

Nutraceuticals and Food Science

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Glycation and the accumulation of advanced glycation end-products (AGEs) are known to occur during the process of aging, as well as in individuals with diabetes and neurodegenerative diseases. Elevated blood glucose levels in diabetic patients lead to increased formation of AGEs. A diet rich in bioactive food compounds, such as polyphenols, has been found to have a protective effect. Foods abundant in phenolic compounds have gained significant attention, representing a promising market and capturing the interest of the scientific community, owing to their potential health benefits for individuals with diabetes. Notably, red fruits, dark green vegetables and green propolis have emerged as particularly beneficial. However, it is important to inform individuals with diabetes about the advantages of consuming these foods in order to help regulate their blood glucose levels, as the bioactive compounds they contain aid in controlling free radicals. Thus, the aim of this study was to develop preparations using juice made from red fruits, vegetables and, supplemented with green propolis, to assess the presence of bioactive compounds and antioxidants, and to examine their sensory acceptance in among people with diabetes. The total phenolic compounds, total flavonoids and antioxidant capacity were assessed using the ABTS, DPPH and FRAP methods. The results demonstrated a statistically significant increase ($p < 0.05$) in all evaluated parameters for the samples containing propolis compared to the control (juice without added propolis). Sensory analysis conducted with 80 untrained individuals, indicated that all samples received an approval rate of over 70% for all evaluated attributes, with no statistical difference observed in the acceptance of the three formulations. Therefore, they were considered well-received by the participants. This study presents a product of high nutritional value, exhibiting substantial antioxidant potential, and possessing sensory characteristics that are well-accepted by individuals with diabetes.

Keywords: red fruits; green propolis; dark green vegetables; antioxidant capacity.

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