

## CONTENTS

	<u>Page</u>
1. INTRODUCTION .....	1
2. REVIEW OF LITERATURE .....	3
2.1. Chicken fat contents.....	3
2.2. Physical and chemical properties of chicken fats .....	14
2.3. Fatty acid composition of chicken fats.....	14
2.3.1. Fatty acid composition of chicken skin fat .....	25
2.3.2. Fatty acid composition of chicken abdominal fat .....	25
2.4. Chicken fat soluble vitamins .....	28
3. MATERIALS AND METHODS .....	37
3.1. Materials .....	37
3.1.1. Chickens .....	37
3.1.2. Authentic standard vitamins .....	40
3.2. Experimental methods .....	41
3.2.1. Extraction and determination of lipids.....	41
3.2.2. Physical properties of extracted fat..	43
3.2.3. Chemical properties of extracted fat..	43
3.2.4. Chromatographic analysis .....	43
3.2.5. Determination of fat soluble vitamins.	45
3.2.5.1. Determination of carotene and vitamin A .....	45
3.2.5.2. Determination of vitamin E...	48
3.2.6. Statistical analysis of data .....	50

	<u>Page</u>
4- RESULTS AND DISCUSSIONS.....	51
4.1. Chichen body weight, skin and abdominal fat content .....	51
4.2. Physical and chemical properties of chicken fat.....	62
4.2.1. Physical properties of chicken fat...	62
4.2.2. Chemical properties of chicken fat...	66
4.3. Fatty acid composition of chicken fat.....	72
4.3.1. Identification of the fatty acids....	72
4.3.2. Fatty acid composition of chicken fat.....	72
4.4. Chicken fat soluble vitamins .....	81
4.4.1. Effect of dietary fat on Hubbard broilers fat soluble vitamins.....	81
4.4.2. Effect of dietary fat on Arbor Acer broilers fat soluble vitamins .....	84
5- SUMMARY .....	90
6- REFERENCES.....	98
- ARABIC SUMMARY .	