

Chapter 6

Phytochemistry, Ethnobotany, Biogenesis, and Pharmacological Wonders of Cumin Seeds

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ABSTRACT

*There are two primary varieties of cumin: white and black. White cumin seeds are more widely available, while black cumin seeds are smaller and smell sweeter. Cumin is an annual herb that grows to average heights of 30 to 45 cm in regions with sunshine and rainfall. The antifungal properties of this oil also extended the shelf life of strawberry fruit. Because cuminaldehyde is present in cumin seeds, individuals ill with diabetes mellitus benefited from its anti-diabetic properties. In alloxan-diabetic rats, dietary cumin prevented hyperlipidemia, which led to diabetes. Rats were used in the experiments to assess antistressin and memory-enhancing properties. Rats treated with paracetamol were protected against hepatotoxicity and neohorotoxicity by cumin fruit. In female Swiss albino mice, cumin restored normal levels of creatinine and uric acid. It can be used to treat cancer, respiratory issues, skin conditions, diarrhea, and anemia. With regard to *Escherichia coli* and *Bacillus subtilis*, Cu nanoparticles have outstanding anti-bacterial action and are devoid of harmful substances.*

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INTRODUCTION

A member of the Apiaceae family, *Cuminum Cyminum* is a flowering plant indigenous to eastern India and the Mediterranean (Zohary & Hopf, 2000). It is an herbaceous and medicinal crop. Cumin is tiny thin annual herb with grayish brown color having dried white fruit. They are occasionally mistaken for *nigella*, another seed used in Indian cooking. An annual plant, cumin grows best in sunny regions with more than 2000 mm of yearly precipitation. It can flourish up to a thousand meters above sea level. Planting them should be spaced roughly 0.75 meters apart. Little umbrella-like white or pink flowers occur in groups on short stems. There are two primary varieties of cumin: black cumin seeds, which are popular in Iran, and white cumin seeds, which are the more common form. Compared to white cumin seeds, black cumin seeds are smaller and smell sweeter. After black pepper, cumin is prehistoric and most widely utilized seed spices globally.(Elsyed & Abdelsalam, 2017).

Figure 1. Cumin seeds



Similar to fennel seeds, its seeds are elongated, oval shaped schizocarp and possess a strong, bitter flavor when chewed. The seeds are around 5 inches long and have a thicker middle part with lateral compression. The seeds have a flavor of their own and are covered with hair (or sometimes hairless). Fruit pericarps are rich in tannins, which cause color changes when iron-containing chemicals are present. The cumin seeds are picked about four months after sowing, when the plant starts to wilt and the color of seeds changed from a dark green to brown yellow. The cumin

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