

EFFECT OF DIETARY GLUTAMATE SUPPLEMENTATION ON  
THE GROWTH PERFORMANCE OF BROILER CHICKENS  
SUBJECTED TO SHORTENED BROODING PERIOD

THESIS

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## ABSTRACT

**BON, LUCKY JAY M. Effect of Dietary Glutamate Supplementation on the Growth Performance of Broiler Chickens Subjected to Shortened Brooding Period.**  
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The study was conducted at the Cavite State University, Indang Cavite, from July 2015 to August 2015. The study was conducted to determine the effect of dietary glutamate supplementation on the growth rate, feed conversion efficiency, harvest recovery, intestinal integrity, and economic impact of broiler chickens subjected to stress condition. A total of one hundred twenty (120) broilers were divided into four treatment groups: Control- no glutamate; Treatment 1 - 1.5% glutamate; Treatment 2 - 2.0 % glutamate; and Treatment 3 – 2.5% glutamate. For thirty five days of the experiment, chickens in the test group received glutamate supplementation from the 5<sup>th</sup> to 10<sup>th</sup> day of the study. Shortened brooding period was done by replacing the incandescent bulb with florescent bulb on the 7<sup>th</sup> day on the treatment groups to eliminate the source of heat, and therefore to induce stress. Each replication sacrificed one bird on the 7<sup>th</sup>, 10<sup>th</sup>, and 14<sup>th</sup> day of the study. A section of duodenum and jejunum was taken and prepared for histology examination. After 35 days of experimentation glutamate supplementation showed no significant effect on the growth performance of broiler chicken subjected to shortened brooding period.

## TABLE OF CONTENTS

	Page
<b>BIOGRAPHICAL DATA.....</b>	iii
<b>ACKNOWLEDGEMENT.....</b>	iv
<b>ABSTRACT.....</b>	vi
<b>LIST OF TABLES.....</b>	xi
<b>LIST OF APPENDIX TABLES.....</b>	xii
<b>LIST OF FIGURES.....</b>	xvi
<b>LIST OF APPENDIX FIGURES.....</b>	xvii
<b>INTRODUCTION</b>	
Statement of the Problem.....	2
Objective of the Study.....	2
Importance of the Study.....	3
Time and Place of the Study.....	3
Scope and Limitation of the Study.....	3
<b>REVIEW OF RELATED LITERATURE</b>	
Glutamine.....	4
Effect of Glutamine on Swine.....	5
Effect of Glutamine on Immune System.....	6
Effect of glutamine on Mice and Rats.....	6
Brooding.....	7

## **MATERIALS AND METHODS**

Treatment and Experimental Design.....	8
Management and Care of Experimental Birds.....	8
Tissue Sampling and Processing.....	9
Data Gathering and Analysis.....	10

## **RESULT AND DISCUSSION**

Effect of different levels of dietary glutamate supplementation on the average daily gain of broilers.....	12
Effect of different levels of dietary glutamate supplementation on the weekly weight of broilers.....	13
Effect of different levels of dietary glutamate supplementation on the feed conversion efficiency (FCE) of broilers.....	13
Effect of different levels of dietary glutamate supplementation on the length of villi in the duodenum of broilers.....	14
Effect of different levels of dietary glutamate supplementation on the height of villi in the Jejunum of broilers.....	15
Effect of different levels of dietary glutamate supplementation on the harvest recovery of broilers.....	16
Harvest Recovery of Broilers.....	17
Effect of different levels of dietary glutamate supplementation on the net Income.....	17
Net Income.....	17
Return on Investment.....	18

## **SUMMARY CONCLUSION AND RECOMMENDATION**

Summary.....	20
Conclusion.....	21

Recommendation.....	21
<b>REFERENCES.....</b>	<b>23</b>
<b>APPENDICES.....</b>	<b>25</b>

## LIST OF TABLES

Tables		Page
1	ADG of birds at different levels of glutamate supplementation.....	12
2	Average weight of birds at different levels of glutamate supplementation.....	13
3	FCE of birds at different levels of glutamate supplementation.....	14
4	The length of villi in the duodenum as affected by different levels (1.5- 2.5%) of glutamate supplementation.....	15
5	The length of villi in the jejunum as affected by different levels (1.5- 2.5%) of glutamate supplementation.....	16
6	Net income per treatment as affected by different levels (1.5-2.5%) of glutamate supplementation.....	18

**LIST OF FIGURES**

<b>Figures</b>		<b>Pages</b>
1	Percent harvest recovery of broiler chickens.....	17



## LIST OF APENDIX FIGURES

Figures		Pages
1	Day old chicks.....	26
2	Weighing of day old chicks.....	27
3	Broiler chicks marking.....	28
4	Weighing of broiler chick.....	29
5	Weighing of glutamate.....	30
6	Mixing of glutamate to chick booster feeds.....	31
7	Ad-libitum feeding.....	32
8	Removal of intestine.....	33
9	Fixed tissue sample.....	34
10	Cross-section of the intestine showing micro villi.....	35
11	Measuring of micro villi.....	36

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**Lucky Jay M. Bon**

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An undergraduate thesis manuscript presented to the faculty of Department of Animal Science, College of Agriculture, Food, Environment and Natural Resources, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Agriculture major in Animal Science with Contribution No. \_\_\_\_\_.  
Prepared under the supervision of Irvin DL. Matel, DVM

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## **INTRODUCTION**

Poultry is the most progressive animal enterprise today. It is one of the world's major and fastest producers of meat, while in the Philippines; it has been a significant contributor to the country's agriculture sector (PCAARRD). Many Filipinos considered broiler production as one of the most profitable enterprise, due to increasing demand different studies and researches had been conducted to enhance and develop the broiler production.

Several studies conducted about the effect of glutamine supplementation had been made in other species such as mice (Waddell et al. 2005) and swine (Wu 2011, and C. Domeneghini *et al.* 2004) which yielded a positive result.

This study was conducted with the hypothesis that glutamate supplementation would likely produce positive effect on the performance of broiler chicken, specifically