

THE EFFECT OF SOME MODIFICATIONS IN MANAGERIAL
AND ENVIRONMENTAL CONDITIONS OF EGG
PRODUCTION OF CHICKENS.

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The main intention of this work was to study the effect of some managerial treatments on egg performance of Fayoumi birds during the cold (October-February) and hot (May-August) periods of the year. Two experiments were done, referred to as winter and summer experiments in the following procedure:

At the beginning of October 1964, 500 pullets and 50 cocks, sexually matured and of 9 months old were divided into 10 groups of equal representation. The groups were subjected to the experimental treatments (artificial light "from 3 to 7 a.m.", night heating "65°F" warm feeding, soft mash or grain

feeding and deep litter) till the end of February 1965. The birds were then turned to the general farm management during whole March and April. By the beginning of May, the summer experiment started on ten re-arranged groups of 40 females and 4 males per group. The treatments extended till August 1965 and included artificial light (from 3 to 7 a.m.) mid-day darkness (12-4 p.m.) home ventilation, shading or cool feeding.

Results obtained could be summarized as follows:

Winter Egg Production:

1. Using light as the sole modification in management caused about 50% increase in the experimental period egg number and egg mass over the control group. (67.8 Vs. 46.5 eggs, and 3.031 Vs. 1.967 Kgs. respectively).
2. Egg production was nearly double the control when light was accompanied with heating, warm, feeding and deep litter.
3. When light was accompanied with heating, or warm feeding, or soft and grain feeding, or deep litter, egg number was about the same (around 73 eggs).
4. By seeking the bird's warmth through warm-wetted ration, grain feeding or deep litter, egg production was around 59 eggs.
5. Egg mass and feed intake per one kilogram of eggs followed the trend of egg number.

Summer Egg Production:

1. Using artificial light during summer seemed to be of less effect on egg production as compared to winter trials.
2. Light exposure resulted in 5 extra eggs over the non-lighted groups, having mid-day shut-in or shut-in + ventilation or

shading alone.

3. Average for egg number, egg mass and feed conversions of birds provided with shading were higher than in birds supplied with mid-day darkness or darkness+ ventilation. This increase was more marked when shading was practiced in combination with light and cool feeding.
4. There was no particular trend for the response of egg weight to the different managerial treatments.
5. Egg size during winter trials was smaller than at summer trials except for the control groups.
6. Feed intake per one kilogram of egg mass was much less in the treated groups than in the control.
7. Feed consumed per bird per day in summer was less than in winter trials.

The final conclusion is that the application of night lighting activated egg laying when the winter days were shorter than 13-14 hours daily light. Heating the houses to 65°F helped to reserve more feed for egg conversion in winter, and shading helped to maintain higher production and sustain the layers comfort in summer.