



PHYTOCHEMICAL STUDY OF COMMON BASIL LEAVES

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Purpose: this work is aimed at studying the main active ingredients of basil leaves, which have anti-inflammatory, choleric, antiseptic effects.

Materials and methods of research: the object of the study was the leaves of basil vulgaris, collected during the flowering period in the territory of the Bostanlyk district of the Tashkent region.

A preliminary examination of the leaves for the content of the main groups of biologically active substances was carried out using well-known qualitative reactions and chromatographic analysis methods.

To confirm the results obtained and identify the detected substances, a comparative chromatographic study of the extracts was carried out, where these substances were detected in the presence of reliable "witness" samples.

The determination of flavonoids was carried out by chromatography of aqueous extraction of the collection on paper (German, brand FN-3 Mittelschnell laufend) in a butanol-acetic acid-water solvent system (4:1:5) using a 1% alcohol solution of aluminum chloride as a developer.

Ascorbic acid was also determined by chromatography on paper in a solvent system of ethyl acetate - acetic acid (80:20); 2,6-dichlorophenolindophenolate of sodium was used as a developer. The essential oil was isolated by hydrodistillation

To detect phenolic acids, alcohol extraction was chromatographed in a butanol-acetic acid-water solvent system (3:2:95, 4:1:5), 15% and 2% solutions of acetic acid, isopropyl alcohol-ammonia-water (8:1:1). UV light (before and after ammonia treatment), a 1% alcoholic solution of ferric chloride, diazotized sulfanilic acid, and diazotized 4-nitroaniline were used as developers.

The presence of tannins was determined by qualitative reactions with 1% gelatin solution and 3% solutions of ferric chloride and ferric ammonium alum. The polysaccharide content was determined by gravimetric method and ethanol precipitation. The monosaccharide composition of polysaccharides after hydrolysis was determined chromatographically simultaneously with known samples on FN-3 paper in the butanol-pirpeline-water (6:4:3) system for neutral sugars and ethyl acetate-acetic acid-formic acid (18:3:4) for acidic sugars. Sugars were detected with an acidic solution of aniline phthalate and heat treatment.

Results: as a result of chromatographic analysis, at least four substances of a flavonoid nature with R_f 0.45; 0.48; 0.55; 0.78 were found in the studied collection, identified by comparison with reliable samples as rutin, cinaroside, hyperoside, quercetin; ascorbic acid (0.036%) was identified from among the organic acids. It has also been established that the phenolic acid composition of the studied collection is represented by at least two substances, which, according to the R_f value and the results of qualitative reactions, are tentatively identified as caffeic and chlorogenic acids. It is shown that the monosaccharide composition of the polysaccharides of the collection is represented by D-galactose, L-arabinose, D-glucose and D-xylose, and tannins are among the hydrolyzable.

Conclusions: the results obtained will be used for chemical characterization and standardization of basil raw materials.