

## TOTAL PHENOLIC CONTENT OF BARK, ROOT, FLOWER, LEAVES AND UNRIPE FRUIT OF *CASSIA AURICULATA* STORED FOR THREE MONTHS UNDER DIFFERENT CONDITIONS

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Since ancient times, plants have been an exemplary source of medicine and used in different forms as internal medicine in the Ayurvedic system of treatment. Many of these medicinal plants are excellent sources of phytochemicals, which have potent antioxidant activities. Plant polyphenols scavenge reactive chemical species and minimize oxidative stress. Five different parts of *Cassia auriculata* are taken in equal quantity and powdered to prepare 'Avarai panchanga chooranam' to treat diabetes. The period of efficacy of the 'chooranam' has been claimed to be three months. Hence a study was initiated to evaluate the total phenolic content (TPC) of air dried powdered bark, root, flower, leaves and unripe fruit of *C. auriculata*.

Plants parts were dried to constant weight, powered and sieved. TPC was estimated using Folin – Ciocalteu's reagent. In cold water extracts of powder stored at room temperature, the TPC in µg TAE/ g dry weight, ranged between 35.0 (unripe fruit) to 101.6 (bark) and in hot water extracts from 54.0 (unripe fruit) to 131.9 (bark) on the 1<sup>st</sup> day. After 3 months of storage at room temperature, TPC (µg TAE/ g dry weight) in cold water extract ranged between 22.5 (unripe fruit) to 77.8 (bark) and in hot water extract between 29.8 (unripe fruit) to 90.6 (bark). TPC in cold water extract of bark, root, leaves, flower and unripe fruit indicated a decline by 23.4, 23.5, 16.7, 28.3 and 35.7 % and in hot water extracts by 31.3, 36.1, 13.4, 26.1 and 44.8 %, respectively on the 3<sup>rd</sup> month. TPC (µg TAE/ g dry weight) in cold water extract prepared with the powder stored in the freezer for 3 months ranged between 28.4 (unripe fruit) to 78.1 (bark) and in hot water extract from 34.6 (unripe fruit) to 89.5 (bark). TPC in cold water extract of bark, root, leaves, flower and unripe fruit decreased by 23.1, 32.8, 28.6, 13 and 18.9 % and in hot water extract by 32.1, 36.5, 23.8, 21 and 35.9 %, respectively on 3<sup>rd</sup> month.

When extracted with hot water, all the parts possessed higher TPC than when extracted with cold water. TPC of all the parts decreased when stored at either room temperature or in a freezer. Bark showed similar decline after 3 months of storage under both conditions. Flower and unripe fruit showed lesser decline when stored in a freezer, while the decline in leaves and root was higher, compared to storage at room temperature. Freshly prepared plant parts are recommended for the preparation of 'chooranam'.