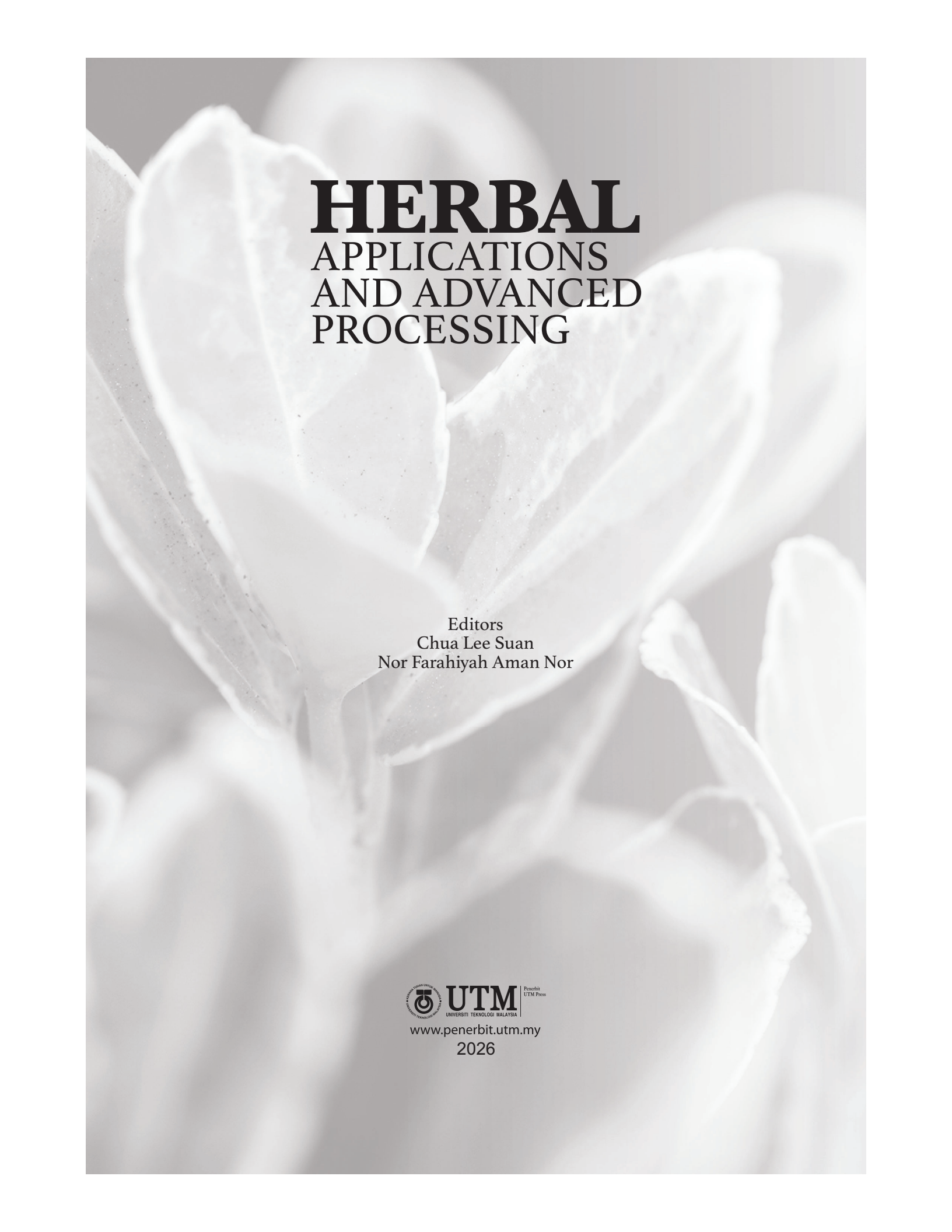


HERBAL

APPLICATIONS
AND ADVANCED
PROCESSING



HERBAL APPLICATIONS AND ADVANCED PROCESSING

Editors
Chua Lee Suan
Nor Farahiyah Aman Nor



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CONTENTS

<i>Contributors</i>		<i>vii</i>
<i>Preface</i>		<i>ix</i>
CHAPTER 1	HERBAL APPLICATIONS AND INNOVATION	1
	<i>Chua Lee Suan and Nor Farahiyah Aman Nor</i>	
CHAPTER 2	HERBAL KNOWLEDGE IN MODERN THERAPEUTICS AND CONSERVATION	17
	<i>Ismail Ware, Fazrena Nadia Md Akhir, and Husna Filzah Ismail</i>	
CHAPTER 3	HERBAL FOODS AND NUTRACEUTICALS FOR WELLNESS	33
	<i>Effaliza Misran, Fitrien Husin, Harisun Ya'akob, and Nurulkhairiah Azyyati Khairulanuar</i>	
CHAPTER 4	HERBS IN COSMETICS AND FRAGRANCES	49
	<i>Siti Pauliena Mohd Bohari, Zarani Mat Taher, Muhammad Aidil Wafi Rosli, and Norazimah Hazali</i>	

CHAPTER 5	HERBS FOR PHYTOPHARMACEUTICALS	63
	<i>Dayang Norulfairuz Abang Zaidel, Norfazilah Muhamad, Siti Nor Azlina Abd Rashid, and Nor Fashya Musa</i>	
CHAPTER 6	THERAPEUTICS AND THE BIOACTIVITY OF MAHKOTA DEWA	79
	<i>Luqman Chuah Abdullah, Adawiah Ismail, Nor Fariza Ismail, and Pin Kar Yong</i>	
CHAPTER 7	TECHNOLOGIES IN HERBAL PROCESSING	95
	<i>Nor Farahiyah Aman Nor, Siti Fadilla Md Noor, Chua Lee Suan, and Jamarosliza Jamaluddin</i>	
CHAPTER 8	QUALITY CONTROL AND STANDARDIZATION OF HERBAL PRODUCTS USING FTIR	113
	<i>Yun Yu Ng, Chua Lee Suan, and Mun Fei Yam</i>	
CHAPTER 9	HERBAL NANOTECHNOLOGY ADVANCEMENT	131
	<i>Rahimah Othman, Noor Shazliana A.A, Siti Nur Filzah, and Nor Farahiyah Aman Nor</i>	
INDEX		145

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PREFACE

The increasing attention to health and wellness, as well as sustainability has drawn the focus of researchers, scientists, educators, and industry professionals toward the therapeutic potential of herbs and botanicals. In recent years, the growing demand for herbal-based products has been driven by consumer awareness due to the remarkable benefits of natural alternatives. This phenomenon has encouraged the development and application of herbal science through innovative and evidence-based approaches.

Herbal Applications and Advanced Processing aim to provide a comprehensive overview of scientific foundations, technological advancements, and practical applications of herbs in modern industries. The book is designed to bridge the gap between traditional herbal wisdom and contemporary scientific methodologies, in addition to the Malaysia's rich biodiversity and its significant potential to contribute to the global herbal wellness.

The book content is organized into two main components. The first part explores the diverse applications of herbs in functional foods and nutraceuticals, cosmetics, fragrances, and phytopharmaceuticals. Plant-derived bioactive compounds are increasingly recognized for their pharmacological benefits and their role in therapeutic healthcare. The second part of the book focuses on key processing technologies for developing high-quality herbal products. The technologies include extraction, purification, sterilization, and the integration of nanotechnology to enhance the delivery and stability of bioactive compounds. High throughput and reliable analytical tools, particularly two-dimensional fourier-transform infrared spectroscopy (2D-FTIR), integrated with chemometric techniques has been introduced for herbal fingerprinting and quality control.

This book contains a valuable resource of information for students, researchers, and professionals in the fields of herbal science and processing technology. It highlights the advancement of knowledge and innovation at the intersection of tradition and technology, with the aim to develop safe, effective, and sustainable herbal products for the future.

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