EFFECT OF FEEDING LEVEL AND REPLACEMENT OF NIGELLA SATIVA MEAL IN DITES OF RAHMANI EWE LAMBS ON: 1. GROWTH PERFORMANCE AT PRE-AND POST-PUBERTAL AGES.

Gabr, A.A*; S.A. El-Ayouty,*; M.g. Gabr; M.A. El-Harairy* and E.S. El-Gohary**.**

** Anim. Prod. Dept.,Fac. of Agric., Mansoura University, Egypt.*

***Sheep and goats dept., Anim. Prod. Res. Inst., Agric. Res. Center, Egypt.*

SUMMARY

The influence of level of feeding (80 or 100% of NRC, 1985 allowance) and substituting concentrate feed mixture (CFM) protein by Nigella sativa meal (NSM) protein at the rate of 50% at the two tested levels on growth performance of ewe lambs were studied .The roughage: concentrate ratio was 40:60. Forty Rahmani ewe lambs were divided into four comparable groups according to live body weight (LBW) and age. Ten ewe lambs in each group as follows: group1 (G1) received 80% of NRC (1985) allowance of crude protein (CP) based on LBW for early weaned lambs up to 30 kg LBW, then, the allowances was changed for replacement ewe lambs up to the end of the experiment. Group2 (G2), received as that in (G1), but 50% of CFM protein was replaced by NSM protein. Group3 (G3), received 100% of NRC (1985) allowances Group4 (G4), received as that in (G3), but 50% CFM protein was replaced by NSM protein. Daily oestrous observation was started at 5 months of age to detect age and weight at puberty. Also, live body weight at mating and conception were recorded. Results revealed that the LBW was significantly ($P<0.01$) higher in ewe lambs fed 100% than those fed 80% CP by 7.4, 7.5 and 8.1% at puberty, mating and conception, respectively. LBW was significantly ($P<0.05$) higher in lambs fed without than with NSM by 5.7 and 6.3%, at the first and second level respectively .The LBW at puberty and conception was the highest in ewe lambs fed 100% without NSM, while, those fed 80% with NSM showed the lowest LBW. Ewe lambs that fed 100% with or without NSM showed higher LBW at mating than those fed 80% with or without NSM. Average daily gain (ADG) was significantly ($P<0.01$) higher in ewe lambs fed 100% than 80% CP level by 12 and 37% through the intervals from 2 to 8 mo and from 8 mo to puberty age, respectively. The ADG was significantly ($P<0.05$) lower in ewe lambs fed diets with than without NSM, by 10.5% from 2-8 mo of age and insignificantly by 7.3% from 8 mo to puberty age. The ADG through the interval from 2-8 mo of age was the highest in ewe lambs fed 100% CP without NSM, while those fed 80% CP with NSM showed the lowest value. Digestibility coefficient of EE was significantly ($P<0.01$) higher for lambs fed 100 than 80% CP level (67.35 vs. 64.29%). However, digestion coefficient of DM, OM, CP, CF and NFE did not differ significantly between 100 and 80% CP level. Digestibility of DM, OM and NFE significantly decreased in diets with than without NSM. The pronounced decreased was observed in digestibility coefficient of DM (61.88 *vs* 68.12%) and

NFE (71.09 *vs* 78.55%) as compared to those in OM (66.50 *vs* 72.12%). Feed cost per kg gain from 2 mo of age up to conception age was the lowest in ewe lambs fed 80% CP with NSM replacement and the most expensive cost was for ewe lambs fed 100% without NSM replacement.

It could be concluded that feeding Rahmani ewe lambs on diets containing 80% CP or diets with NSM had no deleterious effect on growth performance, digestibility coefficients of nutrients and weight and age at puberty, mating and conception. From the economical point of view, it could be recommended feeding Rahmani ewe lambs on 80% CP level (from allowances of NRC,1985) with or without 50% replacement of CFM by NSM protein.

Keywords: *Rahmani ewe lambs, feed intake, Nigella sativa, and Digestibility coefficients.*