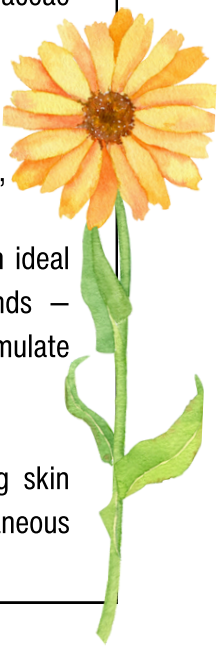
Calendula officinalis

ardanatura

Known since ancient times for its medicinal virtues, *Calendula officinalis* is a plant from the Asteraceae family, cherished for its bright yellow-orange flowers that follow the sun throughout the day.

Its name derives from the Latin *calendae* – "first day of the month" – referring to its long blooming season, from May to October. Known as "Mary's gold", it was used by Egyptians, Greeks, Arabs, and in European folk medicine to treat inflammations, wounds, fevers, and skin disorders. Thanks to its anti-inflammatory, healing, antibacterial, and hydrating properties, calendula is an ideal ingredient in dermocosmetic formulations and regenerative treatments. Its active compounds – flavonoids, triterpenes, carotenoids, and volatile oils – work synergistically to soothe the skin, stimulate cell regeneration, and combat premature aging.

Numerous clinical and in vivo studies confirm the benefits of calendula extract in improving skin hydration, reducing erythema and enhancing elasticity, making it suitable for a wide range of cutaneous applications.



ARDA NATURA PROPOSAL

- 009681 E.GLICERICO CALENDULA PF - Glycerin, Aqua, Calendula officinalis Flower Extract
- 007440 E.GLICERICO CALENDULA BIO COSMOS - Glycerin, Aqua, Calendula officinalis Flower Extract, Potassium Sorbate, Sodium Benzoate, Benzyl Alcohol
- 007272 E.GLICERICO CALENDULA U.C. PE - Glycerin, Aqua, Calendula officinalis Flower Extract
- 006836 E.GLICERICO CALENDULA U.A. - Glycerin, Aqua, Calendula officinalis Flower Extract
- 004977 E.G. CALENDULA DECOLORATO PE - Propylene Glycol, Aqua, Calendula officinalis Flower Extract
- 007070 E.L. CALENDULA BIO COSMOS - Helianthus Annuus Seed Oil, Calendula officinalis Flower Extract, Tocopherol
- 006484 E.L. CALENDULA TRIGLICERIDI - Caprylic/Capric Triglyceride, Calendula officinalis Flower Extract
- 002996 E.L. CALENDULA 1:2 - Helianthus Annuus Seed Oil, Calendula officinalis Flower Extract

COSMETIC EFFICACY*

- ☑ SOOTHES IRRITATED SKIN
- ☑ STIMULATES SKIN REGENERATION
- ☑ MAINTAINS SKIN HYDRATION
- ☑ REDUCES SKIN REDNESS
- ☑ NOURISHES AND RELIEVES DRY SKIN
- ☑ EMOLLIENT AND PROTECTIVE ACTION
- ☑ IDEAL FOR SENSITIVE SKIN
- ☑ RESTORES THE HYDROLIPIDIC BALANCE
- ☑ SUITABLE FOR DELICATE SKIN
- ☑ IMMEDIATE COMFORT FOR STRESSED SKIN

*claim derived and synthesized, see bibliography

NUTRACEUTICAL EFFICACY

- ☑ SUPPORTS OROPHARYNGEAL MUCOSA
- ☑ RELIEVES MENSTRUAL DISCOMFORT
- ☑ DIGESTIVE WELL-BEING
- ☑ SUPPORTS SKIN TROPHISM AND FUNCTION

Calendula Officinalis

Calendula officinalis is a common garden plant used medicinally in Europe, China, United States, and India. Belonging to the Asteraceae family has numerous common names in use including the African Marigold, Calendula, Common Marigold, Garden Marigold, Marigold, Pot Marigold, Zergul in India, Butterblume in Germany, Chin Chan Ts'ao in China, Galbinele in Romania, and Ringblomma in Sweden.[9]

History and Popular Uses

Cultivated by the Egyptians, Greeks, Hindus and Arabs, calendula grew in European gardens and has been used medicinally since the 12th century. Its name comes from the Latin word, calends, the first day of every month, because of its long flowering period. Because the flowers follow the sun, it was linked to the astrological sign of summer, Leo, and to treating the heart and conditions caused by heat. Calendula was taken internally to treat fevers and promote menstruation. Most importantly, the flowers were made into extracts, tinctures, balms and salves and applied directly to the skin to help heal wounds and to soothe inflamed and damaged skin.

In Italian folk medicine calendula is used as an antipyretic and anti-inflammatory. Teas made from calendula are used as eye washes, gargles or compresses to treat conjunctivitis, pharyngitis, aphthous stomatitis and gingivostomatitis, diaper rashes and other inflammatory conditions of the skin and mucus membranes. In India, herbal compounds including calendula are used topically to treat hemorrhoids.

Dried calendula petals are used in the spice trade as an inexpensive alternative to saffron and are used in many ointments to enhance their appearance by adding a gold color. Like other members of the daisy family, the dried flowers have also been used as an insect repellent. Some herbalists combine calendula, comfrey, echinacea and St. John's wort in a cream or ointment as an all-purpose skin salve.

Botany[1] and Classification[2]

Kingdom – Plantae	**Order** - Asterales
Subkingdom - Tracheobionta	**Family** - Asteraceae
Division - Magnoliophyta	**Tribe** - Calenduleae
Class - Magnoliopsida	**Genus** - Calendula
Subclass - Asteridae	**Species** - officinalis

Medicinal species: Calendula officinalis. There are about 20 species in this genus. The flowers of both C. officinalis and C. arvensis are used medicinally.

Common names: Calendula, field marigold, garden marigold, goldbloom, holligold, maravilla, marybud, marygold, pot marigold, Ringelblumen(Ger). In old English calendula was known as "golds" and was associated first with the Virgin Mary and then with Queen Mary; hence "Mary's gold."

Botanical family: Compositae/Asteracea (daisy)

Plant description: Calendula is a self-seeding annual with bright yellow or gold flowers that bloom from May until October; it grows to about two feet tall with multiple branches. The flowers are the part used medicinally.

Where it's grown: Native to central Europe and the Mediterranean, it grows readily in sunny locations throughout North America and Europe.

Literature studies and biological activity

C. officinalis has been identified as having potential benefits to wound care over the past decade and in chemical and pharmacological studies.[3]

The large yellow or orange flowers and leaves of the plant can be used in the form of an infusion, tincture, a liquid extract, as a cream/ointment for numerous uses including skin and hair products.[4,5]

In India, ointments from the flowers are used for the treatment of herpes, wounds, scars, and purification of the blood, and the leaves are used in an infusion for the treatment of varicose veins externally.[3]

C. officinalis has been found to possess many secondary metabolites with various pharmacological properties that contribute to its medicinal use.

The main ones reported are triterpenoids, flavonoids, coumarines, quinones, volatile oil, carotenoids, and amino acids.[3]

In particular, triterpenoids are reported to be an important anti-inflammatory and antioedematous compound in the plant[4] as well as fibroblast stimulating effect.[6]

This effect may be attributed to evidence supporting inhibition effect of 5-lipoxygenase, cyclooxygenase-2, and C3-convertase enzymes.[7,8]

Another key secondary metabolite group with anti-inflammatory and anti-oedematous properties are the flavonoids.

Until now, there is no definitive pharmacodynamic model or single active component identified, however, some plant extracts are used in mainstream medicine in the absence of a single active component. In 2008, a narrative review was conducted on the use of C. officinalis in wound healing in human clinical trials.[4]

In 2019, Givol, Or et al.9 published a systematic review assessing the efficacy of C. officinalis in wound healing. Due to the paucity of human studies available at that time, the review focused on the various properties useful for wound healing therapy (anti-inflammatory, antibacterial, antioxidant, analgesic, and general effects on wound healing).

While the use of C. officinalis extract in wound care has traditionally been used within complementary and alternative medicine, this review collects the current evidence for the use of C. officinalis extract in management of in vivo wound care. [9]

In a 2011 study, N. Akhtar et al.[10] showed the results of a one-sided blind study with placebo control.

Twenty-one healthy human volunteers with age range 24n35 years were selected. All the readings were performed at 21 ± 0.1°C and 40 ± 2% relative humidity conditions.

The experiments were carried out on the cheeks of volunteers. On the first day, patch test (Burchard test) was performed on the forearms of each volunteer to determine any possible reactions to the emulsions. Each volunteer was provided with two creams. One cream was base and the other one was formulation containing the a 3% Calendula water extract in the water phase of the W/O emulsion. Each cream was marked with “right” or “left” indicating application of that cream to the respective cheek. Every individual was instructed to come on weeks 1, 2, 3, 4, 5, 6, 7, and 8 for the skin measurements.

This was a facial cream, which the volunteers had to apply on their cheeks daily at night before sleeping for a period of 8 weeks.

In this study, which is considered by the author itself just an initial step to find the valuable effects of the plant, it was found that the formulation increased the hydration of the skin and such hydration effect is very important for normal cutaneous metabolism and may also prevent skin alteration and early ageing. It also showed some improvement in some elastic and viscoelastic parameters though it was not significant.

In another comparative, single blinded 2011study conducted on 21 healthy human volunteers for a period of 8 weeks, N. Akhtar et al.[11] observed that a W/O base vs the same formulation added whith 3% Calendula extract in its water phase has given the following results:

- ✓ Skin moisture content was significantly ($p \leq 0.05$) increased by the formulation
- ✓ The base showed insignificant ($p > 0.05$) effects while the formulation showed statistically significant ($p \leq 0.05$) decrease in skın melanın content
- ✓ Skın erythema was significantly reduced by the formulation
- ✓ Skin sebum was significantly ($p \leq 0.05$) incresaed by both creams (base and formulation)
- ✓ The topical non-invasive application of Calendula officinalis cream showed a positive rejuvenating effect on human skin.

Angiogenic activity of Calendula officinalis L. (Asteraceae) ethanolic extract and dichloromethane and hexanic fractions were evaluated by using Models 36 rats and 90 embryonated eggs to evaluate healing and angiogenic activities of extracts and fractions of the plant, through the induction of skin wounds and the chorioallantoic membrane, respectively. The effect of vascular proliferation was also tested from the study to verify the intensity of expression of vascular endothelial growth factor (VEGF) in cutaneous wounds in rats. In morphometric evaluation increase of the vascular area and of percentage of redmarked areas was observed in CAM treated as positive control 1% (17 ß-estradiol), ethanolic extract 1%, dichloromethane fraction 1% and hexanic fraction 1%, compared to solvent control (ethanol 70%). Digital planimetry by point counting performed on mice derm treated with ethanolic extract 1% revealed an increase in the number of blood vessels compared to solvent control.[12] They reported a statistically significant difference in reduction of total wound area compared with the control ($p < 0.05$), showing an overall decrease of 41.71% in the experimental group compared with 14.52% in the control group. They conclude that application of Calendula extract significantly increases epithelization in chronic venous ulcerations.

A 2016 prospective and descriptive study of Buzzi et al.[13] showed the clinical benefits of using calendula officinalis hydroglycolic extract for the topical treatment of diabetic foot ulcers

Aqueous extract of petals showed higher antioxidant activity than the leaves. The results obtained in the present study indicate that the leaves and petals of Calendula officinalis are a potential source of natural antioxidants.[14]

Bibliography

1. Kemper, Kathi J. "Calendula (Calendula officinalis)." Longwood Herbal Task Force 1 (1999).

2. AshwlayanVD, Kumar A., and M. Verma. "Therapeutic potential of Calendula officinalis." Pharm Pharmacol Int J 6.2 (2018): 149-155.

3. Muley B, Khadabadi S, Banarase N. Phytochemical constituents and pharmacological activities of Calendula officanalis Linn (Asteraceae): a review. Trop J Pharmaceut Res 2009; 8: 455–65.

4. Leach MJ. Calendula officinalis and wound healing: a systematic review. Wounds: A Compendium Clin Res Practice 2008; 20: 236–43.

5. Final report on the safety assessment of Calendula officanalis extract and Calendula officinalis. Int J Toxicol 2001; 20: 13–20.

6. Fronza M, Heinzmann B, Hamburger M, Laufer S, Merfort I. Determination of the wound healing effect of calendula extracts using the scratch assay with 3T3 fibroblasts. J Ethnopharmacol 2009; 126: 463–7.

7. Kapil A, Sharma S. Effect of oleanolic acid on complement in adjuvant-and carrageenan-induced inflammation in rats. J Pharm Pharmacol 1995; 47: 585–7.

8. Dzubak P, Hajduch M, Vydra D, Hustova A, Kvasnica M, Biedermann D, et al. Pharmacological activities of natural triterpenoids and their therapeutic implications. Nat Prod Rep 2006; 23: 394–411.

9. Givol, Or, et al. "A systematic review of Calendula officinalis extract for wound healing." Wound repair and regeneration 27.5 (2019): 548-561.

10. Akhtar, Naveed, et al. "Calendula extract: effects on mechanical parameters of human skin." Acta Pol Pharm 68.5 (2011): 693-701.

11. Akhtar, Naveed, et al. "Evaluation of various functional skin parameters using a topical cream of Calendula officinalis extract." African journal of Pharmacy and Pharmacology 5.2 (2011): 199-206.

12. Parente LML, Andrade MA, Brito AB, et al. Angiogenic activity of Calendula officinalis flowers L. in rats. Acta Cir Bras. 2011;26(1):19–26.

13. Buzzi, Marcelo, Franciele de Freitas, and Marcos Winter. "A prospective, descriptive study to assess the clinical benefits of using Calendula officinalis hydroglycolic extract for the topical treatment of diabetic foot ulcers." Ostomy Wound Manage 62.3 (2016): 8-24.

14. Muley BP, Khadabadi SS, Banarase NB, et al. The Antioxidant Activity of the Leaves and Petals of Calendula officinalis Linn. Res J Pharm Tech. 2(1):173–175.