

**ANTIOXIDATIVE ACTIVITY OF GARLIC AND CORIANDER IN COOKED
PATTIES OF MACKEREL (*SCOMBER SCOMBRUS*) DURING
REFRIGERATED STORAGE**

By

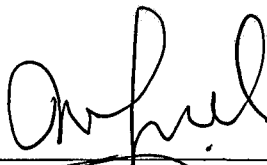
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of Science (Hons.) in Food Quality Management, Faculty of Applied Sciences
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APPROVAL SHEET

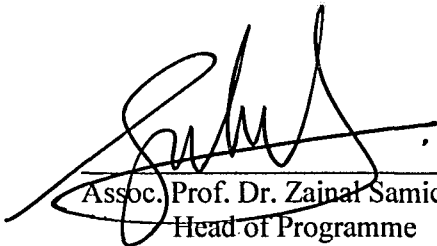
Final Year Project Report entitled “Antioxidative Activity of Garlic and Coriander in Cooked Patties of Mackerel (*Scomber scombrus*) During Refrigerated Storage” submitted by Ezrin Niza Bt Ghazalli, in partial fulfillment of the requirements for the degree of Bachelor of Science (Hons.) Food Quality Management, in the Faculty of Applied Sciences, is approved by



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TABLE OF CONTENTS

		Page
	ACKNOWLEDGEMENTS	iii
	LISTS OF TABLES	vi
	LISTS OF FIGURES	vii
	ABSTRACT	viii
	ABSTRAK	ix
CHAPTER		
1	INTRODUCTION	1-
2	LITERATURE REVIEW	3
	2.1 Mackerel	3
	2.2 The Structure of Fish Muscle	3
	2.3 Lipids	4
	2.4 The Major Classes of Fatty Acids	5
	2.5 Spoilage of Fish and Seafoods	7
	2.6 Lipid Oxidation	7
	2.6.1 The Action of Oxidation	9
	2.7 Factors Affecting Lipid Oxidation	10
	2.7.1 Water Content	10
	2.7.2 Singlet Oxygen	11
	2.7.3 Iron Content	11
	2.7.4 Enzymes	12
	2.8 Methods to Prevent Lipid Oxidation	13
	2.8.1 Limiting Oxygen	13
	2.8.2 Minimizing Increase in Pro- Oxidants	13
	2.8.3 Affording Early Protection from Oxidation	14
	2.8.4 Freezing and Refrigerating	14
	2.8.5 Using Proper Packaging	15
	2.8.6 Usage of Antioxidants	15
3	MATERIALS AND METHODS	20
	3.1 Raw Materials	20
	3.2 Chemicals	20
	3.3 Sample Preparation	20
	3.4 Analysis	22
	3.4.1 Determination of Total Lipids	22
	3.4.2 Determination of Peroxide Value (PV)	22
	3.4.3 Determination of Free Fatty Acids (FFA)	23

ABSTRACT

ANTIOXIDATIVE ACTIVITY OF GARLIC AND CORIANDER IN COOKED PATTIES OF MACKEREL (*Scomber scombrus*) DURING REFRIGERATED STORAGE

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The comparative antioxidant activity of garlic and coriander on the susceptibility of cooked mackerel patties to lipid oxidation was investigated. Fresh fish purchased from wet hypermarket, were trimmed to remove bones, skin, head, viscera and the fish was minced. The minced fish was treated with 1% ground coriander, 1% extracted garlic or combination of 0.5% extracted garlic and 0.5% ground coriander (w/w). Control minced samples contained neither coriander nor garlic. Patties (50g), prepared from treated and untreated minced fish, were cooked until the temperature reached 160°C, cooled down to room temperature, wrapped in vacuumed sealed plastic and held in refrigerated temperature (4°C) for 12 days. Lipid content, peroxide value (PV), free fatty acids (FFA) and sensory evaluation based on rancid odor were measured at three - days interval. Coriander added at 1% significantly ($p < 0.05$) controlled lipid oxidation and rancid odor changed, followed by combination of garlic and coriander and patties added with garlic. Overall, patties added with coriander had the lowest amount of PV and FFA. The panelists chose patties containing coriander as the least rancid and the most acceptable one. As the storage days increased, the level of total lipids decreased while the PV and FFA increased. Addition of garlic at concentration more than 1% were necessary to reduce oxidation for mackerel patties containing high level of lipids and unsaturated fatty acids.