sitrat kuning telur memberikan pengaruh terbaik terhadap motilitas dan viabilitas spermatozoa Domba Ekor Tipis pasca pengenceran.

Kata kunci: Domba Ekor Tipis, L-Carnitine, Sitrat Kuning Telur, Spermatozoa

ABSTRACT

THE EFFECT OF ADDING DIFFERENT DOSES OF L-CARNITINE IN EGG YOLK CITRATE DILUENT ON THE QUALITY OF LIQUID SEMEN OF THIN-TAILED SHEEP

By

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This study aims to determine the effect of the addition of L-carnitine on the quality of liquid semen (motility, viability and abnormality) in egg yolk citrate diluent in Thin-Tailed Sheep semen. The research was conducted in December 2023 at the Laboratory of Physiology and Reproduction, Department of Animal Husbandry, Faculty of Agriculture, University of Lampung. The design used was a Completely Randomized Design with 4 treatments and 4 replications, P0: without the addition of L-carnitine (control); P1: addition of L-carnitine 0.6 mg/100 ml diluent; P2: addition of L-carnitine 1.2 mg/100 ml diluent; and P3: addition of L-carnitine 2.4 mg/100 ml diluent. The data obtained were analyzed for variance at the 5% and 1% level further tested with the Least Significant Difference test for variables that had a significant effect. The results showed that the addition of L-carnitine in Egg Yolk Citrate diluent had a very significant effect ($P<0.01$) on motility and viability after dilution, but no significant effect ($P>0.05$) on spermatozoa abnormalities after dilution. The addition of L-carnitine in Egg Yolk Citrate diluent had no significant effect ($P>0.05$) on motility, viability and abnormality of spermatozoa at 3 hours storage. The addition of L-carnitine 0.6 mg/100 ml diluent (P1) showed the best quality compared to other treatments with motility values (71.75 ± 2.22%), viability (72.38 ± 1.96%) and abnormality (1.50 ± 0.78%) in post dilution. The results of the study can be concluded that the addition of L-carnitine at a dose of 0.6 mg/100 ml of egg yolk citrate diluent gives the best effect on motility and viability of thin-tailed sheep spermatozoa after dilution.

Keywords: Egg Yolk Citrate, L-Carnitine, Spermatozoa, Thin Tailed Sheep