

Antioxidant properties of selected salak (*Salacca zalacca*) varieties in Sabah, Malaysia

Abstract

Purpose – Salak (*Salacca zalacca*) is a species of palm tree native to Malaysia and Indonesia. The fruit is also known as “snake fruit” due to its reddish-brown scaly skin. Four different varieties of the fruits (i.e. SS1, SS2, SS3 and SS4) have been established by Sabah State Agriculture Department, Malaysia. The purpose of this paper is to investigate and compare the antioxidant properties and phytochemicals content in the edible portion of the fruits.

Design/methodology/approach – Four different varieties of the fruits were collected and analysed for the antioxidant properties (2,2-diphenyl-1-picrylhydrazyl (DPPH) and ferric reducing/antioxidant power (FRAP) assay), total phenolic and total flavonoid contents using spectrophotometry analysis. Ascorbic acid was determined using titration method.

Findings – The results showed the total phenolic and flavonoid contents of the samples were in the range of 12.6-15.0 mg gallic acid equivalent/g and 4.9-7.1 mg catechin equivalent/g of dry sample, respectively. The antioxidant activities of the extracts (using DPPH assay) were highly correlated with total phenolic and moderately correlated with flavonoid content. The reducing capabilities of the extracts using FRAP assay were moderately correlated with all phytochemicals tested. The results suggested that the phytochemicals and antioxidant activity of salak is mildly affected by variety. The high phytochemicals and antioxidant properties of *S. zalacca* indicated that the fruit possessed potential health benefits properties.

Originality/value – Salak fruit is now being developed into fruit juice, pickle and other food products. The commercialization of the fruit may be enhanced if more knowledge on its potential health benefits is studied and discovered. The economic and nutraceutical values might increase and will contribute greatly to the local people.