

PENGARUH PENAMBAHAN EKSTRAK DAUN KEMANGI (*Ocimum basilicum* L.) PADA PENGECER TRIS KUNING TELUR TERHADAP KUALITAS SEMEN KAMBING SAANEN SETELAH PENYIMPANAN SUHU 5°C SELAMA 24 JAM

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan ekstrak daun kemangi (*Ocimum basilicum* L.) dalam pengencer tris kuning telur terhadap motilitas, viabilitas, dan abnormalitas semen kambing Saanen yang disimpan pada suhu 5°C selama 24 jam. Penelitian ini dilakukan di Laboratorium Fisiologi dan Reproduksi Ternak Fakultas Peternakan Universitas Gadjah Mada. Semen dikoleksi dari kambing Saanen berumur 2,5 tahun. Koleksi semen dilakukan menggunakan vagina buatan dengan frekuensi penampungan satu kali dalam satu minggu selama 5 minggu. Semen diencerkan menggunakan tris kuning telur kemudian ditambahkan ekstrak daun kemangi dan dilakukan tiga kali perlakuan yang terdiri dari kelompok kontrol (P0) tanpa penambahan ekstrak daun kemangi, kelompok perlakuan 1 (P1) penambahan 10% ekstrak daun kemangi, dan kelompok 2 (P2) penambahan 15% ekstrak daun kemangi. Semen yang telah diencerkan disimpan di dalam *refrigerator* dengan suhu 5°C selama 24 jam. Data yang diamati meliputi motilitas (%), viabilitas (%), dan abnormalitas (%). Data dianalisis dengan menggunakan analisis varians (ANOVA) pola searah dan diuji lanjutan dengan *Duncan Multiple Test* (DMRT) untuk memperoleh data yang signifikan. Hasil analisis menunjukkan bahwa penambahan ekstrak daun kemangi dalam pengencer tris kuning telur berpengaruh nyata terhadap motilitas, dan viabilitas ($P < 0,05$), namun tidak berpengaruh nyata terhadap abnormalitas ($P > 0,05$). Penambahan ekstrak daun kemangi sebesar 0%, 10%, dan 15% pada tris kuning telur dengan penyimpanan 24 jam menghasilkan motilitas (%) sebesar $64,00 \pm 11,40$; $74,00 \pm 8,94$; $84,00 \pm 8,94$ %, viabilitas (%) sebesar $73,13 \pm 1,89$; $80,73 \pm 3,75$; $89,20 \pm 1,67$ %, abnormalitas (%) sebesar $13,80 \pm 4,49$; $11,33 \pm 6,27$; $11,13 \pm 3,78$ %. Dapat disimpulkan bahwa penambahan ekstrak daun kemangi berpengaruh terhadap motilitas, dan viabilitas semen kambing Saanen, namun tidak berpengaruh terhadap abnormalitas. Penambahan ekstrak daun kemangi 15% pada penyimpanan suhu 5°C selama 24 jam memberikan hasil yang terbaik.

Kata kunci : Abnormalitas, Ekstrak Daun Kemangi, Kambing Saanen, Motilitas, Semen, Tris Kuning Telur, Viabilitas.

THE EFFECT OF BASIL LEAF EXTRACT (*Ocimum Basilicum* L.) ADDITION IN EGG YOLK TRIS DILUENT ON THE QUALITY OF SAANEN GOAT SEMEN AFTER STORAGE AT 5°C FOR 24 HOURS

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ABSTRACT

This research aims to determine the effect of the addition of basil leaf extract (*Ocimum basilicum* L.) in egg yolk tris diluent on the motility, viability, and abnormality of Saanen goat semen after stored 5°C for 24 hours. The research was conducted at the Laboratory of Physiology and Animal Reproduction, Faculty of Animal Science, Gadjah Mada University. Semen was collected from 2.5 year old Saanen goats using an artificial vagina with a frequency of once a week for 5 weeks. Semen was diluted using egg yolk tris then basil leaf extract was added and three treatments were conducted consisting of control group (P0) without basil leaf extract addition, treatment group 1 (P1) with 10% basil leaf extract addition, and treatment group 2 (P2) with 15% basil leaf extract addition. The diluted semen was stored in a refrigerator at 5°C for 24 hours. The observed data included motility (%), viability (%), and abnormality (%). Data were analyzed using one-way ANOVA and further tested with Duncan Multiple Test (DMRT) to obtain significant data. The analysis results showed that the addition of basil leaf extract in egg yolk diluent had significant effect on motility and viability ($P < 0.05$), but had no significant effect on abnormality ($P > 0.05$). Addition of 0%, 10%, and 15% basil leaf extract to egg yolk tris diluter with 24 hour storage resulted in motility (%) of 64.00 ± 11.40 , 74.00 ± 8.94 , and 84.00 ± 8.94 %, viability (%) of 73.13 ± 1.89 , 80.73 ± 3.75 , and 89.20 ± 1.67 %, and abnormality (%) of 13.80 ± 4.49 , 11.33 ± 6.27 , and 11.13 ± 3.78 %, respectively. The conclusion obtained from this research was that the addition of basil leaf extract had an effect on the motility and viability of Saanen goat semen but had no effect on abnormality. The addition of 15% basil leaf extract at 5°C storage for 24 hours yielded the best results.

Keywords: Abnormality, Basil Leaf Extract, Saanen Goat, Motility, Semen, Egg Yolk-based Tris Extender, Viability.