

NEW MULTIFUNCTIONAL DIETARY SUPPLEMENTS BASED ON RAW CARROT

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The growing worldwide trend towards healthy food led to the development of functional product. Functional foods, due to bioactive components presence in its composition are capable to support human health and increase the body's resistance to adverse environmental factors. To correct the nutritional value and food properties biologically active additives (BAA) are used, which allow to optimize the composition, improve the nutritional value of foods and form their functional properties. Food additives production is a perspective direction, which can significantly extend the range of functional foods and products for special purposes. Due to the fact that in Ukraine biologically active additives are produced in limited quantities, current market is filled with imported goods. In this regard, development of domestic production of new types of supplements from plant material is relevant and promising. Among them vitamins-multifunctional additives are of greatest interest that are complex multicomponent systems with certain properties. Natural complexes of carotenoids are especially valuable, they've got high stability, resistance to process and are physiologically active. β -carotene is of great importance, as except for pro-vitamin properties it possesses also antioxidant ones to promote products' quality improvement and its life extension.

The aim of the work was scientific justification of an integrated approach to processing carrot to get two carotene-compound multifunctional food additives in dry and liquid form.

As a result of researches, optimum conditions of preparation carrot and technology of two products were found - dry carotene-compound enrichments "Karotyinka", derived from carrot pomace and liquid carotene-compound filler "Carrot Honey", derived from carrot juice. Both products represent carotene-compound multifunctional additives and their chemical composition differ from similar supplements presented on the Ukrainian market. An enrichment "Karotyinka" received in a production environment by microwave drying, has got a high content of β -carotene (130-140 mg/100 g) and fat (11 g/100 g), and filler "Carrot honey" (70% solids) - rich in sugars (52-55 g/100 g), β -carotene (up to 11 mg/100 g) and pectin (up to 4 g/100 g). The apparent advantage of these received products is their high resistance to various technological modes, allowing them to be widely used in various sectors of the food industry. This made it possible to suggest ways to use them in the manufacture of confectionery, dairy, meat and canned foods fortified with β -carotene and dietary fiber.

Thus, thanks to implementation of developed technologies and application of proposed carotene-compound multifunctional food additives, one can get a wide range of products with high nutritional value.

KEYWORDS: carrot, β -carotene, dietary supplements processing.