

## TABLE OF CONTENTS

	Page
1. INTRODUCTION.....	1
2. REVIEW OF LITERATURE.....	4
2.1. Chemical Composition of Poultry Slaughterhouse By-Product Meals.....	5
2.1.1. Hydrolyzed feather meal.....	5
2.1.2. Poultry offal meal.....	8
2.2. Amino Acid Contents of Poultry Slaughterhouse By-Product Meals.....	10
2.2.1. Hydrolyzed feather meal.....	11
2.2.2. Poultry offal meal.....	13
2.3. Pepsin Digestibility of Poultry Slaughterhouse By-Product Meals.....	14
2.4. Effect of Processing Methods on the Nutritive Value of Poultry Slaughterhouse By-Product Meals.....	20
2.5. Protein Quality of Poultry Slaughterhouse By- Product Meals.....	25
2.6. Utilization of Hydrolyzed Feather Meal by Growing Chicks.....	30
2.7. Utilization of Poultry Offal Meal by Growing Chicks.....	37
3. MATERIALS AND METHODS.....	40
3.1. Procedure of Feather Meal and Poultry Offal Meal Hydrolyzation.....	40
3.2. Determination of Net Protein Utilization.....	41
3.2.1. Experimental birds and technique.....	41
3.2.2. Experimental rations.....	43

15. Average body weight gain (gm) $\pm$ SE of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age, (Experiment 2).....	77
16. Analysis of variance for average body weight gain of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age.....	78
17. Average feed consumption (gm) $\pm$ SE of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age, (Experiment 2).....	81
18. Analysis of variance for average feed consumption of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age.....	82
19. Average feed conversion $\pm$ SE of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age, (Experiment 2).....	84
20. Analysis of variance for average feed conversion of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age.....	85
21. Average body weight gain $\pm$ SE of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age, (Experiment 3).....	93
22. Analysis of variance for average body weight gain of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age.....	94
23. Average feed consumption (gm) $\pm$ SE of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age, (Experiment 3).....	97
24. Analysis of variance for average feed consumption of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age.....	98
25. Average feed conversion $\pm$ SE of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age, (Experiment 3).....	100
26. Analysis of variance for average feed conversion of broiler chicks fed HFM and POM at 1-4, 4-7 and 1-7 weeks of age.....	101

	Page
3.3. Utilization of Hydrolyzed Feather Meal and Poultry Offal Meal in Broiler Rations.....	45
3.3.1. Experimental design.....	45
3.3.2. Experimental birds.....	46
3.3.3. Experimental rations.....	46
3.4. Managment .....	47
3.5. Methods of Interpreting Results.....	52
3.6. Amino Acids Determination.....	53
3.6.1. The chemical score.....	54
3.7. Determination of Pepsin Digestibility.....	54
3.8. Proximate Analysis.....	55
3.9. Statistical Analysis.....	55
4. RESULTS AND DISCUSSION.....	56
4.1. Proximate Composition of Hydrolyzed Feather Meal and Poultry Offal Meal.....	56
4.2. Amino Acid Composition of Hydrolyzed Feather Meal and Poultry Offal Meal.....	60
4.3. Pepsin Digestibility of Hydrolysed Feather Meal and Poultry Offal Meal.....	66
4.4. Net Protein Utilization Values of Hydrolyzed Feather Meal and Poultry Offal Meal (Experiment 1).....	68
4.5. Effect of Using Different Levels of Hydrolyzed Feather Meal and Poultry Offal Meal Without Amino Acids Supplementation on Broiler Performance (Experiment 2).....	75
4.5.1. Body weight gain.....	75
4.5.2. Feed consumption.....	79

4.5.3. Feed conversion.....	83
4.6. Effect of Supplementing Hydrolyzed Feather Meal and Poultry Offal Meal With Lysine and Methionine on Broiler Performance (Experiment 3).....	91
4.6.1. Body weight gain.....	91
4.6.2. Feed consumption.....	95
4.6.3. Feed conversion.....	99
4.7. Economic Efficiency of Using Hydrolyzed Feather Meal and Poultry Offal Meal in Broiler Rations..	110
5. SUMMARY AND CONCLUSIONS.....	116
6. REFERENCES.....	124
7. APPENDIX.....	135
ARABIC SUMMARY.	