

MEDICINAL PROPERTIES OF THE PLANT CROCUS SATIVUS L.

Samarkand State University of Veterinary
University of cattle-raising and Biotechnology
Assistant Shodiyeva Zulaykho Shavkatovna
students Choriyeva Surayyo Tolmosovna
Ikromov Zarifjon Zokhidjon ogli

Annotation: The article covers the theme" Medicinal properties of the plant crocus sativus L." Furthermore, full description of the plant and its usage in different fields covering medicine were noted.

Key words: *organoleptic characteristics, handpicked, stigma, distinctive flavor, aroma , Crocus sativus , chemical compounds.*

The genus Crocus is a member of the Iridaceae (subfamily Crocoideae) and consists of about 100 species that occur in the wild. These are mainly found in central-southern Europe (Balkan Peninsula), North Africa, and Western Asia. Several species of this genus are currently used in gardens and parks as ornamental plants for their colorful flowers, while Crocus sativus L. (saffron) is the only species that is cultivated for the edible purpose . The use of saffron is very ancient: its earliest representation appeared approximately 4000 years ago in some paintings and ceramics of the Minoan civilization in the region of Crete. The stigmas from flowers are traditionally handpicked at dawn to preserve all the aroma and organoleptic characteristics. Then the stigmas are dried in the shade and finally powdered . Due to its distinctive flavor and yellow-orange color, it has an ancient use as spice in Arab, European, Indian, and Persian cuisine. It is also used in liquors, candies, food supplements , and medical and coloring qualities.

Obviously, several of the medicinal and health-promoting properties



attributed to saffron are due to the presence of these compounds. For example, safranal, in addition to its antioxidant and radical-scavenger properties, is useful as an anticonvulsant and antidepressant in preclinical models. Due to the high added value of saffron as a spice and of its chemical constituents mainly related to the healthy properties, the studies on saffron and its plant source (C. sativus) are in the limelight, especially concerning the analytical methods used to evaluate the quality and to identify marker compounds related to the country of origin[1]. In this updated review, the following aspects of Crocus plants are considered: traditional uses, phytochemical composition, pharmacological properties with mechanisms evidenced from in vitro and in vivo studies, clinical studies, toxicological data, and upcoming clinical perspectives.

Crocus sativus, commonly known as saffron crocus or autumn crocus, is a species of flowering plant in the iris family Iridaceae. A cormous autumn-flowering cultivated perennial, unknown in the wild, it is best known for the culinary use of its floral stigmas as the spice saffron. Human cultivation of saffron crocus and the trade and use of saffron have endured for more than 3,500 years and span different cultures, continents, and civilizations. The plant is most commonly known as the saffron crocus. The alternative name autumn crocus is also used for species in the Colchicum genus, which are not closely related but strongly resemble the true crocuses; in particular, the superficially similar species Colchicum autumnale is sometimes even referred to as meadow saffron. However, the true crocuses have three stamens and three styles, while colchicums have six stamens and one style; and belong to a different family, Colchicaceae. Colchicums are also toxic, making it particularly crucial to distinguish them from the saffron crocus. Crocus sativus develops as an underground corm, which produces leaves, bracts, bracteole, and the flowering stalk[2]. It generally blooms with purple flowers in the autumn. The plant grows about 10 to 30 cm high. It is thought that the domesticated saffron crocus most likely arose as a result of selective breeding from the wild C. cartwrightianus in the southern portion of



mainland Greece.

An origin in Western or Central Asia, although often suspected, is not supported by botanical research. The stigmas of the flower are used as the culinary spice saffron and for health purposes - owing to biologically active chemical compounds (mainly alkaloids, anthocyanins, carotenoids, flavonoid, phenolic, saponins, and terpenoids) saffron causes among others mood-enhancing effect (including persons with major depressive disorder). Depending on the size of harvested stigmas, the flowers of between 50,000 and 75,000 individual plants are required to produce about 1 pound of saffron; each corm produces only one or two flowers, and each flower produces only three stigmas. Stigmas should be harvested mid-morning when the flowers are fully opened. As a sterile triploid, C. sativus is unknown in the wild and relies upon manual vegetative multiplication for its continued propagation[3]. Because all cultured individuals of this plant are clonal, there is minimal genetic diversity from the single domestication event, making it quite hard to find cultivars with new, potentially beneficial properties, let alone combine them by breeding. Cultivars of saffron are nevertheless produced by a number of means:

Clonal selection. Any plant with a desirable mutation is kept and further grown. This is the traditional approach. Mutation breeding. Mutagenesis can be used to cause a wide range of mutations to select from. The traditional clonal process follows[4]. Although the plant is not self-fertile, some wild relatives can be successfully cross-pollinated with saffron pollen in vitro and form seeds. This creates fertile diploid plants containing genomic material from C. sativus, allowing new traits to be explored via further cross-pollination. Chromosome doubling could in principle also create a fertile hexaploid plant. Such a change may be possible via colchicine. Corms of saffron crocus should be planted 10 cm (4 in) apart and in a trough 10 cm (4 in) deep. The flower grows best in areas of full sun in well-drained soil with moderate levels of organic content. The corms will multiply after each year, and each corm will last 3–5 years[5].



To sum up, it should be noted that In general, C. sativus is advised as a strengthening tonic that stimulates the immune defense, and it is a common ingredient of restorative preparations recommended for the general improvement of the physical and mental health of the body [30]. As an antiseptic and anti-inflammatory drug, it heals bacterial and fungal infections, inflammations, insect bites, and also apoplexy, alcoholism, arthritis, and diabetes [30]. Saffron's stigmas are extensively applied as an indigenous medicine across India. It serves as an antiseptic, analgesic, and expectorant agent as a nerve sedative and stimulator for immunity, blood flow, and menstruation. Also, it is effective against smallpox and a wide range of stomach problems. In lower doses, this spice can stimulate the contraction of the uterus in pregnancy, while in more significant amounts, it can cause general spasm and constriction [8]. It is a popular natural cosmetic in Iranian and Indian medicine for improvement of skin complexion, and as a part of folk phytopreparation, it brightens the skin of the body.

REFERENCES:

1. Monica Butnariu The Pharmacological Activities of Crocus sativus L.: A Review Based on the Mechanisms and Therapeutic Opportunities of its Phytoconstituents.Volume 2022 | ArticleID 8214821 | https://doi.org/10.1155/2022/8214821
2. Bowles, E. A. (1952). A Handbook of Crocus and Colchicum for Gardeners. D. Van Nostrand Company, Inc. p. 154.
3. Kafi, M.; Koocheki, A.; Rashed, M. H.; Nassiri, M., eds. (2006). Saffron (Crocus sativus) Production and Processing (1st ed.). Science Publishers. ISBN 978-1-57808-427-2.
4. Mollazadeh, Hamid "Razi's Al-Hawi and saffron (Crocus sativus): a review". Iranian Journal of Basic Medical Sciences, Dec 2015.
5. https://en.wikipedia.org/wiki/Crocus_sativus