

Botanic name : *Pimpinella anisum* L. -- Sp. Pl. 1: 264. 1753 [1 May 1753] (IK)

Common name : Anise, Sweet cumin

Family : Apiaceae (Umbelliferae)

Habitat : Terrestrial

Distribution : Mediterranean origin; cultivated in India, Egypt and later in Greece, Rome, and the Middle East since 4000 years but the original wild ancestors are in stage of extinction and not properly known

Description : an annual hairy plant that reaches an average height of 30–50 cm; root thin, spindle-shaped, the stem up, stalk-round, grooved and branched upward; leaves alternate, stalked, base pod-like, blade of basal leaves reniform, serrate-shallowly lobed, stem leaf blades 2-3 times pinnate, lobed leaflets; flowers tiny white arranged in umbrella-shaped clusters (compound umbel-racemose); corolla regular, white, petals 5, notched, with an incurved point, sepals stunted, stamens 5, pistils of two fused carpels, styles 2; fruits grey brown or yellow brown, ovoid-pear-shaped schizocarp somewhat compressed at the side, two-parted, separated heavily. The carpophore is almost two-piece up to the base. Vittae (oil ducts) are almost always present embedded in the fruit wall on the dorsal surface, sometimes in or directly beneath the ridges.

Phytochemicals: Volatile oil –fruits and seeds (*trans*-anethole, 8–11 mass % of lipids rich in fatty acids, such as palmitic and oleic acids, and eugenol *trans*-anethole, methylchavicol, anisaldehyde, estragole, coumarins, scopoletin, umbelliferone, estrols, terpene hydrocarbons, methyleugenol, α -cuparene, α -himachalene, β -bisabolene, *p*-anisaldehyde, and *cis*-anethole polyenes, and polyacetylenes), coumarins: bergapten, umbelliprenine, umbelliferone, scopoletin; flavonoid glycosides: quercetin-3-glucuronide, rutin, luteolin-7-glucoside, isoorientin, isovitexin, apigenin-7-glucoside (apigetrin); myristicin

Medicinal/Economic uses : Antioxidant, antifungal, antibacterial, insecticidal, antiviral, antispasmodic. Anticonvulsant, antidiabetic, antilipidaemic, antiulcer, and laxative. Analgesic in migraine and also as carminative, aromatic, disinfectant, and diuretic (seeds); can increase lactation, menstruation, and sweat secretion and make good complexion. Traditionally, the herbs are mentioned for melancholy, nightmare, and also in treatment of epilepsy and seizure in Iran. Food-industry-Egypt and Spain are the largest producer of anise seed oil. Fruits and essential oil are widely used in the food industry as a flavoring, antioxidant, antispoilage agent, and preservative in many products, such as candies, sweets, toffees, and beverages. Around the Mediterranean region, many countries such as Turkey, Greece, Italy, Spain, and France, have traditional alcoholic beverages produced with anise.