

The Holy Herb of Blessing: *Nigella Sativa (Black Seed)*

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### **The Holy Herb of Blessing: Nigella Sativa (Black Seed)**

Nigella Sativa or N. Sativa hails from the Ranunculaceae family. Its authentic common names include; Black Seed, Black Cumin, black caraway, Roman coriander, fennel flower, nutmeg flower, and in the arabic language--Habbatul Barakah which means; “The Blessed Seed” (Majdalawieh, & Fayyad, 2016), p. 173). It is important to note that people often mistake Nigella Sativa for Black Currant which is a completely different herb from another family.

Visually, the Nigella Sativa plant stands out due to its extreme beauty. It usually grows about 20-30 cm tall and has stunning delicate petals which are sometimes white, pale blue, light pink, or pale purple in color. The fruit of the plant are often yellow capsules which contain the jet black “seeds”--which is why the plant is mainly known by its most common name “Black Seed”. For the purpose of understanding, Nigella Sativa will henceforth be identified in this paper as--Black Seed.

Black Seed naturally grows in Southern Europe, North Africa, and Southwest Asia where there are Mediterranean or Tropical climates. It is also cultivated in many countries in the Middle Eastern Mediterranean Region including; India, Pakistan, Syria, Turkey, and Saudi Arabia (Khare, 2004).

There is not enough information available to determine how Black Seed is cultivated in countries where it does not naturally grow. The use of fertilizers and the agricultural practice of monoculture could affect the potency and thus the potential health benefits of the herb. It is worth the reader's time to investigate the cultivation methods of suppliers from the abovementioned countries prior to importing this herb for medicinal use.

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Black Seed is an herb that contains immense health benefits. In herbal medicine usually the “seeds” and the cold pressed oil extract is used to treat patients. Its chemical components have been found to have immune stimulation, anti-inflammatory, antioxidant, anticancer, hypoglycemic, antihypertensive, anti-asthmatic, anti-microbial, anti-fungal, and anti-parasitic properties (Randhawa & Alenazi, 2016). It is usually used as a tonic and taken over a long period of time as a preventative treatment or to reverse irregularities in body function. Black Seed is highly recommended as an aid for healing in the Islamic Religion. It is believed to be a complete remedy for any type of disease. Prophet Muhammad (may peace and blessings be upon him) stated; “Black Seed is a cure for everything except for old age and death.” Science seems to have caught up with this statement as modern day research has revealed that, thymoquinone (TQ), the main essential oil compound found in Black Seed, has the power to effectively treat certain types of cancer, arthritis, respiratory issues, hypertension, HIV, and myriad of other ailments and diseases (Khan et al., 2011).

Black Seed has been highly regarded throughout history in various cultures and systems of medicine for its healing power. Ancient Egyptian medicine is said to be the oldest documented medicine in the world. The Ebers papyrus which dates back to 550 BC, contains a herbal recipe that uses black cumin (black seed) to treat ear dysfunctions (Mudry, 2006, p. 138). Kings and Queens of ancient Egypt would often request be buried with items that they hoped would benefit them in the spiritual realm. It quite interesting that Black Seeds were found in young King Tuts’ tomb over 3,000 years ago (Padhye et al., 2008).

Ayurveda is an Indian Medicine also dating back 3,000 years ago and is the main form of medicine practiced throughout India. It uses a combination of herbal products and special diets

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to treat a disease. Black Seed is known as “kalonji” in India and is considered a highly important drug in Ayurvedic medicine (Sharma, 2005, p. 420).

Traditional Chinese Medicine or “TMC” is another ancient form of medicine. TMC is quite unique due to the fact it has transcended the bounds of merely “folklore” medicine to a more science based approach that has become relevant in today’s practice of Western medicine. Black Seed is known as ”Hak Jung Chou” in China. It has been extensively studied by TMC practitioners for its cancer fighting properties (*Aggarwal et al., 2008*).

An in-depth analysis of how Black Seed is chemically comprised demonstrates the importance of this plant in herbal medicine. Carbohydrates are primary metabolites which can be found in every plant. They provide plant, animals, and humans alike with energy and are a great source of fiber which aids in gut health and digestion (Balick & Weil, 2014, p. 62). Nearly one-third of Black Seed is made up of Carbohydrates (Toshio et al., 2004, pp. 869).

Lipids are another type of primary metabolite. Lipids or “fats” found in plants energize cells and have the ability to aid in changing how cells within the body function. Black Seed is made up of 36-38% of lipids which include fatty acids such as; linoleic, oleic, palmitic, and stearic acids (Muhammad et al., 2009, p. 1321). Linoleic acid is an essential fatty acid that must be consumed for proper health. A diet only deficient in linoleate (the salt form of the acid) causes mild skin scaling, hair loss (Cunnane & Anderson, 1997), and poor wound healing in rats (Ruthig & Meckling, 1999). Of all the fatty acids in Black Seed, linoleic acid has the most concentration making up 50-60% of total fatty oils (Muhammad et al., 2009, p. 1325).

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Another category of primary metabolites are proteins. Proteins, more specifically, enzymes, are responsible for controlling chemical reactions in cells (Balick & Weil, 2014 p. 64) Black Seed is composed of 20-23% of proteins which are composed of amino acids. Folic acid is a one of the most prominent proteins found in Black Seed. Folic acid is a type of vitamin B and assists the body produce and maintain new cells. It also helps prevent changes in DNA which may prevent cancer and anemia (Greenburg et al., 2011). One Black Seed contains a whopping 42 mg of folic acid! (Morikawa et al., 2004). Together the compounds in the primary metabolites produce a synergistic effect that works well to treat hypertension which is one of the main causes for cardiovascular disease (Xin-Fang et al., 2013).

Secondary metabolites are found in plants and are responsible for giving them their aromas, flavors, colors, nutritional values, and medicinal actions (Balick & Weil, 2014, p. 62) Terpenes make up the largest group of secondary plant metabolites. Black Seed is comprised of .4-2.5% of volatile essential oils that are rich with terpenes (Nergiz & Otles, 1993 p. 260). Black Seed is composed of four main pharmacologically important terpenes; thymoquinone (TQ), dithymoquinone (DTQ), thymohydroquinone (THQ), and thymol (THY) (Ghosheh et al., 1999, p. 53). Thymoquinone (TQ) makes up 27.8-57.0% of the essential oil found in Black Seed (Worthen et al., 1998). This powerful compound has been found to be the leading contributor to the antibacterial, antifungal, antioxidant, antidiabetic, anticancer, anti-inflammatory, and anti-asthmatic activity of Black Seed (Ahmad et al., 2013, p. 339).

Phenols are another class of secondary metabolites. At least half of all phenols are part of a large subgroup called flavonoids (Balick & Weil, 2014, p. 67). Flavonoids work to eliminate toxins from the body through its many antioxidant compounds. Ethanol is a highly beneficial phenol

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that can be found in Black Seed. Ethanolic extracts of Black Seed have been found to have anticancer activity and lifespan expanding activity in rats (Musa et al, 2004). Additionally, the ethanolic extract of Black Seed has also been found to have anti-fertility activity in male rats (Agarwal et al, 1990).

Significant research is being performed to validate the effectiveness of Black Seed to treat prevalent chronic diseases. Preliminary research has found that the crude oil and thymoquinone (TQ) extracted from its seeds and oil are effective against many diseases like cancer, cardiovascular complications, diabetes, asthma, kidney disease etc. It is effective against cancer in blood system, lung, kidney, liver, prostate, breast, cervix, skin with much safety.” (Khan et al. 2011, p. 226).

Cancer is a disease that is plaguing the world. As the search for cures increase, Western medicine is increasingly looking at ancient medicine for possible cures. Chemical analysis of Black Seed reveals that the fatty acids and trace elements found in Black Seed help to strengthen cells to fight off cancer (Ali & Blunden, 2013). Furthermore, experimental findings reported in the last two decades strongly suggest that *N. sativa* fractions could serve, alone or in combination with known chemotherapeutic drugs, as effective agents to control tumor initiation, growth, and metastasis, and hence, treatment of a wide range of cancers (Majdalawieh, & Fayyad, 2016). Specifically, Black Seed is highly effective in treating blood cancer, breast cancer, colon cancer, pancreatic cancer, hepatic cancer, lung cancer, skin cancer, renal cancer, cervix cancer, and prostate cancer (Khan et al. 2011). The compound thymoquinone (TQ) seems to be the key component in reversing cell damage from the abovementioned cancer types (Effenberger et al., 2010).

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HIV is another epidemic that has taken the world by storm. According to the World Health Organization (WHO) There were approximately 36.7 million people living with HIV at the end of 2015. A study conducted by Onifade and others, a HIV patient suffering from chronic fever, diarrhoea, weight loss and multiple papular pruritic lesions of 3 months duration was given a treatment of on *Black Seed* concoction 10mls twice daily for 6 months. The results were astounding--by the 20th day of treatment the fever, diarrhoea, and lesions had disappeared. Several repeats of the HIV test remained sero-negative even after months without the Black Seed therapy. This research suggests that the compounds found in Black Seed may effectively control HIV infection (Onifade et al., 2013, p. 334).

According to the American Diabetes Association, diabetes kills more Americans each year than AIDS and breast cancer combined. It is estimated that approximately 1.25 million American children and adults have type 1 diabetes. Diabetes is a very scary, yet preventable disease which can lead to retinal failure, blindness, amputations, nerve damage and many more complications. Research has found that Black Seed produces a synergistic effect and is highly beneficial to patients with Type 2 diabetes by enhancing the body's response to herbal therapies. Patients given 2 ml of Black Seed Oil daily for one year tested with reduced blood glucose levels (Kaatabi, 2015).

Black Seed is such a multi-faceted herb that can produce amazing results when used properly. Patients suffering from respiratory issues, arthritis, constipation, common colds, can benefit from this herb as it is an expectorant, diuretic, and a laxative. Since Black Seed does not contain many glycosides it has a relatively low toxicity level and therefore may be safe when

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used in combination with pharmaceutical drugs. It is especially important to note that pregnant women should be especially careful in taking this herb. Ingesting the seeds in high dosages can cause uterine contractions and aid in inducing labor. “Over 150 studies have been conducted over the last five decades to investigate chemical and pharmacological properties of Black Seeds....The results of extensive pharmacological studies justify the broad, traditional therapeutic value of Black Seeds.” (Tariq, 2008). Black Seed has proven throughout history and in contemporary medicine that it is indeed; “The Holy Herb of Blessing”.

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