

LEMON BALM

BOTANICAL NAME:

Melissa officinalis

COMMON NAMES:

Lemon balm, balm, sweet balm, blue balm, garden balm, English balm, common balm, heart's delight, honey plant, cure-all, sweet melissa, sweet mary, balm mint, dropsy plant
sitruunamelissa (Finnish)
mélisse (French)
melisse, zitronenmelisse (German)
melissophyllon (Greek)
melissa (Hebrew and Italian)
remonbamu, seiyo-yamahakka (Japanese)
xiang feng cao (Mandarin)
sitronmelisse (Norwegian)
erva-cidreira (Portuguese)
roinita (Romanian)
melissa limonnaya, limonnik (Russian)
balsamita major, toronjil (Spanish)
melise (Yiddish)

FAMILY NAME:

Lamiaceae (Labiatae)

DESCRIPTION

PART USED: The leaves, preferably fresh.

BOTANICAL DESCRIPTION AND HABITAT: Lemon balm is an herbaceous perennial originating in southern Europe. It has naturalized throughout Europe, western Asia, southwestern Siberia, northern Africa, and the U.S. It thrives in moist, but well drained, loamy soil, in partial light. Overexposure to sunlight turns the leaves a pale, yellow-green color and can wilt them. Like other members of the mint family, lemon balm spreads rapidly. It proliferates by seed. To prevent the plant from spreading, cut it back to the base before it seeds. If lacking ample room to spread, plant it in a container.

Lemon balm has a bushy appearance, averaging 20–150 cm tall and 30–60 cm wide.¹ It has erect, quadrangular, branching stems with opposite ovate or cordate, pubescent, wrinkled leaves (2–14 cm long and 1.5–7 cm wide) that have dentate margins.¹ The leaves release a pleasant lemon aroma when bruised. The tiny pinkish-white, tubular flowers have a pubescent, five-toothed calyx (7–9 mm long), a bilabiate corolla (8–15 mm long), and four stamens.¹ They grow in whorled clusters of four to 12 flowers.¹ Like other members of the mint family, the four-lobed ovary yields four tiny, one-seeded nutlets.

THE NAME: *Melissa* (“bee”) derives from Greek, signifying the attraction of the insect to its flowers.² The epithet *officinalis* describes an herb listed as an official drug plant in European and U.S. Pharmacopoeias. Balm is an abbreviation of balsam, a term used to describe an aromatic plant.² The common names lemon balm and sweet balm refer to the sweet, citronella-lemony aroma of the crushed leaves.²

HISTORICAL USES: Pliny and Dioscorides applied lemon balm to wounds in order to prevent infections and promote healing. They also used a topical application of the leaves steeped in wine to cure bites from venomous beasts and scorpion stings.² Pliny recommended planting lemon balm near beehives and rubbing the hives with lemon balm leaves to encourage the bees’ return and keep them from straying.²

Spirits of lemon balm, a preparation made from steeping the herb in wine, was consumed as a remedy for fevers, nervous system disorders, to improve memory, and lift



the spirit.² During the Middle Ages, lemon balm was used for nervous system and digestive disorders.³ Avicenna, Muslim physician and philosopher (980 – 1037), administered lemon balm to treat wounds and ulcers.³ Paracelsus, 16th century Swiss physician and alchemist, regarded lemon balm as the “elixir of life.”⁴ He believed the plant could revive someone close to death, and cure all nervous system disorders.^{2,3}

During the 16th century, Carmelite nuns produced the alcoholic beverage, Carmelite Water, also known as *Eau de Melisse de Carmes* that popularized lemon balm. Carmelite Water contained two pounds of fresh lemon balm leaves steeped for two weeks in one-half gallon of orange blossom water, and one gallon of alcoholic spirits. Warming aromatic herbs such as cinnamon, coriander, cloves, lemon peel, nutmeg, and angelica root were then added. This beverage was considered a cure for nervous headaches and neuralgic afflictions. Carmelite Water was also applied as an after-bath rub, and incorporated in alcohol-based perfume.^{2,3} English herbal physician, John Evelyn writes that spirits of lemon balm “comforts the heart and driveth away melancholy and sadness.”² Seventeenth century herbalist Nicholas Culpeper writes that lemon balm “causeth the Mind and Heart to become merry...and driveth away troublesome cares.”³ Lemon balm was also included in the alcoholic beverages Benedictine and Chartreuse.⁴ It was a common strewing herb and ingredient in potpourri.² Lemon balm oil was used to polish furniture.⁴

Lemon balm was listed in the *U.S. Pharmacopoeia* in the 1840s – 1890s.⁵ However, it was eventually removed because it was considered too mild.⁶ Lemon balm was substituted for lemons in jams and jellies when the fruit was scarce.³ Thomas Jefferson grew lemon balm in his gardens.³ Cherokees consumed lemon balm tea to treat chills, fever, colds, and typhus. Costanoan Indians drank the tea as a digestive aid.³

CONSTITUENTS: Lemon balm contains volatile oil (citral A = geranial, citral B = neral, caryophyllene oxide, citronellal, eugenol acetate, geraniol, linalool, and limonene, plus small amounts of terpene hydrocarbons, such as *trans*- and *cis*- β -ocimene, caryophyllene, α -cubenene, copaene, and β -bourbonene), polyphenols (rosmarinic acid, protocatechuic acid, a tannin composed of caffeic acid and other caffeic acid derivatives), triterpenes (ursolic, pomolic, and oleanolic acids), flavonoids (luteolin-7-glucoside and rhamnazin), and glucosides (geraniol, nerol, eugenol, benzyl alcohol, β -phenylethyl alcohol, neric acid, and geranic acid).⁷⁻¹⁰

NUTRITIONAL PROPERTIES: Lemon balm contains vitamin C and thiamine (a B vitamin), and is high in flavonoids.⁴

MEDICINAL PROPERTIES: Antibacterial, antidepressant, antispasmodic, antiviral, anxiolytic, astringent, cooling diaphoretic, nervine, sedative, stomachic, sudorific, and potential hypothyroidal agent.

TEMPERATURE AND FLAVOR: Cool, astringent, pungent, sour, and sweet.

MEDICINAL USES

Lemon balm is a nervine, mild sedative, and relaxant. It soothes the nervous system, reducing stress, anxiety, and anxiety-induced palpitations. Lemon balm reduces premenstrual irritability and anxiety. According to medical herbalist David Hoffman, lemon balm has a tonic effect on the heart and circulatory system, and acts as a mild vasodilator.⁹ Lemon balm calms an overactive mind, and aids in treating insomnia and stress-related headaches. Professor Holm at Heidelberg University conducted animal studies and found that lemon balm’s volatile oil affected the limbic brain, and had a gentle, tranquilizing effect on the autonomic nervous system.¹¹ The sedative actions are attributed primarily to the terpene citronellal and citral (neral and geranial).^{3,12} Prepare a stress and anxiety relief compound by combining lemon balm with other nervine herbs, such as chamomile (*Matricaria*), skullcap (*Scutellaria*), wild oats (*Avena*), St. John’s wort (*Hypericum*), and a smaller amount of lavender (*Lavandula*). One or more of the following herbs can be combined with lemon balm to make a sedative compound that aids sleep: hops (*Humulus*), Jamaican dogwood (*Piscidia*), chamomile (*Matricaria*), and skullcap (*Scutellaria*). Avoid compounding lemon balm extract with herbs high in alkaloids such as passion flower (*Passiflora*), because the alkaloids precipitate the tannins out of solution.

Alchemists and herbalists revere lemon balm for its mood elevating and antidepressant actions. It is beneficial for children, teenagers, and adults with mild to moderate forms of depression. Lemon balm can be used to lift the spirits in melancholic individuals with seasonal affective disorder, as well as premenstrual and menopausal depression.

When administered in conjunction with making lifestyle and dietary changes, lemon balm has been helpful for hyperactive children and individuals with attention deficit hyperactivity disorder (ADHD). Making these changes prior to beginning medication facilitates the herb’s

effectiveness. The herb has a calming effect and aids with mental focus. The glycerin extract or glycerin/alcohol combination is most palatable for children; the dose ranges from 15 – 60 drops, two to three times daily. Start with the lowest dose, and increase until the desired effect is reached. Combine two parts of lemon balm extract with one part gotu kola (*Centella*) and one-half or one-quarter part rosemary (*Rosmarinus*) to enhance mental focus.

Lemon balm has mild carminative, stomachic, and smooth muscle antispasmodic effects, although it is most suited for nerve-related digestive complaints such as nervous dyspepsia. The effects on the digestive tract are milder than peppermint (*Mentha piperita*) or fennel (*Foeniculum vulgare*); however, it is a useful adjunct for treating digestive cramping, colic, flatulence, stomach cramps, or intestinal cramps. Lemon balm has mild antispasmodic actions for the respiratory system and menstrual cramps. Studies have demonstrated that eugenol contributes to the antispasmodic and carminative properties.^{7,8} In order to enhance its digestive, carminative, and antispasmodic actions, combine lemon balm with aromatic herbs including orange peel (*Citrus sinensis*), fennel (*Foeniculum*), anise (*Pimpinella*), and/or other members of the mint family, such as spearmint (*Mentha spicata*) or peppermint (*Mentha piperita*).

Hot water extracts of lemon balm demonstrated potent antiviral properties against herpes simplex, mumps, Newcastle disease, vaccinia (*Orthopoxvirus*), and other viruses.¹⁰ Essential oil of lemon balm has antibacterial actions against *Mycobacterium phlei* and *Streptococcus hemolyticus*, as well as antifungal activities.¹⁰ The polyphenols (rosmarinic acid and other caffeic acid derivatives) and tannins contribute to the



antiviral, antibacterial, and astringent effects.^{7,8,10} Consuming lemon balm extract and applying a fresh lemon balm leaf poultice, cream, or essential oil speeds the healing of herpes sores and reduces the rate of recurrence. Topical applications are most effective when applied within one or two days of the sore eruption. The antiviral effects on herpes have been confirmed in animal and human studies.⁹ The speculated modes of action are that lemon balm inhibits protein synthesis and blocks viral receptors in the host cells.³

Consuming a hot tea of lemon balm is a cooling diaphoretic to reduce a fever in the first phase of a cold or flu. Lemon balm is an ideal remedy to calm the nerves of children who become hyper or restless in the early stages of a cold or flu. It encourages restful sleep during an illness. Lemon balm tea with fresh squeezed lemon juice, a dollop of honey (or sugar), and muddled cucumber and spearmint is a refreshing beverage and refrigerant in hot weather.

Lemon balm has demonstrated a hypothyroidal effect, and aids in treating symptoms in the early stages of hyperthyroidism. Freeze-dried aqueous extracts have inhibitory effects of the thyroid stimulating hormone (TSH) on the thyroid gland.⁹ *In vitro* laboratory studies showed that lemon balm prevented the binding of TSH to plasma membranes, and inhibited the enzyme iodothyronine deiodinase. It also prevents biological activity of immunoglobulins in the blood, and inhibits receptor binding in patients with Grave's disease, a condition that causes hyperthyroidism.⁹ Daily consumption of the extract or freeze-dried aqueous extract is recommended to reduce symptoms associated with elevated thyroid hormone levels, such as anxiety attacks, palpitations, and many excess nervous system

symptoms. It also has been helpful for some individuals in the early stages of Grave's disease. For treating hyperthyroidism and symptomatic relief, lemon balm works most effectively when combined with bugleweed (*Lycopus*) and motherwort (*Leonurus*).

Note: It is important for patients with Graves' disease or other thyroid disorders to consult a health care practitioner in addition to using natural treatments. It is critical to monitor blood levels of thyroid hormones and antibody levels. Herbal support and natural therapies are not always adequate for treating hyperthyroidism.

Topical applications of lemon balm act as an astringent anti-inflammatory agent and mild antimicrobial. The tannins reduce bleeding and encourage wound sealing. The tannins and volatile oil help to prevent infections from wounds. Apply a lemon balm compress or poultice to weeping sores, cuts, abrasions, bruises, sprains, strains, bites, or skin ulcers.

CONTRAINDICATIONS

Lemon balm can potentially interfere with the actions of thyroid hormones.⁹ Consult a health care practitioner before frequently consuming lemon balm with thyroid conditions or before combining lemon balm with medications that affect thyroid function. Individuals with hypothyroidism should avoid long-term, daily consumption of lemon balm. Several authors warn against consuming lemon balm during pregnancy or lactation.³ However, this author has never observed problems resulting from occasional consumption of small to moderate amounts of the tea or tincture during pregnancy or lactation for stress and anxiety relief. Individuals with mint family allergies should avoid contact with the leaves; in rare cases, they can cause contact dermatitis.

PREPARATION AND DOSAGE

TINCTURE: Fresh leaves [1:2–1:3, 60–95% alcohol]; recently dried leaves [1:5, 50–60% alcohol]. Consume 10–90 drops, up to four times daily. The volatile oils in lemon balm dissipate quickly upon drying; store the herb in a tightly sealed container. If making the tincture with dried leaves, prepare an extract with them one to six months after harvesting.

GLYCERITE: Fresh leaves [1:3–1:4, 50% glycerin and 50% alcohol] or [1:3–1:4, 60% glycerin and 40% distilled water]; consume 10–60 drops, up to four times daily.

ACETUM EXTRACT: Infuse lemon balm leaves in rice vinegar or champagne vinegar for culinary use.

SUCCUS: Juice the fresh herb and preserve with 20% alcohol. Consume 1 teaspoon, up to three times daily.

CAPSULES: Consume 2–4 “00” capsules of the freeze dried or recently dried powdered herb, up to three times daily.

TEA: Prepare a hot or cold infusion with the fresh or recently dried herb; consume 8–12 ounces, three to four times daily. Use hot water well below boiling temperature to make the most effective, flavorful tea. Boiled water dissipates the volatile oil more rapidly and extracts more of the tannins, increasing the astringency. It is important to ensure that the vessel is tightly sealed so the volatile oil does not dissipate from the hot water.

HONEY AND SYRUP: Infuse the fresh, cleaned, macerated leaves in honey; steep two to four weeks, and strain. Add 1 teaspoon of infused honey to hot water or tea. Infuse the leaves in simple syrup one to three days; strain and refrigerate. The syrup lasts up to one month.

ESSENTIAL OIL AND HYDROSOL: Apply the essential oil neat or diluted. Lemon balm essential oil is expensive and often cut with other essential oils. Lemon grass or palmarosa essential oils are less expensive alternatives to lemon balm, with similar properties and uses. Consume 1–2 tablespoons of lemon balm hydrosol (*Melissa* water), up to four times daily.

TOPICAL USE: Apply the fomentation, poultice, oil (alcohol intermediary or infused oil method), or salve.

CULINARY USE: Add fresh chopped leaves sparingly to fruit or vegetable salads, herbal vinegars, dressings, marinades, stuffing, punch, wine, beer, soups, butters, cheeses, fish, egg dishes, jams, jellies, sorbets, ice cream, cookies, and other desserts or baked goods.