

Mulberry

The Story of Potential Miracle Plant





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Editors

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PREFACE

Mulberry plant is a well-known medicinal plant. The plant is commonly known as *Morus*, the genus of a flowering plant belonging to the Moraceae family. In Asian countries, mulberry plant has been grown to produce silkworms as the leaf is a major and important nutrient source for silkworms. Mulberry not only used in cooking and silk but it also provides a number of health benefits that make them highly appealing.

This book aims to provide a brief and simple description of the background, agronomy aspects and physicochemical properties of mulberry plant. This book will provide readers a comprehensive aspect of pre-processing methods of mulberry plant, and the potential of this plant as antimicrobial agent. Finally, this book also provides readers with a self-contained guide on the application of statistical analysis in mulberry plant related research.

Therefore, this book is designed as a quick reference text, with the aim that researchers, students, academicians with little experience in mulberry plant could grasp their understanding of the scientific aspects of the plant. This book will also be of significant interest to those working or doing research in the applied sciences.

Siti Nuurul Huda Mohammad Azmin
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ANTIMICROBIAL ANALYSES ON MULBERRY EXTRACTS

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INTRODUCTION

The genus *Morus* L. family of Moraceae also known as mulberry is one of the earliest cultivated woody plants (Jian, Ningjia, Yong, & Zhonghuai, 2013) and had been categorized into 30 species, among which 15 are originally grown in China (Ramesh, Sivaram, & Yogananda, 2014). *Morus* which are *Morus nigra* (black mulberry) and *Morus rubra* (red mulberry) also known to be used in various forms such as syrup, jam, pulp, ice-cream, vinegar, concentrate, alcohol. Mulberry fruits are rich in phenols and have a refreshing taste and unique sour (Kutlu, Durmaz, Ateş, Yilmaz, & Çetin, 2011). *M. nigra* Figure 5.1(A) contains several pharmaceutical properties effective in treating many severe diseases. The leaves of *M. nigra* Figure 5.1(B) have been used for the prevention of liver and kidney diseases. Presence of flavonoid such as quercetin, luteolin and isorhamnetin in leaves of *M. nigra* show it exert hepatoprotective effect (Rodrigues et al., 2019). The Chinese Pharmacopoeia lists root bark, branches, leaves, and fruits as ingredients in medicinal preparations. The leaves of *M. nigra* have anti-hyperglycemic and