

**REPRODUCTIVE AND PRODUCTIVE PERFORMANCE
OF BARKI EWES FED *NIGELLA SATIVA* MEAL
UNDER THE NORTH WEST COAST
CONDITIONS OF EGYPT**

By

EFFAT MORAD MADANY MOHAMEDEN

B.Sc. Agric. Coop. Sci., Higher Inst. Agric. Coop. (2011)

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Ain Shams University**

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This thesis for M. Sc. degree has been approved by:

Dr. Sobhy M. A. Sallam
Prof. of Animal Nutrition, Faculty of Agriculture, Alexandria
University

Dr. Ahmed M. El-Sherbiny
Prof. of Animal Physiology, Faculty of Agriculture, Ain Shams
University

Dr. Esmat B. Abdalla
Prof. Emeritus of Animal Physiology, Faculty of Agriculture, Ain
Shams University

Date of Examination: 4 / 6 / 2016

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Under the supervision of:

Dr. Esmat Bakri Abdalla

Prof. Emeritus of Animal Physiology, Faculty of Agriculture, Ain Shams University (Principal Supervisor).

Dr. Hamdi Abdel-Aziz Salem Gawish

Researcher Prof. Emeritus of Animal Physiology, Animal and Poultry Production Division, Desert Research Center.

Dr. Usama Ahmed El-Behery

Prof. of Vegetable Crops, Faculty of Agriculture, Ain Shams University.

ABSTRACT

Effat Morad Madany Mohameden. Reproductive and productive performance of Barki ewes fed on *Nigella sativa* meal under the North West Coast conditions of Egypt. Unpublished M.Sc. Thesis, Department of Agriculture and desert areas affected by salinity, Faculty of Agriculture, Ain Shams University, 2016.

Sixty adult Barki ewes (2.0-3.0 years old and 38.89 ± 1.02 kg average body weight) were used to investigate the effect of feeding *Nigella sativa* meal as an alternative source of protein on the reproductive and productive performance of Barki ewes. Animals were randomly assigned into equal three groups (20 each). The first group (G1) served as control and fed the basal diet contain 20% cotton seed meal and 6% soya bean meal as a source of dietary protein, while the second group (G2) fed diet contain 13.5% of *Nigella sativa* meal (NSM) and 8% soya bean meal as a source of dietary protein. The third group (G3) fed diet contain 25% of NSM as a source of dietary protein. All groups were offered berssem (*Trifolium alexandrinum*) hay ad libitum, and rations were adjusted monthly to cover their requirements during their different physiological status.

Reproductive traits in terms of conception and lambing rates, abortion and stillbirth rates, number of lambs born alive and weaned as well as mortality rate from birth to weaning were measured during this study. Birth and weaning weights as well as body weight changes of ewes were recorded during different physiological stages. Milk yield and composition were also determined. In addition, biochemical, hematological and some immunological parameters as well as progesterone and thyroid hormones were recorded.

Results indicated that conception and lambing rates were insignificantly higher in G1 and G2 compared with G3. While number of

lambs born alive was higher in G2 and G3 than control group (19 and 18 Vs. 17 lambs for G2, G3 and G1 respectively). Birth and weaning weights were significantly higher in G3 followed by G2 compared with control one. Group 3 (G3) scored higher milk production during lactation period (627.29 ml/h/d) then G2 (601.33 ml/h/d) while control group recorded the lowest value (587.33 ml/h/d).

Progesterone profile in the three experimental groups was found to follow the normal pattern reported in the literature. Progesterone levels insignificantly increased in control group than other two groups during pregnancy, especially late pregnancy stage and decreased thereafter to the basal values after parturition.

In conclusion, we can use NSM as an alternative source of dietary protein to improve reproduction and production efficiency of Barki ewes under arid conditions of North Western Coast of Egypt.

Keywords: *Reproductive and productive efficiency, Barki ewes, Nigella sativa meal.*

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