

STUDI PENAMBAHAN VITAMIN C DALAM PENGENCER SEMEN KAMBING SAANEN PADA PENYIMPANAN 5°C SELAMA 72 JAM

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INTISARI

Pembekuan semen kambing Saanen memberikan manfaat sehingga dapat disimpan dalam jangka waktu lama, namun hal ini masih menimbulkan penurunan kualitas pada sperma. Penurunan kualitas semen akibat radikal bebas berpengaruh pada fertilitas dan keberhasilan inseminasi. Oleh karena itu, perlu dilakukan pengujian kualitas semen dengan penambahan antioksidan pada pengencer untuk menjaga mutu sperma selama proses penyimpanan. Pengujian ini dilakukan untuk mengetahui kualitas semen kambing Saanen setelah penambahan vitamin C sebagai antioksidan dalam pengencer tris kuning telur yang disimpan pada 5°C selama 72 jam. Perlakuan 0 (K) sebagai kontrol hanya menggunakan pengencer tris kuning telur tanpa penambahan vitamin C. Perlakuan P1, P2, dan P3 masing-masing diberi penambahan vitamin C sebanyak 0,2 gr/100 ml pengencer, 0,3 gr/100 ml pengencer, dan 0,4 gr/100 ml pengencer. Parameter yang diamati adalah tingkat motilitas, daya hidup, dan abnormalitas spermatozoa kambing Saanen. Data yang diperoleh dianalisis menggunakan *GraphPad Prism* 10. Hasil penelitian menunjukkan bahwa nilai motilitas pada K $57,66 \pm 3,05\%$, motilitas grup P1, P2, dan P3 secara berurutan $70,00 \pm 1,00\%$, $63,33 \pm 2,88\%$, dan $59,33 \pm 3,05\%$. Sementara itu, nilai viabilitas semen cair pada K $63,86 \pm 1,60\%$, grup P1, P2, dan P3 secara berurutan $79,94 \pm 0,81\%$, $73,42 \pm 2,81\%$, dan $67,31 \pm 2,22\%$. Abnormalitas semen cair pada K $14,18 \pm 1,47\%$, grup P1, P2, dan P3 secara berurutan $8,59 \pm 0,91\%$, $10,85 \pm 0,95\%$, dan $13,25 \pm 2,08\%$. Vitamin C dengan konsentrasi 0,2 gr/100 ml pengencer memberikan hasil terbaik terhadap kualitas motilitas, viabilitas, dan abnormalitas sperma kambing Saanen.

Kata kunci: Vitamin C, Kambing Saanen, Motilitas, Viabilitas, Abnormalitas.

**STUDY OF VITAMIN C SUPPLEMENTATION IN SAANEN GOAT
SEMEN DILUENT STORED AT 5°C FOR 72 HOURS**

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ABSTRACT

Freezing the semen of Saanen goats provides the benefit of being stored for a long period of time. Decreased semen quality due to free radicals can have fatal consequences on fertility and insemination success. The test of quality semen by adding antioxidants to the diluent to maintain sperm quality during the storage process. This study was to determine the quality of Saanen goat semen after the addition of vitamin C as an antioxidant in egg yolk Tris diluent stored at 5°C for 72 hours. Treatment 0 (K) as a control only used egg yolk tris diluent without the addition of vitamin C. Treatments P1, P2, and P3 were each given the addition of vitamin C as much as 0.2 gr/100 ml diluent, 0.3 gr/100 ml diluent, and 0.4 gr/100 ml diluent. The parameters observed were the level of motility, viability, and abnormality of Saanen goat spermatozoa. The results showed that the motility value in K was $57.66 \pm 3.05\%$, the motility of groups P1, P2, and P3 were $70.00 \pm 1.00\%$, $63.33 \pm 2.88\%$, and $59.33 \pm 3.05\%$, respectively. Meanwhile, the liquid semen viability value in K was $63.86 \pm 1.60\%$, groups P1, P2, and P3 had values of $79.94 \pm 0.81\%$, $73.42 \pm 2.81\%$, and $67.31 \pm 2.22\%$, respectively. The liquid semen abnormality in K was $14.18 \pm 1.47\%$, the respective values for groups P1, P2, and P3 were $8.59 \pm 0.91\%$, $10.85 \pm 0.95\%$, and $13.25 \pm 2.08\%$. Concentration of 0.2 g of vitamin C per 100 ml of diluent produced the best results for motility, viability, and abnormality in Saanen goat sperm.

Keywords: Vitamin C, Saanen Goat, Motility, Viability, Abnormality.