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Functional profile of carob (*Ceratonia siliqua* L.) beans and pod pulp originated from the Republic of Moldova

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Abstract: This study provides the first insight into the biologically active potential (total phenolic compounds, flavonoids, tannins and antioxidant activity) of Moldavian carob beans and pod pulp in comparison with carob grown in Algeria, Spain, and Italy. The results showed that the samples of Moldavian carob contain significant amounts ($P \leq 0.05$) of biologically active compounds, the content of some of these compounds is far exceeding that of carob from the above-mentioned regions. Thus, the total content of phenolic compounds in Moldavian carob samples is 1.4 times higher, of flavonoids 1.9 times higher compared to the imported ones. The 2,2-diphenyl-1-picrylhydrazyl (DPPH) and 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) antioxidant activity of Moldavian carob samples proved to be about 10–12% higher than the antioxidant activity of samples from other regions. It has been proved that Moldavian carob pod pulp and beans have a high biologically active potential making them possible ingredients for functional food products.

Keywords: antioxidant activity; biologically active compounds; flavonoids; phenols; tannins

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