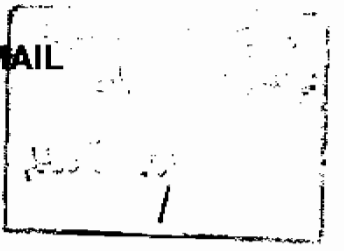
COMPARATIVE STUDY ON THE EFFECT OF INCLUDING POULTRY WASTES ON THE PERFORMANCE OF LACTATING BUFFALOES AND GOATS

By

SALAH ABDELATY ATTIA-ISMAIL



A thesis submitted in partial fulfillment

of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

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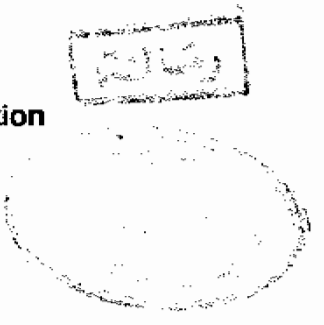
(Animal Nutrition)



Department of Animal Production
Faculty of Agriculture
Ain Shams University

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Approval Sheet

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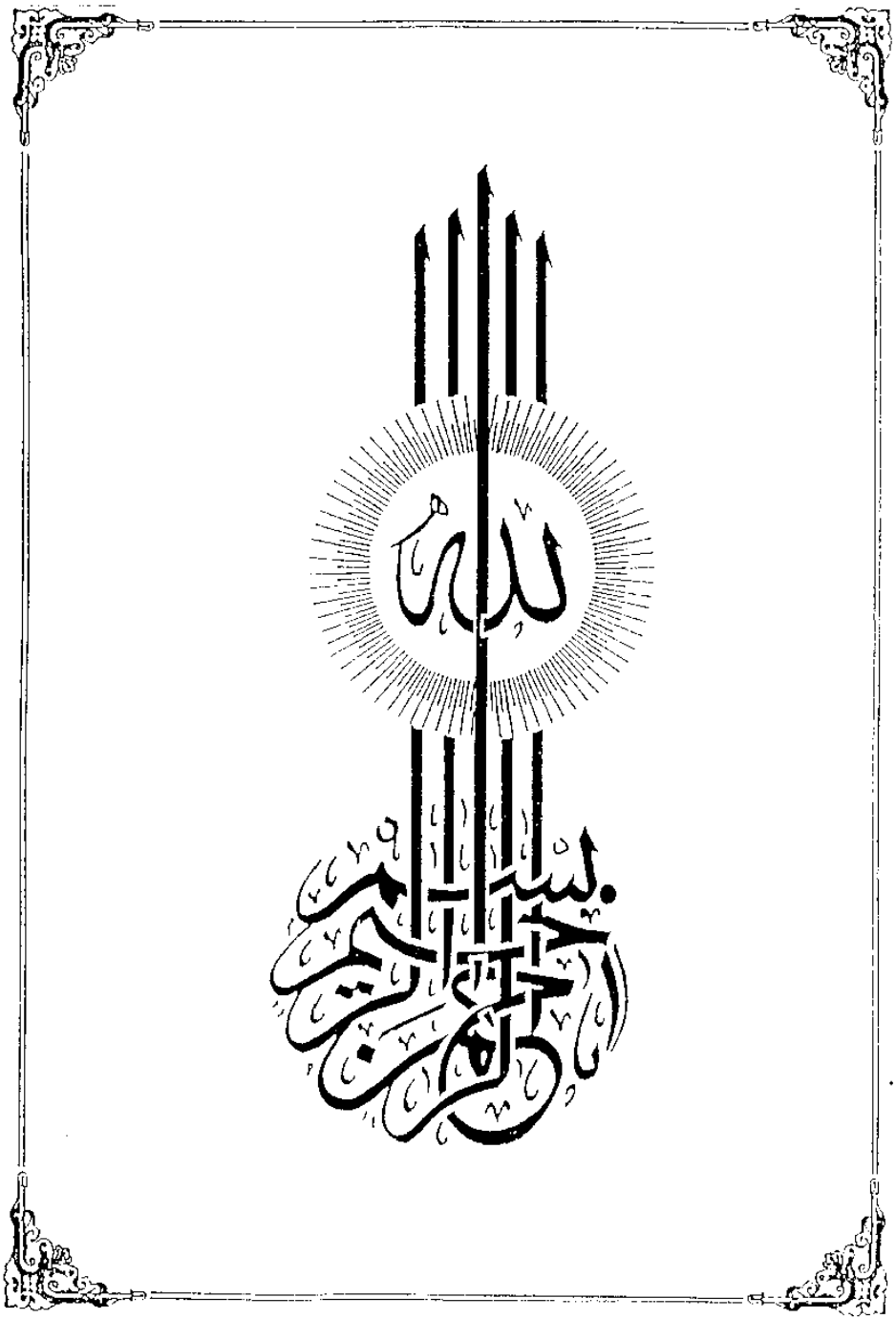

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ABSTRACT

Poultry waste was sun dried for 17 days in summer by two different methodologies (spread and pile sun-dry). Chemical treatments (control, Hcl and Acetic acids) were applied before sun drying and thereafter operational parameters were measured. Crude protein contents in both

methodologies decreased, and so did moisture and crude fiber contents while ash contents increased significantly. Non-chemically treated poultry waste was inferior to both chemically treated ones.

Two feeding trials were conducted on both lactating buffaloes and goats fed three different levels of poultry waste (10%, 20% and 30% of the total protein requirements of both species). Feed intakes differed among buffalo groups and goat groups, yet none of treatments affected feed intakes of both species significantly. None of animal (buffalo and goat) groups or treatments affected feed efficiencies (DMI/FCM) or milk yield of goat and buffalo groups while fat corrected milk yield of goat groups differed significantly. Treatments increased persistency of milk production of goat groups only. In comparing both species, it appeared that goat groups consumed more $DMI/BW^{0.75}$ and thus produced more $milk/BW^{0.75}$ than did buffalo groups. None of treatments, or animal groups seemed to affect milk fat, protein, total solids or ash percentages of buffaloes and goats (except for treatment effects on total solids of goats' milk). Milk compositions of both species were within normal ranges. Milk mineral concentrations (Calcium, phosphorus, Iron, Copper, Magnesium and Zinc) were not affected by treatments or animal groups (both of buffaloes and goats). Only serum calcium and zinc of buffaloes were affected by animal variations whereas treatments had no effect on serum minerals of buffaloes (Ca,

P, Fe, Cu, Mg and Zn). Also, none of treatments, or animal groups were effective in influencing the above mentioned serum minerals of goats. Plasma urea, total proteins, albumin and globulin concentrations and albumin/globulin ratios of both buffaloes and goats were not affected significantly by treatments, or animal groups. These plasma parameters were, however, within normal ranges.

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I feel also indebted for my family and family-in- law for taking care of everything.

Nothing can-really-express my love to my sweet-hearted, long-lived spouse. Only to her, this effort can be dedicated.

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