

**F.37. DEVELOPMENT OF CAROB (*CERATONIA SILIQUA*) PODS FUNCTIONAL PASTRY SAUCE WITH NO ADDED SUGAR**

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**Abstract.** Unbalanced diet and sedentary lifestyle are two major risk factors for a large number of health problems, including: overweight and obesity, nutritional deficiencies, cardiovascular disease, type 2 diabetes, liver disease, nephropathy, hormonal imbalances, cancer and neurodegenerative diseases. The global prevalence of these diseases is increasing, and preventive measures are not sufficient or well implemented to significantly reduce these “pandemics”. By applying all the principles of modern nutrition, we provide the body with the necessary support to regenerate and slow down the aging process. Personalized nutrition involves the highest degree of personalization of nutrition, namely: detailed diet on days and meals according to recommended foods and personal preferences. Currently, in order to create promising functional products, the possibility of using local plant additives, widespread in the region, is being studied. At the same time, plant additives are sources of biologically active substances, which once included in human nutrition, are potentially capable of manifesting curative-prophylactic effects. Personalized nutrition allows the reduction of environmental risk factors, the multifunctional approach to physiological needs and as a result brings essential changes in life. The research is devoted to create new functional products using bioactive compounds extracted from local plant materials. The technology of a pastry sauce based on Carob pods with no added sugar has been developed. Carob pods of local origin were used in. Carob pods contains three major carbohydrates: sucrose, glucose and fructose. Are also rich in protein (5-8 g protein per 100 g dry weight), vitamins A and B and several important minerals, such as K, P, Ca, and Mg, as major minerals and Fe, Mn, Zn, and Cu as trace minerals. It is also necessary to mention that Carob is hypoallergenic and in comparison with cocoa does not contain such substances as caffeine, fat or oxalic acid, which decreases the Ca absorption. It has been established that local Carob pods it is an important source of polyphenols, which show a high antioxidant activity. It was proved that pastry sauce based on Carob pods can be obtained without added sugar. The energy value of the elaborated functional carob-based sauce decreased by 60%, the fiber content increased 2.9 times, but Ca and Fe content increased in 2.9 and 5.08 times respectively. Increased antioxidant activity has been inregistered, the significant level of polyphenols, flavonoids and flavanols. The evaluation of the organoleptic indices of functional carob-based pastry sauce showed that it has a fine and homogeneous consistency, a pleasant taste and smell characteristic of the basic ingredients: Carob pods with a specific dark chocolate smell and taste. The projected functional product - the confectionery sauce based on local Carob pods - will improve the nutritional coverage of different segments of the vulnerable population, such as people with diabetes, allergies, but also for groups of healthy people, but overweight or obese, will reduce the risk of nutritional diseases, will increase food security and life quality.

**Keywords:** functional food products, Carob, *Ceratonia siliqua*, low energy value, high biological value, fiber, antioxidant activity, no sugar.