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**EFFECT OF SOME MANAGERIAL SYSTEMS AND
INTERACTION BETWEEN THEM ON PRODUCTIVE,
PHYSIOLOGICAL AND IMMUNOLOGICAL
PERFORMANCE OF INSHAS CHICKEN STRAIN**

By

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ABSTRACT

The present experiment was planned to evaluate the effect of using different types of litter with or without aluminum sulphate (alum) or acetic acid subjected for 16 or 18 hours of photoperiod on hen layers' performance, carcass parts, some blood parameters and litter quality.

A total of 360 Inshas (Sina X Plymoth Rock) hens aged 24 wk, and 36 cocks from the Inshas strain were randomly assigned to twelve treatments, each with three replicates (10 hens + 1 cocks of floor litter). Birds in each replicate were kept in a partition (pens) of 1.5 square meters, 1.5-meter-long and 1-meter width (6 bird / 1 meter square), provided with 6 cm. height of special certain litter. All birds were randomly divided into twelve equal groups under 16 and 18 hours' light (6 treatment subjected for 16 hours (hrs) of photoperiod and 6 treatment subjected for 18 hours (hrs) of photoperiod). The treatments as follow: (T) of floor litter: T1 birds were raised on wood shavings litter, T2 birds were raised on wheat straw litter, T3 birds were raised wood shavings with alum, T4 birds were raised on wheat straw litter with alum, T5 birds were raised Wood shavings with acetic acid, and T6 birds were raised on wheat straw litter with acetic acid.

During the experiment, the following assays were studied: Productive performance, egg and semen quality, hatchability and fertility characteristics, serum conestituents, immune response to Newcastle disease, organs weight, intestinal total bacterial count, ileal pH, microbial contamination of egg shell, ammonia emission, respiratory rate and litter quality.

Generally, the resluts shows when alum or acetic acid was added to the litter types, layers performed better than chickens in the untreated litter group. Alum or acetic acid treatment lowered the litter quality) compared to the

Abstract

untreated litter. Litter treated with alum or acetic acid contained less phosphorus on average than untreated litter. Litter treated with alum or acetic acid had significantly higher dry matter and total nitrogen content than the untreated litter. This indicates the effectiveness of litter treatment solutions in increasing litter quality and, as a result, increased layer chicken productivity without any negative implications.

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