

**RELATION BETWEEN CLIMATIC CONDITION AND
NITROGEN METABOLISM IN FARAFRA EGYPTIAN SHEEP.**

Elshafie, M.H.; Abdel khalek, T.M.M. and Abd El-Hamid, A.A.

Animal Production Research Institute, Doki, Giza, Egypt.

ABSTRACT

Four Egyptian Farafra rams aged 36 months and of body weight 42.5 kg were used to study the relation between environmental condition and nitrogen metabolism. The rams were fed four isocaloric rations with different levels of crude protein (CP) (6.13, 7.93, 9.70 and 15.07 %) during summer and winter seasons. The experimental design was 4 x 4 Latin square. Dry matter intake, nutrient digestibility, nitrogen balance, adaptation parameters and nitrogen metabolites in blood were measured.

The dry matter intake, CP and EE digestibilities and DCP%, SE% and DE (kcal/100g) during winter season were significantly ($P < 0.05$) higher than those of summer season. The crude protein and CF digestibility and DCP% for ration containing 15.07 % CP were ($P < 0.05$) higher than those in other rations. The N balance of Farafra sheep in summer season was higher ($P < 0.05$) than that in winter season. Moreover, the N balance for ration containing 15.07 % CP was higher ($P < 0.05$) than those in other rations. Skin temperature (ST), ear temperature (ET), wool temperature (WT) and respiration rate (RR) of Farafra sheep were significantly ($P < 0.05$) higher in summer season than winter season, while, no significant effect for level of protein in rations and environmental condition on blood nitrogen metabolites.

Key words: *Egyptian Farafra sheep, nitrogen metabolism, environmental condition*