

**OPTIMASI KUALITAS SEMEN BEKU DOMBA GARUT  
MELALUI PENAMBAHAN TREHALOSA  
KE DALAM PENGECER KUNING TELUR**  
*(An Optimization of Garut Rams Frozen Semen Quality by Addition  
of Threhalose in the Egg Yolk Extender)*

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**ABSTRAK**

Penelitian bertujuan untuk melihat pengaruh penambahan trehalosa terhadap kualitas semen beku domba Garut. Semen dikoleksi seminggu sekali menggunakan vagina buatan dari enam ekor domba Garut jantan dewasa kelamin. Semen diekuilibrasikan pada suhu 5°C selama empat jam, semen kemudian dibekukan dan disimpan dalam nitrogen cair. Pencairan kembali (*thawing*) dilakukan pada suhu 37°C selama 30 detik. Hasil penelitian menunjukkan bahwa persentase spermatozoa motil pada penambahan trehalosa 0,2% (53,75 ± 4,79%) dan 0,4% (50,83 ± 4,92%) lebih tinggi dan berbeda nyata ( $P < 0,05$ ) dibandingkan kontrol (40,83 ± 3,76%). Pada parameter persentase hidup dan persentase membran plasma utuh spermatozoa menunjukkan penambahan trehalosa 0,2% (66,00 ± 5,51% and 59,50 ± 4,73%) dan trehalosa 0,4% (65,67 ± 3,44% and 57,75 ± 3,77%) berbeda nyata ( $P < 0,05$ ) dibandingkan kontrol (52,67 ± 1,51% and 49,40 ± 2,19%). Penelitian menyimpulkan bahwa penambahan trehalosa 0,2% merupakan dosis optimal pada proses pembekuan semen domba Garut.

*Kata kunci: trehalosa, semen beku, domba Garut*

**ABSTRACT**

The research was carried out to observe the effect of trehalose addition on the quality of frozen semen of Garut rams. Semen was collected once a week using artificial vagina from six mature Garut rams. Semen was equilibrated at 5°C for four hours, was frozen and was stored in liquid nitrogen. The thawing was carried out at 37°C for 30 seconds. The results showed that the percentages of progressive motile sperm by addition of trehalose 0.2% (53.75 ± 4.79%) and 0.4% (50.83 ± 4.92%) were significantly different ( $P < 0.05$ ) than control (40.83 ± 3.76%). The percentages of viable sperm and intact plasma membrane by addition of trehalose 0.2% (66.00 ± 5.51% and 59.50 ± 4.73%) and trehalose 0.4% (65.67 ± 3.44% and 57.75 ± 3.77%) were significantly different ( $P < 0.05$ ) than control (52.67 ± 1.51% and 49.40 ± 2.19%). In conclusion, the addition of trehalose 0.2% is the optimum dose to improve the quality frozen semen in Garut rams.

*Keywords: trehalose, frozen semen, Garut rams*