

**EFFECT OF DIETARY FISHMEAL REPLACEMENT BY  
SPRAT-HEAD MEAL IN BROILER FINISHER FEED ON THE  
PRODUCTIVE PERFORMANCE OF BROILERS**

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## ABSTRACT

Malnutrition has been identified as a major health problem in Sri Lanka. Intake of protein is essential for the proper growth and function of the human body. Broiler meat is the most consumed meat in Sri Lanka as an animal protein source. However the cost of production of broiler is high due to its higher feed cost. Higher feed cost is due to the high price for the animal protein ingredients used *viz.* fishmeal, to prepare the broiler feeds. Replacement of imported fishmeal by low cost ingredients would be worth to reduce feed cost. Therefore an experiment was conducted to evaluate sprat-head meal instead of imported fishmeal in broiler finisher diet. Head portions of sprat were collected, dried in sunlight, and ground into meal to prepare sprat-head meal. The broiler finisher feed was prepared with 0%, 25%, 50%, 75% and 100% replacement level of sprat-head meal for imported fishmeal. A total of eighty Lohman Indian River broilers were fed with five experimental diets (treatment) from 22<sup>nd</sup> day up to 42 days. Eight birds were used per replicate, and two replicates per treatment were allocated in a Completely Randomized Design (CRD). Fresh drinking water was provided *ad libitum*, and proper litter management, sanitation and vaccination were adopted. Results showed that live weight ( $2\ 000\text{g} \pm 7.4\text{g}$ ) and carcass yield ( $1\ 298.8\text{g} \pm 18.4\text{g}$ ) increased ( $P < 0.05$ ) with increased amount of imported fishmeal. Feed conversion ratio ( $2.6 \pm 0.02$ ) increased ( $P < 0.05$ ) linearly with increasing levels of imported fishmeal. However water consumption was not significantly different among the treatments. There were significant differences ( $P < 0.05$ ) in weight after bleeding and dressed weight. Moreover, weight of heart of broilers fed with 75% sprat-head meal ( $8.3\text{g} \pm 0.3\text{g}$ ) was higher ( $P < 0.05$ ) than those fed with 100% imported fishmeal. Weight of gizzard ( $57.3\text{g} \pm 2.5\text{g}$ ), liver

(48.7g  $\pm$  2.4g) and digestive tracts (118.3g  $\pm$  7.7g) of broilers fed with 100% sprat-head meal were heavier ( $P < 0.05$ ) than those of broilers fed with 100% imported fishmeal. This may be due to differences in utilization of sprat-head meal and fishmeal by these organs. Total replacement of cheaper protein source (sprat-head meal) for imported fishmeal resulted in higher net revenue. It could be concluded that 100% replacement of imported fishmeal with sprat-head meal could increase the profit margin due to reduced cost of production. Hence, farmers could be encouraged to substitute fishmeal with sprat-head meal in order to reduce cost of production and enhance profit.

# TABLE OF CONTENTS

ABSTRACT.....	iv
ACKNOWLEDGEMENT .....	vi
TABLE OF CONTENTS.....	vii
LIST OF TABLES .....	xi
LIST OF PLATES .....	xiii
CHAPTER 01 .....	1
1 INTRODUCTION .....	1
CHAPTER 02 .....	7
2 LITERATURE REVIEW .....	7
2.1 Poultry Meat Production .....	7
2.2 Type of raw materials required for feed formulation .....	8
2.2.1 Energy supplying ingredients.....	8
2.2.2 Fat supplying ingredients .....	9
2.2.3 Protein supplying ingredients.....	9
2.2.4 Mineral ingredients .....	11
2.2.5 Vitamins and mineral premixes ingredients.....	11
2.3 Feed formulation .....	12

2.4	Fishmeal in poultry diets .....	13
2.5	World trade of fishmeal.....	14
2.6	Raw materials for fishmeal.....	14
2.7	Grades of fishmeal.....	15
2.8	Nutrients availability in fishmeal .....	16
2.8.1	Protein: .....	16
2.8.2	Fat.....	17
2.8.3	Energy .....	18
2.8.4	Minerals and vitamins .....	19
2.9	Use of fishmeal in poultry diet.....	20
2.9.1	Biological Value.....	20
2.9.2	Determine size of the feed.....	21
2.9.3	Un Identified growth factor in fish meal.....	21
CHAPTER 03 .....		22
3	MATERIALS AND METHOD.....	22
3.1	Location and Duration of Experiment.....	22
3.2	Preparation of local fishmeal (Sprat-head meal).....	22
3.3	Experimental Design .....	22

3.4	Experimental Diets .....	23
3.5	Management of chicks.....	23
3.6	Feeding and Watering .....	24
3.7	Sampling and estimation of parameter .....	25
3.7.1	Live Weight Changes.....	25
3.7.2	Feed Conversion Ratio (FCR).....	25
3.7.3	Carcass Parameters.....	25
3.7.4	Economics of Broiler Production.....	26
3.8	Statistical Analysis .....	27
CHAPTER 04 .....		28
4	RESULTS AND DISCUSSION.....	28
4.1	Feed consumption of the birds .....	28
4.2	Average water intake of the birds.....	29
4.3	Body weight of the birds .....	30
4.4	Wight of the birds after the bleeding.....	31
4.5	Dressed weight of the birds .....	32
4.5.1	The dressing percentage of the birds.....	33
4.6	Heart weight of the birds .....	34

4.7	Gizzard weight of the birds .....	35
4.8	Liver weight of the birds .....	36
4.9	Weight of the digestive tract of the birds .....	37
4.10	Carcass weight of the birds .....	38
4.11	Survival of the birds .....	39
4.12	Feed conversion ratio of the birds .....	40
4.13	Feed conversion efficiency of the birds .....	41
4.14	Feed cost for broiler production .....	42
4.15	Broiler Performance Efficiency Factor .....	43
4.16	Broiler Farm Economy index .....	44
4.17	Economy of the broiler production.....	44
CHAPTER-05 .....		46
5	CONCLUSION.....	46
RECOMMENDATION .....		48
REFERENCES.....		49
PLATES .....		57