

Crocus sativus L.

Standardized Common Name: Saffron

Other Common Names: Saffron Crocus, Spanish Saffron

Family: Iridaceae

Taxonomy: *Crocus* includes about 80 species of Eurasian herbs. *Crocus sativus* is a sterile triploid, existing only in cultivation, which is probably derived from the wild species *C. cartwrightianus* Herbert.

Description: Perennial herb arising from globose corms to 5 cm in diameter. Leaves basal, 5–11, linear, to 40 cm long, often withered at flowering. Flowers 1–4, subtended by white bract and bracteole. Perianth of 6 subequal tepals; tube narrow, 4–5(–8) cm long, throat pubescent; lobes 3.5–5 cm long, oblanceolate to obovate, obtuse, lilac to purple with darker purple veins. Stamens 3; filaments 7–11 mm long, purplish or whitish; anthers 15–20 mm long, yellow. Style yellow to colorless; stigma deep red with three branches; branches 25–50 mm long with clubbed apices.

Parts in Commerce: Stigmas

Identification:

- Usually 2–4 cm long when dried; sometimes 3 attached to short remains of style
- Dark red to orange-red at tips
- Very narrowly funnel-shaped, top portion broadening into open tube with fringed or dentate margin
- Possibly attached to a very short piece of yellowish style
- Odor aromatic, characteristic
- Taste aromatic, bitter; colors saliva orange-yellow

Adulteration: Deliberate adulteration has in the past been common. Adulteration with the smaller, orange stigmas of another *Crocus* species has been reported in the literature, but is unlikely to be a common occurrence. The styles of daylilies such as *Hemerocallis fulva* L. have also been mentioned as adulterants; such material would be for the most part the long thin style, which does not broaden towards the apex as do the long stigmas of saffron, and on the tips of which three small bumps of stigmatic tissue may be observed.

Whole florets of certain composites, particularly *Carthamus tinctorius* (Safflower), bear a superficial resemblance to the apically broadened stigmas of *C. sativus*; florets of other species were dyed red. Close observation would easily reveal any of these to possess a few distinct teeth or corolla lobes and a few main nerves, and often to include a receptacle or sexual parts.

Some fragments of other floral parts are likely to be present. Style material attached to the stigmas should not be excessive. Deliberate adulteration with red-dyed stamens has also been reported.

References:

Mathew B. *Crocus*. In: Davis PH. *Flora of Turkey and the East Aegean Islands*. Vol. 8. Edinburgh: Edinburgh University Press; 1984:413–438.

Mathew B. Botany, taxonomy and cytology of *C. sativus* L. and its allies. In: M. Negbi, ed. *Saffron, Crocus sativus L.* Amsterdam: Harwood Academic Publishers; 1999:19–30. Medicinal and Aromatic Plants—Industrial Profiles. Vol. 8.

Youngken HW. *Text-Book of Pharmacognosy*, 5th ed. Philadelphia, PA: The Blakiston Company; 1943:204–207.