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Development and Characterization of a Mulberry Sauce

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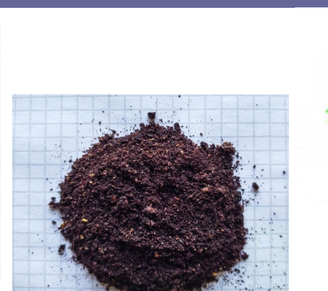
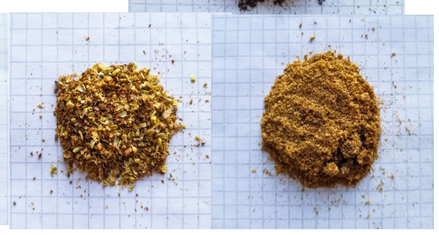
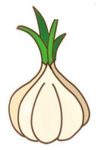
AIMS AND OBJECTIVES

Mulberry (*Morus alba* L., *Morus nigra* L.) belongs to the *Moraceae* family and is highly valued and consumed worldwide. Mulberry fruits are generally consumed as fresh fruits, jams, and juices. In the last few years, the pharmacological properties of mulberry fruits have been highlighted in many papers. The aim of this study was to evaluate the content of the biologically active compounds in mulberry fruits and to valorize them in the development of a new food product.

MATERIALS AND METHODS







RESULTS AND CONCLUSIONS

The samples were collected from two locations (Bistrita and Cluj County, Romania). All fruits were picked at the biologically ripe stage. The mulberries were harvested randomly according to shape and color uniformity. After picking, the fruits were divided into three categories for further processing (fresh, dryer, and frozen). The antioxidant capacity, vitamin C, polyphenols, and flavonoid content were quantified by using spectrophotometry. The total phenolic content ranged from 81.65 to 442.22 mg GAE/100g in the fruit samples and was 132.48 mg GAE/100g for the product obtained. The radical scavenging capacity ranged between 13.43-91.68% for the mulberry fruits and 40.58 % for the sauce. Total phenolic content was found to be notably higher in the case of black fruit extracts. In this regard, black fruits were used for the development of a new sauce. The addition of mulberry fruits influences the sensory properties of the sauce, and the taste scored 8.43 points. The sensorial evaluation revealed a high acceptability score (7.70) for the new product. The sauce obtained can be used both for glazing, chops, thighs, especially juicy ribs before frying, and as an authentic Romanian sauce for barbeque. On the market are available several types of sauces, but none of them contain mulberry fruits. The results obtained from this study demonstrate that sauce can be used as a valuable source of phenolic compounds with bioactive potential, with practical applications in the food industry and gastronomy. Moreover, consumer interest in the active role of food in well-being and life prolongation justifies the expansion of diversity. Further investigation needs to be conducted to optimize the recipe and transfer it to industrial-scale production.