extraction can also be used, and Neem essential oils can be extracted with dichloromethane and hexane. The panel of 15 people selected neem oil extracted with dichloromethane as the best for perfumery. It has a pleasant odour and it can be used as a base note fixative. It is also a real fixer as it can absorb other materials and slows down evaporation. In conclusion, Neem essential oil can be developed as a cologne which is natural and has beneficial properties for the skin.

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Variation of antioxidant activity and the extraction kinetics of polyphenols of fannins grade green tea (*Camelia sinensis*) with geographical elevation

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Camellia sinensis is one of the most commonly consumed drinks in the world. It has many beneficial health effects associated with our day to day life. Tea polyphenols are responsible for antioxidant activity and health benefits. The phytochemicals composition of tea may vary with the geographical area. Hence the present study reports a comparison of polyphenols, flavonoids, antioxidant activity and extraction kinetics of fannings grade green tea from different elevations (upcountry, mid country and low country) in Sri Lanka.

Tea extracts were prepared in the traditional method by adding tea leaves to boiling deionized water and analysis were carried out with the tea extracts collected at different time intervals. The total phenolic and total flavonoid contents were determined using Folin Ciocalteu method and Aluminum Chloride assay respectively. The 1,1-Diphenyl-2-picrylhydrazyl (DPPH.) and Ferric Reducing Antioxidant Power (FRAP) assay were used in the determination of antioxidant activity.

The present study revealed that the antioxidant activity of tea from low and mid country is higher than those from up country. The variation of phenol content (w/w % GAE equivalent) at 720 s in brewed green tea varied with the geographical elevation and follows the order of mid country (20.22 ±0.24) > up country (18.56 ±0.73) > low country (14.83 ±1.45) and the flavonoid content (w/w % quercertine equivalent) at 720 s varied in the order up country (11.11 ±1.27) > low country (12.25±0.83) > mid country (6.92 ±1.0). The EC50 value for DPPH. scavenging and FRAP assay indicated that the antioxidant activity increase in the order low, mid and up country. The results showed a significant variation ($p < 0.05$) in antioxidant activity and total phenolic and flavanoid content among the three elevations. The extraction kinetics of polyphenols and flavanoids showed second order kinetics. To obtain maximum extraction of antioxidants, green tea has to be steeped at least 6 min.

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