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D. K. SEMWAL, PHD  
EDITOR

# *Coriander*

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# **CORIANDER**

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# **CORIANDER**

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**DEEPAK KUMAR SEMWAL**  
**EDITOR**



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## PREFACE

The present reference book is based on the nutritional and medicinal importance of ‘coriander’ which is one of the most used herbs for culinary and medical purposes. Coriander is scientifically known as *Coriandrum sativum* L. and is a member of the Umbelliferae family. This herb is one of the oldest traditional medicines that have been used for more than 3000 years for curing a variety of ailments including indigestion, worm infections, rheumatism, loss of appetite, convulsion, insomnia, anxiety and joints pain. As a folk medicine, this herb is known for its carminative, spasmolytic, digestive and galactagogue properties.

Coriander is used as one of the main ingredients in the preparation of many Ayurvedic formulations. The plant is grown throughout the world mainly for its seeds, leaves and essential oil. It is used as a flavouring agent for sweets, beverages and baked products. Coriander is found to be rich in volatile oil with linalool is as a major constituent together with  $\alpha$ -pinene and terpinene. Different parts of this plant contain monoterpenes,  $\alpha$ -pinene, limonene,  $\gamma$ -terpinene, p-cymene, borneol, citronellol, camphor, geraniol, coriandrin, dihydrocoriandrin, coriandrons A-E, coumarins, phthalides, flavonoids and other phenolic acids. This is an edible herb and there are no toxic reports available on this plant, in other words, the herb is non-toxic to humans and animals.

Coriander seeds and essential oil have been extensively investigated for their chemical composition and biological activities. Various parts of this plant possess antidiabetic, laxative, diuretic, tonic, hypolipidemic and anticancer effects. It has been reported to have strong fungicidal and bactericidal properties. Its essential oil has been exhibited potent antifungal activity even at very low concentration. Although this herb has good commercial importance, however, physical properties, chemical composition and bioactivity can affect its commercial value.

Essential oils are volatile in nature and comprised of various small molecules such as terpenes, hydrocarbons and alcohols. These are soluble in most of the organic solvents including ether, chloroform and ethanol. These can be extracted via steam distillation or expression method. Steam distillation or hydrodistillation is a conventional method used to extract most of the oils whereas expression method is used for selective cases such as extraction of citrus essential oils by cold pressing.

Till the date, approximately 100 essential oils are known to use in medicine and cosmetic products. In addition to the therapeutic benefits, these are also used as flavours to food and beverages, perfumes, soap, shampoos and massage oils. Some of the most common health problems like stress, anxiety, depression, headaches, migraines, sleep, insomnia, inflammation, antifungal and antimicrobial infections can be treated with essential oil in many ways. Due to the antimicrobial and disinfectant properties, the essential oils are used in dentistry adhesives, floor cleaners and insect repellents.

This reference book entitled “Coriander: Dietary Sources, Properties and Health Benefits” is comprised of seven chapters, contributed by different authors, covering whole information about this wonderful herb. Its occurrence, taxonomy, traditional uses, phytochemistry and pharmacological activities are well described with supporting references.

The information provided in the book will be helpful for students, academicians and scientists working in the field of plant sciences, natural products and other relevant areas. Its cultivation, processing, commercial uses, mainly of its essential oil, are described in a simple language by keeping in mind a common man and agriculturist.

*Deepak Kumar Semwal, PhD*  
*Editor*

In: Coriander

Editor: Deepak Kumar Semwal

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## *Chapter 2*

# **DRIED CORIANDER: PROCESSING AND PROPERTIES**

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## **ABSTRACT**

Coriander leaves and fruits are rich in bioactive compounds, such as phenolic compounds, and most especially phenolic acids and flavonoids, and therefore exhibits high antioxidant capacity both in the leaves and the fruits. While coriander leaves contain important amounts of minerals and

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