# THE EFFECT OF ALPHA-TOCOPHEROL SUPPLEMENTATION INTO TRIS EGG YOLK DILUENT OF SAPUDI RAM ON SPERMATOZOA MOTILITY, VIABILITY, AND PLASMA MEMBRANE INTEGRITY,

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## ABSTRACT

The process of semen cryopreservation could cause an abrupt explosion of reactive oxygen species production. This condition shows results in spermatozoa damage and quality decrease. This study was conducted to analyze the maintaining effect of alpha-tocopherol supplementation in tris egg yolk diluent on spermatozoa motility, viability, and plasma membrane integrity after 24 hours of cooling at $5^0$C. The samples were fresh semen which collected from Sapudi rams. It was divided into four different treatment groups. The control treatment or T0 contained semen sample + tris egg yolk diluent, and the treatment 1, 2 and 3 or T1, T2, and T3 contained semen sample + tris egg yolk diluent + alpha-tocopherol. The concentration of alpha-tocopherol for T1, T2, and T3 were based on the volume of diluent, in the sequence were 0.5 mM, 1 mM, and 2 mM. The least decline of spermatozoa motility, viability, and plasma membrane integrity was found in T2, which was significantly different to T0 ($p<0.05$). However, T2 did not show a significant difference in the result of spermatozoa motility, viability, and plasma membrane integrity ($p>0.05$). It can be concluded that alpha-tocopherol at the concentration of 1 mM can be an efficient antioxidant supplement in tris egg yolk diluent for ram semen.

**Keywords:** alpha-tocopherol, motility, plasma membrane integrity, Sapudi ram , tris egg yolk diluents, viability.