

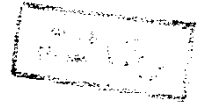
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STUDIES OF HORMONAL CONTROL OF OVULATION AND OVIPOSITION IN
JAPANESE QUAIL



by

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INTRODUCTION

Unlike mammals, the role of ovarian steroid hormones in ovulation and oviposition in birds is not yet well established. It is generally conceded that progesterone is necessary for the release of the ovulation-inducing hormone, the luteinizing hormone.

On the other hand, the level of ovarian steroid hormones in blood may be influenced by different environmental factors, one of which is the colour of light under which the birds are maintained. Literature on the effect of light colour on growth and reproductive performance in the fowl is presently inconclusive.

Some investigators found that long wavelengths of light influenced gonadal activities in birds. On the other hand, sexual maturity was hastened by short wavelengths.

This study was conducted in an attempt to fulfil the following objectives :

1. To study the effects of early and prolonged exposure of various light colours on body weight.
2. To determine the effect of early exposure to light treatments on age at sexual maturity and egg production; egg number and egg weight.
3. To examine the developmental changes in female reproductive organs; ovary, follicles and oviduct.
4. To relate the plasma protein levels and plasma protein electrophoretic fractions with the light

treatments.

5. To determine circadian levels of progesterone, estradiol and testosterone hormones as affected by light treatments.