

# CURRENT RESEARCH AND DEVELOPMENT IN BIOTECHNOLOGY ENGINEERING AT IIUM

VOLUME II

Editors:

Ibrahim Ali Noorbatcha  
Hamzah Mohd. Salleh  
Mohamed Elwathig Saeed Mirghani  
Raha Ahmad Raus



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***(VOLUME II)***

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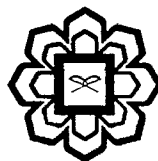
**Ibrahim Ali Noorbacha**

**Hamzah Mohd. Salleh**

**Mohamed Elwathig Saeed Mirghani**

**Raha Ahmad Raus**

**Department of Biotechnology Engineering  
Faculty of Engineering  
International Islamic University Malaysia**



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## CHAPTER 12

### POTENTIAL OF NAHAR SEED OIL EXTRACT AS ANTIMICROBIALS

Mohamed E. S. Mirghani, I. A. Ahmed, S. A. Muyibi., J. I. Daoud and M. A. Mikail

Department of Biotechnology Engineering, Faculty of Engineering,  
International Islamic University Malaysia, P.O. Box 10, 50728 Kuala Lumpur, Malaysia

#### ABSTRACT

This golden age has witnessed a growing interest in the exploration of both the essential oils and other plant extracts for various industrial applications, as in the food and pharmaceutical industries. As a result, the screening of plant extracts for these novel properties has become of increasing importance. The potentiality of higher plants in producing varieties of secondary metabolites possessing antimicrobial property, targeted to defy invasions by microbes is core-matrix of developing phytomedicines against drug resistance microbes. It is also becoming an axiom that intensive use of an antibiotic is often followed by the appearance of resistant strains. In view of this, the search for new antimicrobial agents continues unabated and increasing, thus, medicinal plants are promising resources.

**Keywords:** Antimicrobial, minimum inhibitory concentration (MIC), nahar seed oil (NSO).

#### INTRODUCTION

There is an increasing demands for oils both for human consumption and for other industrial applications and this has culminated into an increasing need to search for oils from non-conventional sources to augment the available ones and also to meet specific applications. Efforts are being encouraged towards the substitution of synthetic non-biodegradable polymers by fully or partially biodegradable polymers of semi-synthetic or bio-origin due to several environmental concerns (Suvangshu et al., 2010). In addition to this, as evidenced in recent studies, the physiological functionality of foods has received much attention due to the increasing interest in human health and has thus been studied in vitro and in vivo by many researchers (Haddad and Dezashibi, 2007). Also, there is an increase of bacterial resistance to antibiotics, this has also resulted into a considerable interest in investigating the antimicrobial effects of essential oils and different plant extracts against a range of bacteria, to develop other classes of natural antimicrobials and disinfectants, which will be useful for infection control or for the preservation of food (Atiqur and Sun, 2009). Concern over pathogenic and spoilage microorganisms in foods is also increasing due to the increase in outbreaks of food borne disease