

EFFECT OF ARTIFICIAL MODIFICATIONS IN ENVIRONMENTAL  
AND MANAGERIAL CONDITIONS ON EGG QUALITY  
OF CHICKENS

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The effect of some managerial treatments on egg quality of winter and summer production was studied in the following procedure:

- A) At the beginning of October, 1964, 500 hens and 50 cocks were divided into 10 equal groups (50 females + 5 males per group). This study was designed to study the effect of artificial light (from 3 to 7 a.m.), night heating (65°F), warm feeding, mash and grain feeding and deep litter on egg quality during winter.
- B) At the beginning of March, 1965, the birds were turned to conventional management system. By first of May, ten new groups (40 females + 4 males) were randomly formed for the summer treatments which lasted until the end of August, 1965. Summer treatments included the study of the effect of artificial light (from 3 to 7 a.m.), mid-day darkness (from 12 noon to 4 p.m.), ventilation, shading and cold feeding.

Results obtained could be summarized as follows:-

1. The control birds laid eggs of inferior quality in summer than in winter. This was mostly seen in yolk percent, shell percent and thickness, meat spots and Haugh Units grading.
2. During winter, the treated groups generally gave eggs of thicker shell & more denser yolk and albumen contents

than the control. The differences were more apparent when light was supplied.

3. Summer treated groups showed increases in shell thickness, and yolk and albumen density.
4. During summer, Haugh Units increases when light was accompanied with (shade + cool feeding) or (shut-in + ventilation + cool feeding). Meanwhile, those same two groups gave the lowest yolk.
5. Groups tending to lay more eggs gave the lighter yolks. The colour bleaching was more obvious in summer than in winter trials.
6. The percentages of blood spots were higher in winter than summer. On the reverse, the percentages of meat spots were higher in summer than in winter.