

## STUDYING THE CHEMICAL COMPOSITION OF THE BASIL

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**Abstract.** In this article discusses about common basil-named *Ocimum basilicum*, herbal properties, use in medicine, food processing, disadvantages and advantages.

**Key words:** estragole, vanillic acid, liver cancer, basil.

Basil has been around for over 4,000 years. Throughout history, basil was believed to have almost magical powers. It was used as an antidote for snake bites, and was believed to give strength during religious fasting.

It was found in mummies in Egypt because used this herb for embalming. In Greece, basil was a symbol of mourning. The herb was referred to as *Basileus phuton*, meaning magnificent, royal or kingly herb.

Today basil is frequently referred to as the '**King of Herbs**'. It was also known as the 'herb of poverty' because it was believed to provide protection to the poor. In India, this herb was considered a powerful protector. They planted it around their temple and placed it with the dead to protect them in the poor.

Common basil mainly used for its attractive aroma. But overuse of herbs can be dangerous just like this over intake of basil is also harmful. It has been used as a food ingredient for flavoring, in cosmetics, and in traditional medicine for treating coughs, inflammations, and pain. Basil essential oil has been possessed high antioxidant, antimicrobial, antibacterial, anticancer.

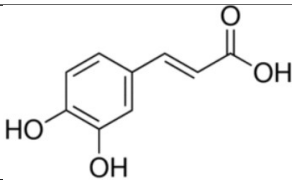
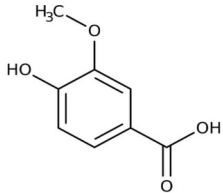
Common basil, *Ocimum basilicum* is a culinary herb of the family Lamiaceae. More than 150 species of this genus have been recognized. It is a tender plant and is used in worldwide cuisines. Mainly basil is used in western cuisines. Basil is grown in central Africa to Southeast Asia. In temperate climates basil is treated as an annual plant. But it can be biennial or perennial in warmer horticultural zones.

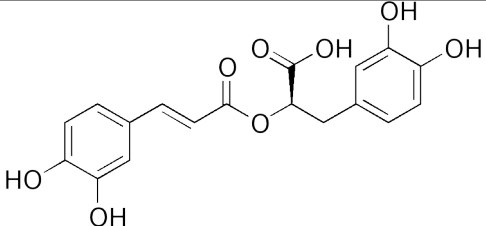
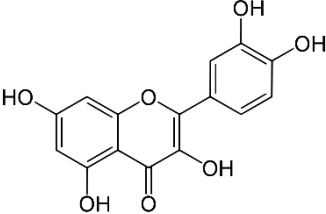
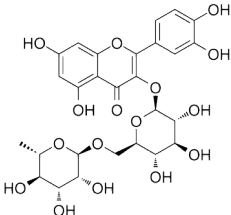
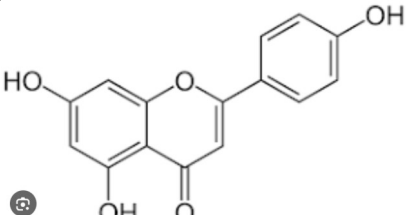
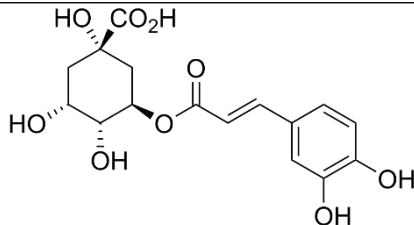
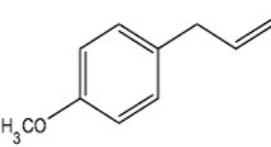
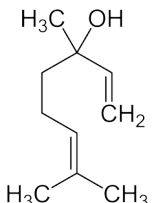
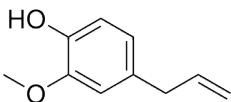
Basil has been used as a remedy for common health problems for thousands of years. This herb is believed to help with: poor digestion, headache, common cold, flatulence, improve memory, vomiting, anxiety, motion sickness, high cholesterol, treatment for burns.

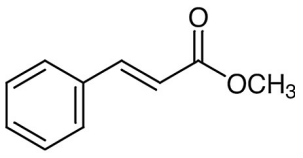
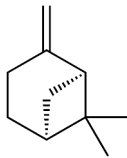
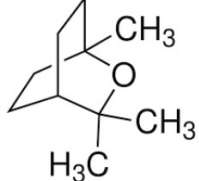
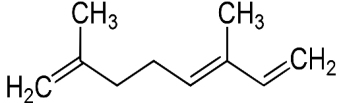
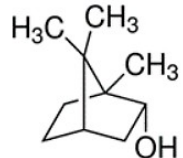
More than 200 chemicals in basil oil have been reported. The chemical constituents include monoterpenes, sesquiterpenes, triterpenes, flavonoids, and aromatic compounds. Major components in basil oil include linalool, estragole (methyl chavicol), anethole, eugenol, and methyl eugenol, varying by chemotype.

Three major components in sweet basil commonly cultivated in the United States are linalool (7–59%), estragole (5–29%), and eugenol (2–12%). Linalool, a monoterpenol, showed a wide range of biological activities such as sedative, stress relief, and neurological effects. Estragole is sweet, herbaceous anise–fennel type odour. It is used in fragrance compositions and gives a nice fruity and [anise](#) aromatic note. Eugenol is used in perfumeries, flavourings, and as a local antiseptic medicine.

**Table 1. Chemical composition of common basil**

№	Name of chemical compounds	Structure of compounds	Uses
Leaves composition			
1	Caffeic acid		Antioxidant, anti-inflammatory, anticarcinogenic
2	Vanillic acid		Flavoring agent

3	Rosmarinic acid		Rosmarinic acid is an ester of caffeic acid with 3,4-dihydroxyphenyllactic acid
4	Quercetin		Potent antioxidant flavonoid and flavanol
5	Rutin		A citrus flavonoid glycoside
6	Apigenin		Flavonoid present in basil
7	Cholorogenic acid		Glucose regulation
8	Methyl chavicol or estragole		To release muscle pain, and tension
9	linalool		Manufacturing of soap ,flavorings, insecticides
3	Eugenol		Antioxidant, antibacterial

4	Methyl cinnamate		Food additives
Flower composition – essential oil			
1	$\beta$ -pinene		Deals with skin issues and closing skin pores
2	1,8-cineole or eucalyptol		Antioxidant, anti-inflammatory
3	Ocimene		Anti-fungal, antiviral
4	Borneol		Improved digestion, blood circulation

Basil is commonly used as a fresh or dried herb in cooking and is popularly used in beverages in southeast Asia. Essential oil can be extracted from the leaves and used in cosmetics, dental products and perfume.

It is also used for stomach problems such as spasms, loss of appetite, intestinal gas, diarrhea, constipation and many other conditions. In foods, basil is used for flavor.

The dried sweet basil leaves have a sweet, fragrant odour, and their taste is aromatic, warm, and slightly pungent. Basil is considered as the finest of all aromatic herbs and is widely used to flavour cooked vegetables, tomato-paste products, and fish. It is sometimes used with, or as a substitute of, oregano to flavour pizza and spaghetti sauce and is employed together with other spices in the manufacture of vinegar, mustard, and sausages.

Basil proves to be an effective antimicrobial agent for *Staphylococcus aureus*, *Escherichia coli*, *B. subtilis*, *Pasteurella multocida*, and some pathogenic fungi. Additionally, basil contains moderate levels of antioxidants.

As we have discussed above common basil is a very useful plant with lot of features. It can be used for various medical conditions. Common basil is mainly used for its attractive aroma. But overuse of herbs can be dangerous just like this over intake of basil is also harmful. It has been used as a food ingredient for flavoring, in cosmetics, and in traditional medicine for treating coughs, inflammations, and pain. Basil essential oil has been possessed high antioxidant, antimicrobial, antibacterial.

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