

ABSTRACT

Consumption of natural bioactive compounds such as polyphenols and dietary fibres offers health benefits including protection against cardiovascular diseases, cancer, diabetes and other degenerative diseases. Different study has shown that those bioactive compounds are not only present in the edible part of a food but also in their so called waste part, like peels, seeds or other processing by products. Banana peel which holds 40% of the total weight of fresh banana (Tchobanoglous et al. 1993) is a major by-product obtained during processing of banana products like chips, puree, jam, jelly, beer or wine etc. Banana peel is discarded as a processing waste which contributes to environmental pollution. In the present study different physicochemical properties and chemical compositions of Bhim kol (*Musa balbisiana*) peel were analysed. The studies indicated that Bhim kol which is a very popular variety of banana in Assam for it's different health benefits, contains a very good amount of total dietary fibre(57.04%), polyphenols (211mgGAE/100g), flavonoid (36.09mgQE/100g) in it's peel. It has a good capability of scavenging free radicals (81.95%). So, in this present study different physical and chemical properties of cookies, processed by incorporating 'banana peel powder fibre rich fraction' were checked. Cookies were prepared by incorporating banana peel fibre rich fraction in different substitution level (4%, 6% and 8%). Total dietary fibre content, free radical scavenging capacity, physical characteristics, sensory attributes were evaluated by comparing with control samples (without addition of banana peel powder added) and also the overall nutritional compositions of the cookies were evaluated. The Total dietary fibre content increased from 3.39% to 9.71%. Free radical scavenging percentage increased from 2.42% to 31.51%. 4% 'banana peel powder fibre rich fraction' added cookies also showed highest overall sensory acceptability. Thus, the results indicated that Bhim kol peel can be used to process some functional foods for it's high antioxidant activity and high dietary fibre content.