PROCEEDINGS

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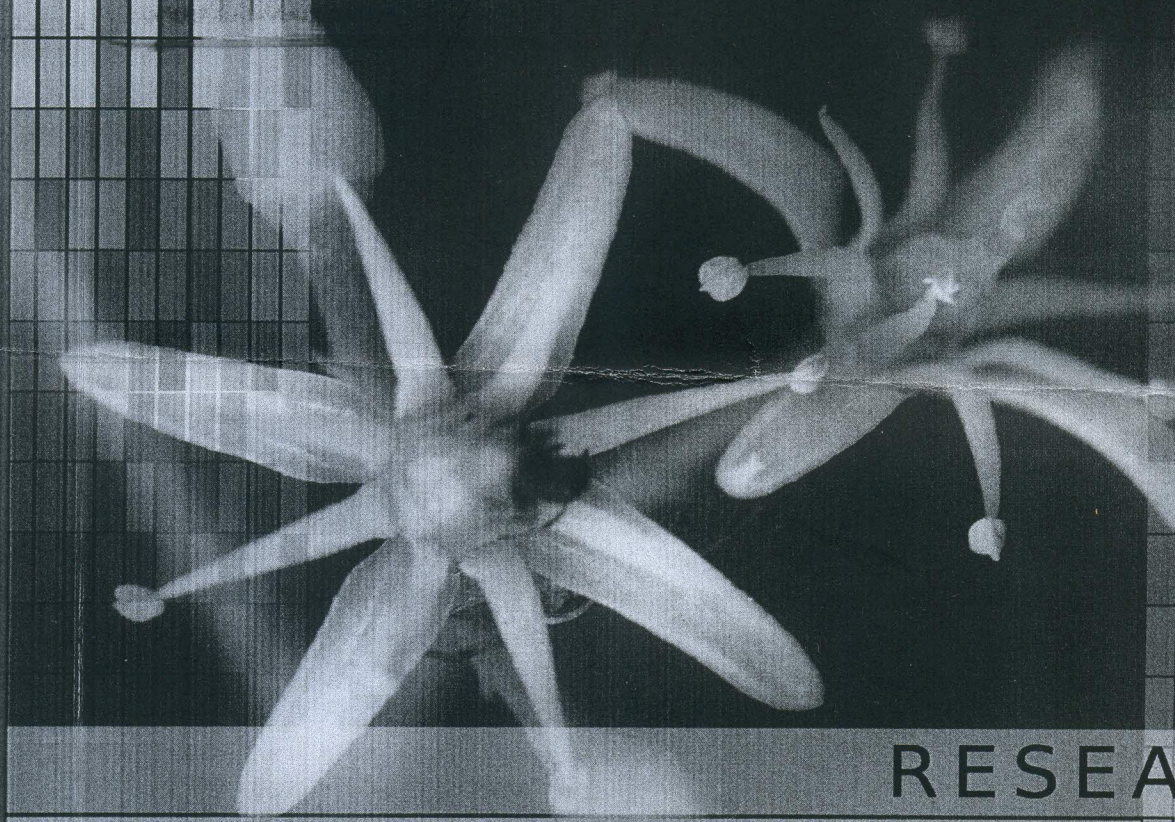

RESEARCH CONGRESS

- Earth and Environmental Sciences
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PHYSICOCHEMICAL PROPERTIES AND ANTIOXIDANT ACTIVITY OF PEEL AND PULP OF 'KARUTHACOLOMBAN' AND 'WILLARD' CULTIVARS OF MANGO (*MANGIFERA INDICA L.*) IN SRI LANKA

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Mango (*Mangifera indica* L.) is an important tropical fruit in Sri Lanka due to its flavour and health promoting activity. The species is cultivated in about 27,500 acres of land in Sri Lanka, with a production of around 80,000 metric tons per annum. The objective of this study was to determine the physicochemical and antioxidant properties of peel and pulp of mangoes. Two mango cultivars, 'Willard' collected from Jaffna and Vavuniya, and 'Karuthacolomban' collected from Anuradhapura, were used in this study. The physicochemical properties of mango recorded were: fruit length, width, weight percentage (pulp and peel), moisture content (peel and pulp), ash, firmness and pH. Folin–Ciocalteu reagent was used to determine the total phenolic contents (TPC), and antioxidant activities were determined using DPPH radical scavenging assay and ferric reducing antioxidant power (FRAP) assay. According to the findings, 'Willard' has the highest pH (4.54±0.27), moisture content (peel; 71.88±0.85% and pulp; 82.41±1.86%), while 'Karuthacolomban' has the highest firmness (15.93±0.17 N), ash content (0.36±0.12%), fruit length and width, and weight percentage (pulp, peel and seed). Peels of 'Willard' collected from Vavuniya showed a higher TPC (331.19±0.03 mg of GAE per 1 g of extract) than that of the peel and pulp extracts of other samples. Results of the DPPH radical scavenging activity revealed that ethyl acetate extracts of 'Willard' peels from Jaffna has a higher radical scavenging activity than that of the standard, Trolax. Peel obtained from 'Willard' showed the highest antioxidant activity in comparison to other extracts. According to the findings of the study, ethyl acetate extracts of the two mango cultivars possess significantly higher antioxidant activity and phenolic content in the mango peel than in the pulp. Furthermore, 'Willard' peel has a hydrogen donating ability greater than that of the standard, Trolax.

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Keywords: Antioxidant activity, Mango peel, Mango pulp, Phenolic content, Physicochemical properties.