Saffron Crocus or Crocus Sativus

Saffron Crocus corms can be found at a garden store or online at [http://mardeross.com](http://mardeross.com). If you are growing these for cooking you will want to plant a good number as each flower only produces 3 stigmas per flower and it takes 70,000 to make a pound of saffron which is why it is the most expensive spice in the world!

You can grow saffron crocus as a perennial in zones six and higher. In zones below six, the crocuses may
not survive the winter. Apply a thick layer of mulch over them to protect them from freezing. Bring saffron crocus corms inside in cold climates. Dig them up after they have died back and, place them in a paper bag along with some peat moss and store them in a cool, dark place like a garage or a basement. Replant them the following spring.

Select a sunny or lightly shaded location where the soil drains well. You can amend the soil with the addition of organic material to raise the level 2-3" to improve the drainage if need be. A mixture of compost, peat moss, aged ground bark or decomposed manure all work well. The corms will not thrive in soggy soils.

Saffron crocuses prefer normal amounts of moisture in the spring usually provided by rain, but they do best in dry sites in the summer when they are dormant. If your region experiences wet summers the crocuses can be planted under protection for summer dryness.

Plant the corms when you receive them. If the corm is sprouting when you receive it, the corm will still be viable. After planting, water crocuses well, gently
soaking the soil and settling it around the corms. Roots will form in the autumn after the dry summer and then will produce flowers. After blooming has finished for the season allow the corms to die back and rest until the next growth period. Water as needed, during active growth periods at the minimum rate of about 1" of moisture per week. In winter the leaves yellow and die back, but leave the foliage in place and don't remove it. The leaves will gather sunlight, create food through photosynthesis and strengthen the corms for the future and you don’t want to interfere with this process. Your corms will rest for a few months before beginning the next growing cycle. In warmest areas the foliage may stay green until mid spring, when it will yellow and die back. When leaves are absent and the bulbs are dormant, withhold water.

Dig a hole or a trench, depending on how many you are planting. Plant 4 inches deep with the point facing upward. The corms should be planted 2-4 inches apart although they will increase. When the flower has opened, trim the orange stigmas to dry for cooking. This will not hurt the plants.
Growing Saffron Crocus in Containers

1. Fill a large container with potting mix that drains well. Saffron crocuses will not thrive in waterlogged soils.

2. Site your bulbs where they will get full day sun or very light shade. Saffron crocuses prefer average amounts of moisture in the spring but do best dry sites in the summer when they are dormant. You may want to move your containers seasonally to accommodate this.
3. Dig holes and plant the crocus bulbs 3-4" deep and 2-3" apart. The bulbs are small and rounded, with slight pointed tops - plant with the points facing upwards.

4. After planting, water your bulbs well, thoroughly soaking the area. Roots will form in the autumn. Foliage will develop in the spring and flowers will follow in late summer through fall. While your bulbs may bloom the first season, don't be concerned if they bloom for the first time next fall.

5. When in bloom, you can trim the orange stigmas for drying for later cooking use. This will not hurt the plants.

6. After blooming has finished for the season leave the foliage in place and don't cut it off. The leaves will gather sunlight, create food through photosynthesis and strengthen the bulbs for the future. Water during active growth periods, and about 1" of moisture per week is a good estimate.

7. Your bulbs will rest for a few months before beginning the next growing cycle. In warmest areas the foliage may stay green until mid-spring when it will yellow and die back. When leaves
are absent and the bulbs are dormant, withhold water.

8. For colder areas it is recommended to over-winter the pots in an unheated garage. This helps mitigate the effects of both very cold nights and the big temperature swings that can come with sunny winter days and bitter nights. Pull the pots outside in February or March and watch for little crocus sprouts to appear.

![Saffron growing in the Middle East](image_url)
Field Growing Saffron Crocus

Remember - Saffron crocus are fall bloomers. They'll sprout foliage in the spring but it's in the fall that they flower and produce their valuable bounty.
Resources:

In order to determine your zone, go to the National Arboretum website and choose "USDA Plant Zone Hardiness Map" from the "Research Activities" menu for details on hardiness zones.

Edited Book Reviews from Amazon.com

Saffron Crocus Sativus Production-Processing

http://www.amazon.com/Saffron-Crocus-sativus-Production-Processing/dp/157808427X/ref=sr_1_1?ie=UTF8&qid=1359432178&sr=8-1&keywords=saffron+crocus

Review:

Saffron is mainly grown in Iran, India, Spain, Greece, Italy, Pakistan, Morocco, and central Asian countries. Perceived mainly for its value as a spice and cosmetic until recently, recent research findings pointing to some medicinal properties of saffron such as its antimicrobial, ant carcinogenic and antioxidant effects. Now interest in this plant has increased. The book presents a comprehensive account of saffron which includes the historical background, acreage underproduction, yield and applications, botanical
ecophysiology, production technology, irrigation, pests, diseases and weeds, genetics, sterility, reproduction and production of secondary metabolites by in vitro method, economic aspects, indigenous knowledge in saffron production, processing, chemical composition and quality control, and research strategies.

This book is a collection and digest of many academic papers on or about the saffron crocus. There is a lot of verbiage to wade through if you're looking specifically for recommendations on how to grow saffron, maximize yields, or treat diseases. There is little or no advice in these pages, only observations of grower practices in various regions (Iran, Spain, Italy) with no explanation of why different growers choose different techniques.

Some of the information seems to be contradictory or self-serving. For example, the author/editors focus on information gathered from Iranian crops because more saffron is planted in Iran than anywhere else in the world. However, crop yields in Iran are among the worst in the world; it seems odd to look for "best practices" among the worst performers.

In another example, a chart on page 145 shows price (in Iranian Rials) per kilogram of Iranian saffron from 1973 through 2000. The figures indicate that the
price per kilogram has increased 102 times the 1973 baseline figures. 100x in 30 years! However, these figures have not been adjusted for global or local inflation. The text notes that the Iranian rial has suffered substantial inflation, and that the actual price of saffron when measured by other metrics has not increased significantly since 1973. So basically, the chart showing a 100x price increase is worthless.

There is worthwhile information in this book, but you have to dig for it and you weigh it carefully for regional bias. The useable / actionable information I extracted from this 240+ page book can be summarized on two pages.

Overall, this book feels like it was compiled for a specific purpose: to make a case for the Iranian government to better support its own agricultural assets in saffron. Iran is the world leader in saffron production, but much smaller producers such as Spain control the world saffron market and reap the largest share of the profits.

This is the most comprehensive book on saffron crocus that I've seen, but it leaves much to be desired. A new book written for the reader interested in growing saffron would immediately topple this book.
This review is from: *Secrets of Saffron: The Vagabond Life of the World's Most Seductive Spice (Hardcover)* on Amazon

I read SAFFRON during my lunch break and as it is a small lightweight book I was able to complete it in 2 weeks or 10 lunch breaks. SAFFRON is exactly the kind of book I like to take to work for lunch-time reading: small enough to carry in my backpack; interesting enough to induce me to put my work aside and take a much needed noon-time break; compartmentalized enough that I can read it in installments without losing track; and about food which generally increases my enjoyment of my midday meal which consists of raw carrots, boiled eggs, yogurt and an orange.

SAFFRON is not as well researched or comprehensive as TULIP by Anna Pavord nor is it as informative or well written as the "cooking" books of Elizabeth David who Willard clearly admires.

Willard has gathered together interesting tidbits from a variety of sources -- autobiographical events which are probably the most entertaining part of the book as she is very forthcoming; tales, stories, quotes from literature and history, some sources mentioned in passing, other not, some researched others not. Willard's take on history is flawed but amusing. My
sense is that she selected material based on its entertainment value not its verisimilitude. Willard's book provides the reader with a bit of diversion, and I for one need frivolity sometimes.

Pat Willard has described a passion, in Secrets of Saffron: The Vagabond Life of the World's Most Seductive Spice (Beacon Press). It is a three-fold work: the history of the spice; Willard's personal history with it (a foundation for pleasing essays from a sensuous woman); and assorted recipes. I have not had enough saffron to consider myself a fan, and I have not tried the given recipes for saffron-soaked custard, pork, lobster, or paella, but I can tell you they sound good, and that Willard has written two previous well-regarded story-and-recipe books on pie and on broths. Cooks are probably in good hands.

It is enormous fun, with Willard as a laughing guide, to see world history as saffron history. She speculates that the makers of Persian carpets found saffron a useful yellow dye and its smell from the vats turned it into a perfume, and then the cooks tried it. The Egyptians used it as perfume, but especially liked the bright yellow for the clot in which to wind their dead. Alexander the Great had plenty of chances to soak up the cultures of his conquests, and liked saffron baths and tea and rice, and before dinner he had wine with saffron mixed into it. Saffron, unlike other spices, could be grown in England, and it still was costly, so it
made the fortunes of such towns as Walden, which became Saffron Walden. It was only when new discoveries like capers, sugar cane, and vanilla came from the new world, and banquets were pared from forty dishes to a puritanical ten or so, that saffron began to wane. The ounces of saffron that could be harvested from acres of crocuses eventually became tons of potatoes and corn, crops that were dependable and less fussy.

Willard's history is good, but her personal stories are the best writing in the book. Her bittersweet recounting of going to the Saffron Festival in Spain, where Saffron isn't grown in any quantity anymore, is fine travel writing, and her introduction to the spice by a mysterious stranger who came to call on her has the bittersweet extended into eroticism. She has a rich memory of what happened after her mother's death: "Of all the things that go through your mind when you watch death approach, thinking of food may seem the most absurd, maybe even a little obscene. And yet it is what the living almost always turn to... the living's way of breaking away, the body understanding before the mind fully does what is the necessary and correct order demanded in the wider world." The way Willard writes about the subsequent effect of the saffron crème brûlée pie (recipe, of course, included here) would have made her mother proud. Willard can tell us also of her own successful
growing and harvesting of saffron, in Brooklyn. This is a book of many delights, a gathering of all sorts of saffron stories and histories, tasty, pungent, and wonderfully personal.
From Nutrition and You.com

The *Crocus sativus* plant grows to about 15-20cm in height and bears lavender colored flowers during each season, which lasts from October until November. Each flower features perianth, which consists of a stalk, known as “style,” connecting to the three “stigmas” or threads to the rest of the plant. These orange-yellow colored stigmas along with the style constitute "saffron" which is used as spice. Good crop production demands cool dry climate with well-drained rich fertile soil and irrigation facilities or sufficient amount of rainfall. The flowers are generally harvested during the early-morning hours and soon the stigma separated, allowed to dry and packed for marketing.

Saffron has the distinct flavor because of the chemical components in it, of *picrocrocin*, and *safranal*. It also contains a natural carotinoid chemical called *Crocin* which gives saffron its golden-yellow hue. These traits along with its medicinal properties make it a valuable ingredient in many foods worldwide.

**Health benefits of Saffron**

- Saffron contains many plants derived chemical compounds that are known to have been anti-
oxidant, disease preventing and health promoting properties.

- The flower stigma are composed of many essential volatile oils but the most important being **safranal**, which gives saffron its distinct hay-like flavor. Other volatile oils in saffron are **cineole, phenethenol, pinene, borneol, geraniol, limonene, p-cymene, linalool, terpinen-4-oil, etc.**

- This colorful spice has many non-volatile active components; the most important of them is **α-crocin**, a carotenoid compound, which gives the stigmas their characteristic golden-yellow color. It also contains other carotenoids, including **zeaxanthin, lycopene, α- and β-carotenes**. These are important antioxidants that help protect the human body from oxidant-induced stress, cancers, infections and acts as immune modulators.

- The active components in saffron have many therapeutic applications in many traditional medicines as antiseptic, antidepressant, antioxidant, digestive, anti-convulsant.

- This novel spice is a good source of minerals like copper, potassium, calcium, manganese, iron, selenium, zinc and magnesium. Potassium is an important component of cell and body fluids that helps control heart rate and blood pressure. Manganese and copper are used by the body as
co-factors for the antioxidant enzyme, *superoxide dismutase*. Iron is essential for red blood cell production and as a co-factor for *cytochrome oxidases* enzymes.

- Additionally, it is also rich in many vital vitamins, including vitamin A, folic acid, riboflavin, niacin, and **vitamin-C** that is essential for optimum health.

**Medicinal uses**

- The active components present in saffron have many therapeutic applications in many traditional medicines since long time ago as anti-spasmodic, carminative, diaphoretic.
- Research studies have shown that, **safranal**, a volatile oil found in the spice, has antioxidant, cytotoxicity towards cancer cells, anticonvulsant and antidepressant properties.
- **Alfa-crocin**, a carotenoid compound, which gives the spice its characteristic golden-yellow color, has been anti-oxidant, anti-depressant, and anti-cancer properties.