

journalhomepage:http://chimie-biologie.ubm.ro/carpathian_journal/index.html

VALORIZATION OF CAROB SEEDS AS A FUNCTIONAL FOOD

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ABSTRACT

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https://doi.org/10.34302/crpjfst/2023.15.1.1

Article history:
Received:
15 November 2021
Accepted:
15 December 2022
Keywords:
Antioxidant;
Carob;
Fibers;
Gums;
Seeds.

Our study aims to promote carob seeds as a functional food. For this; the nutritional value, the compounds with beneficial physiological effects and functional properties (fibers and gums), as well as the antioxidant potential were determined. Analysis of the chemical composition of carob seeds reveals their high protein, ash and fat content. However, the total sugars content was estimated to be moderate. The quantification of the compounds with a beneficial physiological effect shows that the seeds are rich in crude dietary fibers (8.39%). Regarding the gums, the vields are evaluated at 39.44% for the crude gums and at 4.026% for the purified gums. The phytochemical assays reveal a richness of the seeds in total polyphenols, in total flavonoids with a moderate content of flavonols and hydrolyzable tannins. The antioxidant potential was studied using two methods: reduction of the free radical 1,1-diphenyl-2-picryl-hydrazyl (DPPH) and the iron reduction method. According to the results, the carob seeds have a discreet antioxidant potential compared to the standards tested (gallic acid and quercetin).