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The Study of Esters Chromatography-Mass Spectrometry of Absolute Ethanol Extract of the Central Asian Mint Plant (Lamiaceae)

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Abstract: When studying the chemical composition of plants, they contain essential oil (Peppermint oil) (2.4–2.75% in leaves, 4–6% in inflorescences), tannins and resinous substances, carotene (0.007–0.0075%, in leaves 0 .0105-0.012), hesperidin, ascorbic (0.0095%), chlorogenic (0.7%), coffee (0.5-2%), ursolic (0.3%) and oleanolic (0.12%) acids.

Keywords: Peppermint oil, (2.4–2.75% in leaves, 4–6% in inflorescences, tannins and resinous substances, carotene (0.007–0.0075%, in leaves 0 .0105-0.012), hesperidin, ascorbic (0.0095%).

Introduction

In modern cooking, leaves and aerial parts collected during the flowering period are used. Essential oil and menthol are obtained from them, which are widely used in medicine, perfumery, confectionery and alcoholic beverage industries, in the production of cognacs.

Mint is very popular in English cuisine, it is added to lamb meat sauces. In American cuisine, it is added to improve the taste and aroma of mixed drinks made from tomato juice and in various fruit and vegetable salads. In Arabic, Spanish and Italian cuisine, mint is served as a spice or added to various spice mixtures. Mint leaves enhance the flavor of roasts, roast lamb, lamb and chicken. It is added to stewed cabbage, carrots, peas or leeks. Small amounts of fresh shoots can be used to add to vegetable soups, meat marinades, and cheese dishes.

Methods and results

Peppermint leaf (lat. Folium Menthae piperitae) and threshed peppermint leaf (Folium Menthae piperitae contusae) are used as medicinal raw materials. Harvesting is carried out in dry weather, when about half of the plant blooms.

In medicine, mint leaves are part of the gastric, carminative, sedative and choleretic teas, mint drops for nausea as an appetite enhancer, and antispasmodic gastric remedy. From medicinal raw materials, tincture and "mint water" are obtained.

The main active ingredient in mint preparations is menthol, which is contained in the essential oil of the plant. In addition to the essential oil, mint contains terpenoids (limonene, cineol, dipentene), carotene, rutin, ascorbic, ursolic, oleanolic acids, flavonoids, tannins, and trace elements. It is used for inflammatory diseases of the upper respiratory tract, soothes headaches, improves appetite.

Mint leaves are popular in folk medicine. They are used externally for neuralgia, as an antiseptic for inflammatory processes, burns, diseases of the upper respiratory tract, hoarseness, hoarseness,

bronchitis and bronchiectasis, toothache; inside - with gastrointestinal and hepatic colic, as an astringent, antitussive, with nausea, heartburn, as a sedative for nervous excitement in menopause.

Menthol, released from mint oil, is used for flatulence, angina pectoris, it is part of drops and ointments for the common cold, migraine pencils, and is also used in the production of a number of medicines - validol, valocordin, ingafen, olimetin, Zelenin drops and others used in diseases accompanied by spasm of the coronary vessels, smooth muscles.

The experimental part

When studying the chemical composition of plants, they contain essential oil (Peppermint oil) (2.4–2.75% in leaves, 4–6% in inflorescences), tannins and resinous substances, carotene (0.007–0.0075%, in leaves 0 .0105-0.012), hesperidin, ascorbic (0.0095%), chlorogenic (0.7%), coffee (0.5-2%), ursolic (0.3%) and oleanolic (0.12%) acids, rutin (0.014%), betaine, arginine, neutral saponins, glucose, rhamnose, phytosterol. Fatty oil (20%) was found in the seeds.

The oil is colorless, with a yellowish or greenish tint, a pleasant refreshing taste and smell. When settling, it thickens and darkens. The main component of the essential oil is the secondary alcohol l-menthol (45-92%). The leaf oil also contains menthol esters with acetic and valeric acids, α- and β-pinene, limonene, dipentene, phellandrene, cineole, citral, geraniol, carvone, dihydrocarvone.

Conclusion

The unique aroma of mint leaves is given by the menthol contained in them. It is he who provides the mint drink with a refreshing taste. Essential oils of menthol facilitate breathing and relieve nasal congestion in case of colds. The high content of vitamin C in mint helps to strengthen the immune system and cope with the disease.

Mint leaves have a vasodilating effect, therefore they are indicated for hypertension, chronic headaches. Peppermint tea also cleanses blood vessels, activates the brain. Mint-based drinks have a beneficial effect on the functioning of the heart, improve blood circulation.

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