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OBTAINING FUNCTIONAL OILS FROM PROCESSING FRUIT WASTE

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Abstrakt

Objective. This article discusses the composition and use of natural oils obtained from the processing of fruit waste, which are a source of non-traditional oils.

Methods. In our study, we tried to determine the beneficial properties of functional oils enriched with non-traditional oils used in functional nutrition, the amount of biologically active substances, macro- and microelements and their properties. We studied plant samples and their triglycerides, which are part of the chemical composition of various organs, when analyzing the composition and ratio of fatty acids, amino acids, traditional and modern physicochemical and physical methods of analysis were used: extraction, thin layer chromatography (TLC) methods.

Results. The acid composition of vegetable cherry oil was studied, the presence of oleic acid 52.4 wt. % and 28.3 wt. % linoleic acid. Cherry oil mainly contains oleic acids.

Conclusion. The types of fatty acids play an important role in the regulation of biological functions. Oleic acid, which is found in the largest amount in the pits of cherries, is a monounsaturated fatty acid that is quickly absorbed in the body and has a fast destructive property. Triglycerides, lipoproteins, in the human diet helps reduce cholesterol levels.

Key words: cherry, stone, natural oils, fruit waste, non-traditional oils, myristin, pentadecane, heptadecane, stearin, arachidine.

Introduction.

Cherry (*Prunus cerasus* L L) grows wild in Central Asia and is cultivated in gardens. The fruits are used for food. Dozens of confectionery products are made from them. Its juice is also used to make dyes and perfumes. Cherry fruits are of great importance in the food industry as a raw material for making wine, fruit drinks and other drinks. Cherries have been used medicinally since ancient times. At present, it has not lost its therapeutic value in folk and scientific medicine. It is known that tinctures used in the treatment of anemia are prepared from the bark of the cherry tree.

Cherry *Prunus cerasus* L. is mainly used in the food industry, where fruit waste is easily collected. Natural oils obtained from the processing of fruit waste are a source of non-traditional oils. Cherry seed oil contains: fatty acids and due to its strong antioxidant properties, it can become a component not only in the pharmaceutical but also in the food industry. The composition of the core of the cherry is given in many sources, but its composition varies under the influence of the specific climatic conditions of each region.

Methods.

In our study, we tried to determine the beneficial properties of functional oils enriched with non-traditional oils used in functional nutrition, the amount of biologically active substances, macro- and microelements and their properties.

Saturated fatty acids found in *Prunus cerasus* L kernel oil include myristin, pentadecane, heptadecane, stearin, arachidine and behenic acids. Among the unsaturated fatty acids are myristolein, palmitolein, olein, linolein, linolein, asklepin and include eicosanoic fatty acids.

Fatty acids include unsaturated, monounsaturated and including polyunsaturated fatty acids. From 43.9% in kernel oil among monounsaturated fatty acids, oleic acid accounts for the largest amount. Up to 78.5%. The content of linoleic acid is 9.7-37%; palmitic acid is 4.9-7.3% . But in another study cherry seed oil contains 32.5-2.3 mole% oleic acid and 59.8-3.9 mole% linoleic acid and oil contains 38.6-2.5 mole% oleic acid and 50.6-2.1 mol.% linoleic acid. Other unsaturated acids are not identified in the oil of cherries growing in Uzbekistan.

The acid composition of vegetable cherry oil was also studied, the presence of oleic acid 52.4 wt. % and 28.3 wt. % linoleic acid. Cherry oil mainly contains oleic acids. The types of fatty acids play an important role in the regulation of biological functions. Oleic acid, which is found in the largest amount in the pits of cherries, is a monounsaturated fatty acid that is quickly absorbed in the body and has a fast destructive property. Triglycerides, lipoproteins, in the human diet helps reduce cholesterol levels.

As well as vegetable oil with oleic acid increases oxidation resistance. Linoleic acid in the human body plays an important role in the management, improvement of the nervous system and vision. Unsaturated fatty acids also act as antioxidants. Cherry seed essential oil is a food product of Chinese medicine. It is a source of nutritional supplements and drugs in medicine.

Results

The triacylglyceride composition of cherry seed oil (TAG) was studied depending on the plant variety and growing area. Composition of Prunus vegetable oil TAG from vaniya. For both samples, the following erasus L was carried out, studied in two districts of the Fergana region as an object of research. experiment. Dried nuclei were extracted with distilled water. Aqueous precipitation of proteins and peptides of the extract was centrifuged. To do this, 1 ml per 1 ml of the test sample is added trichloroacetic acid, after 10 minutes it was centrifuged for 15 minutes at 8000 rpm. Then 0.1 ml of the supernatant was extracted and lyophilized. The hydrolyzate was evaporated to dryness, after which it was dissolved in a mixture of triethylamine-acetonitrile-water (1:7:1) and dried.

This process was done twice to neutralize the acid.

Discussions

We studied plant samples and their triglycerides, which are part of the chemical composition of various organs, when analyzing the composition and ratio of fatty acids, amino acids, traditional and modern physicochemical and physical methods of analysis were used: extraction, thin layer chromatography (TLC) methods.

Conclusion

The composition of the studied samples differs from other regions. Comparative composition and quantitative ratio with the species of the region has been analyzed. Biologically active substances contained in the oil obtained from the core of the fruit seeds allow it to be used in the production of functional food products.

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