

**THE EFFECT OF ALPHA-TOCOPHEROL SUPPLEMENTATION IN
SKIM MILK DILUENT OF SAPUDI RAM ON SPERMATOZOA
MOTILITY, VIABILITY, PLASMA MEMBRANE INTEGRITY,
AND CHROMATIN DAMAGE**

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ABSTRACT

Semen cryopreservation causes sudden outburst of reactive oxygen species production. This condition results in spermatozoa damage, and quality decrease. This study was conducted to analyze the maintaining effect of alpha-tocopherol on spermatozoa motility, viability, plasma membrane integrity, chromatin damage. The samples were fresh semen collected from Sapudi rams. It was divided into four different treatment groups. The control treatment or T0 contained semen sample + skim milk diluent, and the treatment 1, 2 and 3 or T1, T2, and T3 contained semen sample + skim milk diluent + alpha-tocopherol. The concentration of alpha-tocopherol for T1, T2, and T3 were based on the volume of diluent, in sequence were 0.5 mM, 1 mM, and 2 mM. The least decline of spermatozoa motility, viability, plasma membrane integrity, and incline of chromatin damage was found in T1, which was significantly different to T0 ($p < 0.05$). However, T1 and T2 did not show significant difference in the result of chromatin damage evaluation ($p > 0.05$). It can be concluded that alpha-tocopherol at the concentration of 0.5 mM can be an efficient antioxidant supplement in skim-milk diluent for ram semen.

Keywords: Sapudi ram, alpha-tocopherol, motility, viability, plasma membrane integrity, chromatin damage.