

Poppy Seed Profile

Also known as

Papaver somniferum, Blue Bread Poppy, Opium Poppy, and Poppy.

Introduction

The familiar black poppy seeds used to flavor noodles, breads, and bagels and to make poppy seed kolachi (a Czech pastry) are produced by the same plant used to make opium. Poppy seeds contain only trace amounts of opium, not enough to get a high, but enough to influence a drug test. Experienced testers can tell the difference between use of heroin and consumption of poppy seeds by the presence of thebaine, a chemical only found when the person tested has been eating the seeds.

Constituents

Poppy seeds contain 40 to 50% fatty oil, although only about half the oil in the seed can be removed by pressing. Poppy seeds are rich in linoleic acid and oleic acid, unsaturated fatty acids that useful in human nutrition. Among the volatile components of poppy seeds, aliphatic hydrocarbons and aldehydes have been reported. The distinctive aroma of poppy seeds is due to 2-pentylfuran.

Parts Used

Dried seed, whole or crushed.

Typical Preparations

Dried seed, sometimes crushed and canned.

Summary

While poppy seeds can be pressed for oil, they are most commonly used to flavor and to add flavor, texture and color to noodles, breads, and pastries. To bring out a nutty flavor, toast or crush before use. Most culinary grade Poppy seeds have been steam sterilized and are not of germination quality.

Precautions

Be sure to declare use of poppy seeds before submitting to a drug test, as they may show up.

POISON!

Steadman Shorter's Medical Dictionary, [Poisons & Antidotes: Opium](#)

Botanical: Papaver somniferum (LINN.)

Family: N.O. Papaveraceae

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---**Synonyms**---Opium Poppy. Mawseed.

---**Parts Used**---Capsules, flowers.

---**Habitat**---The Opium Poppy (*Papaver somniferum*, var. *album*) is indigenous to Asia Minor, and is cultivated largely in European and Asiatic Turkey, Persia, India and China for the production of Opium. It has been observed growing on the cliffs between Folkestone and Dover.

The word opium is derived from the Greek opos (juice).

---**Description**---The plant is an erect, herbaceous annual, varying much in the colour of its flowers, as well as in the shape of the fruit and colour of the seeds. All parts of the plant, but particularly the walls of the capsules, or seed-vessels, contain a system of laticiferous vessels, filled with a white latex.

The flowers vary in colour from pure white to reddish purple. In the wild plant, they are pale lilac with a purple spot at the base of each petal. In England, mostly in Lincolnshire, a variety with pale flowers and whitish seeds is cultivated medicinally for the sake of the capsules. Belgium has usually supplied a proportion of the Poppy Heads used in this country, though those used for fomentations are mostly of home growth.

The capsules vary much in shape and size. They are usually hemispherical, but depressed at the top, where the many-rayed stigma occupies the centre; they have a swollen ring below where the capsule joins the stalk. Some varieties are ovoid, others again depressed both at summit and base. The small kidney-shaped seeds, minute and very numerous, are attached to lateral projections from the inner walls of the capsule and vary in colour from whitish to slate. The heads are of a pale glaucous green when young. As they mature and ripen they change to a yellowish brown, and are then cut from the stem if the *dried* poppy heads are required.

Opium is extracted from the poppy heads before they have ripened, and from Poppies grown in the East, those grown in Europe yielding but little of the drug. When the petals have fallen from the flowers, incisions are made in the wall of the unripe capsules, care being taken not to penetrate to the interior. The exuded juice, partially dried, is collected by scraping - the scrapings being formed eventually into cakes, which are wrapped in poppy leaves or paper and further dried in the sun, the white milky juice darkening during the drying.

The first poppies cultivated in this country for the purpose of extracting opium were grown by Mr. John Ball, of Williton, in 1794, but the production of opium has not become a home industry, as was expected at the time. The cultivation of the Opium Poppy has also been experimentally carried out in France and Germany, but the expense of the necessary labour and land has been too great to render it profitable. The British Pharmacopoeia directs that opium, when used officially, must be obtained from Asia Minor. A certain amount is cultivated in Macedonia and exported from Salonica, and much of that

cultivated in Persia is also sent to European markets. Chinese Opium is entirely consumed in the country and is not exported.

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---Constituents---The most important constituents of opium are the alkaloids, which constitute in good opium about one-fifth of the weight of the drug. No fewer than twenty-one have been reported.

The principal alkaloid, both as regards its medicinal importance, and the quantity in which it exists, is Morphine. Next to this, Narcotine and Codeine are of secondary importance. Among the numerous remaining alkaloids, amounting in all to about 1 per cent of the drug, are Thebaine, Narceine, Papaverine, Codamine and Rhoeadine.

Meconic acid exists to the extent of about 5 per cent combined with morphine. This acid is easily identified, and is important in toxicological investigation, as corroborative of the presence of opium.

Meconin and meconiasin exist in small quantity only. Mucilage, sugar, wax, caoutchouc and salts of calcium, and magnesium are also contained in opium, and sulphuric acid is found in the ash. The presence of starch, tannin, oxalic acid and fat, common constituents of most plants, indicates adulteration, as these substances do not occur normally in the drug. Powdered poppy capsules stones, small shot, pieces of lead, gum, grape must, sugary fruits, and other mechanical impurities, have also been used as adulterants of opium. The drug should not contain more than 12 1/2 per cent of moisture.

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---Medicinal Action and Uses---Hypnotic, sedative, astringent, expectorant, diaphoretic, antispasmodic.

The drug was known in very remote times and the Greeks and Romans collected it. It is probable that the physicians of the Arabian school introduced the drug into India, as well as into Europe. It was originally used only as a medicine, the practice of opium eating having first arisen, probably in Persia.

Opium is one of the most valuable of drugs, Morphine and Codeine, the two principal alkaloids, being largely used in medicine.

It is unexcelled as a hypnotic and sedative, and is frequently administered to relieve pain and calm excitement. For its astringent properties, it is employed in diarrhoea and dysentery, and on account of its expectorant, diaphoretic, sedative and antispasmodic properties, in certain forms of cough, etc.

Small doses of opium and morphine are nerve stimulants. The Cutch horsemen share their opium with their jaded steeds, and increased capability of endurance is observed alike in man and beast.

Opium and morphine do not produce in animals the general calmative and hypnotic effects which characterize their use in man, but applied locally, they effectually allay pain and spasm. Owing to the greater excitant action in veterinary patients, the administration of opium does not blunt the perception of pain as effectually as it does in human patients.

The British Pharmacopoeia Tincture of Opium, popularly known as Laudanum, is made with 3 OZ. of Opium and equal parts of distilled water and alcohol, and for immediate effects is usually preferable to solid Opium. Equal parts of Laudanum and Soap Liniment make an excellent anodyne, much used externally.

---Preparations---Syrup of Poppy, B.P., 1885. Syrup Papav. alba. Capsules, 1 to 2 drachms.

---Antidotes---Opium is not very quickly absorbed. When a poisonous dose has been swallowed, the

stomach should be emptied as soon as possible by the stomach pump and washed with a solution of potassium permanganate. Administration of nitrites and of small doses of atropine hypodermically maintain cardiac action, but the atropine must be used cautiously, as full doses are apt to intensify paralysis both of the heart and spinal cord. The lethal tendency is further combated by strychnine used hypodermically and by artificial respiration. Coma is prevented by giving strong coffee and stimulant enemata and keeping the patient moving. Tincture of gall and other chemical antidotes are of little avail.

The leaves of *Combretum Sundaicum*, a plant native to the Malay Peninsula and Sumatra, have been used in the form of a decoction of the roasted leaves, as a cure for the opium habit among the Chinese.

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---**Cultivation**---The plants prefer rich, moist soil and much sun, and are often grown in succession to wheat and barley.

The land is manured and ploughed in autumn, to ensure a fine tilth in spring. Sowing is done at the end of March or in April - according to weather - allowing 1 lb. of seed per acre, and drilling in rows a foot apart. The whitest seeds are preferred.

Plants which are too forward are liable to be cut down by late frosts, while if the seed is sown too late, the seedlings may become dwarfed if dry weather sets in before they are well established. A light roller is sufficient to ensure the seeds being covered.

When the plants are 3 or 4 inches high, cut them with the hoe into clumps about 6 to 9 inches apart, and afterwards 'single' them, leaving a solitary strong plant from each group. Weeding is necessary, and a dressing of soot may be given if support appears to be needed.

Poppy heads of pale colour are most desired, but a week's rain, or even a few nights' heavy dew, may spoil the colour of the ripening fruit. High winds and heavy rains may cause much destruction, as the plants become top-heavy. The yield is very variable.

The capsules are left on the stems after the petals have fallen, until they cease to enlarge. The stems should then be bent in the middle and the capsules left on the plant until they are firm, which will be about September.

In India, when the flowers are in bloom, the first step is the removal of the petals, which are used in packing the prepared drug. After a few days, the imperfectly ripened capsules are scarified from above downwards by two or three knives tied together and called 'mushturs.' These make a superficial incision, or series of incisions, into the capsule, whereupon a milky juice exudes, which is allowed to harden and is then removed and collected in earthen pots. The time of day chosen for slicing the capsules is about two o'clock in the afternoon, when the heat of the sun causes the speedy formation of a film over the exuded juice; great attention is also paid to the weather, as all these causes modify the quantity, quality, or speediness of exudation of the opium.

The capsules are submitted to two or three slicing processes at intervals of a few days, and the drug is ultimately conveyed to the government factory where it is kneaded into a homogeneous mass by native workmen.

The capsules contain the principal constituents of opium, the most important of which is the alkaloid Morphine, which exists in combination with meconic and sulphuric acids. The seeds are free from morphine; their principle constituent is the pale yellow fixed oil, used as a drying oil by artists, as well as for culinary and various technical purposes.

The action of poppy capsules is the same as that of opium, anodyne and narcotic, but much weaker.

The crushed capsules are used as a poultice, together with chamomile.

A syrup is prepared from the capsules, prescribed as an ingredient in cough medicine. Syrup of Poppy is often employed to allay cough and likewise as an opiate for children; in the latter case it should be used with great caution.

Decoction of Poppy, made from the bruised capsules and distilled water, is not given internally, but is employed as an external application to allay pain and soothe.

The broken capsules are sold at a cheaper rate, for making fomentations.

The grey seeds are sold for birds' food, under the name of 'maw' seed, and are derived from the dark-red flowered form of *Papaver Somniferum*; the var. *album* having white seeds.

On the Continent the seeds are much used in special poppy cakes and are sprinkled on rolls, as also in India, where they are used in the native pancakes or 'chupaties.'

Anodyne, expectorant. The fresh petals are directed by the British Pharmacopoeia for preparing a syrup, which may be given in 1 drachm doses, occasionally, as a mild astringent, but is principally employed as a colouring agent for mixtures and gargles.

Culpepper tells us that a syrup made of the leaves and flowers is effectual in pleurisy and erysipelas, or the green leaves can be applied outwardly, made into an ointment, but Gerard says these claims are without foundation and that 'it is only chance when persons are relieved by it.'

Culpepper also tells us:

'it is more cooling than any of the other Poppies, and therefore cannot but be as effectual in hot agues, frenzies, and other inflammations either inward or outward. Galen saith, The seed is dangerous to be used inwardly.'

There are other varieties of the Field Poppy - *P. Dubium*, frequently met with in some parts of the country, is a smaller, more slender plant than *P. Rhoeas*, and may be at once distinguished by the capsule, which is twice as long as broad, and by the bristles, which are flattened up against the stem. *P. hybridum* is less branched than the Field Poppy, which it greatly resembles, but differs in the filaments of the stamens, which are dilated from below upwards; and in the capsule, which, though globular, is covered with stiff bristles. This species is rare in this country.

P. Argemone is the smallest of the British Poppies; its capsule is in shape like that of *P. Dubium*, but it has a few stiff hairs or bristles which are directed upwards.