

WILD PLANT RAW MATERIALS USE IN PASTRY TECHNOLOGY

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Under the present conditions of economic activity a significant part of restaurant industry establishments (RIE) involves production, delivery and sales of their own products. RIEs priority in this area is organisation of the production of bakery and pastry products (BPP) in their production areas.

One way of solving the problem of pastry product diversification and raising their biological and nutritional value is using the alternative herbal products. Alternative wild fruit raw material has a wide range of functional properties that allows to influence the properties of flour semi-finished products, technological process, to regulate the properties of structural components of the raw material in a given direction, to perfect the physical and chemical and organoleptic characteristics of products, to provide them with new quality indicators, to improve their nutritional value and adjust their chemical composition.

Within the variety of alternative herbal materials particular attention should be paid to their processed products such as powders. They have retained the useful properties of the feedstock for a long time, so it gives the possibility to provide continuous pastry production with valuable source of biologically active substances.

Fruit powders are considered to be preferable supplements for pastry products. Fruit powders are the dry concentrates of fruit pulp and juice, which contain proteins, cell protoplasm, pectin and mineral substances, monosaccharides. The main component of fruit powders is carbohydrates that are represented mainly in the form of glucose and fructose. [1]

Today it is known about the investigation of using apple, banana and pineapple powders. Organic acids of these products are malic, citric, succinic and tartaric acids. Fruit powders contain such elements as potassium, sodium, phosphorus, magnesium and iron. Pineapple powder contains bromelin. It is a mixture of enzymes, similar to pepsin and papain, which catalyze the hydrolysis of proteins, peptides and amides [2].

In the world practice they widely use the technological method of food fortification, using biologically active substances contained in the dried fruits and berries wastes.

Fruit powders from apple pressing, blackcurrant fruits, sea buckthorn, chokeberry and other berries are successfully used as food supplements that stabilise the structure of dough, flavourings and those that cause a golden and brown colour of pastry enriching them by biologically active substances.

Rosehips have not only unique taste, but also contain a large number of biologically active substances. Using rosehips as powders can expand the range of confectionery products and enrich their macro- and micronutrient content.

It is known about using of blueberries powders. Potassium, calcium and phosphorus have been discovered in that powder in the largest amounts. Also blueberry powder differs a little by sodium content in comparison to potassium, which is a positive factor in the prevention of atherosclerosis and hypertension. This berries powder is enough rich in elements of hemopoietic complex such as iron, manganese and cobalt. In addition, the blueberry powder contains beta-carotene, vitamins C and E, which are known as powerful antioxidants.

Sea-buckthorn powder contains 20% of protein, 18-23% of lipids. Putting the powder of from sea-buckthorn fruits into in the pastry product recipe enriches the finished products with carotene, riboflavin, ascorbic acid, iron, and can increase the content of protein and minerals. It is also known about the use of sea buckthorn seed meal as protein and vitamin supplements in the production of halva, biscuit and sand cakes, bread and pasta. The use of pressing helps to enrich the developed product with dietary fibers by 2.5-3 times and minerals by 1,3-2,3 times, vitamins by 1,3-2,6 times. Caloric value of products decreases and nutritional one increases. Also in the confectionery industry a mixture of fruit powders is widely used.

Fruit powders from blackcurrant and chokeberry fruits pressing are used successfully as food supplements that stabilize the structure of the dough, flavourings and those that facilitate to a golden and brown colour of pastry products and enrich them with biologically active substances.

The possibility of using of rowan flour in bakery technology has been also investigated. Rowan flour is a product of grinding of dried red fruits of mountain ash (*Sorbus. aucuparia* L.), which is a source of biologically active substances and sorbic acid, included in its composition, allows to extend the shelf life of finished products [3].

So, the results of theoretical and experimental studies have allowed to state purposefulness of using different wild plant: powders in bakery and confectionery product technology for restaurant industry of Ukraine.

References:

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