# Basil Essential Oil Health and Beauty Benefits

Basil (*Ocimum basilicum L.*), also called great basil, is an <u>edible, fragrant leafy herb</u> belonging to the family *Lamiaceae* (mints). It is a tender plant (non–hardy, lack of tolerance to climatic adversity, unable to tolerate cold, heat, drought, flooding or wind) that is used in cuisines worldwide. In Western (European) cuisine, the generic term "basil" refers to the variety also known as Sweet basil or Genovese basil.

Basil is native to tropical regions from Central Africa to Southeast Asia. In temperate climates (the middle latitudes of the globe, which span between the tropics and the poles) basil is treated as an annual plant (full growth cycle spans one year), however, basil can be grown as a short—lived perennial (full growth cycle spans more than two years) or biennial (full growth cycle spans two years) in warmer horticultural (gardening) zones with tropical or Mediterranean climates (characterized by dry summers and mild, wet winters).

Basil originated in India and was introduced to the Mediterranean on the spice routes during ancient times. The herb. Holy basil, or "tulsi", is the most notable of the <u>more than 50 different types of basil</u> now grown in Asia, Africa, Central and South America, Canada and the United States.

There are many varieties of basil including Sweet basil, Thai basil (*O. basilicum* var. *thyrsiflora*), and Mrs. Burns' Lemon (*O. basilicum var. citriodora*). *O. basilicum* can cross—pollinate with other species of the *Ocimum* genus, producing hybrids such as Lemon basil (*O. × citriodorum*) and African Blue basil (*O. × kilimandscharicum*).

The exact taxonomy of basil is uncertain due to the immense number of cultivars, its ready *polymorphy*, and frequent cross–pollination (resulting in new hybrids) with other members of the genus *Ocimum* and within the species. *Ocimum basilicum* has at least 60 varieties, which further complicates its taxonomy.

## **ETYMOLOGY**

The name "basil" comes from the Latin *basilius*, and the Greek βασιλικόν φυτόν (*basilikón phutón*), meaning "royal or kingly plant", possibly because the plant was believed to have been used in production of royal perfumes. Basil is likewise sometimes referred to in French as "l'herbe royale" ("the royal herb").

The Latin name has been confused with "basilisk", as it was supposed to be an antidote to the basilisk's venom. In European bestiaries and legends, a basilisk is a legendary reptile reputed to be a serpent king, who can cause death with a single glance. According to the *Naturalis Historia* of Pliny the Elder, the basilisk of Cyrene was a small snake, so venomous it left a wide trail of deadly venom in its wake.

#### DESCRIPTION

Depending on the variety, plants can reach heights of between 30 and 150 cm (1 and 5 ft.). Its leaves are richly green and ovate, but otherwise come in a wide variety of sizes and shapes depending on cultivar. Leaf sizes range from 3 to 11 cm (1 to 4+½ in) long, and between 1 and 6 cm (½ and 2+½ in) wide. Basil grows a thick, central taproot. Its flowers are small and white, and grow from a central *inflorescence* (cluster), or spike (raceme) that emerges from the central stem atop the plant.

Unusual among *Lamiaceae*, the four *stamens* (pollen–producing reproductive organs) and the *pistil* (or *Gynoecium* produces ovules and develops into the fruit and seeds) are not pushed under the upper lip of the *corolla* (petals), but lie over the inferior lip. After *entomophilous* (insect) pollination, the corolla falls off and four round *achenes* (a simple dry fruit) develop inside the *bilabiate calyx* (collection of sepals).

#### **PHYTOCHEMISTRY**

The three primary categories of the chemical compounds found in basil essential oil are oxygenated monoterpenes, sesquiterpene hydrocarbons, and oxygenated sesquiterpenes. Oxygenated monoterpenes account for 60.7–68.9 percent, and are responsible for some of the <u>antibacterial</u> activities of basil essential oil.

<u>Sesquiterpene hydrocarbons</u> account for 16.0–24.3 percent and function as antioxidants. Oxygenated sesquiterpenes can also be responsible for the antioxidant activities of basil essential oil and account for 12.0–14.4 percent of the oil. The range in percentage happens because the <u>chemical composition of basil</u> changes depending on the season and so does the essential oil.

The various basils have such distinct scents because the volatile aromatic compounds (VOC) vary greatly with each cultivar. The essential oil from European basil contains high concentrations of *linalool* and *methyl chavicol* (*estragole*), in a ratio of about 3:1. Other constituents include: 1,8—cineole, eugenol, and myrcene, among others. The clove scent of Sweet basil is derived from eugenol. The aroma profile of basil includes 1,8—cineole and methyl eugenol. In this species eugenol is synthesized from coniferyl acetate and nicotinamide adenine dinucleotide phosphate (NADPH).

## **VARIETIES**

Most basils are cultivars of Sweet basil. Most basil varieties have green leaves, but a few are purple, such as, "Purple Delight": Anise basil, Licorice basil, or Persian basil (*O. basilicum* "Liquorice"), Cinnamon basil (*Ocimum basilicum* "Cinnamon"), Dark opal basil (*Ocimum basilicum* "Dark Opal"), Globe basil, dwarf basil, French basil (*Ocimum basilicum* "Minimum"), Lettuce leaf basil (*Ocimum basilicum* "Crispum"), Purple basil (*Ocimum basilicum* "Purpurescens"), Rubin basil (*Ocimum basilicum* "Rubin"), Thai basil (*Ocimum basilicum thyrsifolium*).

**Hybrids:** African Blue basil ( $Ocimum\ basilicum \times O.\ kilimandscharicum$ ), Lemon basil ( $Ocimum\ basilicum \times O.\ americanum$ ), Spice basil ( $Ocimum\ basilicum \times O.\ americanum$ ), which is sometimes sold as "holy basil".

## SIMILAR SPECIES

Some similar species in the same genus may be commonly called "basil", although they are not varieties of *Ocimum basilicum*.

Camphor basil, African basil (O. kilimandscharicum) is a basil species native to Kenya, Tanzania, Uganda, Sudan, and Ethiopia.

Clove basil, also African basil (*Ocimum gratissimum*) and in Hawaii as wild basil, is a species of *Ocimum*. It is native to Africa, Madagascar, southern Asia, and the Bismarck Archipelago, and naturalized in Polynesia, Hawaii, Mexico, Panama, West Indies, Brazil, and Bolivia.

Holy basil (*Ocimum tenuiflorum*, formerly known as *O. sanctum*) commonly known as *tulsi* or *tulasi*, is an aromatic perennial plant in the family *Lamiaceae*. It is native to the Indian subcontinent and widespread as a cultivated plant throughout the Southeast Asian tropics.

# **GROWING CONDITIONS**

Due to its popularity, basil is cultivated in many countries around the world. Production areas include countries in the Mediterranean area, those in the temperate zone, and others in subtropical (geographical and climate zones located to the north and south of the Tropics) climates.

In Northern Europe, Canada, the northern states of the U.S., and the South Island of New Zealand, basil grows best if sown under glass in a peat (or turf, is an accumulation of partially decayed vegetation or

organic matter) pot, then planted out in late spring to early summer (when there is little chance of a frost); however, it can also thrive when planted outside in these climates. Additionally, it may be sown in soil once chance of frost is past. It fares best in well–drained soil with direct exposure to the sun.

Although basil grows best outdoors, it can be grown indoors in a pot and, like most herbs, will do best on a sun–facing windowsill, kept away from extremely cold drafts. A greenhouse or row cover (any transparent or semi–transparent flexible material) is ideal if available. It can, however, even be grown in a basement under fluorescent lights. Supplemental lighting produces greater biomass and phenol (or carbolic acid) production, with red + blue specifically increasing growth and flower bud production. UV–B (ultraviolet sunlight) increases the volatiles (VOC) in *O. basilicum* essential oil, which has not been reproducible in other plants, and so may be unique to the genus or even to this species.

Basil plants require regular watering, but not as much attention as is needed in other climates. If its leaves have wilted from lack of water, it will recover if watered thoroughly and placed in a sunny location. Yellow leaves towards the bottom of the plant are an indication that the plant has been stressed; usually this means that it needs less water, or less or more fertilizer. Basil can be <u>propagated reliably from cuttings</u> with the stems of short cuttings suspended in water for two weeks or until roots develop.

## PRUNING AND SEEDING

Once a stem produces flowers, foliage production stops, the stem becomes woody, and essential oil production declines. To prevent this, you can pinch off any flower stems before they are fully mature. Because only the blooming stem is affected, some stems can be pinched for leaf production, while others can be left to bloom for decoration or seeds.

Picking the leaves off the plant helps promote growth, because the plant responds by converting pairs of leaflets next to the topmost leaves into new stems. If the plant is allowed to flower, it may produce pods containing small black seeds, which can be saved and planted next growing season. If allowed to go to seed, a basil plant will grow back again the following year.

## DISEASES

Basil suffers from several plant pathogens. "Fusarium wilt" (common vascular wilt) is a soil—borne fungal disease that will kill younger basil plants. Seedlings may be killed by *Pythium* (parasitic fungi) damping off (a horticultural disease most prevalent in wet and cool conditions). A common foliar (leaves) disease of basil is "gray mold" caused by *Botrytis cinerea* (a necrotrophic fungus); it can cause infections post—harvest and is capable of killing the entire plant. "Black spot" (a fungal disease) can be seen on basil foliage and is caused by the *Diplocarpon rosae* fungi genus *Colletotrichum*. Downy mildew (several types of oomycete microbe parasites) caused by *Peronospora belbahrii* is a significant disease, as first reported in Italy in 2004. It was reported in the U.S. in 2007 and 2008. Non—pathogenic bacteria found on basil include *Novosphingobium* (a genus of Gram—negative bacteria) species.

## **CULINARY USES**

Basil is most commonly used fresh in recipes. It is generally added last, as high heat cooking quickly destroys the flavor. The fresh herb can be kept for a very short time wrapped in cloth or paper towels in the refrigerator, or for a longer in the freezer, but only after a quick blanching in boiling water.

#### LEAVES AND FLOWERS

The most commonly used Mediterranean basil cultivars are "Genovese", "Purple Ruffles", "Mammoth", "Cinnamon", "Lemon", "Globe", and "African Blue". Basil is one of the main ingredients in pesto, an Italian sauce with olive oil and basil as its primary ingredients. It is also an essential ingredient in the

popular Italian—American marinara sauce. Fresh or dried basils are also used in Chinese cuisine in soups and other foods. In Taiwan, people add fresh basil leaves to thick soups. They also eat fried chicken with deep—fried basil leaves.

Basil (most commonly Thai basil) is steeped in cream or milk to create an interesting ice cream flavor or in chocolates (such as truffles). The flower buds of basil, and not just the leaves are used in culinary applications, they are edible and have a more subtle flavor.

Most Asian basils have a clove—like flavor that is generally stronger than the Mediterranean basils. Lemon basil has a strong citrus scent and flavor due to the presence of *citral* (an acyclic monoterpene aldehyde). It is widely used in Indonesia, where it is called *kemangi* and served raw with cabbage, green beans, and cucumber as an accompaniment to fried fish or duck. Its flowers are a zesty salad ingredient.

#### SEEDS

When soaked in water, the seeds of several basil varieties become gelatinous (are *hydrophile*, are attracted to water molecules and are dissolved by water), and are used in Asian drinks and desserts such as the Indian *faluda* (a cold dessert made with noodles), the Iranian *sharbat–e–rihan*, or *hột* é (a sweet cordial drink prepared from fruits or flower petals, usually served chilled). In Kashmir, the Ramadan fast (the ninth month of the Islamic calendar is observed by Muslims as a month of fasting "sawm", prayer, reflection and community) is often broken with *babre beole*, a sharbat made with basil seeds.

# FRESH BASIL VS BASIL ESSENTIAL OIL

Fresh basil leaves are a great way to flavor recipes and absorb some of basil's nutritional benefits. Basil essential oil, like all essential oils, is much more concentrated and potent than the fresh herb form. Fresh basil leaves, stems, and flowers are steam distilled to procure an extract that has high levels of antioxidants and other beneficial phytochemicals.

Basil leaves are sweet when picked early and become spicy as they ripen. They produce an aromatic essential oil. The process of steam distillation involves boiling the plant material <u>until the oil is separated and captured in an inhaler</u>. Basil essential oil, which can also sometimes be referred to as Sweet basil essential oil, has a sweet, herbaceous, warm and spicy aroma that makes it a good flavor enhancer to pasta, meats and other entree dishes. Especially in the Mediterranean region, Sweet basil essential oil is an active ingredient in many Italian pasta dishes.

However, basil essential oil's value extend beyond the culinary aspect. Basil essential oil, is often said to be the "oil of renewal" that can help reduce stress, anxiety, and nervousness, while soothing sore muscles and helping alleviate mental exhaustion. It has antimicrobial, antioxidant, stimulant, anti—inflammatory, diuretic and antiseptic properties that provide numerous health benefits to address a variety of ailments.

## SWEET BASIL VS HOLY BASIL

Most essential oils available that are labeled "basil essential oil" are extracted from Sweet basil varieties. Holy basil (*tulsi*) is a different type of basil. Tulsi is the species *Ocimum tenuiflorum*, does not have the same chemical composition as Sweet basil varieties and so will produce different results. Tulsi is also known to have antibacterial, anti–inflammatory and stimulant properties. Read more on the properties of this herb.

#### THE ORIGINS AND HISTORY OF BASIL

There are many rituals and beliefs associated with basil. The ancient Egyptians and ancient Greeks believed basil would open the gates of heaven for a person passing on. Jewish folklore suggests it adds

strength while fasting. However, English botanist, herbalist, physician and astrologer Nicholas Culpeper saw basil as a plant of dread and suspicion.

In Portugal, dwarf bush basil is traditionally presented in a pot, together with a poem and a paper carnation, to a sweetheart, on the religious holidays of John the Baptist, Saint John's Eve, which starts at sunset on 23 June, on the eve of the Feast Day of Saint John the Baptist, and Saint Anthony of Padua. In Italian Renaissance writer and poet Giovanni Boccaccio's 14th century *Decameron* (a collection of short stories), the fifth story of the narrative's fourth day involves a pot of basil as a central plot device. This famous story inspired English poet John Keats to write his 1814 poem "*Isabella*, or the Pot of Basil", which was in turn the inspiration for two paintings of the Pre–Raphaelite Brotherhood (a group of English painters, poets and art critics): one of the founders of the brotherhood, English painter and illustrator (1st Baronet) Sir John Everett Millais's *Isabella* 1846–1849 and in 1868 the *Isabella* and the Pot of Basil by English painter and another founder of the brotherhood William Holman Hunt.

Basil has religious significance in the Greek Orthodox Church, where it is used to sprinkle holy water. The Bulgarian Orthodox Church (босилек, bosilek), Serbian Orthodox Church (босильак, bosiljak), Macedonian Orthodox Church (босилек, bosilek) and Romanian Orthodox Church use basil to prepare holy water and pots of basil are often placed below church altars. Some Greek Orthodox Christians even avoid eating it due to its association with the legend of the Elevation of the Holy Cross, one of the Great Feasts of the Orthodox Church, celebrated on September 14. It is one of the two feast days which is held as a strict fast.

In folk medicine practices, such as those of Ayurveda or traditional Chinese medicine, basil is thought to have therapeutic properties. Basil essential oil was used in traditional medicine for the treatment of headaches, coughs, diarrhea, constipation, warts and worms, and as an aid in kidney function. Its <a href="https://example.com/anti-fungal effects">antibacterial and anti-fungal effects</a> have since been scientifically proven. Basil was also used in Ayurvedic medicine in beauty applications to treat skin conditions.

## HOW TO USE BASIL ESSENTIAL OIL

Basil oil can be used in combination with a carrier oil such as jojoba, sweet almond, or avocado. It can be applied directly to the skin or added to a hot bath.

## 1. Ingestion

The U.S. Food and Drug Administration (FDA) recognizes pure basil essential oil as safe for consumption; however, this is only when using 100% high—quality, therapeutic—grade oil. Always purchase essential oils from reputable sellers. Look for an essential oil made from *Ocimum basilicum*. You can add it to a few drops of water, to a smoothie or mixed with honey as a dietary supplement.

# 2. Aromatherapy

In aromatherapy, one can inhale basil essential oil by adding a few drops of it on to a cloth or tissue. It can also be added to an aromatherapy diffuser or vaporizer. It is also safe to inhale the essential oil directly from the bottle. Rubbing several drops into your palms, placing your hands over your face, and inhaling, is also an effective way to get the aromatherapy benefits of basil essential oil.

## 3. Topical Application

Before applying basil essential oil to your skin, the oil should be diluted with a carrier oil like coconut, avocado, jojoba, or sweet almond. Basil essential oil, like all essential oils, is very potent, so start with small incremental amounts at a time. Sometimes basil essential oil can cause skin reactions in those with sensitive skin, so it is best to avoid using on your neck, face, or chest before performing a patch test.

## THE BEAUTY BENEFITS OF BASIL ESSENTIAL OIL FOR SKIN

Some of the major beauty benefits of basil essential oil for skin.

#### 1. Prevent Eczema

The anti–inflammatory properties of basil essential oil soothe the skin and help in treating skin problems like eczema. The vitamin C in basil essential oil maintains skin's elasticity and reduces the signs of aging.

#### 2. Treat Acne

Acne is a common skin problem mainly caused by the accumulation of toxins, pollutants, and other impurities in the pores of the skin. It is a leading cause of skin problems like pimples. The detoxifying properties of basil essential oil help treat acne by removing toxins, pollutants, and other impurities from our system. Fewer toxins in our system, means fewer toxins in our skin pores and a lower risk of skin problems like pimples. Dietary fibers in basil essential oil regulate the secretion of excess oil from the sebaceous glands of the skin preventing acne from worsening.

To treat acne basil essential oil is not meant to be ingested, but applied topically on the skin. The regular use of basil essential oil to maintain skin health has some scientific basis. In one study, a blend of basil and orange essential oils was applied to an area of <a href="skin affected by acne">skin affected by acne</a> and all of the individuals in the study saw some level of improvement. This fantastic face cleanser is ideal for individuals who have oily skin.

#### 3. Prevent Blackheads and Whiteheads

Basil essential oil protects the skin from outbursts of blackheads and whiteheads. Regular use will make your skin soft, supple, and radiant. This benefit of basil essential oil is due to the presence of vitamins, minerals, flavonoids, phytonutrients, and polyphenols.

#### 4. Heal Burns and Wounds

Basil essential oil has a cooling effect that helps in healing skin burns and wounds. It can ease the pain and shorten the healing time.

## 5. Treat Ringworm Infection

The <u>antimicrobial properties</u> of basil essential oil protect the skin from bacterial, viral, and fungal infections. The antimicrobial properties of basil essential oil help in treating ringworm infection. Ringworm infection is a highly contagious fungal infection that mainly occurs on the skin or scalp, and can easily spread by skin—to—skin contact or by touching an infected animal or object.

## 6. Reduce Skin Irritation and Itch

Basil essential oil has <u>anti–inflammatory properties</u> that can help in reducing itching from bites and stings from <u>honey</u> bees, insects, and even snakes. If you have an insect bite, reach for basil essential oil for its <u>natural antimicrobial properties</u>.

Another application for basil essential oil on the skin is for alleviating minor skin irritations. There is an extensive research study that lays out all of the potential uses for essential oils, including basil, in regards to antimicrobial healing effects on the skin and can help with a variety of skin diseases.

**Word of Caution:** Basil essential oil and basil in any other form should be avoided by pregnant, breastfeeding, or nursing women. There is some suggestion that basil essential oil and any form of basil increases <u>breastmilk</u> flow, but not enough research is available on this subject currently.

## THE BEAUTY BENEFITS OF BASIL ESSENTIAL OIL FOR HAIR

Basil essential oil provides many benefits to our hair and scalp, and is often added to shampoos and conditioners.

# 1. Treat Dry and Itchy Scalp

Basil essential oil provides nourishment to our hair and scalp and help in reducing dryness and itch. The antimicrobial properties of basil essential oil protect the scalp from microbial infection.

## 2. Promote Hair Growth

Basil essential oil promotes hair growth due to its high nutrient profile. Vitamins, minerals, and other constituent compounds nourish the scalp, hair follicle and roots. It improves blood circulation to the scalp promoting hair growth.

## 3. Make Hair Strong and Lustrous

The nutrients in basil essential oil provide nourishment to our hair making it strong, soft and lustrous. The antioxidants in basil essential oil protects the hair from free radical damage and lower the risk of premature greying, hair loss and split ends.

#### 4. Reduce Hair Loss

The nutrients in basil essential oil strengthen the hair follicle and reduce the risk of hair loss. The antioxidants in basil essential oil protect the hair from free radical damage and lower the risk of hair loss and other signs of premature aging. Basil essential oil can also be added to shampoos and conditioners to experience the benefits.

## THE HEALTH BENEFITS OF BASIL ESSENTIAL OIL

In recent years, basil <u>essential oil</u> has been evaluated for possible therapeutic benefits. Due to advances in clinical studies, researchers suggest that this essential oil may help reduce symptoms of common maladies. These include alleviating nausea, inflammation, motion sickness, indigestion, constipation, respiratory problems, and fighting bacterial infections.

The leaves and seeds of the basil plant are the important medicinal parts of this herb, which is regularly used in cuisines and recipes all over the world. Basil essential oil is popular in Europe, Central Asia, India, and Southeast Asia. This essential oil is extensively used for culinary purposes in the Mediterranean region and still forms the active ingredient in many Italian recipes such as pesto. It is also used when making pasta and salads.

Basil essential oil is naturally anti–inflammatory, <u>antiviral</u>, antibiotic, and diuretic. It has been used in traditional Ayurveda for centuries. According to a review published in the *Ancient Science of Life* journal in 2014, basil essential oil has been used effectively for treating coughs, headaches, warts, constipation, diarrhea, kidney malfunctions and ringworm. In the 16th century, basil leaves were used to treat <u>chest infections</u> and migraines. Basil oil is found in dental and oral products, beverages, and foods due to its antibacterial properties.

While fresh basil is beneficial and flavorful, basil essential oil is considerably more potent and concentrated. The beneficial compounds from basil essential oil are steam—distilled from fresh basil flowers, stems, and leaves. The end—product is an extract that contains high amounts of antioxidants and phytochemicals.

## 1. Cosmetic Applications

Basil essential oil is extensively used in many skin care supplements that claim to improve skin tone. It is also commonly used to treat the <u>symptoms of skin infections</u>.

# 2. Anti-Inflammatory

Basil essential oil has potent anti-inflammatory qualities that have the potential to treat a wide range of conditions. It could be used to lower the risk of heart disease, rheumatoid arthritis and inflammatory bowel syndrome (IBS). Basil essential oil may also be used to treat fever, headaches, sore throats, colds, coughs and flu.

#### 3. Antioxidant

To lessen oxidative stress in the body one must consume antioxidants in significant quantities. Basil essential oil has been observed to have potent antioxidant properties. Orientin and viceninare are two significant water—soluble flavonoid antioxidants found in basil. These powerful antioxidants strengthen the immune system, protect cellular structure and DNA, and slow the effects of skin aging. These antioxidants also demonstrate natural antidiabetic and antihypertensive behaviors. A recent clinical study suggests that basil essential oil could one day have an application as a nutraceutical ingredient for Type II diabetic patients.

## 4. Support Liver Function

Basil essential oil can aid in liver detoxification. This essential oil may aid in the prevention of fat buildup in the liver (fatty liver). Feeling sluggish or moody are signs that you may be in need of a liver detox (cleanse).

## 5. Improve Digestion

Since basil essential oil has carminative properties, it is used for relief from indigestion, constipation, stomach cramps and flatulence. It may provide immediate relief from gas in the stomach and intestines. Because of its diuretic property, basil essential oil helps to eliminate toxins such as urea, uric acid, excess sodium and fluids as well as fats from our system. This is done through the increased production and frequency of urination.

Basil essential oil has been used to <u>relieve digestive issues</u> like bloating and constipation. With its antispasmodic, it helps to ease and alleviate the repeated contractions of the stomach walls, thus relieving cramps. Some people use it for motion sickness, constipation and nausea. The book "Healing Foods" by DK Publishing, claims that basil essential oil can aid in digestion. According to the book, basil fortifies the digestive and neurological systems and can be used to treat headaches and sleeplessness.

The eugenol in the leaves possesses anti–inflammatory properties. Basil essential oil aids in restoring the body's appropriate pH by balancing the body's acidity, and the feeding of good bacteria in the gut. Healthy gut flora boosts immunity and aids digestion. It can also cause a loss of appetite and help with acid reflux.

#### 6. Manages Diabetes

Basil in high in fiber, its consumption may result in a slower release of sugar into the blood. This herb has a low glycemic index, an important factor for diabetics. The essential oil of basil also lowers triglyceride and total cholesterol levels, which are a chronic risk factor for diabetics.

#### 7. Treat Cold and Flu

Basil essential oil is useful for treating colds, influenza and fever. It is commonly used to <u>treat whooping</u> <u>cough symptoms</u> due to its antispasmodic properties. Basil essential oil can also detoxify the body, this makes it useful in treating a cold or flu. Basil essential oil combines well with eucalyptus essential oil for

a homemade vapor rub that can be massaged into the chest to open the nasal passages. You can also diffuse it throughout your home, or add a couple of drops to a hot bath.

The powerful antiviral properties of basil essential oil help protect and fight against viruses. As an expectorant and decongestant, basil essential oil can work to expel mucus from the body. These antiviral properties have been long known and used in traditional Chinese medicine.

## 8. Asthma Symptoms

Basil essential oil has anti–inflammatory and antispasmodic attributes also help to soothe inflammation and painful cough. It can also be used to treat sinus infections, bronchitis and asthma since it helps to clear chest congestion and open nasal passages.

## 9. Allergies

Basil is one of the top essential oils for used for allergies. The cause of allergies is the body's response to external stimuli. It overreacts to environmental allergens resulting in mucus and other upper respiratory irritations. Basil essential oil has the ability to promote healthy hormone function (core problem that comes with adrenal fatigue).

The fresh aroma of this essential oil can help revitalize the body. Since basil essential oil supports the adrenal system, a working adrenal system helps the body respond appropriately to allergens. Basil essential oil also detoxifies, and reduces inflammation and pain. These characteristics make basil essential oil adept at reducing the severity of allergic reactions.

#### 10. Antibacterial

A 2001 research report published in *The Journal of Food Protection*, found that basil essential oil was effective at controlling growth and survival of multiple dangerous microorganisms in contaminated foods. Other research has also shown its antimicrobial activity against a wide range of food—borne bacteria, mold and yeasts, and suggests it has the potential to inhibit the growth of *E. coli* bacteria. Studies have shown that basil essential oil would positively inhibit three strains of fungi, and six forms of bacteria.

A <u>2021 research study</u> published in the *Foods Journal* found that basil essential oil demonstrates much antimicrobial and strong inhibitory attitudes towards the growth and formation of powerful strains of bacteria. Which serves to safeguard the consumer from food—borne illnesses, but also safely extends the shelf—life of perishable foods, thereby reducing food waste. Not only does basil essential oil serve as an effective flavor enhancer, it can also be used as a natural organic food preservative.

Some articles in the journal *Parasitology Research* show basil essential oil as having effective antimicrobial properties. One 2007 research study looked at the effects of basil essential oil on *Giardia lamblia* (an intestinal parasite), and found that the compound linalool killed 100% of parasites after one hour of incubation. These preliminary laboratory studies show promise, although no human trials have been conducted thus far.

## 11. Treat Urinary Tract and Bladder Infections

Basil essential oil makes a good natural remedy for bladder and urinary tract infections (UTIs). This is because basil essential oil has antibacterial, antiviral and antiseptic properties. It can help speed up healing and detoxify the urinary tract.

## 12. Antifungal

According to a <u>1989 study</u> in the *Canadian Journal of Botany*, basil essential oil inhibited the growth of 22 species of fungi and it also proved to repel the insect *Allacophora foveicolli*. The toxic dose of this

essential oil against the test fungi was much lower than that of some commercial fungicides and fumigants, and it remains unaffected by temperature treatment, storage, and increased inoculum.

The essential oil of basil obtained from the leaf or terminal shoot (an undeveloped or embryonic shoot) is effective against a large number of bacterial species including *Lactiplantibacillus plantarum* (found in fermented foods) and *Pseudomonas* spp. (Gram-negative, Gammaproteobacteria). The same essential oil also proved effective against a large number of fungal species including *Aspergillus* spp. (mold), *Candida* spp. (yeast), *Mucor* sp. (microbe), and *Geotrichum candidum* (a fungus that exists in the human *microbiome*, gut).

A <u>2003 study</u> on the antifungal activity of basil essential oil, investigated the effects of the compounds linalool and eugenol on the fungi *Sclerotinia sclerotiorum*, *Rhizopus stolonifer* and *Mucor* sp. which cause decay in peach fruit. The compounds in basil essential oil inhibited the growth of the fungi in vapor form using different doses during the experiment.

# 13. Insecticide and Insect Repellent

Studies of basil essential oil have shown insecticidal and insect—repelling properties, including <u>potential toxicity to mosquitos</u>. Basil essential oil, like citronella and thyme essential oils, is ultimately a volatile oil which make it useful for making a <u>natural insect repellent</u>, without unwanted side effects. This is due to the presence of the compounds linalool and estagole. Especially during summertime when the weather is hot and humid, and the outdoors becomes a breeding ground for pesky bugs.

Callosobruchus maculatus, a pest (beetle) which affects cowpea (an annual herbaceous legume), is repelled by the essential oil of basil. The essential oil mixed with kaolin (clay) kills both adults and eggs, effective for three months against *C. maculatus* in cowpea. The thrips (winged insects) *Frankliniella occidentalis* (invasive agricultural pest) and *Thrips tabaci* (pests that attack onion, cotton and tobacco crops) are repelled by *O. basilicum*, making this useful as an insect repellent in other crops. The dried stored product pests *Sitophilus oryzae* (rice or wheat weevil), *Stegobium paniceum* (bread or biscuit weevil), *Tribolium castaneum* (red flour beetle in the family *Tenebrionidae*, particularly fond of food grains), and *Bruchus chinensis* were evaluated for neurotoxic effects of basil essential oil.

## 14. Nematicide

The essential oil of basil was found an <u>effective phytochemical nematicidal</u> against *Tylenchulus* semipenetrans (citrus), *Meloidogyne javanica*, (root–knot nematode), *Anguina tritici*, and *Heterodera cajani* (affects pigeon peas).

#### 15. Relieve Stress

Due to the <u>anxiolytic and sedative effect of basil essential oil</u>, it is <u>widely used in aromatherapy</u>. It is used to relieve feelings of anxiety, stress, tension and depression. After a long and tiring day, basil essential oil can induce feelings of tranquility for the betterment of your emotional and mental health.

Regularly using this essential oil can help promote open—mindedness and increase clarity of thought to help you concentrate and focus. It helps to combat mental fatigue and exhaustion to promote a more active state of mind. Basil works to energize and refresh the brain. To properly support your brain clarity, use basil together with rosemary essential oil.

# 16. Ease Anxiety and Depression

Basil essential oil is said to boost the firing of neurotransmitters, which regulate hormones that provide a feeling of happiness and energy. Basil is regarded as a potent *adaptogen* (anti–stress agent). It restores mental alertness, uplifts mood, clears brain fog and reduces anxiety. For an instant pick–me–

up, simply dab a couple of drops on your back, chest, or wrists. You can also diffuse basil essential oil at home for some relaxing aromatherapy.

# 17. Improve Blood Circulation

Basil essential oil also helps to promote blood circulation in the body, thus optimizing the various metabolic functions.

#### 18. Muscle Relaxant

Improved blood circulation can also help with aching and sore muscles as it diverts blood flow to the affected areas. Combined with its analgesic, antispasmodic and anti–inflammatory properties, basil essential oil provides natural pain relief to sore, aching and stiff muscles and joints. Basil essential oil is an effective remedy for people with arthritis or just as a post–workout muscle and joint recovery pick–me–up.

#### 19. Pain Relief

Basil essential oil has <u>analgesic properties and can provide relief from pain</u>. That is why this essential oil is often used in cases of arthritis, wounds, injuries, burns, bruises, scars, sports injuries, surgical recovery, sprains, and headaches. This essential oil is used in aromatherapy as inhaling the scent can assist with headache and migraine pain.

## 20. Eye Care

This essential oil has ophthalmic properties. Its properties may be effective in reducing bloodshot eyes.

**Tip:** Do not apply the basil essential oil around the eye area to prevent it from getting into your eyes. *Apply it only to your temples*.

# 21. Remedy for Ear and Mouth Infections

Basil essential oil is a potent bactericide, it can also be a remedy for ear infections and for reducing pain and swelling in your ears. Basil essential oil can help with oral hygiene to remove mouth bacteria that cause bad breath, toothaches, sores, blisters and ulcers.

A <u>2005 study</u> published in the *Journal of Infectious Diseases* looked at the effects of basil essential oil in the ear canals of animal subjects with ear infections. They found that basil essential oil healed over half of the subjects with ear infections caused by *H. influenzae* bacteria.

## 22. Air Freshener

Basil essential oil can be a natural air freshener. Its aroma can eliminate mold and odor—causing bacteria from furniture, appliances, surfaces and car. Simply combine it with baking soda to remove stains and bacteria from pots and pans. You can also spray basil essential oil inside your garbage bins, shower and toilet, or run several drops through your kitchen appliances to improve the smell.

Basil essential oil smells warm, spicy and herbaceous. Diffuse basil essential oil at home or work to purify the air due to its antiviral properties. This practice might even reduce the risk of illness from air—borne bacteria.

#### 23. Wash Produce

Some of the same antiviral, antibacterial, and anti–fungal properties that make basil essential oil effective at preventing infections also may help kill harmful germs that may be present on produce.

#### 24. Flavor Enhancer

Basil has been used in cooking to create vibrant flavors. Sometimes though, keeping fresh basil on hand can be challenging, especially for those who live outside the proper horticultural zones. Keeping basil essential oil on hand means you don't need to worry about not having the fresh herb on hand.

## 25. Energy and Mood Booster

Basil is a natural stimulant that has positive effects on the nervous system and adrenal glands. Using basil essential oil in aromatherapy can help bring you back into balance and enhance your mood. A <u>study in 2012</u> investigated the effectiveness of a mixture of basil, <u>peppermint</u> and helichrysum essential oils on mental exhaustion and "burnout" due to overwork or stressful conditions.

Using a personal aromatherapy inhaler, test subjects inhaled the mixture up to 7 times a day for three weeks. Results suggest that while both groups experienced improvements in the perception of mental exhaustion or moderate burnout, the aromatherapy group reported a 21% improvement, compared to 11% in the control group.

## THERAPEUTIC USES OF BASIL ESSENTIAL OIL

Basil oil is an additive in perfumes, cosmetics, soaps, toothpastes and mouthwash. It's also used in medical preparations, insect repellents and various household products.

- 1. **To Treat Acne:** Make a face pack by mixing basil essential oil, sandalwood powder, rose water, and lemon juice until you have a thick consistency that can be easily applied to the skin. Apply this face pack on the skin and let it dry for 15–20 minutes. Rinse off with water.
- 2. **Acne Treatment:** Mix 1–2 drops of basil essential oil with equal amount of coconut or jojoba oil, soak a cotton ball with mixture and apply onto the affected areas once or twice daily.
- Prevent Blackheads and Whiteheads: Add basil essential oil with Fuller's Earth (powdered clay), honey, and lemon juice to form a mixture. Apply this mixture as a facemask and let it dry for 10 minutes. Rinse off with water.
- 4. **Treat Ringworm Infection:** Mix some lemon juice with basil essential oil and gently apply it to the affected area.
- 5. **For Dry Scalp:** Mix equal amounts of basil essential oil and coconut oil, and massage on the scalp. Regular massage improves blood circulation and promotes better nourishment and moisturizing of scalp.
- 6. **For Soft Lustrous Hair:** Mix some basil essential oil with <u>amla</u> powder to form a paste. Apply it on the hair and let dry for 15–20 minutes. Rinse off with water and shampoo as usual. For best results use regularly.
- 7. **For Hair Loss:** Mix equal amounts of basil essential oil and coconut oil, and massage on the scalp.
- 8. **Clarifying Shampoo:** Add 1–2 drops of basil essential oil to your shampoo. This is said to balance pH and remove excess oil and residue from your scalp and avoid buildup on your hair.
- 9. **Hair Detox Mask:** Mix basil essential oil with baking soda and apple cider vinegar, apply topically on hair and scalp to remove bacteria, excess oil and residue naturally. Wash off after a few minutes.
- 10. **Heal Skin Burns:** Boil some coconut oil and basil essential oil together for a few minutes and let it come to room temperature. Once the mixture has cooled, apply it to the skin burn.
- 11. **Insect Bites or Minor Skin Irritations:** Dilute several drops of basil essential oil with a carrier oil (such as almond. jojoba or olive oil) in a 1:1 ratio and massage onto the skin or on swollen bites if necessary.

- 12. **Natural Insect Repellent:** Diffuse a combination of basil, citronella and thyme essential oils in an outdoor space or mix a few drops of each and dilute with a carrier oil and apply it all over your body before any outdoor activity.
- 1. **To Ease Pruritus (Itching):** To use basil essential oil on your skin, mix it with your choice of carrier oil and apply it to the affected areas.
- 2. **Aromatherapy:** Increase mental acuity and focus through inhalation. Inhalation of basil essential oil has been reported as a <u>calming way to ease migraines and headaches</u>, while having an uplifting effect on mood. Add 2–4 drops of basil essential oil to a diffuser or bowl of hot water and let the aroma fill the room.
- 3. Bath: Sprinkle 2–3 drops of basil essential oil in your bath for a soothing and calming effect.
- 4. **Massage:** For a <u>stress-relieving massage</u>, add 1–3 drops of basil essential oil to a carrier oil like jojoba or coconut. Gently massage over the affected areas to help relieve aching muscles. For <u>a full body massage</u>, apply the mixture at the sacrum up the spine to the neck, and evenly massage into the skin. Create a blended massage oil by adding a drop of bergamot or ginger essential oil to the mixture.
- 5. **To Aid Digestion:** Add 1–2 drops to your water or tea. Alternatively, you can inhale it through the palms of your hands or massage diluted basil essential oil onto the abdominal and lower back areas.
- 6. **Guard Against Cold and Flu:** Diffuse 5 drops of basil in your home to protect against viral infections.
- 7. **Relieve Chest Congestion (Expectorant):** Boil a small pot of water and add 2–3 drops of basil essential oil and inhale deeply with a towel over your head.
- 8. **For Environmental Allergies:** Dilute 1–2 drops of basil essential oil with coconut oil to create an oil mix rub for your neck and chest. You can also ingest this essential oil for its potent effects, **but never in its pure form.** Try adding a drop or two to a homemade marinara sauce or pesto.
- 9. **Support Healthy Hormone Function:** Add 4–5 drops of each to your diffuser and breathe deeply when your brain feels like mush and your body feels entirely run down.
- 10. **Liver Detox:** Add 1–2 drops to meals or mix with 1 teaspoon of honey and add to a delicious hot cup of tea.
- 11. **Sore Muscles or Joints:** Soak in a hot bath with 1 cup of Epsom salts and 1–2 drops each basil and lavender essential oils.
- 12. **Muscles Relaxant:** Massage 2 drops of basil essential oil diluted with coconut oil into your swollen or painful joints or muscles.
- 13. **Headache or Migraine Relief:** Mix 1–2 drops of basil essential oil with a carrier oil and massage it into your temples, neck, or chest. You can also diffuse it or inhale it directly from the bottle.
- 14. **For Ear Infections:** Create a massage blend of 1–2 drops each basil and frankincense essential oils diluted with 1 teaspoon coconut oil and apply it behind and around the ears and on the bottoms of your feet. This method will help reduce the pain and swelling, and the healing time.
- 15. **For Oral Hygiene:** Add 1–2 drops of pure basil essential oil to your toothpaste, or add to a cup of water to create a homemade mouthwash mixture.
- 16. **Air Freshener:** Mix 1–2 drops of basil essential oil with water in a spray bottle and use it to spray the air or over any household surface.
- 17. **Household Cleaner:** Make a chemical—free, household cleaning spray. Combine 2 cups water, 1 cup white vinegar, 20 drops of lemon essential oil, and 15 drops of basil essential oil and add to a spray bottle. Mist over household surfaces before wiping clean with a wet cloth.
- 18. **Produce Wash:** Mix 1–2 drops of basil essential oil with water in a spray bottle, fill the rest with water, and spray it over the produce. You can also use this solution to clean kitchen surfaces as a more natural alternative to traditional cleaning products.

## **BLENDING**

Basil essential oil blends well with bergamot, black pepper, cedarwood, clary sage, clove bud, cypress, eucalyptus, fennel, ginger, geranium, grapefruit, helichrysum, hyssop, juniper, lavender, <u>lemon</u>, lemongrass, lime, marjoram, Melissa, neroli, peppermint, rosemary, white fir and wintergreen.

#### **PRECAUTIONS**

Basil essential oil is considered generally safe for inhalation and topical use. For topical application, always dilute basil essential oil before applying to the skin. To avoid potential adverse reactions, always read and follow the label's directions. Always perform a patch test before using. Discontinue use of basil essential oil if you experience an allergic reaction, burning, redness, or hives. Always dilute basil essential oil with a carrier oil in a 1:1 ratio before using it topically. Keep basil essential oil away from eyes and the inside of your nose or ears.

Ingesting essential oils can be harmful and toxic. Before you ingest basil essential oil as a medicinal treatment or supplement, be sure to first consult with your physician or a medical professional. Always purchase high–quality, therapeutic–grade, and 100% pure USDA certified organic, non–GMO basil essential oil from a reliable and reputable seller and do not ingest in large doses.

Consult a healthcare professional before using basil essential oil on children, or if you are pregnant or breastfeeding. Basil essential oil is counter indicated for those with epilepsy.

Basil, fresh			
Nutritional value per 100 g (3.5 oz.)			
Energy	94 kJ (22 kcal)		
Carbohydrates	2.65 g		
Dietary fiber	1.6 g		
Fat	0.64 g		
Protein	3.15 g		
Vitamins	Quantity	%DV <sup>†</sup>	
Vitamin A equiv.	264 μg	33%	
beta-Carotene	3142 µg	29%	
Thiamine (B1)	0.034 mg	3%	
Riboflavin (B2)	0.076 mg	6%	
Niacin (B3)	0.902 mg	6%	
Pantothenic acid (B5)	0.209 mg	4%	
Vitamin B6	0.155 mg	12%	
Folate (B9)	68 μg	17%	
Choline	11.4 mg	2%	
Vitamin C	18.0 mg	22%	
Vitamin E	0.80 mg	5%	

Vitamin K	414.8 μg	395%
Minerals	Quantity	%DV <sup>†</sup>
Calcium	177 mg	18%
Copper	0.385 mg	19%
Iron	3.17 mg	24%
Magnesium	64 mg	18%
Manganese	1.148 mg	55%
Phosphorus	56 mg	8%
Potassium	295 mg	6%
Selenium	0.3 μg	0%
Sodium	4 mg	0%
Zinc	0.81 mg	9%
Other constituents	Quantity	
Water	92.06 g	

<sup>&</sup>lt;sup>†</sup>Percentages are roughly approximated using US recommendations for adults. Source: <u>USDA FoodData Central</u>