

CALENDULA

An Herb Society of America Guide



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Key to numbers on front cover

- 1) Flowering head or capitulum
- 2) Phyllary or involucre bract
- 3) Ray floret or ligulate floret
- 4) Disk floret
- 4a) Pale small bract subtending disk flower when attached to receptacle)
- 5) Fruiting head
- 6) Middle achene, adaxial view
- 7) Interior achene, side view
- 8) Marginal achene, side view
- 9) Middle achene, side view
- 10) Longitudinal section of middle achene

About the cover: The calendula print is from, *Medizinal Pflanzen*, which was published in 1887 in Gera, Germany. The nearly 300 finely detailed illustrations were expertly drawn by the artists L. Müeller and C.F. Schmidt.

THE HERB SOCIETY OF AMERICA

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 *Calendula 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 and herb business owners. 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.



Calendula officinalis 'Erfurter Orangerfarbigen'
Photo ©2007 Michael K. McCann

A warm thank you to the many people who willingly and generously shared their knowledge and experience of calendula for this guide.

Introducing Calendula – Herb of the Year

Regardless of what you call it – calendula, mary's gold, pot marigold or poor man's saffron – this plant has a story to tell. In 2008 it is the Herb of the Year* and in the following pages its story is told.

Legend and history surround the plant as you can see from the beautiful botanical print on the front cover. Unlike many herbs where the foliage is aromatic, calendula boasts its beauty in the flowers of many colors and shapes. Calendula offers something for everyone – as a colorful flower in tussie-mussies, or for its color and flavor in cooking, potpourri and in medicine, both past and present.

It is the intention of this guide to be a resource for those who garden with calendula. And if this herb is not yet a part of your garden, consider planting a variety to see how rewarding calendula really can be.

– Theresa Mieseler

**The Herb Society of America acknowledges the International Herb Association for the selection of *Calendula officinalis*, the Herb of the Year in 2008. The International Herb Association has been selecting the Herb of the Year since 1995 and the Herb Society of America is pleased to provide educational material to support this selection.*



Shaker Herb Department Photo ©2007 Steven Foster



Cairo Herb Shop Photo ©2007 Steven Foster

REFLECTIONS ON CALENDULA

Steven Foster

Once you get to know it, calendula is one of those herbs that will be a friend for life. My first experience with calendula came at the Sabbathday Lake, Maine, Shaker Community's Herb Department in 1974. At the time, we packaged and sold over 70 culinary herbs and herbal teas in slip cover tins. The herb business at Sabbathday Lake dates to 1799, and had been revitalized in the early 1970s.

By 1976 we were growing most of the calendula we sold. As there were a number of cultivars available at the time, we sought seeds from a German seed company that specialized in bulk medicinal herb seed. A single-flowered form, the standard for calendula for medicinal use, was chosen. One of the most remarkable surprises for me, then early in my career at age 20, was that the flowers continued to bloom from the appearance of the first blossoms about six weeks after planting to the first light snows of late autumn. In Maine, my calendula beds continued blooming into November. We planted four 300-foot rows of calendula from four ounces of seed. The flower crop was harvested three times. A week after each cutting, the rows were again covered with blossoms. About twenty pounds of dried flowers heads were gathered from this planting.

The plant's most useful part is the ray florets or petals, though the entire flower is usually harvested as a matter of economy. After our first harvest, with four apprentices, we attempted to pluck the petals off the flowers by hand. After a couple hours of this effort, it became clear that it was futile from an economic standpoint. Even though calendula is sometimes called "poor man's saffron", the expense involved in removing the individual petals will produce a product nearly as expensive as saffron!

It was a learning experience that serves me to this day. In 2006, I was in Cairo, Egypt at an herb shop in the heart of the thousand-year-old Islamic shopping district. Herb shops lined an entire street. One shopkeeper beckoned me as I passed. "Please buy some Egyptian saffron," he said. I replied indignantly. "That's not saffron, it's calendula."



Cairo Herb Shop Photo ©2007 Steven Foster

Realizing I was a little more savvy than the average Western tourist, he invited me in the shop for tea, and we talked herbs. However, the shops here offered just the petals, rather than the whole flowers, so perhaps it was appropriate to call it Egyptian saffron. Later I visited herb farms in the Upper Nile, and found one grower with particularly vibrant, large calendula flowers. I asked him if he had been selecting specific plants for seed production. Indeed he had, and over about a 10-year period he had selected bright orange calendula selections with flowerheads more than four inches across. Information from a book provides just that – information. Growing, selecting, harvesting, drying, and using calendula garners experience that provides more than information. It instills knowledge.

Growing and using calendula may be a new experience for you, or it may be like reacquainting with an old friend. Whether you are new to the plant or an experienced enthusiast, grow it and use it. You will be rewarded by the simple pleasures this herb has to offer.

MYTHS AND LEGENDS OF CALENDULA

Mary's Gold

Brother John M. Samaha, S.M.

In the late medieval period both the Dutch and Low German languages included equivalents of the English name: *Marienbloemkijn* in Dutch, and *Marienblome* in German. Later, botanists gave the plant the formal scientific name *Calendula officinalis*. It actually bore flowers on most or all of the calendae, the first days of the month.

From a botanical view, it was considered “the calendar flower.” When Thomas Babington Macaulay wrote his famous “History of England,” he described typical rural activities of his countrymen in this way: “They brewed gooseberry wine, cured marigolds and made the crust for venison pastry.” The flower was so widely used as a condiment that it was known as “herb-general of all potage.” Shropshire housewives even made a special cheese from Marygold. To a degree quite unique among medieval plants, Mary's gold exhibited a strange

William Shakespeare writes into a Winter Fairy Tale:

Here have you flowers!

Lavendel, Minze, Salbei, Majoran.

The Ringelblume, which passes away with the sun

And crying with it rises.



Ringelblume (German), *Calendula officinalis*
 Botanical Print: Prof. Dr. Otto Wilhelm Thomé *Flora von Deutschland, Österreich und der Schweiz* 1885, Gera, Germany

sensitivity to light from the sun. Every farmer and gardener knew that the flower opened its half-shut eyes each day about 9 a.m. For about six hours it slowly turned its head to follow the bright sun. Around 3 p.m., it began folding its petals for another night of slumber. Early observers had some interesting theories, but no systematic body of facts. Modern analysts have extended the knowledge of this phenomenon.

Other plants known as marigolds were discovered in the New World and were brought to Europe in the 16th century. By 1542 it was recorded that only five American plants were established in Old World gardens. Four of these were vegetables; the fifth was marigold. No matter what its variety, the marigold is rich in symbolism of Our Lady. The gold petals are likened to rays of light crowning her head, and the prodigal color is related to the generous giving of herself to God’s plan.

Sometimes described as “the flower of grief,” droplets gather in the flower during the night and drip off like tears when it opens in the morning. This characteristic moved Shakespeare to write in “A Winter’s Tale”: “The Marigold that goes to bed with the sun, / And with him rises weeping.”

What’s In A Name!

Rexford Talbert

Calendula officinalis is the scientific name of a beautiful herb principally known in the English worlds, as marigold. The etymology (the study of the history of words) of both the scientific and common appellations appears to be simple and straightforward. Nothing could be further from the truth!

The name calendula is from the Middle English *calends* derived from Latin *kalendae*, which means the day of the new moon. In the ancient Roman calendar it was the first day of the month. This name is derived from the ability of the herb to flower any month of the year in mild climates. So far so good!

Marigold, or as it was sometimes written Marygold or Mary Gowle would seem to have an even easier word history and would divide itself into the personage Mary (and who in the Christian world wouldn’t think of the mother of Christ?) and gold or gowle both traceable to the color of the sun.

To quote the English author Gay in his Pastorals:

This riddle Cuddy, if thou canst explain.....
 “What flower is that which bears the Virgin’s name,
 The richest metal added to the same”
 Marigold!

A little research tells us very quickly that this explanation is relatively recent in English history and is but another case of religious opportunism. As my professors used to say, an answer that is both succinct, tidy and untrue.

It seems that there was already an old Anglo-Saxon word used for a similar heliotropic plant that grows in damp ground, *Caltha palustris* or marsh marigold. This word, in part, was applied to the flower we know now as the calendula. The word *mersc-meargealla*, minus the *mersc* which means marsh, was used long before Christianity entered the British Isles. If that were not enough yet even another word for this plant graced medieval Saxon vocabularies – *ymbglidegold* meaning literally “that which moves round with the sun.”

We could stop at this point in our quest but we would leave unanswered the question of how the root words for this herb were corrupted. For this we need to look no further than a sequence of calendula names. From the ancient Latin word *solsequium* (the sun-follower) to the Old French word *soulsi* abridged from *solsequium*, to the binary *sponsa solis* (the bride of the sun – a phrase alluding to the fable of Clytie who Apollo changed into a sun-flower) and finally evolving then to the Old French *Mariée* (meaning *sponsa* or bride) *solis*. Add in the etymological equality of the Old French words for sun and gold and you get ‘*Mariée-gold*’ or marigold!

Finished? Well, not quite; theologians could argue that the medieval expression for Jesus was “the Sun of Righteousness.” Paradoxically, if we add in the Old English use of the word *Maudlin* or *Magdalene* for several yellow flowers like the daisy then we could get even another Mary – a disciple or follower of the Sun!

But as my children would say – don’t go there!

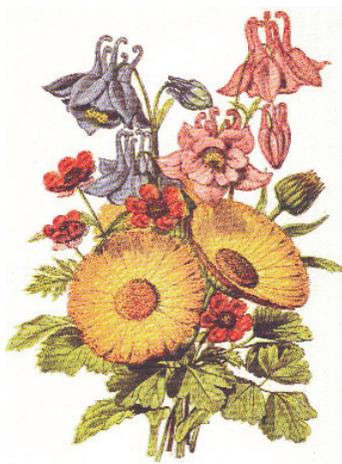


The back side of calendula Photo ©2007 Luigi Rignanese

Eleanor Sinclair Rhode writes, “In the Middle Ages the flower symbolized Jealousy and Chaucer wrote of Jealousy wearing a garland of Marigolds. But in that charming old Dutch carol, “Lord Jesus hath a garden,” the Marigold figures as the symbol of obedience.

“The lovely damask Rose is here called Patience; The rich and cheerful Marigold Obedience.”

Eleanor Sinclair Rhode, *Herbs and Herb Gardening*



Catharine H. Waterman, *Flora's Lexicon: an Interpretation of the Language and Sentiment of Flowers, with an Outline of Botany, and a Poetical Introduction*, 1839
Title: *Columbine-Marigold-Pheasant's Eye*

Symbolism of Calendula

Mindy Green

Calendula was also considered a magical plant. It was associated with the masculine gender, had the sun as its associated planet, and represented the element fire. If you carried calendula flowers in your pocket while in court, its powers reputedly included protection, psychic powers and triumph in legal matters. Calendula was used as protection against evil influences and disease, including the plague, and victims of thievery were said to be able to identify their robbers if they wore the flower. The flowers were strewn around doors to prevent evil from entering the house and scattered under the bed to protect one during sleep. It was said that they could give one prophetic dreams and make dreams come true. In the bath, calendula flowers were said to strengthen the spirit, helping one to win the admiration and respect of others.

Despite a few associations of this flower with grief, Culpepper and Gerard refer to this herb as a “comforter of the heart and spirits.” This is supported also by the Doctrine of Signatures, an old method of discovering the properties of plants based on their appearance. Calendula’s bright color and cheery nature of opening with the sun would give it an association with relieving grief. In some cultures it is a symbol of endurance, alluding to its ability to bloom for so long.

THE LANGUAGE OF CALENDULA

Calendula - Flora's Dictionary

Kathleen Gips

In the language of flowers the calendula or pot marigold means sacred affections; joy; remembrance, grief. Here is a quote from *Flora's Dictionary, the Victorian Language of Herbs and Flowers*:

“Marygold, calendula: Madame Lebrun, in one of her charming pictures, has represented grief as a young man pale and languishing; his head appears to be bowed down by the weight of a garland of marygolds. The entire world knows this gilded flower, which has been made the emblem of distress of mind; or rather, we should say of that inequitude which is caused by uncertainty as to the sentiments of the one we love with a peculiar affection. The lover longs to know whether there be a reciprocal feeling in the heart of his mistress towards



Opening bud Photo ©2007 Susan Belsinger



Calendula flower Photo ©2007 Jane Lewis



Calendula forming seed Photo ©2007 Theresa Mieseler



Calendula seed head Photo ©2007 Theresa Mieseler

himself, or whether he has been buoying himself up with false hope. We verily believe that there are few who would not prefer to receive the dread intelligence that his suit is rejected, than remain in this uncertain state.”

Marigold: cruelty, grief, sorrow, joy, remembrance, affections, pain, chagrin and the friendship flower.

DESCRIPTION AND CHEMISTRY OF CALENDULA

Botanical

Dr. Arthur Tucker

Calendula officinalis L., Sp. pl. 921. 1752.

Native country: Poet’s marigold is native from Europe to Iran and North Africa.

General habit: Poet’s marigold is an annual to perennial, woody only at the base, with stems 20 to 50 cm high.

Leaves: Leaves are 7 to 14 x 1 to 4 cm, lance-shaped with narrowed bases, narrowly parallel-sided, or spoon-shaped, shortly tapering to the apex or blunt, glandular-hairy to sparsely spidery-cottony hairy, usually with a smooth edge to obscurely wavy-toothed.

Flowers: Flowers are 4 to 7 cm in diameter, yellow or orange.

Fruits/Seeds: Outer fruits (achenes) are incurved (or rarely flat) narrowly beaked, 2 to 2.5 cm, alternating with shorter boat-shaped (rarely 3-winged) achenes.

The genus *Calendula* includes about twenty species of the Mediterranean, but only *C. officinalis* has been used in medicine or the kitchen. Large yellow to deep orange daisies, sometimes tipped in red and up to 3 inches across, are borne from tufted, light green, lance-shaped foliage, making this a very attractive annual for the border.

The petals of poet’s marigold also yield a dye for fabric or hair. Wide-ranging

PLANT PROFILE*Calendula officinalis*

ka-lén-du-la o-fis-i-ná-lis

Family: Asteraceae (Compositae)

Growth form: annual to 8 to 20 inches
(20 to 50 cm)Hardiness: seedlings can withstand
minor frost

Light: full sun

Water: moist but not constantly wet

Soil: average garden loam, pH 4.5 to 8.2,
average 6.6Propagation: seeds in spring, 3,500
seeds per ounce (123/g)Culinary use: cheese, butter, custard,
vinegar, salads, soups

Craft use: dye for hair and fabrics

Landscape use: border edges

Text ©2007 Dr. Arthur Tucker

The subject of many poems because of its beauty and nature of closing at around 3:00 p.m. and opening again at about 9:00 a.m., calendula has achieved the English name of poet's marigold, but it also goes under the names of pot marigold, Scotch marigold, golds, or ruddles (ruddes). The derivation of "pot marigold" is either a shortening of "poet's marigold" or because of its free-flowering habit when housed in pots in cool winter greenhouses.

Text ©2007 Dr. Arthur Tucker

C. o. 'Pacific Beauty' Photo ©2007 Susan Belsinger

medicinal claims have been made for poet's marigold petals, but little research has tested these assertions. The petals have been found to be anti-inflammatory and promote wound-healing and may aid in the treatment of acute dermatitis, however, due to the content of isorhamnetin and faradiol monoester. The faradiol esters also provide anti-oedematous activity. In addition, the high concentration of carotenoids, which are antioxidant, is well-documented and provide scavenging activity against free radicals. The flower extract may be both genotoxic and anti-genotoxic. Flowers also exhibit both spasmolytic and spasmogenic constituents and may be useful in abdominal cramps and constipation. The flowers of *C. officinalis* contain 0.009 percent pyrethrins, so an extract would be also effective as an insecticide.

Some single and many double forms ('Bon Bon,' 'Gitana,' 'Prince,' and 'Touch of Red' series) are currently cultivated. One quaint form, 'Prolifera,' is the hen-and-chickens poet's marigold because of the "proliferated head," which radiates smaller heads out from it in the manner of hen-and-chickens (houseleek), *Sempervivum tectorum* L. Gerarde called this form "Jack-a-napes on horsebacke." An investigation of 10 cultivars of *C. officinalis* in Italy showed that 'Calypso Orange Florensis' produced the highest amounts of bioactive monoesters, followed by 'Fiesta Gitana Gelb' and 'May Orange Florensis.' Another study done in Austria with eight cultivars in two different locations found that the diameter of the flower heads, dry weight of the inflorescences, and content of faradiol-3-monoesters proved to be stable parameters, regardless of the environment. A study by the same authors found that the inheritance of the faradiol monoesters was complex and polygenic and not correlated with flower size.

Important Chemistry: The essential oil of poet's marigold flowers is dominated by 2-64 percent alpha-cadinol and 8 to 10 percent eudesmol along with many fatty acid esters and sesquiterpenes, providing a pleasant, spicy odor. The bitter principle is (-)-loliolide (calendin). The carotenoids, which provide the distinct yellow to orange of the petals, are beta-carotene, lycopene, violaxanthin, and lutein; in addition, flavonoids, narcissin and glycosides of quercetin and isorhamnetin, also provide some color. At least eight faradiol and calenduladiol monoesters are bioactive.

THE MEDICINAL POINT OF VIEW

An Herb A Day: Pot Marigold — Can Calendula Check Cancer?

Dr. Jim Duke

Calendula officinalis is the herb of the year this year, and a lot of people are talking about it. And maybe it deserves talking about; those golden flowers seems to be one of the richest sources of carotenoids, even the famous lycopine and lutein. If so, this belongs in the food pharmacy as a possible, even probable, cancer preventive food. Facciola (3) notes that the fresh flowers are chopped into salads, dried petals used like saffron, to color butters and cheeses in teas, and to flavor cakes, cookies, puddings, and soups.

From my updated database, we read that the flower heads are used in cookery; they were used as a soup starter in the Middle Ages; dried flowers are used to make broth and to color cheese; pickled buds have been used as poor caper substitute; leaves can be cooked and eaten like spinach. *My Living Liqueurs*, printed twenty years ago, has been out of print so long that I had all but forgotten I had a pot marigold account there. And there's still stuff in that 1987 book I haven't seen resurface elsewhere, so for a change I'll quote Duke and Duke (2): "Fresh, dried or frozen petals may be used in any recipe as a saffron substitute... Marigold powder...is used like saffron to season seafood, chowders, soups, stews, roast meats, and chickens. It is also used to color butter, cheese, custard and liqueurs. I have used both *Calendula* and *Tagetes* to simulate the color of Galliano (2)."

I had not planned to write up this herb, until the FDA came flip-flopping along and said there was no conclusive evidence that lycopene could prevent cancer. But they did leave us with one little glimmer of hope; "The FDA found very limited evidence to support an association between tomato consumption and reduced risks of prostate, ovarian, gastric, and pancreatic cancers." X17623802(4). Since calendula can contain as much lycopene as tomatoes, I'm assuming that calendula can help prevent these cancers too, though I am rather sure the FDA would not agree.

The FDA proudly used the aphorism "evidence-based" in their lycopene/tomato study title saying there was no evidence for lycopene and only limited evidence for tomato in cancer prevention. I have a strange line of evidence I call the

Multiple Activities Menu (MAM) which lists many activities that might contribute to the prevention, alleviation or curing of cancer. I present that MAM first. It's rather impressive, the list of phytochemicals in calendula that might prevent cancer. These reports are based on phytochemicals in the USDA phytochemical database (1). I might add that the phytochemicals and their activities were reported by someone else, not the FDA, not me. Sources can be found in that USDA database.

But moderation in all things. Two studies show that relatively low doses may be beneficial in several directions but higher doses detrimental. Remember the dose makes the poison. Reasonable intake of calendula, like probably all herbs, can be beneficial, massive doses harmful. Reasonable doses can provide several useful carotenoids, not just common chemopreventive carotenoids like lutein and lycopene, but a few that are unique to calendula. All herbs contain many common phytochemicals, shared with all plant species, and probably all herbal species contain some phytochemicals not shared with other species.

Medicinal Use of Calendula

Gayle Engels

Calendula (*Calendula officinalis*) has a long history of medicinal use extending back to the ancient Egyptians (8). Also called marigold, pot marigold or poet's marigold, calendula should not be confused with *Tagetes* spp. The plant material used medicinally is the whole or cut, dried, fully opened flowers, with the petals having been detached from the receptacle (6,14).

The herbalists Gerard and Culpepper both mention marigold and Maud Grieve states that it is primarily a local remedy and that applying the petals to insect stings will reduce the pain and swelling (10). She also recommends a lotion made of the flowers for sprains and wounds and a water distillation of the flowers for sore and inflamed eyes. While the flowers are the part most often used medicinally, Mrs. Grieve also claims that the juice from the leaves will remove warts and that eating the raw leaves in salad was useful in the treatment of childhood scrofula, a tubercular degeneration of the lymph glands (10). European folk healers utilized extracts, infusions (teas) and ointments made

CALENDULA SALVE

1 part mango butter

3 parts cocoa butter

2 parts unrefined shea butter

4 parts calendula infusion (2:1 apricot kernel oil)

1/3 to 1/2 ounce geranium essential oil, optional

1 gram rosemary resin, optional

Place dried calendula petals in a clean glass jar. Cover with apricot kernel oil. Cover jar with plastic wrap before putting lid on. Store in cool, dark place for 6 weeks, shaking jar every few days. Strain oil through cheesecloth.

Whatever quantity of oil you are left with determines how much you need of the other ingredients. For example, if you have 8 ounce of infused oil, you will need a combination of butters totaling 12 ounce and enough jars to accommodate 20 ounce of product. (Note: This is a vegan recipe which uses no beeswax, so it is creamier than some salves. Shea butter is usually the least expensive and cocoa butter smells the best and has the highest melting point which is important if you live in a hot climate and don't want to refrigerate your salve.)

Heat calendula infusion and mango butter over low heat to 120°F. Add cocoa butter and slowly heat to 170°F. Remove from heat and cool to 120°F. Add shea butter and heat again to 170°F. Remove from heat. Add geranium essential oil or any other essential oil that you like and that promotes healing. Add rosemary resin if available; this will prevent against oxidation and extend the life of the salve. Ladle mixture into clean jars, wipe rims of jars as needed, and allow to cool.

Text ©2007 Gayle Engels

from the calendula flower to cure jaundice, promote sweat during fevers, and to induce menstruation (1). In the 19th century, American Eclectic physicians used calendula flowers to treat conjunctivitis (an inflammation of the mucous membrane that lines the eyelids, commonly called pink eye), liver problems, stomach ulcers, and superficial burns, sores and wounds (1).

Calendula is both astringent and anti-inflammatory and calendula infusions, ointments and tinctures have been employed to heal bruises, burns, cuts, and the minor infections that they cause (7,13). Calendula preparations have been used to treat skin and mucous membrane inflammation such as pharyngitis (inflammation of the throat), dermatitis, boils and leg ulcers (14). Lotions, poultices, and compresses made with calendula flowers may also be used, based on which preparation is most suitable (11).

Modern-day herbalists recommend the use of calendula internally for its anti-inflammatory effects in the digestive system, that is, for gastric or duodenal ulcers and the many complaints that are commonly referred to as indigestion (11). It has also been used to help with gallbladder problems, and as a normalizer of the menstrual process, may help with delayed or painful periods (11).

The German Commission E approved the internal and topical use of calendula flower for inflammation of the oral and pharyngeal (throat) mucosa. It was also approved externally for poorly healing wounds and foot ulcers (2). Canada has approved calendula as an active ingredient in over-the-counter traditional herbal medicines and homeopathic medicines (14). In the United Kingdom, it is approved as an herbal medicine for external use only in the General Sale List. Calendula is approved in the United States for use in cosmetics, dietary supplements, homeopathic remedies and is generally recognized as safe for food use (GRAS § 182.10) (14).

Side bar note: The shelf life of the calendula salve with the addition of the rosemary resin, this salve has a shelf life of up to two years, unrefrigerated. If refrigerated, it will last indefinitely. Without the rosemary resin, the shelf life is approximately one year unrefrigerated and two years if refrigerated.

CALENDULA TINCTURE

Calendula flower heads

Mason jar

Vodka (80 proof) or pure grain alcohol

Drying rack

1 ounce dispensing bottles (tinted glass preferred)

1. Harvest the freshest flowers when the calendula flowers are at their peak.
2. Place the flower heads on your drying rack. They should be in a single layer with good air circulation since this will aid in the drying process and avoid any mold problems.
3. After a week the calendula should be thoroughly dry. Collect your flower heads and pack them in a mason jar.
4. Fill the mason jar with either the vodka or pure grain alcohol. Be sure to completely cover the plant material. Add more alcohol as needed since the plant material will soak up the liquid.
5. Let your alcohol and calendula sit for 6 weeks or longer.
6. Pour off the infusion into glass bottles or jars; squeeze the flower heads to get out all you can, use a press or twist the flower heads in a flour sack cloth.
7. Use your calendula tincture on mosquito bites, bug bites and itchy rashes. Prior to using it on a rash be sure to rinse the area with water to get rid of any allergens/irritants that might be present. As with anything that you put on your skin there is a chance you might experience some irritation from it. If it makes things worse stop immediately.

Text ©2007 Lynn Green & Rodney Webster

Calendula's healing properties, while proven over centuries of use, are not well understood. Various activities have been shown for the essential oil and extracts of the flowers including the following: anti-microbial, anti-inflammatory, anti-bacterial, anti-fungal, anti-tumor, cytotoxic, anti-HIV and wound healing (1,14). Recent studies investigating the calendic acid content of the calendula seed have found it to have antioxidant properties (15).

While there are not many clinical studies to support the various uses of calendula, a few stand out. One 1994 study found that an ointment made with calendula flowers has been effective in relieving the pain associated with cracked or tender nipples (12). In 2005, Duran et al. obtained positive preliminary results for the use of calendula ointment in the treatment of venous leg ulcers (5). Another 2005 study showed the protective effect of a calendula/rosemary cream preparation against a sodium laurel sulfate-induced irritant contact dermatitis (9). A 1999 study suggested that a Romanian product containing calendula, *Actium lappa*, and *Geranium robertianum* was more successful at resolving complaints and healing ulceration caused by herpetic keratitis (inflammation of the cornea and conjunctiva caused by herpes virus type I) than was acyclovir alone (4).

There are very few safety concerns regarding calendula. However, internal use of calendula preparations should be avoided during early pregnancy due to its ability to stimulate menstrual activity (3). Also, allergic hypersensitivity may be an issue for persons sensitive to other members of the Asteraceae family (3).

CULTIVARS OF CALENDULA

Deni Bown

Marigolds self sow in my garden in southeastern England, so I am never without them from about March through to November. It is not easy to find seed of the true pot marigold, so like most gardeners, I usually grow cultivars on the basis that they have showier flowers and yet can be used in the same ways. As cultivars do not come true from seed – and if left to self sow over generations may revert to the wild species – I always sow a named variety to give a more

Sowing Instructions

Sow outdoors where they are to flower when the ground becomes workable in March-May or late August-September, covering the seed to a depth of 1/2 inch (12 mm).

Growing Instructions

Thin out the young plants to 12 inches. (30 cm) apart when large enough to handle. Prefers a well drained soil and full sun.

Aftercare Instructions

Seeds sown out-of-doors in the autumn for overwintering will flower in late spring/early summer. They can also be sown indoors and treated like hardy annuals.

The above information and following photos are printed with permission from Thompson and Morgan Seedsmen Inc.



C. o. 'Greenheart Orange'

uniform ornamental effect. Every year I use marigolds as an edging or design feature in the vegetable potage, often around zucchini plants that tend to leave the edges of their allotted bed looking rather bare.

For this purpose I choose a dwarf, compact strain, such as 'Fiesta Gitana,' which reaches only 12 inches tall. At the other extreme, I grow tall, long-stemmed cultivars which double as cut flowers. Cutting the flowers prolongs the flowering period in just the same way as dead-heading, but with extra enjoyment along the way. 'Indian Prince' has striking burnt orange blooms held high on stems over 24 inches long. Another stunner is 'Greenheart Orange' with lime green centers. 'Orange Porcupine' is shorter, at 15 to 18 inches, but the flowers are quilled and a particular vivid orange. It's a favorite of mine and comes surprisingly true if left to self sow. For a softer effect there are mixes, such as 'Art Shades,' 'Allsorts,' or 'Kablouna Mixed.' The more muted apricot, lemon, and cream shades, or contrasting mahogany flushed flowers are a good foil for the dominant bright oranges.

Some cultivars have been around a long time. 'Prolifera,' known as the hen-and-chickens marigold, is illustrated in a Victorian encyclopedia published in 1885. The main flower produces smaller flower heads from its base, like satellites orbiting a planet. It is not a tidy plant but looks good among assorted annuals and wild flowers – and it's always good to honor the historical while welcoming the new.

Calendula officinalis 'Greenheart Orange'

Height: 24 inches

Description: Rich orange, serrated petals form a floral "ruff" around a lime-green heart. Easy to grow, producing lots of flowers for the garden and making a lovely cut flower for indoors.



C. o. 'Kablouna Mixed'

C. o. 'Kablouna Mixed'

Height: 20 inches

Description: A cottage garden delight! Large, striking crested blooms of gold, orange, lemon and apricot with a dark contrasting center. Enjoy them in the garden or use them as beautiful cut flowers.



C. o. 'Nana Apricots & Oranges'

C. o. 'Nana Apricots & Oranges'

Height: 10 inches

Description: A striking combination of extra double apricot and orange flowers, borne on dwarf, compact, basal branching, bushy plants. For organic gardeners this makes an ideal companion plant. Flower petals and leaves can be used in salads to add a tangy flavor.



C. o. 'Nana Citrus Cocktail'

C. o. 'Nana Citrus Cocktail'

Height: 8 inches

Description: An attractive 'Citrus Cocktail' of alluring orange and golden yellow. This mouth-watering color combination smothers the extremely dwarf, compact bushy plants, in stunning daisy flower heads. Unlike other calendulas, 'Citrus Cocktail' keeps on flowering throughout the summer. Be sure to add a touch of the tropics to your borders or containers!



C. o. 'Pink Surprise'

C. o. 'Pink Surprise'

Height: 18-24 inches

Description: Amongst fiery orange and yellow flowers appears a surprise – delicately ruffled, soft orange blooms with a delightful and unique tinge of pink. Wonderfully easy to grow in the border or containers and a delightful cut flower too.



C. o. 'Porcupine'

C. o. 'Porcupine'

Height: 18 inches

Description: An exciting new English marigold with vivid orange, pointed blooms with an attractive quilling that gives a wild, spiky effect. Wonderfully easy to grow in the border or as bedding. The distinct blooms also make a stunning cut flower.



C. o. 'Radio Extra Selected'

C. o. 'Radio Extra Selected'

Height: 18-20 inches

Description: Glowing orange, beautifully quilled cactus-dahlia-shaped blooms magnificent for cutting and border, flowering well even in the poorest conditions.



C. o. 'Sherbet Fizz'



C. o. 'Touch of Red'

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C. o. 'Sherbet Fizz'

Height: 6-18 inches

Description: New in 2007. Sherbet Fizz is an easy to grow annual, specially selected for its striking color combination. These unusual buff-colored blooms also have an intriguing darker red underside on several layers of tightly-packed petals, each tipped with red, creating a spectacular sherbet fizz effect as the blooms open. Sown in drifts directly into borders they will make a stunning addition to your garden, as well as making an attractive cut flower.

C. o. 'Touch of Red'

Height: 16-18 inches

Description: One of the most outstanding, uniform cut flowers. Blooms have a "touch of red" giving them an almost antique look.

CULTIVATION

Tips on growing

Dr. Arthur Tucker

Calendula plants are easily started indoors four to six weeks before the last expected frost. The seeds, shaped like stiff and twisted vipers, may be directly sown in friable garden loam in full sun about 9 to 12 inches apart. Flowers are generally produced from May until frost if summers are cool. Seeds ripen August-September, and poet's marigold often reseeds itself in the garden.

Heat is inimical to poet's marigold, and southern gardeners will find that their plants cease flowering and suffer from spider mites and black aphids from July to August; partial shade and moist soil will sometimes counterbalance the sum-

mer's heat. Researchers in Egypt found that pre-sowing seeds at a low temperature of 41°F (5°C) for 7 days caused the most pronounced increase in the essential oil.

Flower production is particularly increased by fertilizers high in phosphorus, so fertilizers with an N-P-K ratio of 1-2-1 are recommended. A study done in Egypt also found that an application of urea at the rate of 106 pounds per acre (119 kg/hectare) gave the highest flower numbers and weight. Researchers in New Zealand found that the total flower yield was not significantly different at populations over 46 plants/m².

NOTES ON GROWING CALENDULA FROM HSA MEMBERS

Jim Long, Long Creek Herbs, Blue Eye, Missouri

Calendula grows cautiously in my Zone 6b/7a region and I grow it as a brief, temporary plant. Since it is a cool season plant, and our cool season usually ends by mid June in the Ozarks, I see calendula as a very short season herb. I feel fortunate if I am able to coax three weeks of blossoming from calendulas.

Some of the older German cultivars have a better chance of good flower production, but most cultivars fall prey to little green worms that eat the centers out of the buds before they open. To prevent them, I spray with *bacillus thuringiensis* every ten days. The plants also have a tendency to turn yellow and die without warning, from the root to the top, leaving empty spaces in the calendula bed. In addition, calendula is a magnet for blister beetles and they will first attack the calendula, multiply, then move on to the tomato plants.

Carolee Snyder, Carolee's Herb Farm, LLC, Hartford City, Indiana

I seed calendula early in the greenhouse, especially the dwarf 'Bon Bon' series, so I can have them already in bloom when we make up big baskets and pots of cooking herbs. Their lighter green leaves also look good in contrast to the darker parsley, etc. and often people aren't aware they can use them in the kitchen. I also love them because they continue to bloom in the Cook's Garden even after the first light frosts. The only drawback is that they really, really look pitiful in the hottest days of July and August. I cut them back, and they reward me with lots of autumn blooms.



Calendula flowers in a summer bouquet
Photo ©2007 Vanessa Tsang



Calendula flower Photo ©2007 Bob Gray

Cathy Manus-Gray, Herban Gardens, Cuyahoga Falls, Ohio

Calendula thrives in my garden despite my sometimes neglectful gardening practices. I've had it come up faithfully every year for several seasons now. The varieties I grow are 'Flashback' which I obtained from HSA's seed exchange program, 'Erfurter Orangefarbigen' which is a commercial strain available from Richter's that is used for the superior medicinal flower action.

I have calendula in my culinary garden because I use it in salads and in my herbal floral cream cheese. It does very well in this area, which is in full sun and has rather dry soil except when we have a downpour. Then the area becomes pretty saturated and the calendula's feet are sitting in some water.

It easily re-seeds itself every year and blooms around mid-July. It will continue to bloom through September until a heavy frost which can come anytime in October. I do deadhead or harvest pretty heavily to encourage re-blooming, but always leave some flowers so they will germinate for next year.

I start seed indoors and transplant seedlings in the garden. This gives me a jump start and assures I'll have blooms earlier in the summer.

Theresa Mieseler, Shady Acres Herb Farm, Chaska, Minnesota

The last frost in my area is usually around May 25, and it is then that seedlings are planted into the gardens. Flowering begins in late June, and in early September few flowers are left on the straggly plants. At this time many plants have gone to seed and it is easy to spot new plants coming up underneath old stems. Volunteers usually begin sprouting early the next season.

Plants generally reach a height of 2 to 2 1/2 feet but ultimate size depends on sun and moisture. In 2007 we had a drought, and I noticed the plants had mildew and did not grow as well as other years. I prefer the variety *C. o.* 'Erfurter Orangefarbigen' because it does better in this climate.



Calendula in the Garden
Photo ©2007 Lynn Green & Rodney Webster

Karen Lee Hegre, Black Hills Herbs & Aromatherapy, Rapid City, South Dakota

In western South Dakota, (Zone 4/5), calendula has been re-seeding itself for the past 4 years. I use a lot of calendula in salves and lotions. I also plant new seeds each spring after the soil warms up in April and May. Without the spring snows the seeds germinate in approximately 14 days, but if we have a spring

DID YOU KNOW?

- The ancient Romans used calendula to treat scorpion bites.
- In German folklore, rain was predicted if the flowers remained closed after 7 a.m.
- Marigold was commonly used as an aphrodisiac, and thought to have great significance in love.
- In Mexico it is thought to be a flower of death and is believed to have sprung from the blood of the Indians killed by the Spanish invaders.



Calendula
Photo ©2007 Luigi Rignanesi

snow it takes longer. I plant seeds no deeper than 1/4 inch and do not thin them. I have a couple large areas planted with calendula only.

Geri Laufer, Atlanta, Georgia

Atlanta is Zone 7B, lately approaching Zone 8. Calendula is a cool-season in Atlanta. It is planted in mid-October with pansies and blooms all fall, including December and even January. It dies back in cold weather during January to mid-February and then blooms in late-February until the hot weather begins.

South Texas

Large bright-yellow to orange blooms from fall through spring make calendula one of the most popular cool-weather herbs in South Texas gardens. Once widely used as a potherb, it is seldom eaten anymore, although it is certainly edible. The young leaves are best for cooking, as the older ones turn bitter. The dried petals lend a bright color to potpourri and are used in cooking to add saffron's color, although they lack the saffron flavor.

Pot marigolds are easily grown from seed started in late August and most nurseries in South Texas sell them as bedding plants in the fall. They grow 1 to 2 feet tall (depending on the variety) in full sun and average, fertile garden soil with some humus added. Plant 10 to 12 inches apart and water them well before a freeze or anytime there is a period of dry weather during the winter. They are hardy through most of our winters, although occasionally the buds will freeze if not protected. Keep the plants deadheaded for more bloom. They are usually past their prime by May and may be removed to make room for summer annuals.

The Herb Society of America, South Texas Unit, *Herbal Harvest Collection Cookbook*

Karen Mahshi, Concord, CA

Calendula blooms in our area from late fall through spring. The foliage begins to turn brown by late May and the plants shrivel up with the onset of hot weather. If I am going to harvest flowers for drying (potpourri) I try to do it no later than mid-spring. The flowers decrease in size as the weather warms.



C. o. 'Erfurter Orangefarbige'
Photo ©2007 Conrad Richter

COMMERCIAL CULTIVATION

Calendula

Conrad Richter

Calendula's main commercial value lies in the flowers used in medicinal and cosmetic preparations. To a lesser extent, calendula is also grown for its edible fresh and dried flowers to add color to foods. Farmers feed the flowers to laying hens to deepen the colour of the egg yolk. The potential of the seed oil for industrial applications has been explored and development of the crop for this purpose is close to commercialization.

Cultivars

Of the more than 100 cultivars of calendula known to exist, most are intended for the ornamental market. Historically, North American growers have chosen to grow ornamental cultivars assumed to be bioactive. The Czech variety, 'Plamen,' registered in 1941 and still cultivated as a medicinal crop in Europe, is said to be a progenitor of many early ornamental cultivars such as the Pacific Beauty series. Neither 'Plamen' nor its improved large-flowered version, 'Plamen Plus,' are available in North America.

In Europe and North America the standard variety for commercial production is 'Erfurter Orangefarbige,' a high-yielding, large, double-flowered type with high flavonoid and carotenoid content. Dry flower yields of 1500 lbs/acre (1.7 tonnes/hectare) have been recorded for this variety. Compared to 'Erfurter Orangefarbige,' yields of 'Resina,' an American variety with mostly yellow flowers, are similar, but flavonoid content is as much as a third lower.

Both 'Erfurter Orangefarbige' and 'Resina' were evaluated for oilseed production but seed yields of 0.6-0.8 tonne/hectare are too low compared to the 1.35 tons/acre (3 tonnes/hectare) of some European selections. A proprietary European variety, 'Carola,' registered in 2005, is apparently the first to come out of European oilseed research; but it is not available in North America. 'Regina,' an older European oil-rich variety is also not available to North American growers. For competitive reasons the use of proprietary selections appears to be common in the industry.

For example, the German herbal medicine manufacturer, Dr. Theiss, registered 'Rinathei' in 1998 for its own exclusive production use. This variety is claimed



Calendula seedling in the garden
Photo©2007 Theresa Mieseler

to be rich in faradiol triterpenoids believed to be most responsible for calendula's anti-inflammatory activity. Intriguingly, a readily available dwarf ornamental variety, 'Calypso Orange,' is also rich in faradiols, having the highest content of 10 cultivars tested, as much as a third more than 'Erfurter Orangefarbige.'

Site Selection and Preparation

Cool temperate areas with mild summers are best suited for calendula. Where summers are too hot, yields are depressed. Typical USDA zones where calendula is grown successfully are Zones 2 to 9. Calendula prefers full sun, and will tolerate a range of soils if the drainage is good. It does not require a bare fallow period prior to planting. The ground should be finely worked to provide a smooth surface for sowing. Calendula is a hardy annual. Planting occurs in early spring or, where winters are mild, in the fall.

Direct Seeding

For rows 28 inches (70 cm) apart with a final plant density of 5 to 7/10ft² (5 to 7/m²), the traditionally recommended seeding rate is 2 to 2.5 lb/acre (2 to 3 kg/hectare). One study suggests that dry flower yields can be tripled with broadcast sowing at 20 lb/acre (24 kg/hectare); but the decision to sow in rows or broadcast depends on weed control, harvest method and seed cost. Broadcast sowing is only feasible if herbicide use is planned. For oilseed production broadcast sowing is preferred. For oilseed production the seeding rate of 24 kg/hectare is recommended; this will result in plant density of about 60/m².

Indirect Seeding and Transplanting

Sow in plugs or seed beds 4 to 6 weeks prior to field planting. At the seed density of 3700 seeds/ounce (130 seeds/g) approximately 2.20 pound of seed (1 kg) of seed is needed to plant 1 lb/acre (1 hectare). Plug trays with 128 cells planted 2 seeds per cell works well. Seeds need light to germinate so they should be covered very lightly or just pressed in. Transplant seedlings to the field in rows spaced 70 cm (28 inches) apart with plants spaced 6 to 8 inches (15 to 20 cm) apart within rows.

Fertilizer and Growth Control

Too much nitrogen reduces flower yields in favor of unmarketable foliage. If nitrogen is very low, up to 45 lbs/acre (50 kg/hectare) may be applied. Phosphate (P2O5) and potassium (K2O) may be applied at the rate of

Note:

When using calendula flowers it is important to make sure they have not been sprayed with any chemicals prior to using in food or in any preparations for the skin and body.

When buying calendula look for organically grown product.



Calendula at Colonial Williamsburg Garden Shop
Photo ©2007 Susan Belsinger

90 lbs/acre (100 kg/hectare) and 45 to 90 lbs/acre (50 to 100 kg/hectare), respectively. Organic growers may apply compost or composted manure at 10 tons/acre (20 tonnes/hectare) if soil fertility is low. The microelements Boron, Molybdenum, Zinc, Manganese, and Cobalt are known to stimulate flower production and carotenoid content. Maleic hydrazide (50 mg/litre) induces branching and flower formation.

Irrigation

During dry periods calendula needs 1 to 1.5 inch (2.5 to 4 cm) water per week.

Weed Control

If planted in rows, regular cultivation and hoeing is usually sufficient to keep weeds down to levels that do not interfere with flower production or harvest. A plastic weed barrier works for transplanted fields but may not be cost effective. Effective chemical controls include the preplant herbicide ethalfluralin (Edge) and trifluralin (Bonanza), the pre- or postemergent herbicide propyzamide (Kerb), and the postemergent herbicide sethoxydim (Poast Ultra).

Diseases and Pests

The main problems are powdery mildew (*Sphaerotheca fuliginea* and *Erysiphe cichoracearum*) which damages flowers during cool periods, and aster yellows, which causes stunting and deformation of flowers. For mildew, preventative applications of sulfur or baking soda sprays may help. Mild infections can be treated with neem oil or horticultural oil sprays. Picking flowers early and often avoids late cool season mildew. Aster yellows infection rates as high as 27% have been reported. There is no treatment other than to remove infected plants. It is spread by aster (six-spotted) leafhopper so prevention centres on controlling leafhopper. Control measures include monitoring leafhopper with sweep nets and treatment with neem oil, soap and pyrethrum sprays or with chemicals such as endosulfan (Thiodan, Phaser) and carbaryl (Sevin). Blister beetles, cabbage loopers, and caterpillars are the other main pests.

Harvesting

Flower heads can be harvested by hand-picking or by using a comb. Hand-picking results in a superior product as the comb method will capture buds, over mature flowers, and seed heads. The combed product either has to be picked over to remove the unwanted material or must be sold at a lower price. Fresh



Calendula
Photo©2007 rossouk@gmail.com

flower yields range 2.5 to 4 tons/acre (6 to 9 tonnes/hectare). A worker can hand-pick 25 to 45 lbs (12 to 20 kg) of fresh flower heads per hour. Harvesting labor can account for up to 80% of the total production labor required to produce the flower crop. For oilseed production the crop is desiccated with diquat (Reglone Dessicant) and then combined.

Drying

Calendula flower heads require shade, ventilation and artificial heat to dry. Because there are numerous sites on the flower heads where moisture can accumulate, drying must be done carefully. The flower heads should be spread on screens no more than one layer thick. A brief period of elevated heat at 50 to 120 to 140°F (60°C) to remove surface moisture is followed by a sustained drying period of not more than 95°F (35°C). If required product is to be petals only, then the petals can be rubbed off when the petals are dry and the centres are not yet hard. When centres are hard and no longer pliable flower heads are ready for processing or storage.

Processing

Depending on the intended market the product may or may not need further processing such as cleaning. For whole flower heads no further processing is usually required. For a petals only product winnowing may be required to clean the product.



Drying calendula
Photo ©2007 Spring Maxfield

Silica gel is available at craft stores and kitty litter is, of course, available anywhere. Both are reusable time after time – after using just put them back into a closed plastic container until the next season.



Calendula CO₂ Photo ©2007 Mindy Green

HARVESTING, PRESERVING AND STORING CALENDULA

Home gardeners may harvest flowers by cutting the heads from the stems and drying them in the shade on paper; the petals will stick to screens, overlapping of the petals results in discoloration. Store the dried petals in tight, opaque containers to prevent fading and discoloration.

– Dr. Arthur Tucker

You can use silica gel or kitty litter to dry calendula flowers to retain color and shape. Use a cardboard box approximately 12" x 16" making sure the ends are secured with duct tape so the mixture doesn't leak out (any size box will do even a shoe box). Cut the flowers leaving 1" of stem. Sprinkle the silica gel or kitty litter to cover the 1/2" of the bottom of the box and gently lay the flowers face down on the kitty litter or silica gel. Place flowers about 1/2" apart and cover the flowers with the silica gel or kitty litter until you don't see any of the petals and allow it to sit undisturbed for five to seven days in a dry area.

When dry gently lift them out of the mixture and brush off excess material with a soft paint brush. Spray with hairspray to keep the shape and to keep the flowers from wilting. At this point the dried calendula can be used in arrangements or wreaths.

– Theresa Mieseler

PROCESSING CALENDULA

Rexford Talbert

Super-critical CO₂ extraction is another plant essence extraction method in addition to the usual steam distillation process. This technique has the advantage of not distorting or destroying some of the volatile oil components as much as other extraction procedures. This approach also allows a more efficient separation of waxes and other more solid lipids from the extracted mixture.

Calendula is relatively fragile as compared to mint, thyme or lavender leaves and inflorescences and must be extracted by *enfleurage*, a direct adsorption of the essence, or by carbon dioxide (CO₂) that has been heated until it changes to its liquid state. This super-critical CO₂ directly allows the ethereal oils to be absorbed.

The flavor is a bit more difficult to describe, and it varies with the cultivar, and of course, where and how it is cultivated. The flavor of the flower petals is actually quite mild—herbal, a bit sweet not very bitter—rather unobtrusive. Small bites of the leaves taste of green herbs, resinous and salty at first, and bitter follows farther back in the mouth; not something that you'd want to eat very much of.

When I made an infusion of the petals and inhaled the perfume, it just reminded me of a very mild herb tea. After steeping a bit longer, it was giving me a vague suggestion of something that was eluding me. Smell, taste, smell, smell, and finally it came to me: it had the same aroma of the leftover cooking liquid obtained when I roast winter squash or pumpkin with an inch or so of water in the oven. Honest. And it was not just the suggestion of orange, since I mostly smell things with my eyes closed. This makes sense since calendula contains carotene, which is contained in orange vegetables like carrots and winter squash. Mild, vegetable-sweet, a little woody—what's there not to like?

Text ©2007 Susan Belsinger

COOKING WITH CALENDULA

Beverage

CALENDULA TEA

Use this herb, with mints, in making a mint tea. In the past calendula was used as an aid to beautify the complexion, and it is said to be healing to the heart and good for the spirit. *Calendula officinalis* is a small-flowered, Mediterranean plant from which the large-flowered garden hybrids came. Both make a good tea and add bright color to herbal mixtures. Dry calendula blossoms all through the summer and even into late fall, for they often bloom after frost has killed every other flower. Store the dried petals in airtight jars and have them ready to use in tea mixtures at the rate of 1/2 teaspoon per cup.

– Recipe ©2007 Adelma Grenier Simmons, *Herb Gardening in Five Seasons*

Appetizer

TURKEY CALENDULA ROLL-UPS

Makes 4 12-inch roll ups

8 ounces of cream cheese, at room temperature

2 tablespoons low-fat mayonnaise

1 tablespoon horseradish

2 to 3 teaspoons lemon juice

2 tablespoons diced sweet pickle relish

1 tart apple, peeled, cored and finely diced

1 cup calendula petals

4 12-inch tortillas

8 ounces wafer-thin turkey slices or ham if desired

Lettuce leaves, for garnish

Calendula petals, for garnish

In a bowl, blend the cream cheese with the mayonnaise, horseradish, lemon juice and pickle relish. Gently stir in apple and calendula petals. With a spatula

For a beautiful presentation serve this on a plate lined with salad greens, and scatter petals over the top for garnish, fresh snipped chives, and/or dill sprigs. Good crusty country-style bread is the best accompaniment; however pitas, rye, pumpernickel, or thinly sliced bagels are good too.

Note: If you don't have the time or energy, just slice hardboiled eggs onto slices of bread spread with a little mayonnaise and mustard, scatter a little chopped onion or chives and calendula petals over all, perhaps some chopped pickles, season with salt and pepper and you have a gourmet herbal sandwich.

Text ©2007 Susan Belsinger



Hard boiled egg sandwich Photo ©2007 Susan Belsinger

spread this mixture evenly over each tortilla. Cover spread with a single layer of turkey (or ham) slices. Roll up the filled tortilla, jelly-roll style. Cut immediately, or wrap tightly in plastic wrap and chill until serving.

To serve, cut to desired thickness, and arrange on a serving platter over a bed of lettuce leaves. Sprinkle with additional calendula petals.

– ©2007 Kitty Morse, *Edible Flowers, A Kitchen Companion with Recipes*

EGG SALAD WITH CALENDULA AND CHIVE

Serves 6

- 12 hardboiled eggs
- 1/2 cup mayonnaise
- 2 teaspoons Dijon-style mustard
- 2 tablespoons each chopped sweet pickles and juice
- 1/4 cup thinly sliced green onions or minced onion
- 1/3 cup finely diced celery
- 2 tablespoons snipped chives
- 2 tablespoons snipped dill leaves
- 1/2 teaspoon Hungarian paprika
- Salt and freshly ground pepper
- 1 handful fresh calendula petals, coarsely chopped
- Calendula petals for garnish

Dice the eggs and put them in a bowl. Add the mayonnaise, mustard, pickle juice, onions, celery, 1 tablespoon of the chives, paprika, and salt and pepper. Toss well to blend. Stir in the chopped calendula flower petals. Refrigerate for 1/2 hour before serving.

Let stand at room temperature for 5 to 10 minutes before serving. Garnish with calendula petals and the remaining chives and dill and serve immediately.

– Recipe ©2007 Susan Belsinger



Dew caught on a calendula flower
Photo ©2007 Susan Belsinger

Fresh or dried calendula petals can be added to any cornbread recipe. This is a savory and toothsome cornbread. For a less dense bread, you can use all unbleached flour. If you use the sorghum rather than the honey it will be a little darker and heavier in flavor. If you don't have buttermilk, use the same amount of milk and add 1 tablespoon of lemon juice or apple cider vinegar to clabbor it.

Text ©2007 Susan Belsinger

Breads

MORNING SUNSHINE MUFFINS

Makes 12 muffins

- 1 3/4 cups all-purpose flour
- 2 teaspoons double-acting baking powder
- 1/2 teaspoons salt
- 1/4 cup granulated sugar
- 2 eggs
- 2 tablespoons melted butter
- 3/4 cup milk
- 3/4 cup chopped dates
- 2 tablespoons calendula petals, chopped

Preheat oven to 425°F. Sift together flour, baking powder, salt and sugar. In a separate bowl beat eggs. Mix in butter, milk, dates and marigold petals. Add wet ingredients to dry, mixing just enough to evenly moisten. Spoon mixture into greased muffin tins, filling halfway. Bake for 15 to 20 minutes or until tops are lightly browned. Delicious served with marigold butter.

– Recipe ©2007 Cathy Wilkinson, *Edible Flowers, Desserts and Drinks*

CALENDULA CORN BREAD

Serves 8

- 2 cups buttermilk
- 3 to 4 tablespoons fresh calendula petals or 2 to 3 tablespoons chopped dried calendula petals
- 1 1/2 cups cornmeal, preferably stone-ground
- 3/4 cup whole-wheat flour
- 3/4 cup unbleached flour
- 1 1/2 teaspoons baking powder
- 1/2 teaspoon baking soda
- 3/4 teaspoon salt
- 2 extra-large eggs
- 1/4 cup vegetable oil or melted butter
- 1/4 cup honey or sorghum

It seems to me that calendula flowers can be used in both savory and sweet dishes. Why, even Frank Perdue advertises that he feeds calendula petals to his chickens so that the birds have an appealing golden yellow color to them. I use the fresh or dried flower petals with milk to make custard and puddings; in herb butters and cream cheese for their bright yellow-orange color; in batters for cakes, bread, and cornbread for color and mild flavor; with grains like rice or couscous; in mild-mannered soups; I like the petals best in all sorts of vegetable salads and in egg salad and deviled eggs.

Note: The fresh petals are just a little tough, and the dried petals, even when infused are still a bit chewy; you may want to chop or puree them before adding them to a recipe.

Text ©2007 Susan Belsinger



Flower Salad
Photo ©2007 Susan Belsinger

The flowers, herbs, and greens in this salad will vary depending upon what is in season. Experiment and substitute whatever appeals to you. If the pansies seem too large, separate their petals and scatter them over the salad.

Text ©2007 Susan Belsinger

Soak the calendula petals in the buttermilk, while assembling the ingredients. Preheat the oven to 375° F. Oil a 10-inch skillet or baking pan.

Sift the cornmeal, whole-wheat flour, unbleached flour, baking powder, baking soda, and salt into a large bowl. Beat the eggs in a bowl with a whisk. Add the buttermilk, marjoram, oil, and honey and combine the liquid ingredients; whisk them for 1 minute.

Add the liquid ingredients to the dry ingredients and blend well. Pour the batter into the prepared skillet or pan and bake for 25 to 30 minutes until golden brown or until a cake tester inserted in the center comes out clean. Let the corn bread cool for 5 to 10 minutes before cutting.

Recipe ©2007 Susan Belsinger

Salad

FLOWER SALAD

Serves 8

About 8 cups of salad greens (baby lettuces, mache, chicory, endive, rocket, watercress, or spinach)

About 2 cups of assorted edible flowers (calendula petals, chervil, chive, or coriander flowers, johnny jump-ups, pansies)

1 to 2 tablespoons tiny new mint or lemon balm leaves

2 to 3 tablespoons dill or fennel sprigs

2 tablespoons freshly snipped chives

1/2 cup good quality olive oil

2 to 3 tablespoons balsamic, tarragon, or herb vinegar

Salt and freshly ground pepper to taste

Wash the salad greens well and pat or spin them dry. If the leaves are large, tear them into large bite-sized pieces. Wash the herbs and pat them dry. Gently rinse the flowers and pat them dry.

No salad of mine is complete without a sprinkling of bright orange marigold petals. I also make tea from either fresh or dried petals, using the petals from 2 to 3 heads per cup. In the past though, I have put calendula to other uses. When I kept goats and made cheese, I used to make a very strong infusion of marigold petals and add it to half the curds for a batch of cheese. It turned the curds a lovely orange color, similar to the orange shade of certain commercial cheeses, such as Red Leicester. I then carefully ladled the curds into the mould in alternate layers to produce an impressive striped cheese. Known as “poor man’s saffron,” marigold is also nice to use in soups and when cooking grains, to give both color and flavor.

Text ©2007 Deni Bown

In a small bowl, combine the oil and vinegar with a fork, and season with salt and pepper. Arrange the greens on a serving platter and scatter the herbs over them. Place the flowers decoratively on top. Stir the vinaigrette well and drizzle about half of it over the salad. Toss gently, add more vinaigrette if necessary, and serve immediately.

– Recipe ©2007 Susan Belsinger

On The Side

CALENDULA RICE

Serves 8

4 cups water
1/8 teaspoon salt
1/2 cup onion, finely chopped
2 chicken bouillon cubes
1/2 cup calendula petals, finely chopped
2 cups long grain rice

In a medium saucepan bring water to a boil. Add salt, onion, bouillon cubes, calendula petals and rice. Stir. Reduce heat, cover and simmer for 18 minutes.

– ©2007 Cathy Wilkinson Barash, *Edible Flowers, Desserts and Drinks*

Sweets

MARIGOLD CUSTARD

1 pint milk
1 cup marigold petals
1/4 teaspoon salt
3 tablespoons sugar
Small piece vanilla bean
3 egg yolks
1/8 teaspoon nutmeg

- 1/8 teaspoon allspice
- 1/2 teaspoon rose water

Pound the marigold petals in a mortar, or crush them with a spoon, and scald with the milk and vanilla bean. Remove the vanilla bean, and add slightly beaten yolks of eggs, salt, and sugar mixed with the spice. Cook until the mixture coats the spoon. Add rose water and cool. This makes a good sauce for a *blanc mange* (white pudding). It may be poured into a dish without cooking, and then baked like a custard. Serve with beaten cream, and garnish with marigold blossoms.

– ©2007 Susan Wittig Albert, *China Bayles' Book of Days*

COCONUT CALENDULA CAKE

Makes a two layer 9-inch cake

- 2 cups sifted cake flour
- 1 tablespoon baking powder
- 1/4 teaspoon salt
- 1/2 cup (1 stick) butter
- 1 cup sugar
- 3 egg whites
- 1 teaspoon vanilla extract
- 2/3 cup milk
- Boiled white icing (recipe follows)
- 1 1/2 cups grated coconut
- 1 cup calendula petals

Preheat the oven to 350°F. Grease and lightly flour two 9-inch round cake pans. Sift the flour, baking powder, and salt together and set aside. In a large mixing bowl, cream butter and gradually add the sugar, continuing to beat until the mixture is light and fluffy. Beat in the egg whites, one at a time, stirring well after each addition. Add the vanilla. Add sifted ingredients to the butter mixture alternating with the milk, stirring well after each addition. The batter should be very smooth. Divide batter between the 2 pans and bake for about 25 minutes, or until a cake tester inserted in the center of the layer comes out dry and without crumbs, and the cake has just begun to pull away from the sides of the pan. Cool the cake in the pans for 5 minutes, then turn the layers out onto



Coconut Calendula Cake Photos ©2007 Theresa Mieseler

Golden Vegetable Stock

This is probably one of the oldest ways that calendula was used in cooking—it was thrown into the soup pot—hence the name pot marigold. You can vary this with any vegetables that you might have on hand. For instance, if I’m making mushroom soup, I might add more mushrooms, or the stems. If I have left-over cabbage, I might add it. If I’m making winter squash or sweet potato soup, I would add the peeling or skins. I also change the herbs in the bouquet garni, depending upon what kind of soup I am making. The calendula petals will make the stock a golden color whether they are used fresh or dried; they lend a mild pumpkin or winter squash-type flavor.

Text ©2007 Susan Belsinger

racks to finish cooling.

Spread icing between layers and on tops and sides. Before the icing has set, sprinkle coconut and calendula petals over the top.

Note: If you like a stronger calendula flavor, chop an additional 1/4 cup of calendula petals and steep them in the milk overnight. (Alternatively, you can heat the milk, pour it over the petals, and let it cool.) Strain the milk before stirring into the cake batter if you prefer.

BOILED WHITE ICING

- 2 cups sugar
- 1 cup water
- 2 egg whites
- 1 teaspoon lemon juice
- 1 teaspoon vanilla extract

Place the sugar and water in a saucepan and cook over medium-high heat, stirring, until the sugar is dissolved. Stir down any crystals that may form around the sides of the pan. Bring to a boil and cook until the syrup reaches 240°F on a candy thermometer, or until it spins a very fine thread when dripped from the end of a spoon. Remove from the heat. In a medium bowl, whip the egg whites until stiff but not dry. Add the hot syrup in a thin stream, whipping the whites constantly until the icing is cool and thick enough to spread. Beat in the lemon juice and vanilla, and use immediately.

– ©2007 Emelie Tolley and Chris Mead, *Cooking with Herbs*

Basics

GOLDEN VEGETABLE STOCK

Makes about 2 1/2 quarts

- 2 carrots
- 1 medium onion
- 1 potato
- 1 turnip
- 1 medium celery rib



Ingredients for herb butter Photo ©2007 Susan Belsinger

Colonists colored their cheese and butter with calendula petals. Flavored butters are a staple of cooks and are used on a number of foods from bread to fish, potatoes and biscuits to pasta and every type of vegetable. Simple to make, they keep in the refrigerator for about one week, or in the freezer for up to three months. Basil, chive, coriander, dill, fennel, lemon balm, marjoram, nasturtium leaves and flowers, tarragon, and thyme all make delicious butters. This is a pretty and tasty combination for a butter; I especially like the color and flavor of calendula in herbal butters. Try experimenting with your favorite herbs and try adding some chopped calendula petals for color. Generally a single herb, or a blend of two herbs are best when flavoring an herb butter.

Text ©2007 Susan Belsinger



Herb butter with calendula Photo ©2007 Susan Belsinger

- 4 or 5 mushrooms
- 1 ripe tomato, optional
- 3 quarts water
- Pinch of salt
- Large handful of fresh calendula petals or medium handful of dried calendula petals
- A bouquet garni made of 1 bay leaf, 3 or 4 thyme sprigs or 1 teaspoon dried thyme, 6 to 8 parsley sprigs, 1 garlic clove, and 6 to 8 peppercorns

Scrub the vegetables well. Chop them roughly and put them in a stockpot. Add the water and salt the stock lightly. Add the calendula petals and make a bouquet garni and add it to the pot. Bring the stock to a boil, then reduce to a simmer. Simmer for 30 minutes, skimming the stock occasionally. Cool the stock for an hour in the pan, then strain.

– Recipe ©2007 Susan Belsinger

HERB BUTTER WITH CALENDULA AND MARJORAM

To prepare 1/2 cup of herb butter, soften 1 stick of unsalted butter. Finely chop the calendula petals and marjoram leaves, about 2 to 3 tablespoons of flowers and herbs to 1/2 cup butter is a good ratio. Blend the herbs with the butter. I like to add 1 tablespoon of olive oil; it gives the butter a more spreadable texture and a good flavor. You may want to add a bit of salt or pepper, lemon juice, or even minced garlic or shallots, depending on how you are going to use the butter. Pack into a small crock and refrigerate or freeze until ready to use.

– Recipe ©2007 Susan Belsinger

Although calendulas can stand on their own in a vinegar, here are a few choices of herbs that combine well with them: basil, chives, lemon herbs, marjoram and thyme. Bright-colored petals make colorful vinegar. If you use the apple cider vinegar the color won't be as pretty, but it will still taste good.

Text ©2007 Susan Belsinger



Calendula Threads Photo ©2007 Susan Belsinger

For The Herbal Pantry

CALENDULA VINEGAR

Makes 1 pint

About 1 pint white wine, rice wine, or apple cider vinegar

About 1 1/2 cups loosely packed calendula petals and other herbs if desired

Harvest your flowers and herbs on a sunny morning, rinse them if necessary and pat them dry. Bruise them slightly. Fill a clean jar about half to three-quarters full of the flowers and herbs you have chosen and cover them with vinegar. Use plastic rather than metal lids, or before you screw on the lid, cover the mouth of the jar with plastic wrap. (The plastic wrap fix is for the short term only. Eventually the acid of the vinegar leaches out and corrodes metal lids, so we recommend buying the plastic lids to fit the canning jars.) Label the jars.

Place the jar in a cool, dark place. When you begin steeping herbs in vinegar in the morning, it can be used that evening since it will begin flavoring the vinegar immediately. The longer it stands—the more flavor it will have. At a certain point, it will begin to change taste. The flowers and herbs will deteriorate and the flavor will not be as bright. A general rule of thumb for infusion is about 2 to 4 weeks. I recommend that you taste your vinegar in about 10 days to 2 weeks time and see if you are happy with the flavor; taste every few days or once a week thereafter until you have achieved the flavor that you are seeking.

After the allotted time the flowers and herbs will need to be removed from the vinegar. Open the jar, and pour the vinegar through a strainer to remove the herbs. Using a funnel, pour the vinegar into smaller bottles and label. Store the vinegar in a cool, dark place and use within a year.

– Recipe ©2007 Susan Belsinger

SALT-FREE FLOWER AND HERB BLEND

4 cups finely flaked dried lovage or celery leaves or mixture of both
4 cups finely flakes dried parsley
2 cups dried chives
Handful each dried chive flowers and calendula petals
1/2 cup pulverized dill
1/2 cup pulverized dried vegetables (carrots, tomatoes, or onions)

Mix all ingredients together. Store in glass containers.

– Recipe ©2007 Jo Ann Gardner, *Living With Herbs*

MRS. GARDNER'S FLOWER AND HERB SALT

Although this is a salt-based flavoring, less is required to season foods than when using ordinary salt. I recommend two-thirds to one-half as much Herb Salt when substituting it for table salt in any recipe.

4 cups table salt or sea salt
4 cups finely flaked dried lovage or celery leaves
2 cups finely flaked dried parsley
2 cups dried chive
Handful each of dried chive blossoms and dried calendula petals
1 tablespoon garlic powder
Flaked dried garlic chives
2 tablespoons onion powder
1 tablespoon ground black pepper
1/4 cup paprika
1 to 2 tablespoons pulverized dill

Mix all ingredients well, adding more herbs and spices to taste. Store in glass containers, well away from light and excessive heat.

– Recipe ©2007 Jo Ann Gardner, *Living With Herbs*



Carolee's Potpourri Photo ©2007 David Snyder

POTPOURRI

Carolee's Potpourri

- 1/4 teaspoon vanilla fragrance oil
- 1/4 teaspoon jasmine oil
- Few drops coriander essential oil
- 1 tablespoon powdered orris root
- 3 cups dried calendula petals
- 2 cups dried lemon verbena leaves
- 1 cup dried bay leaves
- 1 cup dried rose hips
- 1 cup dried sweet gum balls
- 1 cup dried jasmine flowers

Mix the 3 oils with the orris root and allow to blend for a couple of days. Mix the rest of the ingredients together and add the orris root mixture to the dried ingredients. Seal and store in a dark place for a week. I place it in a large wooden bowl, and it looks wonderful, the dark brown sweet gum, olive-green leaves, bright orange-red hips and golden calendula just speak 'Autumn'!

- Recipe ©2007 Carolee Snyder



Calendula paper Photo ©2007 Bob Gray

HANDMADE PAPER

Creative Calendula

Cathy Manus-Gray

This paper was created with white cotton pulp with dried yellow and orange calendula petals added after the pulp was processed in a blender with water. If you want to have finer petals, the pulp may be processed, the petals added in the blender and everything processed again briefly. Color may also be added to white paper pulp. I usually add a small amount of colored tissue paper when I am processing the pulp. I save it all from the gift bags I receive for various holidays and celebrations.

People often ask me what to do with the handmade paper they made. I like to use the heavier papers like this one for journal covers on pamphlet stitched books and I also use them in collage. For those of you who make your own greeting cards, thinner sheets make wonderful backgrounds or use the heavier papers as the card itself.

If you plan on writing on your paper, sizing will need to be added so the ink does not bleed. If you start with recycled office paper (copier or computer paper) this usually isn't an issue. You may also use a rubber stamp on handmade papers. Or use them for backgrounds in your scrapbooks to enhance garden photos you may have. Cut your handmade papers down to smaller sizes or different shapes and use as gift tags. Your paper may be laminated and used as a bookmark.



Image and text ©2007 Geraldine Adamich Laufer

**TO YOUR HEALTH
TUSSIE-MUSSIE**

CALENDULA *Health, Constancy, The Sun*

BURNET *A Merry Heart*

FORGET-ME-NOT *Hope, Remembrance*

WALLFLOWER *Fidelity in Adversity*

FEVERFEW LEAF *Warmth, Good Health, You Light Up My Life!*

TUSSIE - MUSSIES

Theresa Mieseler

Tussie-mussies are a joy to receive as well to make. Begin by cutting herbs and flowers a day in advance, place in a bucket of warm water in a cool room. The tussie-mussie begins with a flower in the center as the focal point. When first starting the tussie, work in groups of threes or fives for symmetry, focusing on color and texture of the plant material. Stems are kept in place with florist tape, stretching it around the stems as you shape the tussie. When the size reaches 3 to 4 inches across start to finish the bottom with larger leaves such as lady's mantle or scented geranium. Place in a tussie holder or doily with a moistened paper towel around the stems to preserve the freshness. Finally, wrap with florist foil to finish it off. Ribbons complete the arrangement along with a note card listing the language of the herbs and flowers. Tussie-mussies perk up shower gifts and wedding gifts as well as patients in the hospital or nursing home. Take one along with you the next time you are invited over to a friend's house for dinner – watch their eyes light up when you arrive.

Oats are saponic and cleanse and soften the skin. Lemon juice contains citric acids which has a lightening or bleaching effect on sage spots and freckles by peeling off outer layers of the epidermis. Calendula and honey are softening and healing.

Text ©2007 Kathlyn Quatrochi



Calendula on steps Photo ©2007 Susan Belsinger

The bath is a good place to start in treating your skin and enjoying the relaxing benefits of warm water. A good way to begin is with a strong herbal infusion of calendula flowers. The stronger you make it the more healing potential it will have. Therefore, an infusion just to soothe and soften may be weaker than one for treating hives, rash or eczema.

Text ©2007 Mindy Green

CALENDULA - BODY CARE

SMOOTH & CLEAR

Masque for the Hands

- 2 tablespoons oats
- 2 teaspoons lemon juice, fresh
- 1 teaspoon calendula petals, fresh or dried
- 1 tablespoon honey
- 3 tablespoons warm water

Combine all ingredients in a chopper or grinder and work into a paste. Apply to clean, wet hands, and up the forearms to the elbows, if you like. Leave on for 5 minutes. Remove with tepid water and follow with a non-petroleum hand moisturizing lotion. You may use this treatment 3 times per week. You'll love it!

– Recipe ©2007 Kathlyn Quatrochi, *The Skin Care Book*

– The following 8 recipes ©2007 Mindy Green

CALENDULA HERBAL BATH

- 2 quarts water
- 1 cup dried calendula

Boil the water, add the herb, cover and let steep until lukewarm. Strain the tea right into the tub, but don't discard those herbs! Tie them up into a thin washcloth and use to scrub the body.

A bath oil is especially nourishing for dry skin. The oils float on top of the water and coat your skin as you slip into the tub.



Calendula oil Photo ©2007 Mindy Green

Bath salts are an easy way to soften hard water. They make water more slippery and make your skin feel smooth. They are simple to make and are a wonderful addition to the bath. They also make a wonderful gift.

Text ©2007 Mindy Green

Imagine dusting your just-bathed body with a big fluffy powder puff, soft and thick, fresh-smelling and silky to the touch! Made without talc, a substance that can be harmful if inhaled, this powder is safe for use under the arms and on the genital area. It also makes a great baby powder.

Text ©2007 Mindy Green

CALENDULA BATH OIL

- 1 ounce infused calendula oil
- 25 drops lavender essential oil

Shake to mix. Use 1 to 2 teaspoons per bath. For babies mix 6 drops essential oil to one ounce of the infused oil and use 1/2 teaspoon. This may also be used as a massage or after bath oil.

Note: An infused oil is what results when a powdered dried herb is soaked for a period of time in vegetable oil. An essential oil is a volatile extract of a fragrant plant.

SOOTHING SKIN BATH SALTS

- 1 cup borax
- 1/2 cup sea salt
- 1/2 cup baking soda
- 1/2 cup finely ground oatmeal
- 1 ounce calendula tincture
- 10 drops each essential oils of sandalwood, geranium, lavender

Mix the dry ingredients together and add tincture and essential oils, stirring well to combine. Use 1/4 to 1/2 cup bath salts per bath, added after the tub is full. Stir well to dissolve. Store the remainder in a closed glass jar

BABY YOUR BODY POWDER

- 1/4 cup arrowroot
- 1/4 cup cornstarch
- 1 tablespoon fine white clay
- 4 tablespoons finely ground calendula blossoms
- 4 drops each lavender, Roman chamomile and neroli essential oils

Put the flowers through a sieve to remove any large bits. Mix all the ingredients well and apply liberally, taking care to avoid raising a cloud of powder, especially when dusting babies.

Treat your crowning glory with the pampering it deserves. This rinse is beneficial for dandruff, falling hair and irritated scalp and will add highlights and shine to light hair.

Text ©2007 Mindy Green

The herbal steam will open the pores, deep clean and rehydrate the skin. This is very helpful for unclogging oily skin, but delicate skin types must take care with this procedure. If you have couperose (tiny broken veins), using a warm compress of the tea is preferred to steaming, which could cause further damage due to the heat, causing expansion of fragile capillaries.

Text ©2007 Mindy Green

Acts as an exfoliating cleanser, removing dead skin cells, allowing new skin to shine through, reducing fine lines and leaving your skin feeling smooth and soft. If your skin is very delicate or sensitive, or if you have severe acne, do not rub vigorously with this preparation. Allow the powder to soak a bit longer with extra liquid to soften it and apply ever so gently.

Text ©2007 Mindy Green

HAIR RINSE

- 1 pint strong calendula tea herb tea
- 1 tablespoon calendula vinegar
- 3 to 5 drops rosemary essential oil

Add one ounce dried herb to 1 pint boiling water; steep till cool. Add the remaining ingredients. Shake well and pour over the scalp and hair after shampooing. Leave on for several minutes and rinse.

HERBAL STEAM

- 1/2 cup dried calendula
- 1/2 cup dried lavender
- 1/2 cup dried roses
- 1/2 cup dried chamomile

Mix the herbs all together and make a strong infusion of 1/2 cup of herbs to 1 quart of water. Strain into a bowl and make a towel-tent for your head over the bowl to capture the steam. Stay at least 12 inches away from the water and steam for 3 to 7 minutes.

FACIAL SCRUB

- 1 cup oatmeal
- 1/2 cup cornmeal
- 1/3 cup dried calendula

Grind the ingredients in an electric coffee grinder to a fine powder. Store in a closed container. To use the scrub, make a paste of 1 teaspoon scrub powder and enough water to moisten and apply to a dampened face. Gently scrub face and rinse with warm water. This mixture may also be used as a mask. It can be moistened with aloe vera juice for normal skin, rose water for sensitive skin, or witch hazel for oily skin. Apply the mask and leave it on for 5 to 15 minutes. This powder can also be mixed with fruits and vegetables for a really indulgent organic beauty treatment. Possibilities include mashed strawberries, peach, avocado, banana, cucumber or carrot. A bit of yogurt or honey can be included for some added moisturizing benefits. This herbal mask is suitable for all skin types, but is especially good for dry or acne skin. You may leave out the vegetable oil if treating oily skin.



Dried calendula Photo ©2007 Mindy Green

HERBAL MASK

- 2 teaspoons facial scrub
- 1/4 teaspoon vegetable oil
- 1 teaspoon honey
- 1 fresh strawberry
- 1 teaspoon calendula tincture
- 1 drop lavender essential oil

Mix the ingredients well and apply to the face. Leave mask on for 5 to 15 minutes. Rinse well with warm water. The moisturizing, healing and soothing properties of calendula lend themselves well to lotion, that ultimate beauty necessity. This makes a thick, beautiful orange cream for dry, irritated skin, and your friends will be amazed when you tell them you made it yourself! Follow the instructions carefully and it comes out perfectly every time.

– Previous 8 recipes ©2007 Mindy Green

**“Here’s flowers for you;
Hot lavender, mints, savory, marjoram;
The marigold, that goes to bed with the sun,
And with him rises weeping; these are flowers
Of middle summer, and, I think, they are given
To men of middle age.”**

Shakespeare The Winter’s Tale

A warm thank you to the many people who willingly and generously shared their knowledge and experience of calendula for this guide.



MEET THE CALENDULA CONTRIBUTORS

The Calendula Guide was compiled and organized by Theresa Mieseler, Shady Acres Herb Farm, Chaska, Minnesota. Theresa is a member of the Rosemary Circle and Central District of the Herb Society of America.

The Guide is made available on the Herb Society of America Web site by Michael Meyers, HSA Webmaster.

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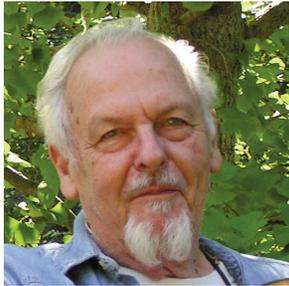
Susan Belsinger

Susan Belsinger is a culinary herbalist and educator, food writer and photographer whose articles have been published in over 20 national magazines. She is a contributing editor for *The Herb Companion*. Her latest book, *The Creative Herbal Home*, is co-authored with Tina Marie Wilcox. She is the author of *Not Just Desserts – Sweet Herbal Recipes* and *Flowers in the Kitchen*, and co-author of seven books with Carolyn Dille, co-author of *Basil: An Herb Lover's Guide* with Thomas DeBaggio, and contributor to four of the Brooklyn Botanic Garden series. Susan is a member of the Potomac Unit of The Herb Society of America and the 2006 recipient of the Joanna McQuail Reed Award for the Artistic Use of Herbs. *Photo ©2007 Pat Crocker.*



Deni Bown

Deni is an award-winning horticultural author and photographer. She is author of many books, including *The HSA New Encyclopedia of Herbs & Their Uses*, *Aroids – Plants of the Arum Family*, and *Alba – The Book of White Flowers*. Deni lives in England and has been an international member at large of HSA since 1998. She is the former chair of HSA's Promising Plants Committee and current member, served as HSA's Honorary President from 2004 to 2006, and was the recipient of HSA's Gertrude B. Foster Award for Excellence in Herbal Literature in 2002.



Dr. James A. "Jim" Duke, Ph.D.

Dr. Duke is an Economic Botanist who retired from the United States Department of Agriculture (USDA, Beltsville, Maryland) in 1995. The USDA still maintains his Phytochemical Data Base online at <http://www.ars-grin.gov/cgi-bin/duke>. He has more than 30 books to his credit. Currently he teaches medical botany as distinguished lecturer with the Master of Sciences Program in Herbal Medicine at the Tai Sophia Institute in Laurel, Maryland. He often hosts tours of his Green Farmacy Garden in suburban Maryland, which has some 300 medicinal herbs, including nearly 60 Biblical species. A Phi Beta Kappa graduate of the University of North Carolina (Chapel Hill), Duke was elected as Distinguished Alumnus 50 years later. He was appointed honorary president of the Herb Society of America for 2006-2008. *Photo ©2007 Helen Lowe Metzman*



Gayle Engels

Gayle currently coordinates the education and community relations efforts of the American Botanical Council (ABC), including the internship program and web administration. She does presentations both on and off site for educational groups and plant-oriented organizations, including tours of ABC's gardens, demonstrations, study groups, and lectures on various aspects of herbal medicine. She guides the development of ABC's medicinal demonstration gardens and resource center. Gayle is a member-at-large of the South Central District of the Herb Society of America and the program chair and newsletter editor of the Austin Herb Society. She has an extensive background in magazine circulation, gardening, landscape and nursery work, and a Bachelor's degree in secondary education from the University of Texas that she enjoys using in nontraditional settings.



Steven Foster

Photographer, author and herbalist, Steven Foster began his herb career at age 17 at the Sabbathday Lake, Maine, Shaker Herb Department. He is the author of 15 books, including *A Field Guide to Medicinal Plants and Herbs: Eastern North America* (with James A. Duke), *A Field Guide to Medicinal Plants and Herbs: Western North America* (with Christopher Hobbs) 2002, and most recently *A Desk Reference to Nature's Medicine* (with Rebecca Johnson). Steven's photographs have appeared in dozens of books and magazines. He has over 150,000 stock photos of medicinal and aromatic plants. Foster also serves as a consult-

ant in commercial herb production. For more information see www.stevenfoster.com



Kathleen Gips

Kathleen Gips has been growing, studying and writing about herbs for over twenty five years. She has had a number of articles published nationally and has been the editor of two herb publications published by The Herb Society of America. Gips authored *Flora's Dictionary: The Victorian Language of Herbs and Flowers* and documents the use of florigraphy in the 1800's. Ms. Gips is a frequent lecturer at garden clubs, herb societies and symposiums. In 1994 she opened The Village Herb Shop located in Chagrin Falls, Ohio. She is a member of the Western Reserve Unit of the Herb Society of America and of the Cleveland Botanical Garden.



Cathy Manus-Gray

Cathy Manus-Gray is the owner of Herban Gardens, Cuyahoga Falls, Ohio. A frequent guest speaker at locations throughout northeast Ohio and beyond, she shares her love of nature with others through a variety of classes and workshops that include sensory experiences interwoven with creativity to provide participants the opportunity for self-expression. She is a freelance writer and publishes the quarterly newsletter *Tales from Herban Gardens*, which features ideas for exploring herbs through the seasons.

Karen Lee Hegre

Karen is the owner of Black Hills Herbs & Aromatherapy in Rapid City, South Dakota. Karen has been studying and using herbs and essential oils since 1974 and has been in charge of the Herb and Garlic Festival in Rapid City for two years. She now holds workshops on herbs and aromatherapy. In 2005 Karen was certified as an Herbal Information Specialist by the American Botanical Council. Karen and her husband, Doug are organic gardeners. Karen's mission is to spread the word of how essential oils and herbs can truly benefit us all.



Lynn Green & Rodney Webster

Lynn is a nurse practitioner and master herbalist. She specializes in connecting individuals experiencing complicated medical issues with the healthy and healing properties of herbs. Lynn and Rodney enjoy gardening, and calendula is one of the special herbs they grow and use. Rodney has a love for photography and takes pleasure in capturing the evolution of their garden on film.



Joyce Harris

Joyce Harris is a certified tea specialist with a degree in biology. She is the owner of The Herbal Gourmet in Harrisville, Pennsylvania. She specializes in organic gourmet products, including herbs, plus information about teas and tisanes, culinary herbs and gourmet gardening through the use of “Sample of the Month” clubs. This includes monthly newsletters, local classes and group presentations.



Jim Long

Jim is the author of two dozen books on herbs, gardening and other subjects. He's a frequent lecturer at flower and garden shows, State Master Gardener conferences and professional organizations throughout the United States. He's appeared on numerous Home and Garden TV and Discovery Channel programs. He's a regular columnist for *The Herb Companion*, *The Herb Quarterly*, *The Heirloom Gardener* and *The Ozarks Mountaineer* magazines, and he writes a syndicated newspaper column, “Ozarks Gardening.”



Conrad Richter

Conrad Richter, President, Richters Herbs, has a Master of Science degree in botany from the University of Toronto. He has been involved with Richters since its inception in 1967 when he was still a child, helping in the greenhouses and in the fields after school and on weekends. His interest in herbs took flight when he helped his father prepare the first Richters herb catalogue in 1970. He has worked on every Richters catalogue since. Conrad has primary responsibility for research and development. Through his efforts many herbs new to gardeners in North America have been introduced for the first time. Conrad has been invited to speak at many conferences, and has appeared on television and radio, and frequently writes for gardening and herbal magazines. Conrad welcomes questions on any aspect of herbs.



Carolee Snyder

Carolee began growing herbs for teas in her backyard in southern Indiana. She now grows over 2,000 varieties of herbs, perennials, everlastings and old-fashioned flowers. Her current passion is her U-Pick field of lavender where she grows 47 hardy varieties, with another 10 tender varieties in the greenhouses. Ms. Snyder travels throughout the country, encouraging gardening, speaking on the pleasures of landscaping and crafting with herbs, and gives slide presentations on the gardens of the U.S. and England. She also authors articles for magazines and newsletters on herbs and has written three booklets, *Midwest Herb Growing*, *Thyme and Thyme Again* and *A Fairy Herbal*. She is the Herb Editor for *Create the Dream* magazine and is heard on WHBU radio, Anderson, Indiana. Ms. Snyder is a member of the Herb Society of America, the International Herb Society and Garden Writers of America.



Rexford Talbert

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