

DNA FINGERPRINTING REVEALS INCONGRUOUS STRAWBERRIES IN SRI LANKA

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Strawberry (*Fragaria* × *ananassa* Duch.) is an introduced horticultural crop in Sri Lanka. It has an increased potential of generating a higher income if the cultivation is developed as an industry. But the major problems faced by strawberry cultivation are unavailability of suitable varieties that meet the consumer demands, varietal identification through morphology which is often leading to mix ups, under-developed infrastructure, lack of support services and no research for development. The present study was focused on assessing the mix ups of the widely available strawberry varieties in the local market. The study was carried out with a fruit and leaf comparison of Tamar, Longconic and wild varieties obtained from strawberry farms in Nuwara-Eliya and the surroundings of Ambewela dairy farm and the local market. Genomic DNA was extracted using the DNeasy® Plant Mini Kit. PCR was performed with four SSR markers; ChFaM031, ChFaM035, EMFn117 and UAFv8216 and the PCR products were size separated using agarose gel electrophoresis and 6% denaturing PAGE. The DNA banding patterns were observed and compared between fruits and leaves of the same variety. DNA banding patterns (i.e. DNA fingerprints) of the fruits in the market are not true-to-type in comparison to the indicated variety (i.e. leaf DNA). Hence it would be beneficial to avoid cross contamination between closely cultivated strawberry varieties by assessing the genetic uniformity of plantlets obtained from tissue culture before releasing to farmers and re-initiate the cultivation with a good set of germplasm as suitable varieties that satisfy the consumer demand.