
شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم


# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات

## يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

**To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%**

# بعض الوثائق الاصلية تالفة

# بالرسالة صفحات لم ترد بالاصل

# PHYSIOLOGICAL EFFECT OF LIGHT ON EGG PRODUCTION IN JAPANESE QUAIL.

BY

AYMAN MOHMED HASAN AHMED

B. Sc. Agric. Sci. (Poultry Production), Ain Shams Univ., 1992

Thesis submitted in partial fulfillment

of

the requirements for the degree of

MASTER OF SCIENCE

in

Agriculture Science

(Poultry Physiology)

Department of Poultry Production

Faculty of Agriculture,

Ain Shams University

1998

APPROVAL SHEET

# PHYSIOLOGICAL EFFECT OF LIGHT ON EGG PRODUCTION IN JAPANESE QUAIL

BY

**AYMAN MOHAMED HASAN AHMED**

**B. Sc. Agric. Sci. (Poultry Production), Ain Shams Univ., 1992**

**This thesis for M.Sc. degree has been approved by:**

**Dr. M. A. Abdelrazik.** M. Abd El Razik

Professor of Poultry Physiology, Department of Animal Production, Faculty of Agriculture, zagazig University

**Dr. I. E. Hasan.** I. E. Hasan

Associate Professor of Poultry Physiology, Faculty of Agriculture, Ain Shams University.

**Dr. Maie F. Ali.....** Maie F. Ali

Professor of Poultry Physiology, Faculty of Agriculture, and Head of Poultry Production Department, Ain Shams University.

**Date of examination: 9 / 26 /1998**

# PHYSIOLOGICL EFFECT OF LIGHT ON EGG PRODUCTION IN JAPANESE QUAIL

BY


## AYMAN MOHAMED HASAN AHMED

**B.Sc. Agric. Sci. (Poultry Production), Ain Shams Univ.,1992**

**Under the supervision of:**

**Dr. Maie F. Ali**

Professor of Poultry Physiology, Department of Poultry Production and Head of Poultry Production Department, Faculty of Agriculture, Ain Shams University.

**Dr. Hassan E. Ayoub**

Professor of Poultry Breeding, Department of Poultry Production, Faculty of Agriculture, Ain Shams University.

**Dr. Yousry M. El-Hommosany**

Assistant professor of Poultry Physiology, Department of Poultry Production, Faculty of Agriculture, Ain Shams University.

## ACKNOWLEDGMENTS

The author would like to express his sincere gratitude and thanks to Dr. Maie F. Ali, Professor of Poultry Physiology, and Head of the Poultry Production Department, Faculty of Agriculture, Ain Shams University for her close supervision, suggesting the problem, continued guidance and encouragement during the research study, preparation and writing of this manuscript.

Appreciation is also extended to Dr. H. E. Ayoub Professor of Poultry Breeding, Poultry Production Department, Faculty of Agriculture, Ain Shams University for his valuable advises and supervision.

Also I like to express my deepest appreciation and gratitude to Dr. Yousry M. El-Hommosany, Assistant Professor of Poultry Physiology, Department of Poultry Production, Faculty of Agriculture, Ain Shams University for his valuable advises and helpful suggestions.

Appreciation is also extended to the staff members and workers of the Poultry Physiology, Faculty of Agriculture, Ain Shams University for their great help during the experimental work.

Finally, sincere appreciation is expressed to my family, for their moral support, which made this all possible.

## ABSTRACT

**AYMAN MOHAMED HASAN AHMED, Physiological effect of light on egg production in Japanese quail. Unpublished Master of Science in Poultry Production (Poultry Physiology), Dept. of Poultry Production Fac. of Agriculture, Ain Shams Univ., 1998.**

This study was designed to investigate the effect of light regimens (LD8: 16 (short day), 12:12, 16:8 and 20:4) on body weight, reproductive performance and plasma progesterone hormone.

Birds were reared under short day length regimen (LD 8:16) from 5wk of age till 14wk of age then reared under different light regimens: LD8: 16 (short day), 12:12, 16:8 and 20:4.

The results showed that short day (LD 8: 16) significantly depressed body weight gain of female birds compared with other females reared under long daylength (LD 12: 12, 16: 8 and 20:4). At 12 and 13wk of age there was no significant difference in body weight between the four light regimens. At 14wk of age females under short day length (LD 8: 16) were significantly the heaviest in their body weight.

Light regimens LD 12: 12, 16: 8 and 20: 4 caused precocious sexual development. The ages at first laid egg were 56, 56, 58 and 82 days for females reared under LD 20: 4, 16: 8, 12: 12 and 8: 16, respectively. Egg production was recorded for each female till the age of 100 days. Birds reared under light regimens of (LD 12: 12, 16: 8 and 20: 4) laid significantly more eggs till 14wk of age.

Light intensity had no effect on egg production.

Ovaries and oviducts of females raised under short day (LD8: 16). Were immature till 14wk of age. However females kept under (LD 12: 12, 16: 8 and 20: 4) had mature functional ovaries and oviducts.

Average plasma progesterone hormone levels of females kept under (LD 12: 12, 16: 8 and 20: 4) 3h before ovulation were significantly higher than that of females kept under (LD 8: 16). It is

apparent that light regimen (LD 12:12) increased progesterone hormone level which stimulate the release of LH hormone and culminate in egg production.

**Key Words:** Light regimens - Egg production - Japanese quail - Progesterone - Photoperiod - Body weight - Reproduction.