

## Abstract

World avocado production is 8.06 tonnes annually, and the seeds account for a minimum of 13% (1.05 million tonnes). These huge amounts of seeds are discarded even though they possess health benefits, such as hypoglycaemic, anti-hypertensive and antimicrobial properties. This study aimed at incorporating Hass variety avocado seed extracts and powder into model baked products and beverages and to determine their physicochemical and sensory properties as well

as their shelf life. The avocado seeds were dried at ambient temperature and then ground to powder. Proximate analysis was conducted. The optimal time-temperature combination for maximum polyphenol extraction was determined. Model baked products were prepared by replacing wheat flour with 15, 30 and 50% of the seed powder. Model beverages were prepared by varying the pH of the seed extract to 2.8, 3.8, 4.8, 5.5 and 6.0 and stored in clear bottles under refrigeration and at ambient temperature. The shelf life of the phenols in the seed powder was evaluated under three light conditions (darkness, amber and transparent bottle) for six months. The total phenol content was determined in the model products. Sensory analysis was carried out by 56 untrained panellists to evaluate the consumers' acceptability of the baked products containing avocado seed powder. The proximate composition of the seed powder for moisture, protein, fiber, fat, ash and carbohydrates were 14.19, 7.05, 4.00, 13.64, 1.82 and 59.30%, respectively. The optimized time-temperature combination for phenol extraction was 80 °C for 15 minutes extracting a total phenol content of  $24.59 \pm 0.14$  mg/g GAE. Model beverages stored at ambient temperatures recorded lower phenol content than those stored under refrigerated conditions over a 20 weeks' period. The sensory rating for all the model baked products had minimum acceptability of like (5.75). From the results, model beverages and baked products incorporated with avocado seed extracts recorded higher phenolic content and were acceptable to the consumer panelists.