

# Content

Subject	page
<b>Introduction</b>	1
<b>Review of literature</b>	
-Quality and nutritional value of seafood	4
-Tilapia fish	5
- Microbiological character of fish flesh	6
-Chemical character and sensory evaluation of fish flesh	10
- Effect of freezing on the microbiological characteristics of fish flesh	11
-Effect of freezing on chemical characteristics of fish flesh	13
-Effect of irradiation on microbiological characteristics of fish flesh	14
-Effect of irradiation on chemical characteristics of fish flesh	18
-Effect of synthetic antimicrobial on fish flesh	20
-Effect of natural antimicrobial on fish flesh	23
<b>Materials and methods</b>	
<b>1. Materials</b>	27
1.1. Fish	27
1.2. Antimicrobial.	
<b>2- Methods</b>	27
2.1. Processing methods	29
2.2. Analytical method	29
2.3. Freshness tests	30
2.4. Microbiological eximination	36
2.5.Organoleptic evaluation	37
2.6.Statistical analysis	38
<b>Index of media and reagent</b>	
<b>Results</b>	
1-Microbial load and chemical properties of fresh <i>Oreochromis niloticus</i> flesh	45
2-Effect of freezing process and frozen storage on the total microbial	45

load and chemical properties of <i>Oreochromis niloticus</i> flesh at -18°C	49
3-Effect of gamma irradiation on the microbial load and chemical properties of <i>Oreochromis niloticus</i> flesh during cold storage at 4°C±1	63
4-Effect of potassium sorbate on the microbial load and chemical properties of <i>Oreochromis niloticus</i> flesh during cold storage at 4°C±1	79
5-Effect of Mint oil on the microbial load and chemical properties of <i>Oreochromis niloticus</i> flesh during cold storage at 4°C±1	93
6-Organoleptic evaluation of <i>Oreochromis niloticus</i> flesh as affected by gamma irradiation with 1 and 3 kGy, K.sorbate 1 and 2% and Mint oil 1 and 2%	96
7-Characterization and identification of isolated pathogenic bacteria	100
8- Identification of the mould	102
<b>Discussion</b>	115
<b>Summary</b>	119
<b>Conclusion</b>	120
<b>References</b>	٣-١
<b>Arabic summary</b>	