IDENTIFICATION AND QUANTITATIVE DETERMINATION OF ORGANIC ACIDS IN CARAMBOLA FRUITS

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Introduction. In recent years, exotic fruits have gained considerable popularity and firmly entered our everyday life. The variety of exotic fruits is simply amazing, but still a large part of them is little known to us and not studied enough. Fresh fruits are important in human nutrition. They are the main sources of vitamins, macro- and microelements, easily digestible sugars, organic acids, enzymes, etc. Fruits have many medicinal properties, they are used to treat colds, to improve the work of the gastrointestinal tract. The analysis of literary data shows that carambola fruits are widely used in traditional medicine for the treatment of various diseases, they show anti-inflammatory, antioxidant, hemostatic, antibacterial activity. In addition, they are widely used in cooking and cosmetology. Therefore, it is urgent to carry out more detailed pharmacognostic studies of carambola fruits [1].

Materials and methods of research. The paper chromatography method was used for the qualitative identification of organic acids. The chromatography study was carried out in the solvent system: ethanol – chloroform – ammonia – water (70:40:20:2) in parallel with reliable samples of organic acids. After drying, the chromatogram was processed with the reagent (solution of sodium 2,6-dichlorophenolindophenolate) and heated in the drying oven at 105 °C temperature. The organic acids on the chromatogram appeared as yellow stains on a blue background, but ascorbic acid appeared as a pink stain, which disappeared with time.

The quantitative determination of organic acids content in carambola fruits was carried out by the alkalimetry method described in the State Pharmacopoeia of Ukraine (article "Rosehip fruits") [2, 3].

Results and their discussion. Malic, citric, tartaric, gallic, and ascorbic acids were identified among organic acids in carambola fruits as a result of the chromatographic analysis. The quantitative content of organic acids in carambola fruits amounted to 4.82±0.19%.

The new promising source of plant raw material – the fruits of carambola (*Averrhoa carambola*) – contains various groups of biologically active compounds. The detailed study of these BAC is a relevant and modern direction of pharmacognosy.

Referencers:

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