A STUDY ON EXTRACTION AND SURVEYING ANTIOXIDANT ACTIVITY OF POLYPHENOLS FROM STARFRUIT (AVERRHOA- CARABOLLA L.)

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Summary
Star fruit is a favorite sour fruit in tropical and subtropical regions. Star fruit contains a large amount of polyphenol, which is one of natural and effective anti-oxidant compounds. This research shows effects of several technological elements on: (i) the process of extracting polyphenol compound from star fruit residues in ethanol solvent, and (ii) anti-oxidant activities of the obtained extraction. Investigation results show that the concentration of total polyphenol in star fruit pulp is higher 12.5 times than in star fruit juice. Therefore, star fruit pulp are selected as raw material for extracting polyphenol. Using experimental planning and optimisation methods, we find that the best technological parameters for extracting polyphenol from star fruit pulp are: ethanol concentration 44.4%, extracting duration 204 minutes, and extracting temperature 75°C. Under these conditions, the concentration of the obtained polyphenol is 23.817 g per 100g of dry starfruit pulp. The obtained polyphenol product has stronger anti-oxidant activities than other anti-oxidant substances such as vitamin E and butylated hydroxytoluene (BHT).

Keywords: Star fruit pulp, anti-oxidant, extraction, experimental planning, optimization method.