

# Iranian Herbal Medicine Catalogue



## Introduction

Iran with 1.64 million km<sup>2</sup> areas is located in the Middle East, with 33% of its land being cultivable, 14 million km<sup>2</sup> pasture, 60 million km<sup>2</sup> steppe and 16 million km<sup>2</sup> desert. About 26% of Iranian G.D.P. is from Agriculture, with 17-30% of people working in this field. Iran has 7500-8000 plant species and progenitor to many plant species.

Herbal medicine becomes more and more attractive as its trade is predicted to reach to 5 trillion USD in 2050. Iran is home to 1,728 endemic medicinal plants, twice as many as all of Europe's. This remarkable diversity made Iran one of the key traders of medicinal plants in the past. Iran has 11 of the 13 climatic zones in the world, and thus enjoys to house the great diversity of medicinal plants and promises to be the hub of herbal medicine production and export. So far from a commercial point of view, its focus has been on saffron (94% of the world's saffron) and damask rose next to others. Iran has started to process raw medicinal materials as it has been projected in rose essential oil extraction, worth something to the order of \$18,000 per liter.

**ZISTTA** is committed to provide organic and healthy medicinal herbs all year around. We are capable of production, processing, packaging, and exporting to our customers in Europe and beyond. The products will be inspected by CERES inspection partner "**ASCO**" in Iran.





**Origin/Distribution:** It is native to Eurasia extending to Australia, North America and temperate regions of South America.

**Cultivation:** Licorice grows well in temperate, warm and sub-tropical climate. They are easily grown from root cuttings.

**Botanical Description:** It has oval leaflets, white to purplish flower clusters, flat pods, an extensive root system with a main taproot and numerous runners.

**Usage:** Licorice root is a traditional medicine used mainly for the treatment of peptic ulcer, hepatitis C, and pulmonary and skin diseases. Licorice is also widely used in many different industries such as beverages and liquors, confectionary and tobacco sweetener.

**Chemical compounds:** Licorice contains triterpene saponins, flavonoids, isoflavonoids and chalcones, with glycyrrhizic acid normally being considered to be the main biologically active component.



**Scientific Name:** *Glycyrrhiza glabra* L.

**Common Name:** Licorice

**Type:** Perennial

**Family:** Fabaceae



**Origin/Distribution:** Saffron is mostly cultivated in mild and dry climate, such as Iran, India, Greece, Morocco, Spain, Italy, Turkey, Pakistan, Azerbaijan, China, and Egypt.

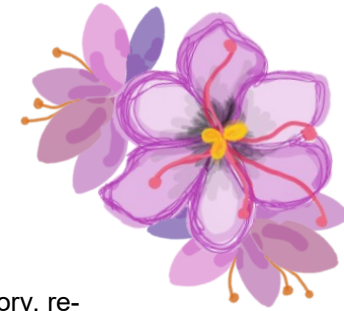
**Cultivation:** Corms of *saffron* should be planted 4 inches apart. The corms multiply after each year, and last 3–5 years.

**Botanical Description:** saffron has a corm, which holds leaves, bracts, bracteole, and the flowering stalk. The plant grows about 10 to 30 cm high.

**Usage:** Saffron is being used as aphrodisiac, antioxidant, antidepressant, anti-inflammatory, relaxant activity, improving memory and learning skills, increase blood flow in retina and choroid.

**Chemical compounds:** Saffron contains more than 150 volatile and aroma-yielding compounds mainly terpenes. The bitter taste and an iodoform or hay-like fragrance are caused by chemicals picrocrocin and safranal.

**Trade:** Saffron is one of the world's most expensive spices by weight. The major producers of antiquity-Iran, Spain, India, and Greece-continue to dominate the world trade. Iran accounts for around 90–93 percent of recent annual world production.



**Scientific Name:** *Crocus sativus* L.

**Common Name:** Saffron

**Type:** Perennial

**Family:** Iridaceae





**Scientific Name:** *Lavandula stoechas* L.

**Common Name:** Lavender

**Type:** Perennials

**Family:** Lamiaceae

**Origin/Distribution:** It is indigenous from the Arabic and Mediterranean Coasts to Asia Minor. *Lavandula* species are widely distributed in the Mediterranean region and cultivated in France, Spain and Italy.

**Cultivation:** Although it tolerates a range of environmental conditions, it is usually being found in hot and sunny conditions with dry low-organic matter alkaline soil.

**Botanical Description:** It is an evergreen shrub that usually grows to 30-100 cm in length and occasionally up to 2 m. Plants have narrow, oily and aromatic leaves that bear dense spikes of small tubular flowers in summer.

**Usage:** The plant is used as expectorant, antispasmodic, carminative, a good stimulant, deobstruent, resolvent and wound healing. The essential oil obtained from its flowering twigs has been used as a remedy against colic and chest affections, to relieve nervous headache and cleansing wounds.

**Trade:** In 2018, **Essential oils of lavender or of lavandin** were traded with an estimate value of \$22.7k. Between 2017 and 2018 the exports of **Essential oils of lavender or of lavandin** grew by 73.1%.





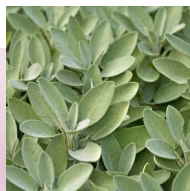
**Scientific Name:** *Salvia officinalis* L.

**Common Name:** Sage

**Type:** Herbaceous perennial

**Family:** Lamiaceae

***Salvia officinalis*** is native to Middle East and Mediterranean areas, but today has been naturalized throughout the world. It has a long history of medicinal and culinary use, and in modern times it has been used as an ornamental garden plant. In folk medicine, *S. officinalis* has been used for the treatment of different kinds of disorders including seizure, ulcers, gout, rheumatism, inflammation, dizziness, tremor, paralysis, diarrhea, and hyperglycemia. In manufacturing, sage is used as a fragrance component in soaps and cosmetics.



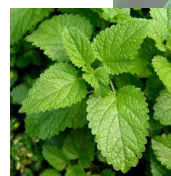
***Lemon balm*** is native to south-central Europe, the Mediterranean Basin, Iran, and Central Asia, but found anywhere. Lemon balm grows in clumps and spreads vegetatively, as well as by seed. The leaves have a mild lemon scent similar to mint. The leaves are used as a herb, in teas, and also as a flavoring. The plant is used to attract bees for honey production. It is grown as an ornamental plant and for its oil (to use in perfumery). The tea of lemon balm, the essential oil, and the extract are used in traditional and alternative medicine, including aromatherapy. Lemon balm contains chemicals that seem to have a sedative, calming effect. It might also reduce the growth of some viruses.

**Scientific Name:** *Melissa officinalis* L.

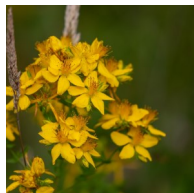
**Common Name:** Lemon balm

**Type:** Perennial

**Family:** Lamiaceae







**Scientific Name:** *Hypericum perforatum* L.  
**Common Name:** St John's wort  
**Type:** Perennial  
**Family:** Hypericaceae



**Origin/Distribution:** It is native to temperate parts of Europe and Asia, but has spread to temperate regions worldwide as a cosmopolitan invasive weed.

**Cultivation:** St John's wort reproduces both vegetatively and sexually. It thrives in areas with either a winter- or summer-dominant rainfall pattern, growing in sandy soils.

**Botanical Description:** Perennial herb with woody stems 30-120 cm tall in spring and summer; Stems have 2 opposite longitudinal ridges; Leaves are opposite, ovate to oblong, dotted with tiny, translucent, black oil glands; flowers are bright yellow with 5 petals, fruits are sticky, containing densely pitted seeds.

**Usage:** St. John's wort is stated to possess sedative and astringent properties, and has been used traditionally for the treatment of excitability, neuralgia, fibrositis, sciatica, menopausal neurosis, anxiety, depression and as a nerve tonic, and in topical preparations for the treatment of wounds. The plant is also used in foods.

**Chemical compounds:** The major active constituents are considered to be hyperforin and hypericin, although other biologically active constituents, eg flavonoids, tannins, arealsopresent.

**Trade:** It is one of the top-selling herbal products.





***Cuminum cyminum*** is a drought-tolerant, tropical, or subtropical crop that is native to Egypt, the Mediterranean region, Iran and India. Cumin is an aromatic herb that dried seeds are used as a spice. Generally, cumin is used as an antioxidant and flavor compound. It also acts as an antiseptic, analgesic, anti-inflammatory, and sedative and is used against stomach disorders, diarrhea, and spasms.



**Scientific Name:** *Cuminum cyminum* L.

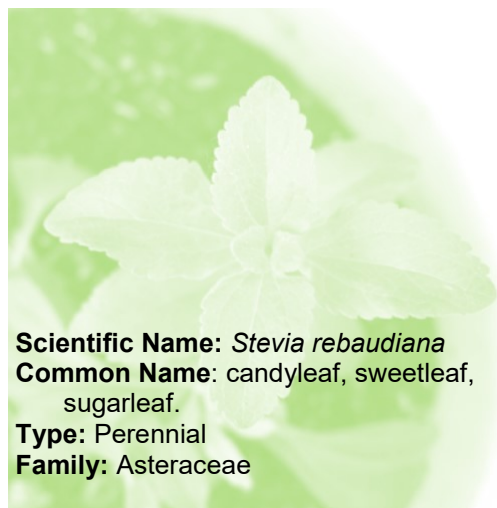
**Common Name:** Cumin

**Type:** Annual

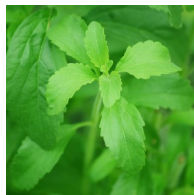
**Family:** Apiaceae







**Scientific Name:** *Stevia rebaudiana*  
**Common Name:** candyleaf, sweetleaf, sugarleaf.  
**Type:** Perennial  
**Family:** Asteraceae



**Origin/Distribution:** It is native to parts of Brazil and Paraguay having humid, wet environments.

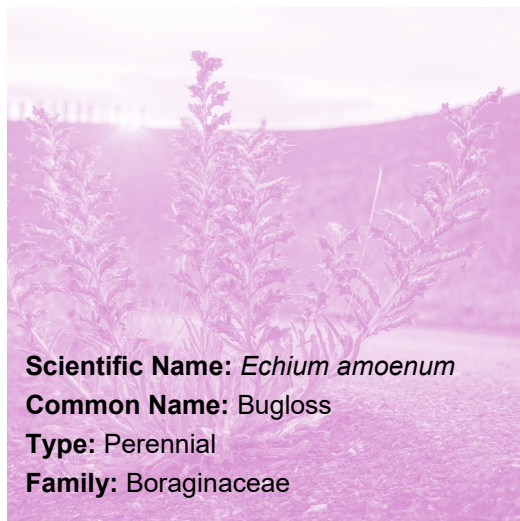
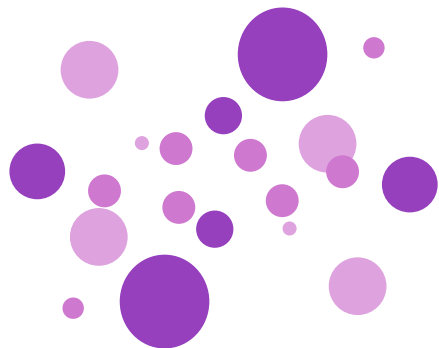
**Cultivation:** Stevia prefers sandy-like soils in warm, moist and sunny conditions. It can't survive frost during the winter and therefore greenhouses are used to grow it in Europe.

**Botanical Description:** It is a small seasonal plant which grows 30-61 cm. It has elongated leaves that grow along the stems and are lined up against each other. Flowers are typically trimmed to improve the taste of the leaves. The flowers are white with light purple accents and no fragrance. Plants produce fruit which is ribbed spindle-shaped.

**Usage:** Various studies have highlighted promising health benefits of stevia against diabetes, obesity, hypertension, cancer, dental caries, oxidative stress and microbial infections. Besides its health benefits, industrial applications of stevia particularly as food and food ingredient, as sucrose replacer, as fertilizers and animal feed, and as solubilizing or foaming agents have been discussed.

**Nutrition:** The important chemical compounds that produce its sweetness are various steviol glycosides, which are 200–300 times sweeter than sugar. It is been used as a sweetener and a sugar substitute in the food and drug industry.

**Trade:** The Global Stevia Market estimated revenue in the year 2018 was \$895 million with a growing CAGR estimate of 3.84% between 2019-2025. Pure Circle, GLG Life Tech Corp, Julong High-tech are the global leading manufacturers of stevia.



**Scientific Name:** *Echium amoenum*

**Common Name:** Bugloss

**Type:** Perennial

**Family:** Boraginaceae

**Origin/Distribution:** *Echium amoenum* is indigenous to the narrow zone of northern part of Iran and Caucasus, Russia and It is distributed in most of Europe, Mediterranean region and also found in northern parts of Iran.

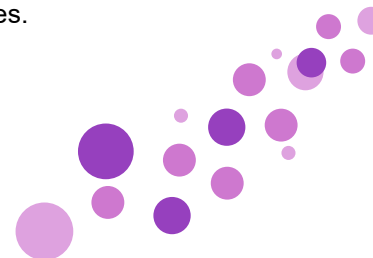
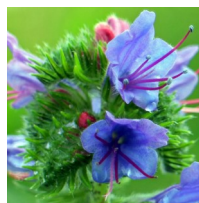
**Cultivation:** It grows at an altitude ranging from 60 to 2200 m.

**Botanical Description:** The flowers are bright blue and star-shaped, and the fruit consists of four brownish nutlets.

**Usage:** The main medicinal parts of the plant are flowers and the leaves which are employed as an antifebrile, antidepressant, poultice for inflammatory, swellings, diuretic, laxative and as probable protective factor against cancer.

**Chemical compounds:** The plant consists of gamma-linolenic acid (GLA), alphanolenic acid (ALA), delta 6-fatty acyl desaturase, delta 8-sphingolipid desaturase, pyrrolizidinealkaloids, mucilage, resin, potassium nitrate, calcium and mineral acids.

**Trade:** It is one of the important medicinal herbs in traditional Iranian medicine. The Iranian *Echium amoenum* has got appropriate markets domestically and internationally. Every year, about 50 tons of this herbs is exported to European and American countries as well as to the Persian Gulf states.



**Origin/Distribution:** It is native to temperate regions of Eurasia and Northern Africa and widely naturalized in Canada and the northern United States.

**Cultivation:** The plant can easily be cultivated in dry soil. It should be planted under bright exposure in fertile, mid-weight nitrogenous soil. It can be propagated by ripened cuttings taken in spring or autumn in temperate climates, or by seeds in nursery beds.

**Botanical Description:** The plant is herbaceous and perennial with a strong sage odor. The stems are straight and firm, woody at the base, growing up to 0.5–1.1 m, branched and leafy. The leaves are silvery-green, long, spirally arranged, divided two or three times into deeply lobed leaflets. Leaves and stems of the plant are covered with fine silky hairs that give a grayish tint. Flowering tops are branched with numerous light yellow flowers. The small flowers are of spherical form.

**Usage:** It is grown as an ornamental plant and is used as an ingredient in absinthe as well as other alcoholic beverages. As medicine, it is used for dyspepsia, as a bitter to counteract poor appetite, for various infectious diseases, Crohn's disease, and IgA nephropathy.

**Nutrition:** it contains bitter substances from the group of sesquiterpene lactones, Absinthin is with 0.2 to 0.28% the main component of these bitter substances. Essential oils make up 0.2 to 0.8% thujyl alcohol and its esters.

**Trade:** primarily used in the floral trade.



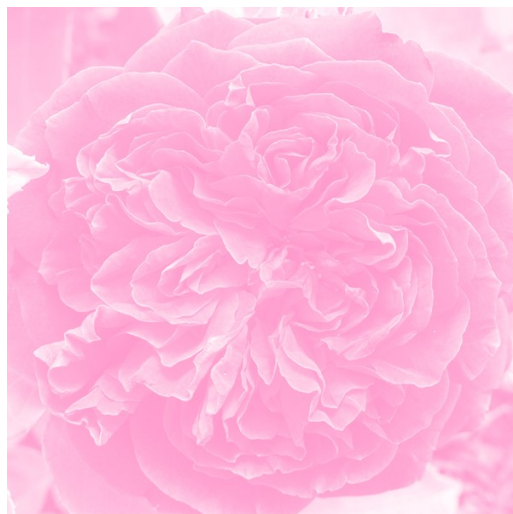
**Scientific Name:** *Artemisia absinthium* L.

**Common Name:** Wormwood

**Type:** Perennial

**Family:** Asteraceae





**Scientific Name:** *Rosa damascene* Mill.

**Common Name:** Damask rose

**Family:** Rosaceae

**Type:** Perennial



**Origin/Distribution:** The Damask Rose is native to the Middle East and was introduced into the West during the Crusades. Its name refers to the city of Damascus, the capital of Syria. This plant is cultivated in all over the world including Iran, Europe, Bulgaria, Turkey and India. The major cultivation areas of *R. damascena* in Iran are Kashan, Fars and Azerbaijan, among them Kashan is the most famous one

**Cultivation:** Its propagation is mostly by cutting and using suckers, but micropropagation is a developing propagation method for this plant in Iran.

**Usage:** It is a well-known ornamental plant and has been referred to as the king of flowers. Apart from the use of *R. damascene* as ornamental plants in parks, gardens, and houses, they are principally cultivated for using in perfume, medicine and food industry. The most therapeutic effects of this medicinal plant are the treatment of abdominal and chest pain, strengthening the heart, treatment of menstrual bleeding, digestive problems and reduction of inflammation, especially of the neck.

**Chemical compounds:** This plant contains vitamin C. Flowers also contain a bitter principle, tanning matter, fatty oil and organic acids

**Trade:** Iran is the world's biggest producer of damask rose, accounting for 70% of the global production. Every year, up to 2,000 kg of damask rose essence are produced in Iran, which is priced at €5,500-12,000 per kilo in the international markets. Iran supplies 90% of global rosewater demand and accounts for 8-10% of rose essence production in the world. Iran's rosewater is exported to 23 countries.



***Matricaria chamomilla*** is native to southern and eastern Europe. Today the plant can be found on all continents. It is a well-known medicinal plant species from the Asteraceae family often referred to as the “star among medicinal species.” Nowadays it is a highly favored and much used medicinal plant in folk and traditional medicine. German chamomile is used in herbal medicine for a sore stomach, skin care, irritable bowel syndrome, and as a gentle sleep aid. It is also used as a mild laxative and has an anti-inflammatory and bactericidal effect. Chamomile has an established domestic (Indian) and international market, which is increasing day by day.

**Scientific Name:** *Matricaria chamomilla* L.

**Common Name:** Chamomile

**Type:** Annual

**Family:** Asteraceae







**Scientific Name:** *Ferula gummosa* Boiss.

**Common Name:** Galbanum

**Type:** Perennial

**Family:** Apiaceae



**Origin/Distribution:** It is native to the Mediterranean region east to central Asia, mostly growing in arid climates.

**Cultivation:** *Ferula gummosa* Boiss. is a native wild plant of Iran, growing in the north and west mountainous regions at heights 1800-3000 m above sea level. It is propagated by the seeds at a temperature of below 5 °C. The best planting season are October and November.

**Botanical Description:** They are growing to 1–4 m tall, with stout, hollow, somewhat succulent stems. The flowers are usually yellow, rarely white, produced in large umbels. Many plants of this genus, especially *F. communis* are referred to as "giant fennel," although they are not fennel in the strict sense.

**Usage:** *Ferula gummosa* is an important pharmaceutical, industrial and aromatic plants in Iran. The extract and essential oils of this species are used in different industries, such as, pharmacy, nutrition, perfumes, glue and military industries.

**Chemical compounds:** This fragrant plant contains of 5-30 % essential oil, 50-70 % resin and 20-40 % gum.



**Origin/Distribution:** rosemary is a medicinal plant native to the Mediterranean region is cultivated around the world.

**Cultivation:** Rosemary grows on loam soil with good drainage in an open, sunny position. It will not withstand waterlogging and some varieties are susceptible to frost. It grows best in neutral to alkaline conditions (pH 7–7.8) with average fertility.

**Botanical Description:** Rosemary is an aromatic evergreen shrub with leaves similar to hemlock needles and white, pink, purple, or blue flowers.

**Usage:** Rosemary used as a spice in cooking, as a natural preservative in the food industry, and as ornamental and medicinal plant that widely used around the world. Rosemary's main functions for health care and tonic are: to astringe lungs, relieve asthma, activate blood circulation, dissipate blood stasis, relieve pain usually used for lung deficiency cough, coronary heart disease, angina and hyperlipidemia.

**Trade:** Data on world trade of dried rosemary are fragmentary and available only for selected markets.



**Scientific Name:** *Rosmarinus officinalis* L.

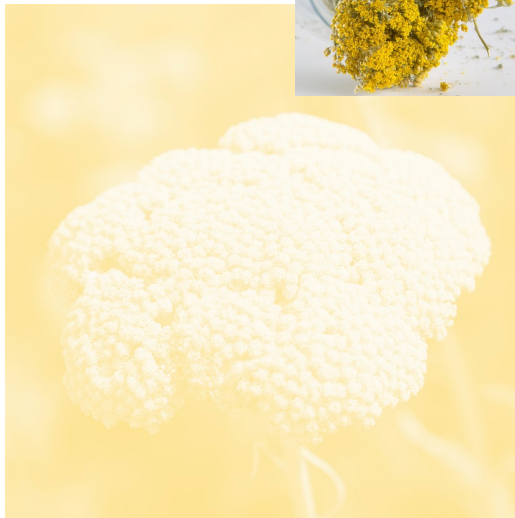
**Common Name:** Rosemary

**Type:** Perennial

**Family:** Lamiaceae



**Scientific Name:** *Achillea millefolium* L.  
**Common Name:** Yarrow  
**Family:** Asteraceae  
**Type:** Perennial



**Origin/Distribution:** It is native to temperate regions of the Northern Hemisphere in Asia and Europe and North America.

**Cultivation:** Frequently found in grasslands and open forests. Best grown in lean, dry to medium, well-drained sandy loams in full sun.

**Botanical Description:** Yarrow grows up to 100 cm. The leaves are multipennate with small flower heads arranged in corymbs. The flowers are white, creamish-yellow to pink ray florets. The volatile oil glands are present on the stem, leaves and the ray and disc florets.

**Usage:** Yarrow is the most widespread and one of the most widely used medicinal plants in the world. It is used in the treatment of a very wide range of disorders, but is particularly valuable for treating wounds, stopping the flow of blood, treating colds, fevers, kidney diseases, menstrual pain, etc. The whole plant is used, both fresh and dried, and is best harvested when in flower.

**Nutrition:** Yarrow contains isovaleric acid, salicylic acid, asparagine, sterols, and flavonoids. Chamazulene and  $\delta$ -Cadinol are chemical compounds found in *A. millefolium*.

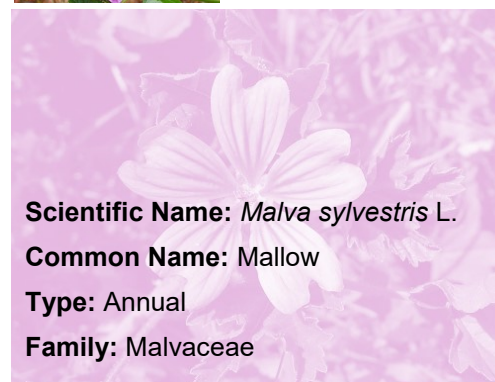
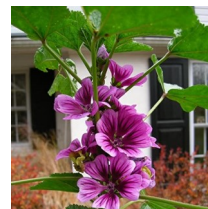
**Origin/Distribution:** Native to Europe, North Africa and South-west Asia.

**Cultivation:** The plant prefers damp areas such as salt marshes, meadows, sides of ditches and banks of tidal rivers. A very easily grown plant, succeeding in ordinary garden soil and in poor soils. It prefers a reasonably well-drained and moderately fertile soil in a sunny position, where it will produce a better crop of salad leaves. Plants are hardy to about -20°C.

**Botanical Description:** *Malva sylvestris* L. is an annual plant with shallowly lobed leaves and purple flowers which bloom in late spring.

**Usage:** *M. sylvestris* is commonly used as vegetable and a medicinal plant in Iran where it is named as Panirak. The leaves and flowers are the main part used, their demulcent properties making them valuable as a poultice for bruise, inflammations, insect bites, etc. They can be taken internally in the treatment of respiratory system diseases and problems with the digestive tract. The leaves and flowers can be eaten as part of the diet, or a tea can be made from the leaves, flowers or roots.

**Chemical compounds:** There are many reports on phytochemicals from *M. sylvestris*. Some reports revealed the presence of malvone A, a naphthoquinone and different known monoterpenes, aromatic compounds, and a tetrahydroxylated acyclic diterpene.



**Scientific Name:** *Malva sylvestris* L.

**Common Name:** Mallow

**Type:** Annual

**Family:** Malvaceae

**Origin/Distribution:** That is endemic to Australia. It has been widely introduced around the world and can now be found in cultivation and naturalized in Pakistan, Bangladesh, the USA (*i.e.*, Hawaii, California and Florida), Cyprus, France, Greece, India, Portugal, Spain and South Africa.

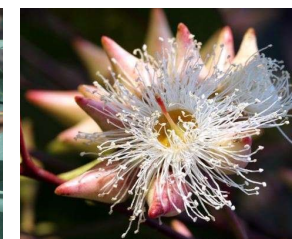
**Cultivation:** It is commonly found along waterways and there are only a few locations where the species is found away from a watercourse.

**Botanical Description:** It has smooth white or cream-colored bark, lance-shaped or curved adult leaves, flower buds in groups of seven or nine, white flowers and hemispherical fruit with the valves extending beyond the rim.

**Usage:** The wood is used mainly for firewood, charcoal, poles, posts, tools and paper pulp. An essential oil, traded as eucalyptus oil, is obtained from the leaves of mainly tropical provenances. It is used for medicinal purposes, especially as a cough remedy and expectorant, but it also has febrifuge, tonic, astringent, antiseptic properties.

**Chemical compounds:** Several triterpenoid constituents have been isolated from the leaves, *e.g.*, camaldulin, ursolic acid, lactone acetate, betulinic acid, oleanolic acid and amirinic acid.

**Trade:** In 1995 it was estimated that worldwide *Eucalyptus* plantations amounted to 14.6 million ha, of which 1.8 million ha in Africa, much of this is in South Africa. The leaves of it yield up to 3% of the essential oil traded as eucalyptus oil.



**Scientific Name:** *Eucalyptus camaldulensis*

**Common Name:** River red gum

**Type:** Perennial

**Family:** Myrtaceae



**Origin/Distribution:** It is indigenous to the shores of the Mediterranean, but has become widely naturalized in many parts of the world, especially on dry soils near the sea-coast and on riverbanks.

**Cultivation:** The optimum temperatures for seed germination are 20-29 °C. A dry and cold weather favors higher seed production. Fennel thrives on long sunny days. A temperature of 15-20 °C is the optimum and above 25 °C for extended period usually retards development of fennel and in early growth may result premature flowering and very low seed yield.

**Botanical Description:** It's a hardy, perennial–umbelliferous herb with yellow flowers and feathery leaves. It grows to up to 2.5 m with hollow stems. The leaves are finely dissected with the ultimate segments filiform (thread-like). The flowers are produced in terminal compound umbels. The fruit is a dry seed.

**Usage:** It is a highly aromatic and flavorful herb with culinary and medicinal uses. Fennel seeds are used as flavorings in baked goods, meat and fish dishes, ice cream, alcoholic beverages and herb mixtures.

**Nutrition:** A 100-gram reference amount of fennel fruits provides 345 kcal of food energy. It is a rich source of protein, dietary fiber, B vitamins and several dietary minerals, especially calcium, iron, magnesium and manganese. Fennel fruits contain 52 % carbohydrates (including 40% dietary fiber), 15 % fat, 16 % protein, and 9 % water.

**Trade:** The countries with the highest import taxes for Fennel seeds, are Iran (65%), Cyprus, Gabon, Chad and Bulgaria.



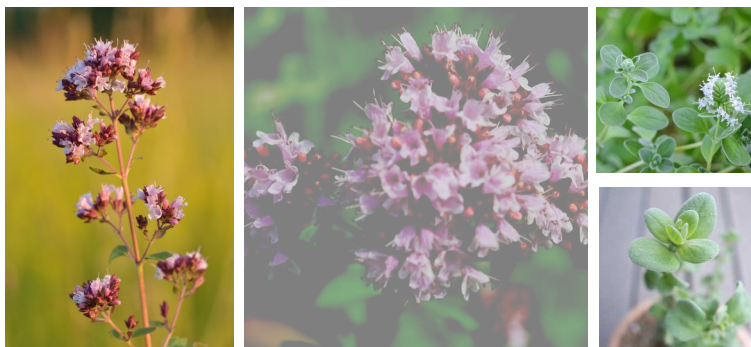
**Scientific Name:** *Foeniculum vulgare* Mill.

**Common Name:** Sweet fennel

**Type:** Herbaceous perennial

**Family:** Apiaceae





**Scientific Name:** *Origanum vulgare* L.

**Common Name:** Oregano

**Type:** Perennial

**Family:** Lamiaceae

**Origin/Distribution:** It is native to temperate Western and South-western Eurasia and the Mediterranean region.

**Cultivation:** Oregano will grow in a pH range between 6.0 (mildly acidic) and 9.0 (strongly alkaline), with a preferred range between 6.0-8.0. It prefers a hot, relatively dry climate, but does well in other environments.

**Botanical Description:** Oregano is a perennial herb, growing from 20–80 cm tall, with opposite leaves 1–4 cm long. The flowers are purple, 3–4 mm long, produced in erect spikes.

**Usage:** Oregano has been used as a culinary and medicinal herb for thousands of years. It has a beneficial effect upon the digestive and respiratory systems and is also used to promote menstruation. The leaves and flowering stems are strongly antiseptic, antispasmodic, carminative, cholagogue, diaphoretic, emmenagogue, expectorant, stimulant, stomachic and mildly tonic.

**Nutrition:** Oregano contains polyphenols, including numerous flavones. Over 60 different compounds have been identified, with the primary ones being carvacrol and thymol ranging to over 80%.

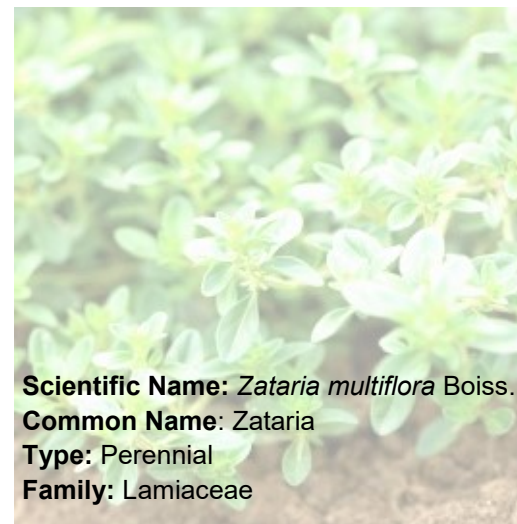
**Trade:** It is an important culinary herb in world trade, are widely distributed in the fields of China and some central Asian countries.

**Origin/Distribution:** It is native to southwestern Asia (Iran, Afghanistan, Pakistan, Kashmir).

**Botanical Description:** It is an aromatic shrub that reaches 60-90 cm in height. Mature branches are woody and leafless whereas young branches are white with dense glandular, spreading, pilose indumentums. Leaves are orbicular ovate to orbicular. Flowering stems are usually un-branched, sometimes having short lateral branches. Flowers are white and very small.

**Usage:** *Zataria multiflora* Boiss known as Avishan-e-Shirazi in Iran, is a thyme-like plant that grows wild in central and southern parts of Iran. It is an important flowering plant in Iranian traditional medicine. Several pharmacological properties such as antimicrobial, antifungal, anti-seizure, anti-nociceptive, anticandida, anti-septic, anti aphthous, analgesic, carminative and anti-inflammatory effects have been reported for this plant. Flavonoids and essential oils are the most important components with reported pharmacological activities.

**Nutrition:** Identified constituents of this plant belong to the classes like terpenes, phenols, aliphatic alcohols, flavonoids, saponins, and tannins. Among the compounds, some classes have been previously identified as bioactive chemicals, particularly terpenes such as thymol and carvacrol.



**Scientific Name:** *Zataria multiflora* Boiss.

**Common Name:** Zataria

**Type:** Perennial

**Family:** Lamiaceae

