

## **CONTENTS**

<b>CONTENTS</b>	<b>Page</b>
<b><i>INTRODUCTION</i></b>	1
<b><i>REVIEW OF LETERATURE</i></b>	5
1- Chemical composition of poultry meat	5
2- Chemical and physical quality of fresh poultry meat	7
3- Microbiological evaluation of raw poultry meat	12
4- Liquid smoke composition and properties	13
5- Liquid smoke preparation	17
6- Liquid smoke function	20
7- Effect of smoking and storage (cold and freezing) on chemical quality attributes of smoked poultry products	22
8- Microbiological evaluation of smoked poultry products during cold and freezing storage	25
9- Sensory evaluation of smoked poultry products	28
<b><i>MATERIALS AND METHODS</i></b>	31
<b>I- Materials</b>	31
<b>II- Technological methods</b>	32
A- Liquid smoke preparation	32
B- Liquid-smoked chicken and turkey thighs	32
C- Liquid-smoked chicken fingers	33

D- Liquid-smoked turkey fingers	34
<b>III- Storage of products</b>	34
<b>IV – Analytical methods</b>	35
A- Chemical analysis:	35
1- Chemical composition	35
2- Carbohydrates content	35
3- Calculated energy value	35
4- Phenols determination	35
5- Total volatile basis nitrogen	36
6- Thiobarbituric acid	36
B- Physico-chemical evaluation	37
1- pH value	37
2- Water holding capacity (W.H.C.) and plasticity	37
3- Cooking loss and yield %	37
C- Microbiological evaluation	37
1- Total aerobic plate count	38
2- Halophilic bacteria	38
3- Lipolytic bacteria	38
4- Proteolytic bacteria	38
5- Psychrophilic bacteria	39
6- Detection of <i>St. aureus</i>	39
7- Coliform count	40
8- Salmonella count	04

D- Sensory evaluation and statistical analysis	42
<b>RESULTS AND DISCUSSIONS</b>	43
<b><i>I- Fresh poultry (chicken and turkey) meat</i></b>	43
A- Chemical composition and physical and chemical quality attributes	43
B- Microbiological evaluation	46
<b><i>II- Liquid-smoked poultry (chicken and turkey) thighs</i></b>	48
<b>1- Weight changes during smoking process</b>	48
<b>2- Cold storage at 4 °C for 15 days</b>	50
A- Chemical composition	50
B- Chemical quality attributes	52
C- Physical quality attributes	55
D- Microbiological quality attributes	56
<b>3- freezing storage at -18 °C for 6 months</b>	60
A- Chemical composition	60
B- Chemical quality attributes	62
C- Physical quality attributes	64
D- Microbiological quality attributes	66
<b>4- Sensory evaluation</b>	68
<b>5- Statistical analysis</b>	70
<b><i>III- Chicken and turkey fingers as affected by addition of liquid smoke and freezing storage (-18 °C) for 6 months</i></b>	71

1- chemical composition	71
2- Chemical quality attributes	75
3- Physical quality attributes	79
4- Microbiological quality attributes	82
5- Sensory evaluation	87
6- Statistical analysis	87
<b><i>SUMMARY</i></b>	90
<b><i>REFERENCES</i></b>	103
<b><i>ARABIC SUMMARY</i></b>	