THE UNIVERSITY OF ZAMBIA

EFFECT OF LEVELS OF CRUDE PROTEIN AND CALORIE/PROTEIN RATIO ON QUAIL GROWTH

BY
HAMUNGALU OBRIGHT

A RESEARCH PROJECT REPORT SUBMITTED TO THE SCHOOL OF AGRICULTURAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF AGRICULTURAL SCIENCES.

SUPERVISED BY
BY HAAZELE .F (PhD)
DEPARTMENT OF ANIMAL SCIENCES

THE UNIVERSITY OF ZAMBIA
LUSAKA

MAY, 2011

DECLARATION

To the best of my knowledge, this fifth year research report has never been done by any one for the acquisition of a degree at any university worldwide. Henceforth, I declare that all the results herein are independent and are a true reflection of the study that was undertaken.

…….

HAMUNGALU OBRIGHT

DEDICATION

I dedicate this report to all my beloved family members and friends for the support they offered during my school days at The University of Zambia.

ABSTRACT

This study was observed for a period of 35 days during which the birds (quails) were fed on feeds that were formulated. A pre-trial and two actual trials were conducted to investigate the effect of different protein levels and calorie/protein ratios in the diets. The diets for pre-trial and first actual trial had 27% and 24% CP at 2900 kcal/kg ME with calorie-protein ratios of 107 and 121, respectively. While diets for second trial had 24% and 20% CP at 2900 kcal/kg having different calorie-protein ratios of 121 and 145, respectively.

Sixty-four (64) unsexed chicks which had just hatched were put into two groups randomly and were observed for a period of 7 days (pre-trial). At the end of pr-trial phase the birds were distributed in a 2 X 2 Factorial laid as Completely Randomized Design (CRD). Each treatment (feed) had four replications and there were 6 birds in each experimental unit.

In the second trial an infection was suspected to have occurred and about 8% mortality was recorded. The Analysis of Variance on feed intake and body weights showed a significant difference ($p \leq 0.05$) between starter 1(27% CP) and starter 2 (24% CP) during the first trial. The results of feed intake, body weights and feed conversion ratio for the second trial did not show a significant difference between grower 1(24% CP) and grower 2 (20% CP).

Further more, the ANOVA on breast muscle weights, liver weights and fat extracted from Liver samples of slaughtered birds at the end of the second trial showed no significant difference between the treatments.

In addition, the ZABS and NRC recommendations gave different growth performances of birds in the first trial. In the second trial the two recommendations (ZABS and NRC) did not show any difference in terms of growth performance.

ACKNOWLEDGEMENTS

Firstly I would like to sincerely thank my supervisor, Dr. F. Haazele. Despite his busy schedule, he tireless helped me in many areas during my study. Also I would like to thank Mr. K. Wabuita for his advice on good management practices of quail production.

I would also like to express my thanks to all members of staff in the school of Agricultural sciences and my colleagues for the encouragement and many other services that they offered during this study.

Ultimately, I would like to express my heartfelt gratitude to almighty God for see me through up to the end of my degree program.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONMY

ANOVA	Analysis of Variance
CP	Crude protein
DCP	Dicalcium phosphate
FAO	Food Association Organization
FCR	Feed Conversion Ratio
Kcal	Kilo calories
ME	Metabolisable energy