

Chapter 15

Proven Health Benefits and Uses of Coriander (*Coriandrum sativum* L.)

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ABSTRACT

*Coriander (*Coriandrum sativum* L) is an annual herb that belongs to the family Apiaceae (Umbelliferae) and is commonly known as dhanya. For centuries, the coriander plants and their parts, primarily their leaves and ripe seeds, have been used in folk medicines in addition to culinary uses. This plant is herbaceous and aromatic and is cultivated in several countries, including India, Italy, the Netherlands, Europe, China, and Bangladesh. The coriander plant is rich in essential oils, vitamins (vitamins C and K), minerals (calcium, phosphorous, potassium, thiamine, and niacin), and other micronutrients. The plants are extensively used in the preparation of food items. *C. sativum* essential oil and extracts possess various potential pharmacological properties and has been found to possess carminative, diuretic, stomachic, aphrodisiac, anti-inflammatory, antibacterial, antifungal, and anticancer activities. The present study aims to discuss the botany, traditional uses, medicinal, and industrial applications of coriander extracts and essential oils.*

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Introduction

Coriander is one of the oldest crops, and it has been used in both folk medicines and for culinary purposes for approximately 3,000 years. It is indigenous to the Mediterranean region and widely cultivated in Russia, Central Europe, North Africa, and Asia (Singh, Maurya, De Lampasona, & Catalan, 2006). It is a tropical crop and can be harvested in the Rabi season during the flowering and seedling stage. The season of sowing is from May to July during kharif, and October to January during rabi season (Farooqi, Sreeramu, & Srinivasappa, 2005). *Coriandrum sativum L.* is commonly known as dhaniya in India.

This plant is highly aromatic and can be used for garnishing meals and in various food preparations, such as chutney, beverages, curry, pickles, fish, and meat products. All parts of this herb are used as flavouring agents and as traditional remedies for the treatment of a wide range of human ailments.

The coriander is harvested when seeds mature and change from dark green to brown. After threshing, seeds are collected and dried in the sunlight to maintain 8 to 10% of their moisture. The dried seeds contribute to the pleasant aroma that is used in international cuisines, as well as in stews, sweetbreads, cakes, and sausages (Peter, 2004). Coriander seeds are available in the market in whole, ground, and powdered forms. The seeds are rich in essential oil (0.5-1%) and fatty oils, with a high concentration of monounsaturated fatty acids, especially petroselinic acid. The roasted powder of the seeds is used as an ingredient in curry powders, pickles, and black salts, and it is used as flavouring and thickening agent in cooking. It is also used in rasam, all curries, and chutney, as powder. It is used whole in samosa, khaman dhokla, and kachori. Coriander seeds are also a good source of biologically active metabolites, such as polyphenols, particularly phenolic acids, and flavonoids.

C. sativum L. essential oil has promising antibacterial, antifungal, and anti-oxidative activities that play a great role in maintaining the shelf-life of foods. The potential of coriander in food (as flavouring or as a preservative), in pharmaceuticals (as natural drugs), and as industry product ingredients (fragrances and lotions) has increased researchers' interest in studying this plant. This present study aims to discuss the botany, traditional uses, medicinal, and industrial applications of coriander plants, extracts, and essential oils.

Taxonomy, Botany and Chemical Composition of Coriander

Taxonomical Classifications of Coriander(*Coriandrum sativum L.*) per Mahendra and Bisht (2011):

Kingdom: Plantae

Subkingdom: Tracheobionta

Super Division: Spermatophyta

Division: Magnoliophyta

Class: Magnoliopsida

Order: Apiales

Family: Apiaceae

Genus: *Corianderum L.*

Species: *Corianderum sativum L.*

Botanical Name: *Corianderum sativum L.*

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