

TEA

Biological Source

It contains the prepared leaves and leaf buds of *Thea sinensis* (Linne) kuntz., belonging to family Theaceae.

Geographical Source

It is mainly cultivated in India (Assam), Ceylon, Japan and Java.

Chemical Constituents

The leaves are a rich source of caffeine (1–5%). It also contains theobromine and theophylline in minor quantities. The colour of tea leaves is due to tannin (10–20% gallotannic acid). The agreeable odour is due to presence of a yellow volatile oil. Tea leaves also contain protein, wax, resin and ash.

Chemical Tests

1. Caffeine and other purine alkaloids, gives murexide colour reaction. Caffeine is taken in a petridish to which hydrochloric acid and potassium chlorate are added and heated to dryness. A purple colour is obtained by exposing the residue to vapours of dilute ammonia. In addition of fixed alkali the purple colour disappears.
2. Caffeine also produces white precipitate with tannic acid solution.

Uses

It is used as stimulant, astringent and also as diuretic.

COFFEE

Synonyms

Coffee bean, coffee seed, Arabica coffee, Arabian coffee, Abyssinian coffee, Brazilian coffee.

Biological Source

It is the dried ripe seeds of *Coffea arabica* Linn, belonging to family Rubiaceae.

Chemical Constituents

The main constituents of coffee are caffeine, tannin, fixed oil and proteins. It contains 2–3% caffeine, 3–5% tannins, 13% proteins, 10–15% fixed oils. In the seeds, caffeine is present as a salt of chlorogenic acid. Also it contains oil and wax.

Chemical Tests

1. Caffeine and other purine alkaloids, gives murexide colour reaction. Caffeine is taken in a petridish to which hydrochloric acid and potassium chlorate crystals are added and heated to dryness. A purple colour is obtained by exposing the residue to vapours of dilute ammonia. In addition of fixed alkali the purple colour disappears.
2. Caffeine also produces white precipitate with tannic acid solution.

Uses

Coffee is widely used as a flavoring agent, as in ice cream, pastries, candies and liquors. Source of caffeine, dried ripe seeds are used as a stimulant, nervine and diuretic, acting on CNS, kidneys, heart and muscles. Very valuable in cases of snake-bite, helping to ward off the terrible coma. It also exerts a soothing action on the vascular system, preventing a too rapid wasting of the tissues of the body; these effects are not only due to the volatile oil but to the caffeine it contains.