

Lemon Balm: An Herb Society of America Guide



The Herb Society of America
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Introduction

Mission:

The Herb Society of America is dedicated to promoting the knowledge, use and delight of herbs through educational programs, research, and sharing the experience of its members with the community.

Environmental Statement:

The Society is committed to protecting our global environment for the health and well-being of humankind and all growing things. We encourage gardeners to practice environmentally sound horticulture.

Purpose, Scope and Intended Audience:

This guide was designed to provide an overview of the cultivation, chemistry, botany, history, folklore and uses of *Melissa officinalis*. It was written to accommodate a variety of audiences, providing basic information appropriate for beginners to herbs and herb gardening as well as supplemental information for more experienced herb enthusiasts. It can be used in conjunction with HSA's Herb Study Group Guidelines or as a starting point for those interested in pursuing individual research or developing an herbal presentation/program.

Disclaimer: Information is provided as an educational service. Mention of commercial products does not indicate an endorsement by The Herb Society of America. The Herb Society of America cannot advise, recommend, or prescribe herbs for medicinal use. Please consult a health care provider before pursuing any herbal treatments.

Contributors & Acknowledgements

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Madalene was president of The Herb Society of America from 1986-1988 and has been a member since 1957. She organized the South Texas Unit and was a charter member of the Pioneer Unit. Madalene was awarded HSA's Helen de Conway Little Medal of Honor in 1978 and the Gertrude B. Foster Award for Excellence in Herbal Literature in 2005. She also received the American Horticultural Society's Catherine H. Sweeney Award in 2006. Madalene is an accomplished plantswoman, and her garden at The International Festival-Institute at Round Top, Texas, attracts visitors from all over the world.

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Karen and her husband Mark run Mulberry Creek Herb Farm, an organic herb nursery in Huron, Ohio. Karen has degrees in Agricultural Research and Greenhouse Production from Ohio State University's Agricultural Technical Institute and over 20 years experience working in horticulture. She and Mark also teach classes at their herb farm on a variety of herbal topics, including organic gardening, aromatherapy, herbal crafts and herbal cooking. Karen and Mark are business members of The Herb Society of America.

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Mark has a degree in ornamental horticulture from Washington State University and has been working in the horticulture field since he was a teenager. He and his wife, Karen, run Mulberry Creek Herb Farm, an organic herb nursery in Huron, Ohio. They also lecture and offer workshops on herbs and gardening. Mark and Karen are business members of The Herb Society of America.

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Image Credits

Images provided courtesy of Robin Siktberg, Susan Belsinger, and Deni Bown, Gerard's herbal image photographed from: Gerard, John, 1545-1612. *The Herball, or Generall Historie of Plantes*. Enlarged and revised by T. Johnson. London: A. Islip, J. Norton and R. Whitakers, 1633. (HSA Library rare book collection),

Cover photographs (clockwise from top left): *Melissa officinalis*, (www.dreamstime.com), Susan Belsinger, Robin Siktberg, and Susan Belsinger.

Description & Taxonomy

A member of the Lamiaceae (mint) family, lemon balm (*Melissa officinalis*) belongs to a genus which includes five species of perennial herbs native to Europe, central Asia and Iran. Although *Melissa officinalis* originated primarily in Southern Europe, it is now naturalized around the world, from North America to New Zealand (70). Lemon balm occurs naturally in sandy and scrubby areas (97, 104) but has also been reported to grow on damp wasteland, at elevations ranging from sea level to the mountains (15).

Over the years, many common names have been associated with *M. officinalis*, including balm, English balm, garden balm, balmint, common balm, melissa, sweet balm, heart's delight and honey plant. Although *M. officinalis* has sometimes been called bee balm due to its traditional use for attracting honeybee swarms, it should not be confused with *Monarda didyma*, which also bears this common name.

There are two subspecies, *M. officinalis* subsp. *officinalis*, the common cultivated lemon balm; and *M. officinalis* subsp. *altissima*, naturalized in New Zealand and known as bush balm. Although *M. o.* subsp. *officinalis* is known for its lemon fragrance, the scent of *M. o.* subsp. *altissima* is sometimes described as fruity, herbal or powdery, but is actually often "scentless to fetid" (97).



Photo by Deni Bown

Physically, lemon balm is an erect herbaceous perennial with opposite pairs of toothed, ovate leaves growing on square, branching stems (11, 15, 49, 81, 97) and may have a bushy appearance (81, 92). Its height can range from just under 8 inches to nearly 5 feet (49, 92, 97), with a width of 12 to 24 inches (11, 15, 104). Leaves may be smooth or somewhat hairy (97). The plant's fruit is a tiny nutlet (36, 49, 97). Lemon balm's small flowers are 2-lipped, grow in whorled (15, 49) clusters, and may be pale yellow, white, pinkish (15, 92, 97) and infrequently purplish or bluish (92).

Chemistry & Nutrition

Although over 100 chemicals have been identified in *Melissa officinalis* (30), the main components of the essential oil are citral (neral and geranial), citronellal, linalool, geraniol and β -caryophyllene-oxide (1, 90).

Lemon balm's lemony flavor and aroma are due largely to citral and citronellal, although other phytochemicals, including geraniol (which is rose-scented) and linalool (which is lavender-scented) also contribute to lemon balm's scent (84).

Lemon balm is high in flavonoids, which can have an antioxidant effect (28 in 10). Other phytochemicals in lemon balm which may provide antioxidant activity include phenolic acids, terpenes, rosmarinic acid and caffeic acids (83 in 10). Lemon balm also contains tannins, which are astringent and contribute to lemon balm's antiviral effects, and eugenol acetate, which is believed to be one of the phytochemicals responsible for lemon balm's reported antispasmodic effect (66). (See the Medicinal Uses section for additional information.)

Lemon balm had historic use as an attractor of honeybees. (See History & Folklore section.) Research

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has shown that the plant contains several compounds found in the worker honeybee's Nasonov gland, which helps bees communicate about food sources and hive location (17). Both contain citral and geraniol, and honeybee pheromone contains nerolic acid, which is similar to the nerol found in *Melissa officinalis* (17).

Lemon balm essential oil is extracted from the leaves and flowering tops by steam distillation (65). Oil yield is typically less than 0.5 ml oil/kg herb (70). The essential oil available commercially may be adulterated (65, 66) with lemon, lemongrass or citronella (11, 65).

Although the essential oil content of plants of the same species can vary due to environmental conditions, harvest time and stage of growth (1), for *Melissa officinalis*, oil content is reportedly highest in the upper third of the plant (14).

Lemon balm essential oil, oleoresin and natural extractives are considered GRAS (Generally Recognized as Safe) (99, 100). The essential oil is GRAS at concentrations of 1-60 ppm (97). The leaf extract is GRAS at 2000-5000 ppm (97), and up to 0.5% can be included as a flavoring in baked goods according to U.S. GRAS regulations (14).

Melissa officinalis contains both Vitamin C and Thiamin (a B vitamin). One study detected an average of 254 mg vitamin C per 100 ml of solution (37). According to the same study, drying and storing lemon balm for over 12 weeks resulted in a 50% reduction in vitamin C content, and deep freezing for this same time period resulted in a 25% reduction in vitamin C. The Thiamin content was significantly lower, on average only 76.4 mcg per 100 ml of solution (37).

Although lemon balm is generally considered non-toxic, be aware that the plant/leaves may cause contact dermatitis in susceptible individuals (65, 84).

History & Folklore

Lemon balm's herbal use dates back over 2000 years (54, 72). The ancient Greeks and Romans used it medicinally, and information about the herb was recorded as far back as 300 B.C. in Theophrastus's *Historia Plantarum* (60 in 54).

The plant likely originated in Southern Europe and was brought to Spain by the Moors in the 7th century; by the Middle Ages it was cultivated and used throughout Europe (60 in 54).

The genus name, *Melissa*, means "bee" in Greek, and the plant was likely named for its reputed ability to attract bees (92, 97). First century Roman naturalist, Pliny the Elder, wrote that lemon balm planted near bee hives would encourage bees to return (38), and Gerard later claimed that rubbing the leaves on a hive would "causeth the Bees to keep together and causeth others to come unto them" (38).

The specific epithet, *officinalis*, means "used in medicine" (93) indicating that the species had historic medicinal uses (87). The common name is derived from the Greek word *balsamon*, which means balsam, or "an oily, sweet-smelling resin" (27). Lemon balm appears in historic works under various spellings including bawme, baume, balme and baulm (91).

Early herbalists and writers praised lemon balm for its medicinal and uplifting qualities. Eleventh century Persian physician and philosopher Avicenna was an early advocate for the use of lemon balm in treating depression/melancholy (27). According to an old Arabian proverb, "Balm makes the heart merry and joyful." (80)

First century Greek physician Dioscorides wrote that lemon balm would promote menstruation, improve

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gout, remedy toothaches and if mixed with wine, could be used to treat scorpion stings and dog bites (44). Later English herbalists John Gerard (1545-1612) and Nicholas Culpeper (1616-1654) shared Dioscorides' beliefs on many of lemon balm's uses. Gerard wrote that, "Bawme drunken in wine is good against the bitings of venomous beasts, comforts the heart, and driveth away all melancholy and sadness." (38). He advised that the juice of lemon balm would "glueth together green wounds." Culpeper believed the herb would treat boils, cure melancholy and was good for the heart, mind, liver, spleen, digestion and fainting (22). According to the *London Dispensary* (1696) lemon balm in wine could even prevent baldness (42). Some sources claim that lemon balm was once believed to staunch blood flow from a sword wound (23, 64) but according to Pliny and Gerard, the plant in question was not actually common lemon balm (*Melissa* sp.), but a type of balm known as Smiths Bawme, Iron-wort or lewes All-heale, which Gerard classified as *Herba indiaca* (or *Herba indaica*) (38).

Swiss physician and alchemist Paracelsus (1493-1541) believed that lemon balm was an "elixir of life" and would increase strength and lengthen life (11, 92, 97). There are a few legends surrounding lemon balm, health and longevity, and royalty. Both King Charles V of France and Holy Roman Emperor Charles V are said to have consumed lemon balm beverages to promote health (42, 87).

Members of the Carmelite religious order created a concoction known as Carmelite water or Eau de Melisse de Carmes, which was believed to promote longevity and improve headaches and neuralgia (20, 42, 87). (Some sources date the creation of Carmelite water to the seventeenth century (6, 87) and others to the fourteenth century (58). The primary ingredient in Carmelite water was lemon balm, but it also contained lemon peel, nutmeg and angelica root (42). A version known as Kloostergau Melissengeist has been sold in Germany in recent times (87).

In Europe, lemon balm was used as a strewing herb (26, 73, 80), and was tossed on floors to freshen rooms. It was strewn amongst church pews up to the nineteenth century (41). Oil from the herb was also used historically to polish furniture (20).

In the Victorian language of flowers, lemon balm could be added to a tussie mussie or floral bouquet to signify "social intercourse," "pleasant company of friends," "memories," "a cure," and "don't misuse me" (39).

Lemon balm arrived in North America with the early colonists, who used it to make potpourri and tea (26), to attract honeybees for honey production, and as a substitute for lemons in jams and jellies (20). Lemon balm was also one of the plants grown at Thomas Jefferson's garden and farm (50).

Lemon balm has been associated with the feminine, the moon and water (23, 64), and was considered a sacred herb in the temple of the Ancient Roman goddess Diana (92). According to magical folklore, the herb has powers of healing, success and love, and can be made into healing incense and sachets or carried to help the bearer find love (23).

Culpeper associated lemon balm with the planet Jupiter and the astrological constellation Cancer (22). Some herbalists believe lemon balm is also beneficial for the astrological signs Sagittarius (82) and Aquarius (2).

Literature & Art

Literature

Deciphering exactly which references in classic and ancient texts refer to lemon balm can be difficult. The word balm and its variations (baume, bawme, balme, bawme, and baulm) were used to describe aromatic and medicinal resins from various trees (bearing the common name balsam), anointing and embalming oils and preparations, healing ointments, and pleasant fragrances (91). Although balm is mentioned in the *Bible*, the plant in question is not lemon balm, but is believed to be *Commiphora opobalsamum* (75, 105), *Commiphora gileadensis* (110) or *Balanites aegyptiaca* (105). According to the *Oxford English Dictionary*, the earliest usage of “bawme” in reference to lemon balm was in *Promptorium parvulorum sive clericorum, lexicon Anglo-Latin* circa 1440: “Bawme, herbe... melissa” (91).

Nevertheless, scholars believe that the “baum” mentioned in the Roman poet Virgil's *Georgics*, written around 30 B.C.E, is actually lemon balm (103): “Bruis'd baum, and vulgar cerinth spread around,/ And ring the tinkling brass, and sacred cymbals sound:/ They'll settle on the medicated seats,/ and hide them in the chambers' last retreats.”

- Volume 1, Book IV (103)

It is also widely accepted that lemon balm is the “balm” of Homer's *Odyssey* (91):

...A vine did all the hollow cave embrace,
Still green, yet still ripe bunches gave it grace.
Four fountains, one against another, pour'd

Their silver streams; and meadows all enflower'd
With sweet balm-gentle, and blue violets hid,
That deck'd the soft breasts of each fragrant mead.

- *The Odyssey*, Book V (47)

Many believe that Shakespeare's *Merry Wives of Windsor* also refers to lemon balm in descriptions of “balm” as a strewing herb (16 in 104) or furniture polish (20, 85, 87):

Anne Page (as the Fairy Queen) proclaims:

About, about!
Search Windsor castle, elves, within and out:
Strew good luck, ouphs, on every sacred room,
That it may stand till the perpetual doom,
In state as wholesome as in state 'tis fit,
Worthy the owner, and the owner it.
The several chairs of order look you scour
With juice of balm and every precious flower:
Each fair instalment, coat, and several crest,
With loyal blazon, ever more be blest!

- (*Merry Wives of Windsor*, Act V, Scene V (21))



Illustration of *Melissa* from Gerard's *The Herball, or generall Historie of Plantes*, 1633 edition (HSA Library rare book collection)

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Lemon balm was also mentioned briefly in Henry David Thoreau's Journals: "In the garden of the Wellfleet Oysterman was yellow dock, lemon balm, hyssop, gill-go-over-the-ground, mouse-ear, chickweed, etc." (3)

Art

Although lemon balm does not appear in any well-known art works, it is depicted in various botanical illustrations and herbals, including Gerard's *Herbal*, Elizabeth Blackwell's *A Curious Herbal*, and Basil Besler's *Hortus Eystettensis* (1613). In addition, the Hunt Institute for Botanical Documentation lists two lemon balm watercolors in their online catalogue: "*Melissa officinalis* (lemon balm)" by Marie Felicity Angel and "Basil (*Ocimum basilicum*), Balm (*Melissa*): Balm, Variegated Basil, Lettuce-leaved Basil, Basil with Oregano-shaped leaves" by Marilena Pistoia (48).

Cultivation

Lemon balm is probably one of the easiest herbs to grow and is ideal for beginners. This perennial grows and spreads so readily, in fact, that some gardeners consider it a weed. According to Mark Langan, a common misconception about lemon balm is that it spreads like mint, but mint spreads by underground runners while lemon balm spreads via seed (62). For Madalene Hill, even though reseeding in the garden can be a problem, lemon balm is an essential herb garden plant that "no herb grower should be without" (45).

Propagation

There are many ways to propagate lemon balm, but many of HSA's gardening experts find that the species' easy self-seeding makes planned propagation unnecessary (59, 67, 88, 101). If starting new plants from seed, however, remember that lemon balm germinates best uncovered (67) or covered lightly with vermiculite (62) and will germinate in 5-9 days if temperature is 65-70° F (62). The species, *Melissa officinalis* 'Quedlinburger Niederliegende,' and *M. o.* 'All Gold' (Golden) will come true to type if isolated (62). For *M. o.* 'Aurea', the variegated cultivar, however, Andy Van Hevelingen suggests propagating by division or softwood cuttings since it will not retain variegation when grown from seed (101).

If propagating from cuttings, Andy takes 3-4 inch softwood tip cuttings in spring. He removes 2/3 of the leaves and pinches out the growing tip to prevent wilting. Andy recommends dipping in rooting hormone powder and placing in sterile medium amended with coarse sterile sand to provide support and moisture retention. The cuttings should be watered immediately and kept out of direct sun, and will root in 3-4 weeks (101).

Mark Langan takes 1¼ to 1½-inch tip cuttings and roots them in sterile potting soil over a heat table set at 70-75°F. Using this method, Mark has found that cuttings will root in about a week (62). Note that bottom heat can decrease rooting time (101) but heat is not required to induce rooting (12).

Cuttings can be taken in spring or fall. Although spring cuttings can be taken from flowering stems, fall cuttings should come from tips at the base of the crown which don't have flowers (62). Mark uses a razor blade for all of his cuttings, rather than scissors. A razor blade makes a clean cut, allows water to absorb quickly and prevents wilting (62).

Deni Bown suggests treating lemon balm "like any hardy perennial, digging up a clump when dormant and dividing into small pieces, either for replanting in the ground or in pots" (12). Her favorite propagation method, however, is "to take stem cuttings in the spring... choosing basal stems that have the odd root already or vestigial roots" (12).

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Lemon balm can also be propagated by layering (5, 67). Simply lay down a branch to the ground and place a stone over it (5).

OUTDOOR CULTIVATION

Hardiness

Lemon balm is typically hardy to Zone 4 (7, 49) or 5 (87, 97) but can survive to Zone 3 if mulched (62). In Southern California, lemon balm can be grown outdoors year-round (67).

Soil

Lemon balm can be grown in a variety of soils but does best in moist but well-drained loam with a pH between 4.5 and 7.6 (97). Mulching in preparation for winter can help protect your plants' roots (67). A mulch like sawdust or straw can also help control weeds (70).

Planting

If transplanting from plants started indoors, harden off cuttings in a bright, windy area, or use a fan to toughen up and condition the plants (62). Plants can be moved outside about 1 month prior to the frost-free date if they have been hardened off (62).

For commercial production, plants should be spaced about 1 foot apart, with 5 feet between rows (97). Home growers may have a little more flexibility and can space plants anywhere from 1 to 2 feet apart (12, 24, 78, 104), or just do what Ellen Scannell does, not worry about spacing and let plants “duke it out” (88). *Melissa officinalis* 'Compacta,' the dwarf cultivar, reaches only about 6 inches high and can be spaced more closely together (12). Seed can be sown directly in the ground in spring or early fall, covered with only a small amount of soil (24).

Containers

Lemon balm makes a nice container plant. Madalene Hill recommends growing it in a 15-18-inch container accompanied by summer annuals and herbs like basil, dill or coriander (45). Container plants may need to be divided each fall to avoid becoming root-bound (67). See Water and Fertilizer sections for more information pertaining to container growing.

Light & Temperature

Lemon balm can be grown in full sun or partial shade (87, 92), but the golden and variegated cultivars may scorch with too much sun (87). Ellen Scannell suggests morning sun with some afternoon shade (88). In Newberg, Oregon, Andrew Van Hevelingen prefers full sun and open exposure for lemon balm cultivation (101). Susan Belsinger, who gardens in Maryland, and Madalene Hill of Round Top, Texas have the most success planting out of direct sun (5, 45). Full sun turns leaves pale green and variegated varieties lose most of their coloring. For Madalene, lemon balm is one of the few herbs that will grow well in high shade and she finds that shade improves lemon balm's flavor (45). Mark Langan has had the opposite experience gardening in Huron, Ohio. He has found that the more shade his plants get, the less flavorful they are (62).

If all of this seems too complicated, don't worry. In the words of Mark Langan, lemon balm is “very adaptable to almost any soil or sunlight condition” (62).

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Water & Drainage

New plants should be watered immediately after transplanting (5). Madalene Hill has found that in her Round Top, Texas, garden, established plants in-ground or in large containers can be watered once a week (45). Mark Langan, on the other hand, waters his potted plants daily in summer, but his general rule for lemon balm (especially in-ground plants) is to water only if the plant is wilted in a drought situation (62). Frequent watering may be necessary, however, if plants are grown in full sun and high temperatures (101).

Although lemon balm likes moist soils (97), good drainage is also important (45, 97). Mulching will aid drainage and protect from hot weather (especially important if you garden in the South) (45). Planting on a hillside can also promote good drainage (45).

Fertilizer

Lemon balm is such a prolific and vigorous grower it rarely needs fertilizer (5). Preparing soil with leaf humus or compost is usually sufficient (5, 62). Adding calcium in the form of lime or gypsum every 3-4 years can also be beneficial (62). Container plants, however, may benefit from organic liquid fertilizer four times per year (67).

Advice for Beginners

Lemon balm is such an easy plant to grow, Rex Talbert advises beginners to “stand back” after sowing seeds (94). Dr. Art Tucker cautions that the plant can be invasive (96). Mark Langan suggests preventing lemon balm from going to seed if you want to avoid spreading (62). Another option is to choose the sterile variety, *Melissa officinalis* 'Compacta' (61). Susan Belsinger says beginning gardeners should remember that a plant that starts out in a 4-inch pot will be 1½ to 2-feet tall and wide by the end of the season. Put the plant where it will have ample room and cut it back as needed (5). (See Pruning & Harvesting section for additional information). Maintaining good air circulation can be challenging since lemon balm can spread so rapidly (5). Susan Belsinger started with two lemon balm plants near the foundation of her house and now has about 30 plants. If plants become too crowded, simply thin to the desired spacing (5). Lorraine Kiefer suggests growing lemon balm under trees; “the natural leaf cover in winter acts as a mulch and becomes compost” (59).

Indoor Cultivation

If grown as a potted indoor plant, lemon balm will need 5 hours of direct sunlight or 14-16 hours of artificial light per day (92). Most of HSA's experts don't recommend growing lemon balm indoors, however. According to Madalene Hill, although lemon balm will grow indoors in a sunny window, the flavor won't be as intense. It's best to think of lemon balm as a seasonal, summer plant (45).

Pests & Diseases

Lemon balm does not often fall prey to pests and diseases, but there are a few to watch out for. Indoors and in the greenhouse, aphids and spider mites can infest lemon balm, but hard washing with a hose (or in the sink) can help remedy the problem (62). Mark Langan also suggests dusting undersides of leaves with wettable sulfur, waiting 24 hours, and then washing off. This can be especially helpful in the Southwest where sulfur can help acidify the soil (62).

European red mite and two-spotted mite can cause leaf bronzing and stunted growth (70). Whitefly can be a problem in the greenhouse, especially with poor ventilation and inadequate sunlight (94). Rex Talbert has a creative solution to combat whitefly, spraying a board with a yellow color that attracts whiteflies, covering it with a sticky substance and placing the board near the plants (94).

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One disease associated with lemon balm is not necessarily a concern, but may actually be related to a desirable ornamental characteristic of one lemon balm variety. A 2005 article in *Plant Pathology* reported an association between variegation in lemon balm and the presence of Tulip Virus X (TVX) (98).

Less benevolent diseases of lemon balm include powdery mildew and *Septoria* leaf spot. Powdery mildew is a fungal disease that gives leaves a whitish powdery appearance and can be a problem in areas with hot, humid days and cool nights (12, 31). This disease can be controlled by providing good air circulation and regular harvesting/pruning (88, 104). To avoid mildew, try growing the cultivar *M. officinalis* 'Citronella,' which is mildew-resistant (12).

Septoria leaf spot, a fungus that can infect lemon balm, causes dark brown or black 1-2mm angular leaf spots. Wet leaves, warm temperatures and high humidity can predispose plants to this disease, but it can be combated with proper spacing (for good air circulation), disinfecting pots, crop rotation and watering earlier in the day if overhead watering is necessary (8).

Pests can be combated with beneficial insects, insecticidal soaps, traps and manual removal (24). Mark Langan suggests planting in well-drained, fertile soil to prevent disease. Using this method, Mark doesn't have a problem with pests and diseases in the landscape (62). Soil-borne diseases can be prevented with crop rotation. Drip irrigating or "watering early in the day" can help prevent diseases that affect damp leaves (24).

Pruning & Harvesting

There are many options when it comes to pruning and harvesting lemon balm. Leaves can be harvested as needed. Susan Belsinger suggests thinning plants in the summer to improve air circulation. This is particularly important during hot and humid weather. To thin plants, simply snap a stem off from the base. If plant has 30 stems, about 10 should be removed. The thinned stems can then be hung to dry (5).

In addition to thinning, Susan cuts her plants nearly to ground level for the three major harvests in spring, summer and fall. Susan has found that she can get new growth even in cool weather after the plant has bloomed and leaves are turning yellowish-green (5). In Southern California, Theresa Loe cuts her lemon balm plants to the ground in late fall or early winter but they never become dormant and she can harvest year-round (67).

Plants may brown around the edges due to excess heat, cold, dryness or high winds (45). Madalene Hill and Gwen Barclay trim 1 or 2 inches all around the plant to remove browning and finds that in just a few days new growth will appear. For plants that are very large, try trimming one side one week and the other side the following week. If the plant has been subjected to more extreme conditions like hurricane winds or drought, they would cut it back to 4 or 5 inches in late winter or early spring(45).

It's nearly impossible to over-prune/over-harvest lemon balm (61). According to Lorraine Keifer, in mid-summer, a large patch can even be pruned with a trimmer/edger or a mower set on high. She suggests watering and fertilizing following this aggressive pruning if soil is poor or plants look "sparse" (59). Mark Langan has also noticed that lemon balm can be mowed to the ground and will rebound, but for Mark a safe rule is to remove up to half of the plant's total height (62).

Be sure to prune flowering stalks before the plant goes to seed to keep lemon balm from spreading (101). Andrew Van Hevelingen also suggests dividing three-year-old plants and replanting, since lemon balm plants can "die in the middle and creep outwards like French tarragon" (101).

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Essential oil content is reportedly highest in the top one-third of the plant (76), and one study that took place in the Ebro-Delta of Spain found that harvesting in the morning during August and September produced the best essential oil content (1).

Many herb enthusiasts believe flavor is best prior to flowering (12, 45, 81, 87, 88) but for essential oil production, plants are harvested at flowering (92). If harvesting for essential oil production, Mark Langan suggests cutting plants to the ground in spring as the first 5-25% of flowers open. Mark points out that seed production, not flowering, affects oil production and leaf flavor (62). According to Susan Belsinger, if the plant is cut back after flowering, new leaves that appear will have the flavor of spring growth (5).

Preserving & Storing

Drying

The flavor of fresh lemon balm is superior to dried (5, 45, 62, 87, 88), but depending on the season and your location, drying lemon balm leaves can provide access to the herb year round.

Lemon balm can be dried by hanging in bunches, then stripping off leaves (12, 59, 67). It can also be dried on trays (45, 104) and should be dried in a dark place (101, 104) with good air circulation (58, 101). Dry within 2 days or leaves may turn black (87, 104).

Dried leaves can be stored for 1 year in glass containers in a dark, dry place (43, 67). They can also be stored in the refrigerator for a few days or in double bagged food storage plastic bags in the freezer for the short term (45).

Freezing

For fresh flavor, even in winter, Susan Belsinger prefers freezing chopped lemon balm leaves in vegetable oil. The lemon balm and oil combination can be added to baked goods (5). Another option is to freeze whole or chopped leaves and water in ice cube trays (62).

Uses

Culinary Uses

Lemon balm is a surprisingly versatile culinary herb which can be used to flavor many different types of dishes, from beverages, to appetizers, main courses and desserts. It can be added to salads, sandwiches, soups, stews, butters, cheeses, fish, stuffings for poultry, pork and veal, egg dishes, vegetables, fruit cups, jams, jellies, sauces, marinades, dressings, herb vinegar, wine, punch, cakes, custards, tarts, sorbets, ice cream, cookies, crepes, pies and cheesecakes (5, 67, 92).

Lemon balm complements many fruits, including honeydew, cantaloupe, pineapple, apples and pears (5). For fruit salads, try mixing fresh lemon balm with pineapple sage (81). For vinaigrettes or salad mixes, lemon balm combines well with parsley or basil. It can also be included in fines herbes mixtures with dill, tarragon, parsley, chervil and chives. In springtime, combine lemon balm with fennel and thyme (5).

For desserts, Susan Belsinger recommends mixing lemon balm with sweet woodruff, and for scones she likes the combination of lemon balm and ginger (5). For dessert recipes, leaves can be steeped in hot cream or milk (26). Susan Belsinger also likes to infuse leaves in milk for 5 minutes, strain out leaves and add 1 tsp maple syrup. This is a delicious, relaxing bedtime drink (5). As a main course, Deni Bown

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cooks leaves inside whole trout for "the perfect combination" (12). A quick and easy recipe that Susan likes is lemon balm oatmeal. Simply add a handful of leaves to the boiling water that will be used to make oatmeal, and strain out leaves after steeping (5).

For culinary purposes, fresh leaves are most flavorful (67). Chopped, fresh leaves can be added to baked goods but whole leaves can be used in many other types of dishes (5). Madalene Hill and Gwen Barclay prefer to use lemon balm leaves in cold foods because they have found that heat will reduce lemon balm's flavor (45). If you will be adding to cooked foods, Madalene Hill and Gwen Barclay, along with Susan Belsinger, recommend adding leaves near the end of cooking (6).

One of the most popular ways to use lemon balm is in tea. Leaves can be combined with Earl Grey, green or black tea (58) and a handful can be added to a pitcher of iced tea (6). Fresh leaves are best for tea, but dried leaves can also be used. Lemon balm leaves can also be mixed with rose petals and orange blossoms (13) or raspberry leaves, strawberry leaves, rose hips, alfalfa, red clover or scented basil for tea (63). Rex Talbert prefers cold lemon balm tea to hot because he's observed that the hot tea can have a bitter taste. For cold tea he likes to mix lemon balm with China tea and spearmint (94).

Lemon balm is also wonderful in other summer drinks (88). Leaves can be combined with cold fruit juice (63), carbonated soda, fruit punch and wine (84). A few tablespoons of lemon balm distillate can add refreshing flavor to ice water or iced tea (51). Susan Belsinger describes lemon balm as "a wonderful summertime herb...the essence of summer..." (5).

Susan Belsinger makes lemon balm syrups which she stores in the freezer in Mason jars; the syrup retains a true lemon balm flavor and can be used to make soda, tea, muffins, scones and a variety of other treats (5). Lemon balm leaves can also be used to flavor sugar by mixing chopped leaves with sugar and storing for at least 6 weeks. Lemon balm sugar can be added to baked goods or tea (13).

Lemon balm flowers also have culinary use. They can be candied (92) or used to garnish fruit salad, beverages or rice (5). Also try adding them to whipping cream with sugar and fresh peaches or strawberries (5).

In the commercial food industry, lemon balm oil and extract are used to flavor alcoholic and non-alcoholic beverages, candy, baked goods, gelatin, pudding and frozen dairy desserts (66, 92). Lemon balm is an ingredient in liqueurs like Benedictine and Chartreuse (11, 87, 92).

Recipes

SUMMER HERB GARDEN PUNCH

This punch was inspired by a great cook and herb friend, Lucinda Hutson, who wrote The Herb Garden Cookbook. Make sure all of the liquid ingredients are well chilled. Serve this in a punch bowl or Mexican water jar surrounded with herbs and flowers or an herb wreath. If you are using a punchbowl, it is a good idea to make an ice mold to keep it cold, if it will be sitting out for a while. To do this, use a ring-shaped mold or pan (sometimes I use five smaller star-shaped molds). Use water or lemonade. Pour this into the mold and add some thin slices of lemon. Place a few edible flowers or herb leaves on top and freeze the mold until it is solid. If you are keeping it for more than a day or so, cover it tightly with plastic wrap; it can be kept frozen for a month.

This is enough punch to make for a party; it makes about 20 to 24 servings.

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½ gallon lemonade or limeade, homemade or frozen
 1 large can pineapple juice (46 ounces)
 About 3 large handfuls of pineapple sage, lemon balm, lemon verbena, or mint leaves
 2 bottles of champagne or ginger ale
 2 lemons, sliced thin, seeds removed
 1 lime, sliced thin, seeds removed
 Fresh pineapple chunks, optional
 Ice or ice mold

Pineapple sage, lemon balm, lemon verbena, lemon grass, or mint leaves for garnish

Mix the lemonade or limeade and pineapple juice together and stir in the herbs. Refrigerate for at least 1 hour or up to 24.

Depending upon the size of your punch bowl, you can mix up just half the batch, or use all of the ingredients. When ready to serve, squeeze the essence out of the infused herbs and remove them. Pour the juices into a punch bowl and add the lemon and lime slices, and pineapple chunks, if desired. Add the ice or ice mold and garnish with the fresh herb leaves. Pour the champagne or ginger ale in just before serving.

Recipe © Susan Belsinger

SUMMERTIME COOLER WITH LEMON BALM

6 cups fresh or reconstituted frozen orange juice
 1 - 46-ounce can pineapple juice
 ¼ - ½ cup sugar, depending upon sweetness of fruit juices
 2-3 tablespoons fresh lemon juice to brighten flavor
 Fresh branches of lemon balm, lemon basil, and a mild spearmint to fill container halfway. No woody branches should be used.

Combine orange and pineapple juices, along with sugar in a non-reactive (glass or plastic) container fitted with a lid; stir until sugar is dissolved. Add lemon juice to brighten flavor and adjust sugar if needed.

Bruise branches of herbs by twisting to release essential oils. Add herbs to container of juices, packing in as much as possible but making sure herbs are covered with liquid. Cover container and refrigerate overnight, to allow juice to become flavored. Strain juices, pressing out as much liquid as possible from herbs. Check for sweetness and serve over ice. Crushed ice may be pureed with juice to create a lemony "smoothie."

Yield: 16-20 servings with ice

Recipe © 1993 Madalene Hill-Gwen Barclay, Flavour Connection

HERBAL WATER

1 handful of lemon balm
 ½ handful of pineapple sage
 ½ handful orange mint
 ¼ handful mystery herb (like rose, lime basil, or rose scented geranium) in 2 quarts of water

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Six hours before drinking it, gather the herbs, wash them gently in cold water and place them in a jug of water. Place the jug in the fridge so that is refreshingly chilled for family or guests. For a morning garden tour, make this the night before.

Any citrus, pleasant scented geranium, mint or other pleasing herbs can be substituted.

Recipe © Karen Langan

ICED LEMON BALM TEA

This refreshing tea is concentrated so that it won't be diluted with extra ice. Enjoy it after a long morning working in the garden.

8 cups water
15 orange pekoe tea bags
3 (5-inch long) sprigs fresh lemon balm
1 cup sugar
Juice of 1 lemon
Ice

In a large saucepan, bring water to a boil. Remove from heat and add tea bags, and lemon balm. Cover and set aside for 5 minutes. Remove tea bags and lemon balm and discard. Stir in sugar until dissolved. Add lemon juice. Chill for at least 1 hour. To serve, pour lemon tea over into a tall glass of ice.

Makes 8 servings

Recipe © Theresa Loe

SWEET HARVEST TEA

This tea is very refreshing when the days are warm and fresh herbs are still abundant in the garden. The naturally sweet mint creates a brew that needs no other sweetener.

¼ cup loosely packed, fresh lemon balm
¼ cup loosely packed, fresh peppermint leaves
1 teaspoon fresh or dried lavender blossoms
3" slice of orange peel (orange part only)
2 cups water

Place herbs and orange peel in a large teapot. In a small saucepan, heat water to almost boiling and pour over herbs in teapot. Cover teapot and let mixture steep for 10 minutes. Pour through a strainer to serve.

Recipe © Theresa Loe

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LEMON BALM (*Melissa*) AND CITRUS TEA

A delicious winter time pick-me-up

½ cup dried lemon balm leaves, firmly packed and broken in small pieces
 ¼ cup dried orange mint leaves firmly packed
 1 tablespoon dried lemon zest
 1 teaspoon whole allspice berries lightly bruised
 2 tablespoons dried calendula or chamomile flowers, firmly packed

Combine ingredients. Store unused tea blend in a tightly sealed container in a dark cool place.

To serve: In a warm teapot, steep 1 heaping teaspoon of tea blend for each cup of boiling water. Steep 5 minutes. Strain and serve with honey or sugar.

To prepare tea with fresh herbs, double the quantity. It is not usually necessary to increase lemon zest or allspice. For consistency herbs should always be firmly packed whether using dried or fresh.

Yield: Approximately 15 cups of tea

© 1998 Madalene Hill-Gwen Barclay, Flavour Connection

LEMON BALM (*MELISSA*) SIMPLE FRESH HERB LIQUEUR

1½ cups sugar
 ¼ cup water
 2 cups firmly packed cups leaves and tender stems of lemon balm (*Melissa*)
 1 liter vodka or brandy

Combine sugar and water, bring to a boil and stir until sugar is completely dissolved. Pack leaves and tender stems in a large glass container. Cool syrup to lukewarm and pour over herbs; add vodka or brandy. Cap and store in a cool, dark place at least one month before using; shake occasionally. Strain before decanting into bottles.

Delicious for basting mild meats, poultry, seafood, or use in sauces. Very good with fruit and other desserts, or as a delicate aperitif before a meal.

Note: Experiment with various herbs, single or a combination of sweet herbs; rose geranium, lemon verbena, sweet marjoram and pineapple sage. It is especially pleasing with red stem apple mint *Mentha xgracilis* 'Madalene Hill.'

Yield: 3½ - 4 cups

Recipe © Billi Parus

BUTTERMILK CREAM SCONES WITH LEMON BALM

The proper way to eat a scone is to first split the scone in half. Next, spread each half with jam, and finally, place a generous dollop of cream on top of each. These yummy scones can be prepared for a special breakfast, brunch, tea party, or even served as dessert. Sweet herbs such as anise hyssop, lemon balm, lemon verbena, orange mint, or fruit-scented sage are best in these scones.

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Makes about 2 dozen scones

2¼ cups unbleached white flour
 2 teaspoons sugar
 ¾ teaspoon salt
 2 teaspoons baking powder
 ½ teaspoon baking soda
 4 tablespoons unsalted butter
 ½ cup buttermilk
 ½ cup cream
 2 tablespoons freshly chopped lemon balm
 1½ teaspoons lemon zest, finely chopped

Preheat oven to 425°F. Combine the dry ingredients in a large bowl and blend thoroughly. Cut in the butter until the mixture resembles a coarse meal.

Stir the buttermilk and cream together with the lemon balm and zest. Add the liquid to the dry ingredients and stir to form a soft dough.

Turn the dough onto a floured pastry marble or board, knead gently until it just comes together, and roll out to ½-inch thickness. Cut the dough with 1¾- or 2-inch cookie cutter and place on an ungreased baking sheet.

Bake the scones for 10 to 12 minutes or until golden brown. Remove to baking rack to cool slightly before serving. The scones are best served warm and right after baking. If you want to prepare them in advance, cool them completely and store them in an airtight container. Wrap them in foil and gently reheat them in a 325°F oven for about 10 to 15 minutes.

Recipe © Susan Belsinger

LEMON BALM (*MELISSA*) AND LIME FRESH FRUIT COMPOTE

Fresh fruit of choice – hard (apples and pears) or soft (peaches, grapes, bananas, mangos, kiwis, or variety of berries.) Allow ¾ to 1 cup fruit per person.

Poaching Liquid for Hard Fruit (soft fruit does not require poaching)

White wine to cover fruit
 To each 2 cups of wine add:
 ¼ to ½ cup sugar or honey
 1 small piece cinnamon bark
 ¼ teaspoon whole cloves
 ½ teaspoon whole allspice berries
 1 teaspoon whole coriander seed
 Peel of one lime, green part only, cut into small pieces
 Several branches **each** of lemon balm, rose geranium, and pineapple sage

Prepare hard fruit, slicing or chunking, and dip into a solution of half lemon juice and half water. Combine poaching liquid ingredients in a shallow stainless skillet; bring to a boil. Add fruit and cook until just tender when pierced with tip of sharp paring knife. Remove fruit with a slotted spoon and combine with selected soft fruit. Strain liquid and reduce liquid until syrupy. Cool and pour over all fruit to marinate for at least one hour.

Lemon Balm (*Melissa*) and Lime Sauce

1 cup sour cream
 1½ tablespoons fresh lime juice
 1½ teaspoons grated lime peel
 2½ tablespoons honey
 ¼ teaspoon ground coriander seed
 1/8 teaspoon ground cardamom seed
 Dash salt

Combine sauce ingredients and drain marinated fruit. Layer fruit with sauce in a clear glass compote or individual dishes. Garnish with fresh herbs.

Yield of Sauce: 4 to 6 servings. Sauce may be increased as necessary.

© 1992 Madalene Hill-Gwen Barclay, Flavour Connection

LEMON POPPY SEED CAKE

This rich, buttery, lemony moist cake has a pleasing herby aroma with a tender crumb. A friend of mine, Lisa Yockelson, is a wonderful baker, and this recipe is an adaptation of her Lemon-Poppy Seed Pound Cake from A Country Baking Treasury. The lemon herbs make a fragrant addition; however, if you don't have them, it is still quite delicious.

Makes a 10-inch bundt cake

3 cups unbleached flour
 1 teaspoon baking powder
 ½ teaspoon baking soda
 ½ teaspoon salt
 1½ cups milk plus 1 tablespoon lemon juice
 About 2 tablespoons finely minced lemon balm
 Generous tablespoon finely grated lemon zest
 1 cup unsalted butter, softened
 2 cups sugar
 4 extra-large eggs
 1 teaspoon pure vanilla extract
 ½ teaspoon pure lemon oil or 1 teaspoon lemon extract
 ⅓ cup poppy seeds
 About ¼ cup lemon juice
 About ¼ cup sugar

Generously butter and flour a bundt pan. Preheat oven to 350°F.

In a small bowl, combine the flour, baking powder, baking soda, and salt; sift ingredients together once, set aside. In a measuring cup, combine the lemon herbs, with the milk and lemon juice and add the zest; stir well.

Cream the butter in the bowl of an electric mixer on medium speed for about 3 minutes. Scrape down the sides and add the sugar and beat for 2 minutes, stopping to scrape down the sides. Add the eggs, one at a time, blending well after each one, scraping down the sides, if necessary. Beat for a few minutes until light and fluffy. Add the vanilla and lemon oil or extract; beat for a minute.

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On low speed, blend in the dry ingredients in three parts and the milk mixture in two parts, starting with the dry ingredients, and mix well. Scrape down the sides and fold in the poppy seeds, blending well. Pour and spoon the batter evenly into the pan.

Place in a preheated oven and bake for about 1 hour until the top is golden brown and a tester comes out clean. While the cake is baking, combine the remaining $\frac{1}{4}$ cup lemon juice with the $\frac{1}{4}$ cup sugar and stir well to dissolve the sugar.

When the cake is done, remove the pan to a baking rack and let cool for 5 minutes. Turn the cake out onto a baking rack and brush with the lemon glaze; repeat another time if there is any leftover. Let the cake cool on a baking rack. It will keep for 5 days, tightly covered, or freeze for up to a month.

Recipe © Susan Belsinger

LEMON BALM ICING

1 cup powdered sugar
 $\frac{1}{4}$ cup lemon balm distillate

Mix and drizzle over your favorite pound cake or coffee cake.

Recipe © Cindy Jones

LILLIAN'S LEMON DOODLES

1 cup butter (no substitutions)
 1½ cups sugar
 2 eggs
 6-8 leaves of lemon balm that have been finely chopped (can put in blender with eggs to be chopped)
 Blend in:
 2¾ cups flour
 1 teaspoon cream of tartar
 1 teaspoon baking soda
 Zest of one fresh lemon or a tablespoon of dried grated lemon peel
 1 teaspoon vanilla

Chill batter 1 hour or longer. Roll small balls the size of a cherry or walnut depending on the size of cookie you like; bake at 350°F, 8-12 minutes, till golden. Batter can be kept up to a week covered, in refrigerator. While still warm, frost with small dollop of lemon butter icing.

Lemon Butter Icing:

Beat one stick of room temperature butter with 1 box 4X sugar. Add the juice of $\frac{1}{2}$ lemon, 1 teaspoon vanilla; beat well. If too stiff, add a drop or two of milk. Lemon zest optional.

Recipe © Lorraine Kiefer

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LEMON BALM CUSTARD WITH RHUBARB SAUCE

Lemon balm is one of the first herbs up in our spring gardens. If you don't have lemon balm, you can use about a tablespoon of dried lemon verbena leaves or 2 fresh bay leaves; if you don't have these herbs on hand, the lemon zest and vanilla give adequate flavor for this simple, classic custard. The tartness of the rhubarb sauce is a wonderful counterpoint to the smooth custard. The custard can be unmolded and served warm with a warm sauce, or they can be refrigerated and served at cool room temperature, with the sauce at cool room temperature or warmed. Both the custard and sauce can be prepared a day in advance. If you are too busy and don't have time to make the custards, this sauce is great on vanilla ice cream.

Makes 6 to 8 ramekins or custard cups

Custard

2½ cups milk
 ½ cup fresh lemon balm or 2 bay fresh leaves
 Generous teaspoon lemon zest
 About ½ vanilla bean, split lengthwise or 1 teaspoon pure vanilla extract
 ½ cup sugar
 2 extra-large whole eggs
 2 extra-large egg yolks
 pinch salt

In a heavy-bottomed non-reactive pan, heat the milk with the herbs, lemon zest, and the vanilla bean if you are using it, and bring to a simmer. Remove from heat, cover, and let stand for about ½ hour. Meanwhile, prepare a pan large enough to hold 6 to 8 ramekins or custard cups.

Preheat oven to 325°F. Add the sugar to the milk-herb mixture and gently reheat to dissolve the sugar, stirring occasionally. In a small bowl, lightly beat the eggs with the egg yolks and a pinch of salt. Pour or spoon about ½ cup of the warm milk into the eggs and whisk to incorporate. Then add all of the milk to the eggs and blend well. Add vanilla extract, if not using the bean.

Pour the custard mixture through a strainer to remove the herbs, zest, and vanilla bean, pressing them gently to remove their essence. Pour the custard mix evenly into the custard dishes. Carefully fill the pan holding the custard dishes with hot water. Place the pan in the oven and bake the custards until they are set, about 40 minutes, or until a knife inserted in the center comes out clean.

Remove the custards from the hot water and place on a baking rack to cool. Serve warm, or, cool and refrigerate. The custard may be served in the dish it was baked in, or unmolded by gently running a spatula around the edges of the dish and inverting it onto a serving plate.

If you have lemon balm, or sweet woodruff, add a handful of the leaves to the rhubarb sauce along with the rest of the ingredients, and remove them before serving. This sauce makes a little more than needed, but will keep in the refrigerator for a week. Besides ice cream, it is delicious on waffles, pancakes, biscuits, peach pie, and stirred into yogurt or oatmeal.

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Rhubarb Sauce

About 4 cups finely chopped fresh rhubarb
 ½ cup orange juice, preferably fresh-squeezed
 ½ cup sugar
 1 to 2-inch piece of vanilla bean, split lengthwise
 Few dashes fresh grated nutmeg

Scrub the rhubarb, trim the ends, and cut lengthwise down the center. Cut the rhubarb into ¼-inch slices.

Combine the rhubarb, orange juice, sugar, vanilla bean, nutmeg, and herbs if you are using them, in a large heavy-bottomed, non-reactive saucepan and place over medium high heat. Stir, cover and bring to a simmer, which will just take a few minutes. Remove lid, stir well, and reduce heat to medium. Cover and cook for 5 minutes. Remove lid and stir.

Cover and let stand, the sauce will continue to cook a little as it stands. The sauce should be about the consistency of a thick soup. If you want it thicker, cook it a few minutes more with the lid off. Remove the herbs and vanilla bean pieces before serving. Serve warm or at cool room temperature; it can be easily reheated.

Recipe © Susan Belsinger

PINEAPPLE BALM SORBET

This pale yellow, green-flecked sorbet is wonderful as a dessert or as a palate cleanser, otherwise known as an intermezzo. This recipe is excerpted from Herbs in the Kitchen by Carolyn Dille and Susan Belsinger, Interweave Press, 1992.

Makes about 1½ quarts; serves 10

½ cup sugar
 1 cup boiling water
 1 large, ripe pineapple, about 2½ pounds
 ½ cup packed balm leaves

Dissolve the sugar in the boiling water and set aside to cool. Remove the rind from the pineapple and core it. Cut it into chunks and measure 5 cups of pineapple. Puree the pineapple with the balm leaves in a food processor, or in a blender in batches. Stir the sugar syrup into the puree and blend well.

To make the sorbet in an ice cream maker, follow the manufacturer's instructions. To make the sorbet in the freezer, pour the mixture into a stainless steel bowl and freeze for 40 minutes to 1 hour, until very firm. Remove from the freezer and break the sorbet into 1-inch chunks with a spoon and stir well. Return to freezer for 1 hour or as long as desired.

Ten minutes before serving, break up the sorbet and blend or process to a smooth consistency. Transfer the sorbet to chilled serving glasses and return to freezer for 5 minutes.

Recipe © Susan Belsinger

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LEMON-ROSEMARY SORBET

The combination of lemon balm and rosemary in this herbal sorbet is very refreshing on a hot summer day. The vodka improves the texture of the sorbet, but you may omit it if you wish. Make your sorbet several hours ahead so that it can “set up” in the freezer before serving.

1½ cups sugar
 1½ cups water
 6 sprigs lemon balm (5-inch long each)
 ¼ cup roughly chopped, fresh rosemary
 ¾ cup lemon juice
 1 tablespoon vodka

In a medium saucepan, combine sugar and water. Bring to a boil and stir until sugar is dissolved. Remove from heat, add herbs and cover. Set aside for 30 minutes to steep. Strain mixture and discard herbs. Add lemon juice and vodka and chill mixture for 30 minutes. Place in an ice cream maker and freeze according to manufacturer's instructions.

Recipe © Theresa Loe

LEMON BALM HONEY

The refreshing flavors of lemon balm and spices make this delightful honey indispensable. Use it to flavor hot or cold tea, sweet scones, pastries, fresh fruit or try it drizzled over vanilla ice cream.

1½ cup honey
 ¼ cup hard packed, fresh lemon balm leaves
 2 tablespoon fresh lemon juice
 1 strip of lemon peel
 10 whole allspice
 10 whole cloves

Heat honey in a small saucepan until very warm. Place remaining ingredients in a large, clean glass jar and pour warm honey over. Stir, cover and set aside for 2 days at room temperature. Reheat and strain honey into another clean glass jar. Refrigerate and use within 3 weeks.

Recipe © Theresa Loe

LEMON BALM AND CHIVE BUTTER

This lovely butter is delicious on any steamed vegetable, tossed with grains or pasta, and with fish or shellfish. Of course, it is great on a just-baked biscuit or any bread.

Makes about 1 cup

8 tablespoons unsalted butter
 2 tablespoons minced lemon balm
 1 tablespoon minced parsley
 1 tablespoon snipped chives
 Salt to taste

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Soften the butter and combine with the minced herbs. Salt to taste and cover and chill overnight to ripen the flavors.

Recipe © Susan Belsinger

UP TO DATE POPPY SEED AND LEMON BALM DRESSING

1/3 cup white wine vinegar
 ½ cup powdered sugar
 1 teaspoon dry mustard
 1 teaspoon salt
 ½ cup coarsely chopped onion
 1 cup salad oil
 2 tablespoons lemon balm leaves – chopped, firmly packed
 1 tablespoon poppy seed

Combine sugar, mustard, salt, onions and half of the vinegar in blender. Blend well. Gradually add oil, alternately with remaining vinegar and blend until a stable emulsion is formed. Add lemon balm and poppy seeds. Pulse to quickly blend. Store in tightly covered container in refrigerator. Serve over fresh fruit with salad greens or in glass bowl as a sweet salad.

Yield: 1½ cups

Recipe © 1980 Madalene Hill-Gwen Barclay. Flavour Connection

SWEET HERBAL CHEESE

Our favorite for afternoon tea time

12 ounces cream cheese, softened
 4 ounces unsalted butter, softened
 2 tablespoons finely chopped orange zest – orange portion only
 Orange juice to thin to desired consistency
 2-3 tablespoons honey
 ¼ cup coarsely chopped toasted pecans, pistachios or almonds
 2 tablespoons finely chopped crystallized ginger
 2 tablespoons finely chopped fresh lemon balm
 2 tablespoons finely chopped orange mint
 ¼ teaspoon salt as needed

Combine cream cheese in an electric mixer or mix with a fork or rubber spatula. Add butter combining well, and stir in remaining ingredients.

Serve on fruit or use as a topping for plain cake or nut breads. This makes a delightful filling for layer cakes or fancy tea sandwiches.

Yield: 2½ cups

Recipe © 1992 Madalene Hill-Gwen Barclay, Flavour Connection

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TART AND SWEET SUMMER SALSA

½ pound tomatillos, husks and core removed, washed and cut into ¼-inch dice.
 1 large ripe avocado, peeled, seed removed and cut into ½- inch dice. Dip in diluted lime juice or Fruit-Fresh® to keep from turning brown.
 1 large seedless orange, peeled, membrane removed, each segment cut into half pieces.
 ½ cup slivered red onion (soak in sugar water 1 hour if too hot.)
 1-2 teaspoons seeded, and minced jalapeno or Serrano chiles.
 1 tablespoon finely chopped cilantro, more as desired.
 2 tablespoons finely chopped lemon balm
 Salt to taste
 Additional chopped lemon balm for garnish.

Combine all ingredients in a glass or stainless steel bowl. Mix lightly and taste for balance of seasonings; adjust as needed to balance salt and acid. Set salsa aside at room temperature until ready to serve.

This is a delicious salsa to serve with grilled fish or chicken, or as a dip with chips.

Yield: 3 ½ - 4 cups

Sugar Water (for red or white 'hot' onions)

¼ cup sugar dissolved in 2 cups water

Recipe © 1980 Madalene Hill-Gwen Barclay, Flavour Connecton

CHICKEN SALAD WITH CREAMY LEMONY HERB DRESSING

1 pound cooked chicken breasts, cut or torn into bite size pieces.
 ¾ cup thinly sliced celery (cut on diagonal)
 ½ cup thinly sliced chives or substitute green onions (green portion only)
 ¾ cup toasted pecan pieces, or other nuts may be substituted
 1 cup seedless grapes, cut in halves
 ½ cup golden raisins
 Sprigs of lemon balm, lemon thyme, lemon basil or Mexican mint marigold for garnish

Creamy Lemony Herb Dressing

¾ cup sour cream
 ¾ cup mayonnaise
 2-3 tablespoons lemon juice
 1 teaspoon ground coriander seed
 3 tablespoons honey
 1 tablespoon grated lemon peel
 2 tablespoons chopped fresh lemon balm
 2 tablespoons chopped fresh Mexican mint marigold or tarragon
 2 teaspoons chopped fresh lemon thyme
 2 tablespoons chopped fresh parsley
 ½ teaspoon salt
 ¼ teaspoon freshly ground white pepper

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Mix dressing by combining all ingredients in a small bowl with a rubber spatula or a wire whip. Do not combine in a blender or processor, or it will be too thin. Dressing should be highly seasoned to flavor chicken and other ingredients.

Place chicken pieces in a medium mixing bowl. Add celery, chives, nut pieces, grapes and raisins, tossing them lightly with a fork. Taste dressing for seasoning, adding more salt and lemon juice as needed. Gently fold in just enough dressing to coat salad. Serve on lettuce leaves or other greens; garnish with additional nuts and herb sprigs.

Yield: 4 generous servings

Recipe © 1994 Madalene Hill, Gwen Barclay, Flavour Connection

JERUSALEM ARTICHOKE WITH PEAS AND LEMON BALM

This simple, tasty dish, is a great way to use the Jerusalem artichoke. This recipe is excerpted from Herbs in the Kitchen by Carolyn Dille and Susan Belsinger, Interweave Press, 1992.

Serves 4 to 6

½ pound Jerusalem artichokes
2 cups cold water
1 tablespoon lemon juice
1 pound unshelled peas
1 tablespoon unsalted butter
2 medium shallots, minced
Salt and freshly ground pepper
2 tablespoons minced lemon balm

Clean and peel the Jerusalem artichokes and cut them into ¼-inch julienne. Soak the artichokes in the cold water with the lemon juice for about 10 minutes.

Shell the peas. Drain the artichokes and pat them dry. Sauté them in the butter over medium heat for 2 minutes. Add the peas and minced shallots, cover, and cook for about 4 minutes. Season with salt and pepper and toss with the minced lemon balm. Serve immediately.

Recipe © Susan Belsinger

HOW I PREPARE A FAVORITE LEMON HERB VINEGAR by Susan Belsinger

This is one of my favorite combos for herbal vinegar. Use a blend of some of the lemon herbs including lemon balm, lemon grass, lemon basil, lemon thyme, and/or lemon verbena with a few slices of fresh gingerroot and a few slices of fresh lemon, halved with seeds removed.

Organic apple cider vinegar or good quality white wine or rice vinegar make the best herb vinegars. Apple cider vinegar and *umeboshi* plum (sometimes called *ume* — and it is salty) vinegars are healthy choices; however, they do not give the clean bright colors as a clear vinegar does. I do not use distilled vinegar. Rebecca Wood, author of *the New Whole Foods Encyclopedia* states, "... it may be synthetic ethanol made by direct chemical oxidation of wood or fossil fuels. Distilled and other highly processed vinegars are mineral deficient, and when consumed, pull calcium and other minerals from the bones and tissues" (108).

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Harvest your herbs on a sunny morning, clean the sprigs if necessary and pat them dry. Fill clean jars about half to three-quarters full of the herbs you have chosen along with the gingerroot and lemon slices, and cover them with vinegar. Use a plastic canning lid, or before you screw the lid on, cover the mouth of the jar with plastic wrap. Set the jars in your pantry or on a shelf in a cool, dark place and infuse the herbs and vinegar for 3 to 4 weeks. I shake mine whenever I think to do so. After this time, you can remove the herbs by straining the vinegar, or leave them in the jar. Pour the vinegar into smaller bottles, adding a fresh sprig of the herb if desired, and label. Store the vinegars in a cool, dark place and use them within a year.

Craft Uses

Lemon balm can be used fresh or dried in a variety of crafts. Dried lemon balm leaves can be added to potpourri, sachets and sleep pillows (see instructions below). Fresh lemon balm can be included in flower arrangements and floral bouquets, including tussie mussies. Lemon balm foliage makes a nice filler for bouquets (13), and can be combined with southernwood, thyme and dianthus (89). For arrangements, Madalene Hill suggests using lemon balm as a base to create a frog in the vase to support small flowers (45). Leaves can also be used as a filler combined with roses and other garden flowers in arrangements (58). Wreaths can be made of fresh or dried lemon balm. Lorraine Kiefer includes dried lemon balm seed pod stalks in wreaths (59). To make a wreath with fresh lemon balm, wrap flowering stems around a wire ring base (104). Although not in widespread use as a dye plant, lemon balm flowers can also be steeped in water to produce a rose-colored dye (26).

LEMON BALM SLEEP PILLOW

1 part lemon balm, catnip, chamomile, hops and lavender
cloves
cinnamon chips

Combine all the WELL dried herbs gently. Add about ½-1 cup per sleep pillow pouch. Insert about 6 cloves and 1 teaspoon cinnamon chips per pouch. Place fully "sealed" pouch in the pillow case or below the pillow.

Caution: Adjust ingredients if desired effect is not realized. For example, too much cinnamon causes me to sneeze. You may even leave that out if allergies are a possibility. The same goes for chamomile.

Recipe © Karen Langan

Cosmetic Uses

Due to its antibacterial, antifungal, anti-viral, sedative and mood-elevating properties, lemon balm is an ideal ingredient for homemade toiletries and cosmetics. The leaves can be used to make bath bags (5, 13, 51, 81), skin cleansers, facial steams (13, 51, 64), hair rinses (for oily hair) (64), lotions, salves and lip balms (5). Commercially, the essential oil has been a component of colognes and perfumes (41, 65, 66, 92). Fresh leaves can be chewed to freshen the mouth (18), and in Great Britain, wine steeped with lemon balm leaves has been used as a mouthwash (84). Lemon balm cosmetic preparations are best for normal skin (51) but can also be used by people with oily (52), or dry, sensitive skin (51).

A simple skin or bath lotion can be made by infusing lemon balm leaves in apple cider vinegar (58). In bath bags, lemon balm can be combined with lavender, rose petals, chamomile flowers and calendula flowers (81). Susan Belsinger suggests a combination of lemon balm and fennel or lemon balm and chamomile for the bath (5). Cindy Jones uses lemon balm in herbal bath mixes for sunburn and colds/flu (51) (see recipes below).

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Standardized lemon balm topical preparations have proven effective against the herpes simplex virus, and some home cosmetics crafters make homemade lip balm to stave off cold sores (51). Other easy preparations include deodorant talc, which can be made by adding powdered leaves to talc, and shaving balm, which combines a couple of drops of essential oil in grape-seed carrier oil (80).

Lemon balm distillate can also be used in skin care. A distillate (also known as a hydrosol or floral water) is an aromatic watery extract produced by steam distillation that contains a small amount of essential oil and “other water soluble acidic constituents” (51). Herbal distillates are beneficial for the skin due in part to their slightly acidic pH (about 5.0). Lemon balm distillate can be sprayed directly on skin and used as a skin toner or substituted for water in homemade lotions, creams and soaps (51).

Cosmetic Recipes

FACE TONER

8 ounces lemon balm distillate
 ½ teaspoon glycerin (or honey)
 Mix well and use a cotton ball to apply to face after washing.
 Keep in the refrigerator.

Recipe © Cindy Jones

VITAMIN C CLAY MASK

¼ cup clay (green, white or rose – available at health food stores)
 1 - 250 mg vitamin C tablet, ground in a mortar and pestle (more will be too acidic for skin)
 1½ tablespoon lemon balm distillate, or enough to moisten the clay
 ½ teaspoon olive oil
 3 drops sweet orange essential oil (optional)

Mix together and apply to face. Leave on 10 minutes then rinse off with water. If irritation occurs wash off immediately.

Recipe © Cindy Jones

BATH BAG FOR FLU AND COLDS

1 cup dried sage
 1 cup dried thyme
 1 cup dried lemon balm

Mix herbs together and use ½ to 1 cup in a small muslin bag per bath. Let steep in the bathtub. For additional benefit, use the herb filled bag to rub over your skin.

Recipe © Cindy Jones

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SUNBURN BATH SOAK

Mix the following herbs:

- ¼ cup dried mint leaves
- ¼ cup dried calendula flowers/leaves
- ¼ cup dried chamomile flowers
- ¼ cup dried lemon balm leaves
- ¼ cup green tea

Use ½ to 1 cup in a small muslin bag per bath. Let steep in the bathtub.

Recipe © Cindy Jones

LEMON BALM INFUSED OIL

Fill a pint jar with dried lemon balm. Cover herb with olive oil or almond oil and put lid on jar. Shake daily for 2 weeks. Strain out herbs. Add a few drops of vitamin E and refrigerate to extend shelf life.

Recipe © Cindy Jones

LIP BALM

Melt 1 ounce of beeswax in a pot.

Add 1 cup of lemon balm infused oil.

Stir and heat on low until melted and mixed well. Pour the balm into tins or small jars.

Recipe © Cindy Jones

STEAM FACIAL

A steam facial can really use any fragrant herbs you have growing in the garden in the summer or dried in your pantry in the winter months. But this is a nice one for normal to dry skin that contains lemon balm.

- 1 tablespoon dried lemon balm
- 1 tablespoon dried chamomile
- 1 tablespoon rose petals
- 1 tablespoon lavender

Put the herbs in the bottom of a large bowl. Cover with about 1 to 2 quarts of boiling water. While still steaming, but not too hot, stand or sit with your face over the bowl and drape a large towel over your head and the bowl to keep the steam from escaping. Keep your face in the steam for several minutes while inhaling the aromas. If the steam is too hot, lift the towel to allow some to escape. When finished, wipe your face gently with a cool washcloth. Pat dry and apply moisturizer or toner.

Additionally, you could add a few drops of essential oil to the bowl as well.

Recipe © Cindy Jones

MEDICINAL USES *

Lemon balm, which is also known by the pharmacopoeial name *Melissae folium*, has a long history of medicinal use for a variety of ailments (see History & Folklore section). The plant was believed to remedy so many different conditions that it was once considered “an herbal cure-all” (14). Although it has been used primarily for depression/anxiety, insomnia and dyspepsia, the long list of maladies for which lemon balm has traditionally been used also include bronchitis, asthma (69), coughs, fever, menstrual problems, hypertension, migraines, shock, vertigo (29, 65), eczema/skin problems (65), gout (42), insect bites/stings (12), snake bites and skin infections (29). Some even believed the plant would remedy baldness (29, 42).

Lemon balm has a long-standing reputation as a calming and uplifting herb, and recent research has begun to confirm this traditional use. The hydroalcoholic extract exhibited sedative effects on the central nervous system in animal studies (9, 14). A study published in 2004 in *Psychosomatic Medicine* involving human volunteers showed that a 600 mg dose of standardized *M. officinalis* extract improved mood, calmness and alertness, and a 300 mg dose increased the subjects’ mathematical processing speed (57). In a study published in 2006 in *Phytotherapy Research* a 600 mg dose of a standardized product containing *Melissa officinalis* and *Valeriana officinalis* reduced anxiety in human subjects, (although an 1800 mg dose actually increased anxiety) (56).

Historically, lemon balm was believed to sharpen memory (9, 14, 18), and a 2002 study demonstrated that while lemon balm did not improve memory measures like word recall and spatial and numeric memory, it did improve attention (19, 54). However, a study published in 2003 showed that 1600 mg of dried leaf improved memory and calmness. The authors suggest that the effect on mood and cognitive performance may make lemon balm useful in the treatment of Alzheimer’s disease (55).

Another study addressing the use of lemon balm for Alzheimer’s Disease was published in the *Journal of Ethnopharmacology* in 2006. The authors of this study concluded that *Melissa officinalis* is one of several plants which may be useful in the prevention and treatment of Alzheimer’s disease due to its ability to inhibit acetylcholinesterase and its antioxidant activity (35). (*Melissa officinalis* essential oil, ethanolic extract and decoction were all examined, with ethanolic extract showing the most inhibition, but note that other plants in this study showed higher levels of inhibition than lemon balm.)

Lemon balm has documented antiviral effects. Some studies involving human subjects have shown that topical preparations of lemon balm are effective against herpes simplex (9, 14, 29), and standardized topical preparations including lemon balm extract are currently sold in the U.S. and Europe (14). Phytopharmica Cold Sore Relief® (formerly Herpalieve®) is an over-the-counter lemon balm cold sore and fever blister remedy which is available in the U.S. Lemon balm extract has also demonstrated antiviral properties against HIV-1 (109 in 14), and aqueous extracts are reportedly antiviral against the influenza virus (14).

Studies have documented the positive effects of herbal combinations containing lemon balm on infant colic (86), irritable bowel syndrome (102), colitis, dyspepsia and sleep quality, but they have involved products that combined multiple herbs rather than lemon balm alone, so the exact role of lemon balm in these studies is unknown (14).

Numerous studies have reported lemon balm essential oil’s antibacterial and antifungal effects (14, 74, 77). A study published in 2005 found that a methanol extract of *Melissa officinalis* leaves was “weakly active” in vitro against *Helicobacter pylori*, the bacterium that causes ulcers and other gastro-intestinal disorders (68). A hydro-alcoholic extract of lemon balm showed antibacterial activity against *Staphylococcus aureus*, *Salmonella choleraesuis*, and the resistant bacteria *Klebsiella pneumoniae* (77). The essential oil is also reportedly antibacterial against *Mycobacterium phlei* and *Streptococcus*

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hemolytica (66) and has shown antimicrobial activity against some mold and yeasts, as well as microbes that cause fungal skin infections in humans and animals (4, 74).

According to a 2004 study, the essential oil also has antioxidant properties (74). The authors of this study, state that “consumption of food produced with natural essential oils or aromatic plant extracts (functional foods) is expected to prevent the risk of free radical-dependent diseases” (74).

A study published in 2005 showed that an aqueous extract of dried *Melissa officinalis* leaves decreased serum cholesterol and lipid levels in Swiss albino rats and reduced elevation of enzymes that are markers for liver damage (10). The essential oil is also antihistamine and antispasmodic (66), and has demonstrated anti-tumor/anticancer effects in vitro (25).

Lemon balm is approved by the German Commission E for nervous sleep disorders and “functional gastrointestinal complaints” (9). ESCOP (European Scientific Cooperative on Phytotherapy) recommends the external use of lemon balm for cold sores and the internal use for tenseness, restlessness, irritability, digestive disorders and minor spasms (9). Lemon balm is also used in Homeopathic medicine for menstrual irregularities (43). Medicinal lemon balm preparations include teas/infusions, tinctures, syrups, baths/foot baths, capsules, pills, powders, poultices, salves, steams, fomentations, oil (95), and liquid and dried extracts (66).

The *Botanical Safety Handbook* gives lemon balm a “class 1” rating, assigned to “herbs which can be safely consumed when used appropriately,” and Dr. James Duke categorizes lemon balm as “safer than coffee,” (+++), which is his highest safety rating (29).

Lemon balm does have some contraindications and possible side effects, however. Although the *PDR for Herbal Medicines* lists no side effects or precautions with proper dosages (43), side effects that have been reported in the literature include palpitations, nausea, diarrhea, headache and EEG changes (14). Lemon balm may also increase intraocular pressure and impact glaucoma (14). In laboratory research, lemon balm freeze-dried aqueous extracts have been shown to interfere with thyroid hormones and, more specifically, inhibit the effect of TSH (thyroid stimulating hormone) (46). For this reason, lemon balm may reduce the overstimulation of the thyroid associated with Grave’s disease (hyperthyroidism) (29) but can also interfere with thyroid medications. Other medications that lemon balm may reportedly interact with include alcohol, sedatives, barbiturates, glaucoma medications, and SSRIs (selective serotonin reuptake inhibitors) (14) which are used to treat depression and other psychiatric conditions. Dosages of 900 mg of lemon balm have been shown to reduce alertness and may impair the ability to drive or operate heavy machinery (54).

Some sources question the safety of lemon balm for pregnant and lactating women, due to insufficient research (107 in 14), possible emmenagogic properties, and the reported ability of lemon balm to inhibit thyroid hormones and gonadotropic hormones (which act on the ovaries/testis) (14). Other herbalists recommend the herb during pregnancy (40, 46). In her book, *Herbal Healing for Women*, Rosemary Gladstar lists lemon balm as one of her “favorite herbs for pregnancy” and includes it in her recipe for Pregnancy Tea (40). Likewise, herbalist David Hoffmann recommends lemon balm for morning sickness (46). The *Botanical Safety Handbook*, *PDR for Herbal Medicines* and *Herbal Medicine: Expanded Commission E Monographs* do not list any warnings regarding lemon balm for pregnant or lactating women (9, 43, 71). Keep in mind, however, that pregnant women and individuals with existing medical conditions should seek the advice of a health care provider before using this or any medicinal herb.

*** Disclaimer: Information is provided as an educational service. The Herb Society of America can not advise, recommend, or prescribe herbs for medicinal use. Please consult a health care provider before pursuing any herbal treatments.**

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GARDEN USES

Despite its reputation as a weed, lemon balm can be used in many different ways in the garden. It can be grown in a variety of theme gardens, including lemon, tea, culinary, medicinal, potpourri and bee gardens (88). Its scent, flavor, aroma and ease of cultivation make it an ideal plant for children's gardens (95).

Grow lemon balm as an ornamental in mixed borders (15) or perennial borders (62). Plant with roses or short-term perennials for greenery, or on steep banks in rock gardens (81). Mark Langan combines lemon balm with part-shade perennials including daffodils, sweet woodruff, campanulas, foxglove, hellebores and primrose. He recommends *Melissa officinalis* 'All Gold' for the landscape because it holds its color and appearance well. Leaves will turn lime green in the summer but return to gold in the fall (62). The variegated lemon balm also provides attractive color contrast for the landscape (101). Lorraine Kiefer likes to use lemon balm as a natural ground cover under trees (59). Susan Belsinger suggests growing under tall, weepy, woody shrubs like beautyberry bushes. If planting in an herb garden, Susan suggests placing lemon balm in the center surrounded by smaller plants, or in the back (5).

Karen Langan has found that lemon balm can be planted to "beat out other noxious weeds" (61). Deni Bown suggests planting the golden forms with blue-flowered herbs like borage, or brightly-colored nasturtiums. *Melissa officinalis* 'All Gold' and *M. o.* 'Aurea' can also add color to containers or "brighten a shady corner" (12). The species work well in wildflower areas, hedgerows, woodland and waterside. Avoid planting near other plants with similar foliage (12). Deni plants her lemon balm near chives, sorrel and Scots lovage for a nice contrast. The dwarf variety, *M. o.* 'Compacta,' makes a good edging plant and is ideal for mixed herb planters (12). Although planting with mints may sometimes be problematic (12), Susan Belsinger grows her lemon balm along the side of her house with Hillary's Sweet lemon mint and has found that they thrive together and don't cross pollinate (5). Susan also recommends planting with garlic chives or *Astilbe* spp. (5).

OTHER USES

Insect Repellent

Lemon balm has been used historically as an insect repellent. The crushed leaves can reportedly be rubbed on the skin to repel insects (72), and some northern European forms with high citronellal content may repel mosquitoes (97). According to a study published in 2005, the essential oil of *Melissa officinalis* applied topically was also toxic to the larvae of *Spodoptera littoralis* (79), the cotton leafworm which attacks a variety of agricultural crops around the world (33).

Weed Inhibition

In addition to combating pests, lemon balm may have potential as a weed inhibiting agent (53). A study published in 2003 in *Scientia Horticulturae* reported that lemon balm shoot powder suppressed germination of *Amaranthus caudatus*, *Digitaria sanguinalis* and *Lactuca sativa* (lettuce). The authors of this study believe that although the powder would need to be tested on weeds in "field conditions," it could potentially reduce the use of commercial herbicides (53).

Soil Erosion Control

Lemon balm can also help prevent soil erosion if grown on slopes or banks (81).

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Food Preservation

Lemon balm essential oil may have a future in food preservation. It has been shown to stop the growth of the food spoilage yeasts *Torulaspora delbrueckii*, *Zygosaccharomyces bailii*, *Pichia membranifaciens*, *Dekkera anomala* and *Yarrowia lipolytica* (4).

Household Cleaning

Lemon balm has been used as a furniture polish since Victorian times. The essential oil and leaves can be used to polish wood furniture (20, 26, 67, 92). HSA member Karen England has tried using lemon balm leaves to polish oak furniture and found that they make “the furniture shiny and the room fragrant” (32).

According to Cindy Jones, lemon balm distillate can be especially helpful when traveling. It can be sprayed in a room to help remove odors, and sprayed on sheets to “help promote sleep and reduce stress” (51).

Bees and Honey

Lemon balm has a long-standing reputation as a bee plant, and has been used to attract bees to hives since ancient times (See History & Folklore and Chemistry sections). Today, lemon balm is one of the plants used in honey production (92, 106).

Species Profile

Melissa officinalis

Genus: *Melissa*

Specific Epithet: *officinalis*

Common Name: lemon balm

Form: herbaceous perennial

Flowers: pale yellow, white, pinkish, or occasionally purplish or bluish

Height: under 8 inches to almost 5 feet

Width: 1 to 2 feet

Hardiness Zone: 4 or 5; 3 if mulched

Soil: moist but well-drained loam

Sun: full sun or partial shade

Uses: culinary, medicinal, craft, cosmetic, ornamental, insect repellent, economic, bee plant, honey plant

Subspecies: *M. officinalis* subsp. *officinalis*, the common cultivated lemon balm; *M. officinalis* subsp. *altissima*, bush balm



Photo by Susan Belsinger

Cultivars

***M. officinalis* 'All Gold' (syn. 'Golden'):** yellow foliage; flowers pale lilac (49); grow in partial shade (34) - leaves may scorch in full sun (11); good ornamental; 18 inches tall and wide (34).



M. officinalis 'All Gold' Photo by Deni Bown

***M. officinalis* 'Aurea' (syn. 'Variegata'):** variegated lemon balm; bright yellow variegation in early spring that will fade in summer; moderate flavor (62); good ornamental; grows well in partial shade



M. officinalis 'Aurea' Photo by Deni Bown

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***M. officinalis* 'Citronella'**: height 10-12 inches; high oil content and mildew-resistant (11); strong citronella scent (62)

***M. officinalis* 'Compacta'**: height 6 inches; width 12 inches (11); does not flower or produce seed (11, 62); moderate flavor and dark green leaves (62)

***M. officinalis* 'Lime'**: Some gardeners believe this plant has a lime-like aroma, but it has not been shown to have chemistry different from regular lemon balm (97). Height to 3 feet (34)

***M. officinalis* 'Quedlinburger Niederliegende' (syn. 'Quedlinburger')**: height 20-24 inches (11); strong flavor and high essential oil content (62, 101); used in teas and salads (34)

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HSA Library *Melissa* Resources

Books

* Bown, Deni. *The Herb Society of America New Encyclopedia of Herbs & Their Uses*. New York: DK, 2001.

Bown provides a concise overview of lemon balm history, cultivation, propagation, cultivars, harvesting, and medicinal, culinary and economic uses. With color photographs of *Melissa officinalis*, *M. officinalis* 'All Gold,' and *M. officinalis* 'Aurea.'

* Platt, Ellen Spector. *Lemon Herbs: How to Grow and Use 18 Great Plants*. Mechanicsburg, PA: Stackpole Books, 2002.

Platt discusses lemon balm cultivation, propagation, uses and cultivars, and includes recipes for facial cleansing rinse, bath/massage oil and bath bags.

Small, Ernest. *Culinary Herbs*. Ottawa: NRC Research Press, 1997.

The five pages devoted to lemon balm in Small's encyclopedic work include information on lemon balm's description, taxonomy, history, folklore, English and French names, culinary and medicinal uses, recipe sources, cultivation/propagation, harvesting and storage. Illustrations are black and white reproductions of botanical illustrations from the eighteenth and nineteenth century.

* Tucker, Arthur O. and Thomas DeBaggio. *The Big Book of Herbs*. Loveland, CO: Interweave Press, 2000.

Tucker and DeBaggio discuss lemon balm botany, nomenclature, names in various languages, history, chemistry, uses, and cultivation. It also includes a botanical key, extensive bibliography and black and white line drawing.

* VanNostrand, Jillian and Christie V. Sarles. *Serenity Garden: 7 Radical Weeds for Natural Stress Relief*. Mirror Lake, NH: Radical Weeds, 1999.

This brief booklet includes information on growing and using California poppy, catnip, chamomile, lavender, lemon balm, skullcap and valerian. It also includes sections devoted to starting seeds, harvesting and storing, and making plant remedies. Illustrations are black and white line drawings.

Herbarist Articles

Kiefer, Lorraine. Lemon Balm. *The Herbarist*. 69 (2003): 60-61.

Lorraine Kiefer discusses historical and current uses of lemon balm, propagation, cultivation, harvesting and drying, with recipes for Delicious Lemon Balm Tea, Iced Lemon and Herb Beverage, Lemon Balm Leaves in Crunchy Spring Salad, and Lillian's Lemon Doodles with Lemon Butter Icing.

Voigt, Charles E. "Lemon Balm, Not Just a Sweet Smelling Weed Anymore." *The Herbarist*. 72 (2006): 9-13.

Voigt provides information on lemon balm botany, cultivation, propagation, harvesting, history, folklore and uses. The article includes literature citations.

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Other Articles

Anonymous. "Lemon Balm Shoot Powder as an Herbicide." *HortIdeas*. 20(4) (April 2003):40.

A brief summary of a study published in *Scientia Horticulturae* which showed that lemon balm shoot powder was herbicidal against love-lies-bleeding (*Amaranthus caudatus*), lettuce, and crabgrass (*Digitaria sanguinalis*).

Belsinger, Susan. "Lemon Balm. Herb of the Year 2007." *Herbs for Health*. (Feb 2007):26-31.

Susan Belsinger discusses the history, cultivation and uses of lemon balm and shares her recommendations for using lemon balm in the kitchen.

Caldwell, Chic. "Lemon Balm." *Herbal Harvest*. 23(2) (Winter 2003)16-17.

This brief article from the Herb Society of Southern Africa's journal discusses lemon balm botany, cultivation, history and use in cooking, medicine, cosmetics and crafts. Includes black and white line drawing.

Demby, Elayne Robertson. "Sweet Melissa." *Herb Quarterly*. (Spring 1997): 30-33.

Robertson discusses the history, uses, cultivation and harvesting of lemon balm with references to classic herbals and the appearance of lemon balm in the works of Shakespeare. Included are recipes for Lemon Balm Vinegar, Lemon Balm New Potatoes, Lemony Ginger Carrots, Tomato Tart with Lemon Balm Butter, Orzo with Fresh Bay and Lemon Balm and Lemon Balm Cheesecake.

Foster, Steven. "Get the Sleep you Need - Naturally." *Herb Companion*. (May 2006):40-45.

Foster discusses the use of valerian, lemon balm, hops, passionflower and chamomile for insomnia, including information on traditional uses, recent studies and his personal recommendations. A chart of "Additional Herbs for Sleepytime" and a sidebar, "Create a Dream Pillow," accompany the article.

Payne, Barbara. "Modest Melissa." *Herbs*. 31(1) (2006): 10-11.

This brief article from the Herb Society (U.K.) journal describes the history, cultivation, chemistry and uses of *Melissa officinalis*. It includes black and white photographs and bibliography.

* Items that circulate to HSA members