

Saffron



The Iranian natural spice as called Red Gold is saffron

Saffron is the most precious and expensive spice in the world. Purple-flowered saffron is a wonderful plant to which nature has given a fascinating fragrance, pleasant flavor, a beautiful color, and a host of other qualities. Believed to have been originally native to the Mediterranean area, Asia Minor and Iran, the saffron crocus has long been cultivated in Iran and was taken from this country to other parts of the world as a result of trade, after its high quality and distinctive properties were understood over centuries of this application. Treasured for its golden-colored, pungent stigmas, which are dried and used to flavor and color foods and as a dye, saffron cultivation is a particular Iranian agricultural product whose method of producing and preserving used to be an unspoken secret for many years in the hearts of the Iranian farmers who tried to limit its cultivation within the confines of their own lands so that in this way they could keep its near monopoly.



Iran is among regions where saffron was cultivated for the first time, and its cultivation development in other parts of the world is regarded as a consequence of wars and conquests by the Muslims, some products which were cultivatable in territories under Muslim influence were taken there for cultivation about 961 AD. Saffron is mentioned in an English leech book, or healing manual of the 10th century but may have disappeared from Western Europe until it was reintroduced by the crusaders. Saffron is supposed to have been introduced into China by Mongol invaders who took its bulbs from Iran. This fact is mentioned in the Chinese material medica. (Pun tsaou 1552-78) Saffron plant has long and narrow leaves with no petiole and grows directly out of its bulbs in dark green color. Its blossoms are usually seen in individual form but also grow occasionally in clusters. The saffron threads are the stigmas of the saffron flower, *Crocus Sativus* Linnaeus. Each flower contains only three stigmas. These threads must be picked from each flower by hand, and approximately 170000 of these flowers are needed to produce one Kg of saffron filaments, making it the world's most precious spice. Saffron is used both for its golden color and for its strong, intense flavor and aroma. Saffron is available both in threads and powder. Legitimate powdered saffron is red-orange and is made by grinding saffron stigmas.



Saffron cultivation is done on a cyclical basis, and that, after the elapse of seven to nine years, the land in question should be switched to another crop such as grains for a period of approximately seven years so that the land can restore its lost nutrients. Studies done on the production of saffron indicate that the maturity or age of land has a direct bearing on the volume of production, and that after the elapse of approximately seven years from the outset of cultivation, the land's productivity begins to decline. However, the average harvest from each hectare of land is between 20 to 25 Kg under normal conditions. Between the second and the seventh year, the production would fluctuate from 5 to 20 Kg per hectare, and that from every 1000 grams of flower, some one percent or 10 grams of saffron is obtained. Harvesting

and separating saffron stigmas require extensive manpower, and it is generally regarded as a laborintensive endeavor, and very time consuming. It takes approximately 370-470 hours of work to produce 1 Kg of dried saffron threads. The harvesting includes three stages as follows:

1-The harvest of saffron crop begins with picking of the blossoms and separating the stigmas from them. The harvest period is traditionally from late September to late December. The process should begin early in the morning before sunrise, and the period within which the blossoms are at their maximum are from 15 to 20 days.

2- The stigmas thus collected are placed in shade in a warm and dried room for five to seven days in order to dry. In the past in some cases the drying was done in a ritual of roasting but now is done in factories which have the international standards such as ISO and HACCP. Drying is the most important part of the saffron production process. The drying process activates the chemical compounds, which release aroma, color and flavor. It is a delicate procedure which requires skill, great care and experience. If the crocus is dried properly it retains its distinctive properties, namely color and aroma.

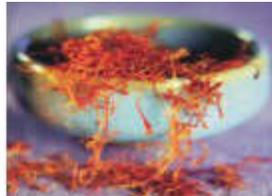
3-And finally, after the stigmas are dried, they are packed in different packing shapes and stored away from light and humidity. Temperature, humidity, light and storage length influence the Saffron flavor and characteristics. Saffron in proper packaging loses its flavor after three to five years but its color remains. Saffron is very light-sensitive and hygroscopic and must be stored in cool and dry environment and proper packaging. It must be stored away from other spices and goods which are sensitive to moisture/ humidity or release moisture (e.g. copra). The product is therefore packaged in cans which are in turn packaged in boxes for transport. Sometimes Saffron is packaged in corrugated board cartons lined with aluminum. Standard packaging plays an important role in product marketing. For the same reason, the industry can help enhance and add value to the exports of Saffron, by means of quality packaging. Poor packaging has marred the Iranian Saffron export industry in recent years, while only boosting the volume of wholesale exports of Saffron products. On the other hand, lack of suitable packaging and marketing practices has further damaged the competitiveness of the quality of Iranian products



in the world market.

For instance, high quality Saffron produced in Iran is exported in bulk and at a very low price – mostly to Spain and UAE. The exported Saffron with its unique quality and taste is then mixed and reprocessed with Spanish and Portuguese Saffron before

being packaged in beautiful designs. It is then re-exported at very higher prices to all parts of the world. These countries even put their own trademarks on Iranian Saffron they re-export. Improving the industry of packaging and processing Saffron in recent years has led to proper marketing of this strategic commodity so successful investment on that. Considering that Iran is prominent Saffron producer a strategic programming in processing and packaging systems, marketing and adopting pivotal principles of investment can put the trade of this commodity in its real position. Considering the investments in marketing and conversional industries in the Saffron industry the capacity of packaging system has reached 350 tons per year in Iran. Due to the long experience with its cultivation and the transfer of methods of growing and harvesting from person to person, or generation to generation, Iranian saffron has managed to keep its distinctive qualities in comparison to those produced in other regions of the world. That might also explain why Iranian saffron enjoys such an exceptional recognition for its fragrance, flavor and color at international markets. The coloring strength of the saffron is influenced of red stigmas compared to the yellow or white parts of the flower (known as the style). More yellow or white parts imply greater floral waste and therefore lower coloring strength. This translates into lower quality saffron with less flavor and aroma. In addition, there is more deadweight associated with these lower quality saffron grades as the style has no culinary value. Therefore less yellow and more red parts implies a higher quality of saffron. The international organization for standardization (ISO) has set a classification for saffron in terms of minimum requirements for each grade of saffron. This ISO 3632 classification is the only method used internationally to measure saffron worth. It stipulates that the minimum coloring strength for category 1 saffron is 190.



The highest quality Iranian saffron is known as “Sargol “(literally translate as “top of the flower “).

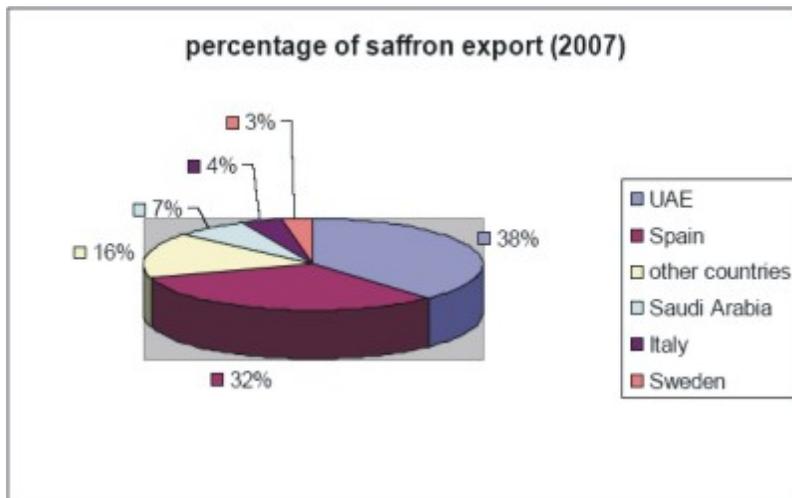
The equivalent Spanish name is “Coupe “. This contains only the pure red stigmas of the saffron plant and therefore captures all the aroma, flavor and dye. The Sargol saffron is cut and separated from style prior to the dyeing process. This enables it to retain its pure red color and results in a coloring index range of 220 to 250. “Pushal “grade (or La Mancha) saffron is not cut like Sargol and therefore contains more yellow parts from the style of the plant and higher floral waste. This results in a slightly lower coloring strength of approximately 220. The lower grade saffron contains higher properties of yellow parts as the whole filament comprising the yellow style and the red stigmas are included. Consequently the coloring strength for

this grade is the lower than the other two grades. Saffron has been used over the centuries as a natural coloring and aromatic in food, pastries and drinks. Even though saffron stigmas are red, their dye is the color of egg yolks. Saffron is used in food industry for its natural golden color, taste and the aroma in some products such as Macaroni, cheese, Ice cream and dehydrated soup which the usage of saffron in food industry is increasing due to smell, color and aroma of saffron, in addition usage of saffron in beverages such as sodas and other drinks have been more serious nowadays specially in Europe. In general, saffron can be used as an important ingredient of any customs of cooking from fine dining to use in the household kitchen, with limitations in its use. As a therapeutically plant, saffron is considered as an excellent stomach weakness and an anti spasmotic helps digestion and appetite. It also relieves renal colic, reduces stomachaches, and relieves tension. It is also used as drug for flu like infections, depressions, hydatomegaly and as a sedative for its essential oils. It is also considered that in small quantities it regulates women's menstruation and helps conception. It is a fact that even since antiquity, crocus was attributed to have aphrodisiac properties. Many writers along with Greek mythology sources associate crocus with fertility. Crocus in general is excellent stimulant saffron as an anti cancer. The use of saffron in the cosmetic industry is now improving just because saffron is a natural product for its aroma and removing pimples ease rashes and smoothing face and skin. In old days in the Asia women were using saffron as a paste for their beauty, which was valuable cosmetic for princess and rich people. For its aroma and color is used as an oil base for perfumes which the perfume in the Middle East is called "Saffron Attar". As a perfume, saffron was strewn in Greek and Roman halls, courts, theaters and balls. A survey of the regions where saffron is grown will provide testimony to the fact that the knowledge of cultivating was transferred from Iran to the other parts of the world. In general, the cultivation centers of saffron are those regions which had political and commercial contacts with Iran.

Iran is the biggest worldwide producer of saffron in terms of volume and quality.

In general, since the cultivation of saffron requires strong sunshine and warm climate with clayey or sandy land, the eastern parts of Iran has an especially suitable environment for its cultivation. The main saffron cultivation areas in Iran are in the eastern and north-eastern of the country. The khorasan province regions have managed to achieve an excellent position on the production and export of saffron over the years; to the extent that some 90% of saffron production in Iran is obtained from there (It produced over 119 tons in the past year and is predicted to produce 130 tons in the current year). Ghaenat region in this province is well known for its quality saffron. Khorasan Razavi and South Khorasan provinces account for 86% and 14% of total Khorasan's saffron production respectively. Yazd province has reached the second position in saffron production (It produces 2800 Kg per

year). There is 600 hectares land under cultivation in this province, mainly around Tabas, Behabad, Mehriz, Yazd and Ardakan, 80% of its saffron production is exported due to its high quality. There are other regions in Iran with a history of cultivation but their productions have been mainly for domestic consumption with minor role in the country's export. The provinces of Isfahan, Fars, Kerman and North Khorasan have reached the next positions in saffron production. It is predicted that about 200 tons of saffron be produced from 60000 hectares in the current year. Iran is the first saffron producer in the world and meets 90% of the world's saffron needs. Spain is the second saffron producer and India, Singapore, Malaysia, Japan, Taiwan, China, France, Italy, Germany, Australia and Greece have not even reached the third position together. All world countries (except for Iran) produced only 18 tons of saffron in 2007. Iran exported about 38% of saffron to UAE, 32% to Spain, 7% to Saudi Arabia, 4% to Italy and 3% to Sweden. Spain is the second saffron producer and imports about 50% of its saffron from Iran and selling Iranian saffron under its own trademark. Spain produces only one ton of Saffron a year. Iran saffron exports exceeded \$75 million in value (141 tons) from March 2006 to March 2007, registering a 21.7% growth compared to figure for the previous year. The figure is predicted to soar to 200 tons in the current Iranian year 1386 (March 2007- March 2008).



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