

SUMMARY

Rizki Putri Nurdiana, The Effect of Addition Green Tea Leaf Extract in Egg Yolk Skim Milk Extender on Post Thawed Merino Sheep Sperm Quality with Didik Handijatno, drh., MS., Ph.D., as supervisor and Prof. Dr. Suherni Susilowati, drh, M.Kes as co-supervisor.

Artificial insemination existence is to improved productivity of through genetic improvement. Artificial insemination influenced by performance of sperm and the quality of extender. Frozen semen performance was influenced by osmotic stress, cold shock and oxidative stress. The purpose of addition antioxidant on semen was to improve sperm performance and prevent sperm damage during cryopreservation.

This research purpose is to know the effect of addition green tea leaf extract in egg yolk skim milk extender on post thawed Merino sheep sperm quality measured in post thawing motility, viability, membrane integrity and the level of malondyaldehyde. Control group (T0) is egg yolk skim milk extender without addition green tea leaf extract. Treatment groups are divided into: (T1) 0.05mg green tea leaf extract/100 ml egg yolk skim milk extender, (T2) 0.10mg green tea leaf extract/100 ml egg yolk skim milk extender and (T2) 0.15mg green tea leaf extract/100 ml egg yolk skim milk extender. This research used Complete Randomized Design (CRD) with 4 treatments and 5 replicates. Data were analyzed bySPSS One Way Analysis of Variant and Duncan test.

Semen was collected with artificial vagina twice a week. Fresh semen was examined macroscopic and microscopic for determine the quality. The qualified semen divided into four groups for the next step. Semen was stored at 5°C before the freezing process. The qualified semen at 5°C was processed became frozen semen in straw form.

The highest post thawed motility percentage is T1 ($43.80^d \pm 2.73$), T1 was significantly different ($p < 0.05$) with T2 ($28^b \pm 2.16$), T3 ($24^a \pm 0.89$) and T0 ($39.60^c \pm 2.23$). The highest post thawed viability percentage is T1 (55.84 ± 2.70^b), T1 was significantly different ($p < 0.05$) with T0 (46.36 ± 3.27^a) and T3 (47.68 ± 4.11^a) and was not significantly different ($p > 0.05$) with T2 (51.08 ± 4.23^{ab}). The highest post thawed membrane integrity is T1, T1 (36.90 ± 2.14^c) was significanttly different ($p < 0.05$) T2 (30.62 ± 2.28^b), T3 (26.40 ± 1.53^a) and T0 (26.10 ± 2.5^a). The lowest post thawed malondialdehyde level is T1, T1 ($7762.50^a \pm 300.5$) was not significantly different ($p > 0.05$) with T2 ($7874^a \pm 598.7$), T3 ($7916^a \pm 629.3$) and T0 ($8018.50^a \pm 383.9$). This research concluded that there was difference between post thawed sperm quality with addition green tea leaf extract and without addition green tea leaf extract in egg yolk skim milk extender.

**THE EFFECT OF ADDITION GREEN TEA LEAF (*Camellia sinensis*)
EXTRACT IN EGG YOLK SKIM MILK EXTENDER ON POST-
THAWED MERINO SHEEP SPERM QUALITY**

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ABSTRACT

The purpose of this research was to determine the best dosage of green tea leaf extract in egg yolk skim milk extender for post thawed Merino sheep sperm quality that measured by motility, viability, membrane integrity and the level of malondialdehyde post thawed. The treatment was divided into four groups: egg yolk and skim milk diluter, 0.05 mg green tea leaf extract in 100 ml egg yolk skim milk extender, 0.10 mg green tea leaf extract in 100 ml egg yolk skim milk extender and 0.15 mg green tea leaf extract in 100 ml egg yolk skim milk extender. The sperm quality was observed post thawing. The data were analyzed by SPSS One Way Analysis of Variant (ANOVA) and Duncan test. The result showed that the best sperm quality was T1, motility 43.80%, viability 55.84%, membrane integrity 36.90% and MDA level 7762.50nmol/ml with addition 0.05 mg green tea leaf extract. The conclusion of this research is addition of green tea leaf extract in egg yolk skim milk extender increased the quality of Merino sheep sperm post thawed.

Key word: egg yolk skim milk, green tea leaf extract, Merino sheep, and sperm post thawed quality.