

## ABSTRACT

**Shawky Ahmed El-Dsoky El-Medany. Effect of vitamins A and E on reproductive efficiency in Rahmani ewes. Unpublished Ph.D. Department of Animal Production, Faculty of Agriculture, Ain Shams University , 2005..**

The present work was conducted to study the effect of oral supplementation with vitamins A and E on the productive and reproductive performance of Rahmani ewes. The experiment was started in October 2002 and lasted till the end of July , 2003.. Thirty two mature Rahmani ewes were divided randomly into four equal experimental groups (eight in each). Group A: Animals were orally administrated with 1800 IU of vitamin A / head / day during the experimental period. Group B: Animals were orally administrated with 32 mg of vitamin E / head / day during the experimental period. Group C: Animals were orally administrated with 1800 IU of vitamin A + 32 mg of vitamin E / head / day during the experimental period. Group D: Animals were served control. The ewes were housed in four shaded pens at Animal Production Department farm , Faculty of Agriculture , Ain shams University . Vitamin A and E were estimated in the basal diet as 3600 IU/kg and 36 mg/kg, respectively. Ewes were fed on 0.5 kg / head / day concentrate mixture beside ad-libitum rice straw throughout the experimental period. Tap water was allowed during the day and night. After one month from vitamins supplementation all ewes were checked daily in the morning for estrus using intact ram. Ewes which show estrus sings were hand mated with good fertile ram and remated from the same ram after 12 hours from the first mating.

Blood samples were collected from jugular vein using ETDA as anticoagulant from each ewe at estrus and then at weekly interval. The blood plasma were separated and stored at -20C. The blood plasma vitamin A, E, progesterone, T3 and T4 were estimated. Litter size and weight at birth were recorded. The milk production and lamb weight were estimated weekly during the first month after lambing.

The results could be summarized as follows. Averages daily milk yield and lamb daily gain were significantly ( $P < 0.01$ ) higher in the supplemented groups than control. Litter size, number of services per conception and birth weight were improved in the supplemented groups with vitamin A plus E by 50, 27.07 and 40.4% ,respectively . Plasma T3 , T4, progesterone and vitamin A concentration were higher ( $P < 0.01$ ) in supplemented group than control . In conclusion the productive and reproductive performance of Rahmani ewes were improved . when ewes were supplemented with vitamins A and E. So vitamin A and E are very important for sheep production .

Key Words : Rahmani ewes, vitamins A and E , reproductive efficiency, T3, T4 and P4 ,milk production , daily gain.

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