BENEFICIAL FEATURES OF THE BASIL PLANT

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Abstract: This article highlights the medical properties, chemical composition, and health benefits of the basil plant. Basil prossesses antibacterial. anti-inflammatory, and immunestrengthening properties and is widely used in folk and modern medicine. It's significance in improving body function has also been analyzed.

Key words: *Ocimum* L, medical plant, phytotherapy, essential oils, antibacterial properties, folk medicine, immunity, biologically active substances.

We all know that basil belongs to the genus Ocimum L. and is one of the important representatives of the Lamiaceae family. A perennial, fragrant herbaceous plant 30-60, sometimes 90 cm tall, widespread in tropical and subtropical regions. The origin of the basil plant is in Tropical Africa (the main center of origin), the European part of the former Soviet Union (except for the northern part), the Mediterranean region, Central and South America, the Caucasus, Southern Siberia, certain regions of Kazakhstan and Kyrgyzstan, Tajikistan, and Central Asia.It grows in dry riverbeds in the forest-steppe zone, on floodplain and forest meadows, in sparse coniferous and deciduous forests, at forest edges, and in shrub thickets; it is found in mountains, primarily in the forest zone. Basil grows and is harvested especially in the regions of Moldova, Ukraine, Belarus, the North Caucasus, the middle Volga region, and Bashkortostan. Basil grows on stony slopes in the lower and middle parts of all mountain zones of Uzbekistan, including Fergana, Chatkal, Turkestan, Zarafshan, and Gissar. It then grows in the Tashkent region, Fergana Valley, Samarkand, Bukhara, Khorezm, and Surkhandarya regions.

Basil is a medicinal plant widely used in folk medicine and modern phytotherapy. Its essential oils, flavonoids, vitamins, and minerals have a positive effect on various organs of the human body. Basil is particularly important for improving the functioning of the cardiovascular, nervous, respiratory, and digestive systems.[1,2]

Biological characteristic: The stem is multiple, erect, branched at the top, pubescent, and four-sided. Its rhizome is strongly branched, the leaves are petiolate, simple, oblong-ovate, sharp-tipped, smooth-edged, the base is broadly wedge-shaped, ribbed, and the petioles are oppositely arranged on the stem. The leaves are dark green and consist of distinct veins. Curly hairs are located along the leaf veins. The flowers are almost sessile in the upper part of the stem or shoot, forming a paniculate inflorescence. The flowers are fragrant, small, and light red, arranged in pairs of 2-3 in the leaf axils. The corymbose inflorescences form a paniculate inflorescence at the tip of the stem. The flowers are unisexual and bisexual. Flowers in June-August. The fruit is a four-lobed nutlet fused with a calyx. The fruit is brown, hairless, 0.5 mm long, and is located in a non-falling calyx. The fruit is fully ripe in August-September. Basil is a highly valued spice and is considered a medicinal and essential oil plant. Its aerial part is very pleasant and fragrant. The green and dried part of this plant is flavorful, slightly sour, and resembles menthol derived from essential oil. Basil has long been known as a medicinal plant. Its aerial part is used to improve the functioning of the digestive organs during the flowering period. Some species of basil are considered nectarine plants. The flowers are rich in nectar. During the flowering period, 120 kg of honey can be obtained per hectare. Basil contains 0.7-1.5% aromatic essential oil, tannins and mineral substances, organic acids, and various vitamins. Changes in the mass of the aerial part of a plant, as well as the decrease or increase in the amount of useful substances in it, largely depend on plant groups, development periods, growing conditions, the influence

of environmental factors, and distribution areas. The basil plant is harvested during its peak flowering period, i.e., in June-July.[1,5]

Origin and cultivation: Basil is one of the medicinal and spicy plants cultivated by humanity since ancient times. According to scientists, the original homeland of basil is considered to be the regions of South Asia and India. Later, it spread to Iran, Egypt, Greece, and the Mediterranean countries. Through trade routes, basil reached many regions of the world and was adapted to various climatic conditions. In ancient sources, the basil plant is mentioned as a sacred and medicinal plant. In Eastern medicine, it was used to treat headaches, colds, and digestive diseases. In European countries, basil is primarily cultivated as a spice and medicinal plant.[1,3]

Currently, basil is cultivated in many countries around the world. It is a heat-loving plant that thrives in fertile soil and sunny environments. In Uzbekistan, basil has long been cultivated in household plots and gardens, and is widely used in food and folk medicine.[3,5]

Chemical composition: Basil plant products contain 0.12–1.20% essential oil, tannins, ascorbic acid (166 mg% in flowers, up to 565 mg% in leaves), phenolic and carboxylic acids, and ascorbic acid. The seeds contain up to 25% fatty oil, as well as 10.7% resinous substances, 0.7% triterpene acids, 1.35% coumarins, as well as 11.06% polyphenolic compounds and 3.2% flavonoids.

According to the State Pharmacopoeia, the essential oil content in the product must be at least 0.1%. The essential oil contains up to 44% phenols (thymol and carvacol), 12.5% bicyclic and tricyclic sesquiterpenes, 12.8-15.4% pure alcohols, and 2.63-5% geranyl acetate. The study of essential oils and their properties began in the 17th century. Later, A.M. Butlerov, Reformatsky, Hoffman, E.E. Wagner, and their students discovered plants containing essential oils. Essential oil accumulates in the flower, fruit, leaf, and underground organs of the plant. Sometimes the essential oil

accumulates differently in different organs of the same plant. The diversity of essential oils in the plant's composition depends on air temperature and humidity, as well as the abundance or scarcity of soil and mineral substances. Typically, the plant accumulates the maximum amount of essential oils during the budding period or earlier. In medicine, essential oils are consumed as medicine or applied to the body. It is also a component of certain medicinal mixtures. Medicinal types prepared from essential oil plants are widely used in medicine. Essential oils have been used since ancient times to enhance the taste and smell of pharmaceuticals and other drugs.[4]

Application. Medicinal properties of the basil plant. It is mentioned in the works of Dioscarides and Aristotle. In medicine, preparations made from basil are used for intestinal atony (bowel loosening, weakening) and as an appetite stimulant and digestive, expectorant, and diaphoretic agent, while the essential oil is used to relieve toothache.[4]

Anti-inflammatory effect. Essential oils found in Ocimum L. species (e.g., eugenol, linalol) help reduce inflammatory processes in the body. For this reason, it is used for colds and sore throats.

Antibacterial and antiseptic properties. Basil leaves have an antibacterial effect and some microbes. Therefore, it is used for oral infections and small wounds.

A sedative effect. The scent and substances of the basil plant soothe the nervous system and help reduce stress and nervousness. It is also sometimes used to improve sleep.

Improving digestion. The plant Ocimum L. stimulates appetite, improves stomach function, and reduces gas and bloating.

Antioxidant properties. The flavonoids and phenolic compounds it contains protect cells from oxidative damage, which increases the overall resistance of the body.

Immunity support. When consumed regularly, it enhances the body's ability to fight infections.[2]

CONCLUSION: In conclusion, the origin of basil has a rich history, and the study of its cultivation and medicinal properties shows that this plant is not only a food product but also a valuable medicinal source. Therefore, the rational and moderate consumption of basil in daily life is of great importance in maintaining human health.

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