

ABSTRAK

PENGARUH KETINGGIAN NITROGEN CAIR DALAM KONTAINER TERHADAP KUALITAS SEMEN BEKU KAMBING BOER (*Capra aegragus*)

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Nitrogen cair merupakan media yang digunakan sebagai tempat penyimpanan semen beku. Semen beku yang tidak terendam nitrogen cair akan menyebabkan penurunan kualitas bahkan kematian pasca pencairan kembali. Penelitian ini dilakukan untuk mengetahui pengaruh ketinggian nitrogen cair dalam kontainer terhadap kualitas semen beku. Penelitian dilakukan dengan menggunakan 10 *straw* semen beku kambing boer yang disimpan pada kontainer dengan diameter 18,5 cm, tinggi 35 cm dan volume 1,5 liter. *Straw* dibagi menjadi dua, yaitu lima *straw* semen dicairkan saat ketinggian nitrogen cair 30 cm dan lima *straw* semen dicairkan saat ketinggian nitrogen cair 15 cm. Parameter yang dievaluasi meliputi motilitas, viabilitas, morfologi dan integritas membran spermatozoa pasca pencairan kembali. Hasil penelitian menunjukkan bahwa persentase motilitas saat ketinggian nitrogen 30 cm dan 15 cm adalah $41,0 \pm 4,18\%$ dan sebesar $24,0 \pm 6,52\%$. Persentase viabilitas saat ketinggian nitrogen 30 cm dan 15 cm adalah $59,8 \pm 13,59\%$ dan $33,6 \pm 8,67\%$. Persentase morfologi saat ketinggian nitrogen 30 cm dan 15 cm adalah $3,2 \pm 2,49\%$ dan $5,2 \pm 2,77\%$. Persentase integritas membran spermatozoa saat ketinggian nitrogen cair 30 cm dan 15 cm adalah $47,2 \pm 5,45\%$ dan $46,4 \pm 8,99\%$. Pada penelitian ini dapat disimpulkan bahwa ketinggian nitrogen cair dapat mempengaruhi nilai motilitas dan viabilitas spermatozoa, tetapi tidak mempengaruhi morfologi dan integritas membran spermatozoa.

Kata kunci : Kambing boer, nitrogen cair, spermatozoa

ABSTRACT

THE EFFECT OF THE HEIGHT OF LIQUID NITROGEN IN CONTAINER ON THE QUALITY OF FROZEN SEMEN OF BOER GOATS (*Capra aegragus*)

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Liquid nitrogen is a medium used as a place to store frozen semen. Frozen semen that isn't submerged in liquid nitrogen will cause a decrease in quality and even death post thawing. This research was conducted to determine the effect of the height of liquid nitrogen in the container on the quality of frozen semen. The study was conducted using 10 straws of boer goat frozen semen stored in a container with a diameter of 18.5 cm, height of 35 cm and volume of 1.5 liters. The straws was divided into two, namely five straws of cement thawed when the liquid nitrogen level was 30 cm and five straws of cement thawed when the liquid nitrogen level was 15 cm. Parameters evaluated included motility, viability, morphology and integrity of the spermatozoa membrane post thawing. The results showed that the percentage of motility when the nitrogen height was 30 cm and 15 cm was $41.0 \pm 4.18\%$ and $24.0 \pm 6.52\%$. The percentage of viability when the nitrogen height was 30 cm and 15 cm were $59.8 \pm 13.59\%$ and $33.6 \pm 8.67\%$. Morphological percentages when the nitrogen height was 30 cm and 15 cm were $3.2 \pm 2.49\%$ and $5.2 \pm 2.77\%$. The percentage of spermatozoa membrane integrity when the liquid nitrogen height was 30 cm and 15 cm were $47.2 \pm 5.45\%$ and $46.4 \pm 8.99\%$. In this study it can be concluded that the height of liquid nitrogen can affect the motility and viability of spermatozoa, but does not affect the morphology and integrity of the spermatozoa membrane.

Keywords : Boer goat, liquid nitrogen, spermatozoa