



Abstract

Enrichment of Bread with *Lycium barbarum* (Goji) Puree [†]

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Abstract: With a great variety of foods on the market, the consumer’s responsibility is to choose food that can allow him to maintain his state of health and prevent chronic diseases. For this reason, several functional foods classified as fortified or enriched are currently being developed. In fact, the functional food market size is estimated to reach USD 267,924.4 million by 2027 [1]. Functional foods are able to provide essential nutrients such as vitamins, minerals and bioactive substances. The opportunities for incorporating these bioactive constituents into bread have grown rapidly, as bread is the staple food in many countries. *Lycium barbarum* (goji) berries are a source of phytochemicals with important biological functions and are designated as super-fruits [2]. The aim of the study was to add goji puree at different percentages (50% and 70%) to the bread dough. To evaluate the characteristics of bread enriched in goji puree, chemical–physical, sensory, rheological analysis and radical scavenging activity tests were carried out [3,4]. The best results were obtained with the sample enriched with 50% goji puree (B50G), showing a total phenol content of 42.07 mg gallic acid equivalent/100 g bread and an ABTS radical scavenging activity of 833.48 μmol Trolox/100 g bread. Bread sensory profile was identified by a trained panel using quantitative descriptive analysis, showing significant differences compared with the untreated sample in terms of crust, crumb colour and structural crunchiness, while olfactory and gustatory descriptors did not differ significantly. Furthermore, the enriched product is characterized by a higher content of bioactive substances, with particular reference to phenolic compounds, and by an interesting antioxidant activity. The absence of substantial changes in the sensory profile represents another fundamental aspect appreciated by the consumers. Collectively, our results demonstrate the potential health properties of this enriched bread.

Keywords: goji; bread; sensorial analysis; antioxidant activity



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