

CAFÉ / COFFEE

Scientific name: *Coffea arabica* Linné

Family: Rubiaceae.

Popular names: Arabica Coffee, Arabian Coffee ⁽¹⁾, Caffea ^(1,5).

Used parts: Seed in various forms and stages ^(1, 5) and leaves ⁽⁵⁾.

Botanical characteristics: *Coffea arabica* is an evergreen shrub or small tree up to 8 m high with many basal branches. The young branches are glabrous and flattened, and the nodes produce many shoots. The bark of the fruiting branches is ashy-white. The leaves are 6 to 20 cm long, 2.5 to 6 wide and live for 2 to 3 years. They are glabrous, slightly coriaceous, dark green, glossy and elliptoid-lanceolate, with a distinct leaf tip. The border is occasionally extensively ribbed. The inflorescences are axillary dense clusters with 10 to 20 flowers. The sessile or very short pedicled partial inflorescences bear dense, overlapping apical leaves. The calyx is 2.5 to 3mm long with a blunt 5- tipped border. The corolla is white and fragrant. The stamens come from the mouth of the tube and are exserted. The ripe fruit is ellipsoid, 12 to 18 mm long by 12 to 15 mm wide with a 3 to 6 mm long stem. It is initially green, later yellow and dark red when ripe. The exocarp is tough and the mesocarp fleshy and slightly sweet. The endocarp is hard. The seeds are flat-convex with a groove on the flat adaxial side. They are 8 to 12 mm long, 5 to 8 mm wide and 3 to 5 mm thick. When fresh, the seeds are gray-green. They turn brown after roasting ⁽¹⁾.

Habitat: Coffee's area of origin is disputed, but it is now cultivated in many tropical regions of the world, including Mexico ⁽¹⁾, South America (Brazil,

Columbia), northern Ethiopia ^(1, 2), Equatorial Africa, India, Sri Lanka and Yemen ⁽²⁾.

Chemical composition:

- Caffeine, chlorogenic acid ^(1, 3), tannin ^(3, 5), protein, sugar ⁽⁵⁾, theobromine, theophylline, trigonelline, carbonization products of hemicelluloses, kahweol, cafestol ⁽¹⁾ and atractylosides ^(1,2).
- Lipid extract: tracylglycerols, terpene esters, partial acylglycerols, free fatty acids, free sterols (sitosterol), sterol esters and polar lipids ⁽⁴⁾.

Indications: Coffee is used for nonspecific, acute diarrhea, and local therapy of mild inflammation of the oral and pharyngeal mucosa. In folk medicine coffee is also used for festering wounds. The coffee seeds is used to treat hypotonia and as a constituent of analgesics. In folk medicine is also used to increase performance capability as well as for anemia, hepatitis and edema ⁽¹⁾. An active brain stimulant, which produces sleeplessness, hence its great value in narcotic poisoning ⁽⁵⁾.

Homeopathic uses: insomnia and neuralgias ⁽¹⁾.

Indian Medicine: unripe seeds are used in Indian medicine for migraine and fever; ripe seeds for diarrhea; and strong coffee to treat opium and alcohol intoxication ⁽¹⁾.

Dose:

- Coffee charcoal: The average daily dose for internal use is 9 g of ground drug. The average single dose is 3 g of powder ⁽¹⁾.
- Coffee beans: daily dosage is 15 g drug ⁽¹⁾.
- Homeopathic dosage: 5 drops, 1 tablet or 10 globules every 30 to 60 minutes (acute) and 1 to 3 times daily (chronic); parenterally: 1 to 2 ml sc acute, 3 times daily; chronic: once a day ⁽¹⁾.

Others informations:

- Caution is advised for persons with sensitive cardiovascular systems, kidney diseases, hyperfunction of the thyroid gland, higher disposition to convulsions and certain psychic disorders ⁽¹⁾.
- Consumption of the plants containing atractyloside or carboxyatractyloside has caused fatal renal proximal tubule necrosis and/or centrilobular hepatic necrosis in man and farm animals ⁽²⁾.
- Atractyloside is specifically inhibits oxidative phosphorylation in the outer membranes of isolated mitochondria. This has been assumed to explain changes in carbohydrate metabolism ⁽²⁾.
- Polysaccharide fractions from leaves of *Coffea arabica* contain rhaminose, arabinose, xylose, mannose, galactose, glucose, glucuronic acid and 4-O-methylglucuronic acids in different proportions. 2- acetamido-2-deoxygalactose was detected in all fractions ⁽⁶⁾.
- There was no detectable difference between the *Coffea arabica* and *Coffea robusta* varieties in their absolute polysaccharide content or in the gross structural features of their galactomannans ⁽⁷⁾.

References:

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