MORPHO-BIOLOGICAL PROPERTIES OF PEPPERMINT (MENTHA PIPERITA)

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ABSTRACT

The article provides information on the geographical distribution of morphological, biologic and medicinal properties of Mentha Piperita in flora of Uzbekistan.

Keywords: *Mentha Piperita, . dorivor, medicine,cosmetics, fruit, herbal, efir*

АННОТАЦИЯ

В статье представлена информация о географическом распространении морфологических, биологических и лечебных свойств Mentha Piperita во флоре Узбекистана.

Ключевые слова: *Mentha Piperita,. доривор, лекарство, косметика, фрукты, травы, эфир*

INTRODUCTION

According to the decree of the president of the Republic of Uzbekistan Shavkat Mirziyoyev dated November 26, 2020 № PP-4901, "On measures related to the scale of scientific research on the development of cultivation and processing of medicinal plants, the organization of their seeds" was adopted. In this regard, the attention to the cultivation and rational use of medicinal plants is increasing day by day. In particular, great practical work is being carried out on obtaining four oils from medicinal plants and studying their properties.Of great practical importance is the extraction of efir oils from medicinal plants and the study of their properties. Efir oils are used in medicine as an aromatizing agent, as an aromatizer for food products, as a flavoring agent in perfumery and cosmetics, as a flavoring agent in household chemicals.

DISCUSSION AND RESULTS

Therefore, the study of the chemical composition and properties of efir oils, separated from the composition of medicinal plants, is relevant from the point of view of assessing the possibility of their use in medicine, perfumery, cosmetics and other fields. The composition includes trees, shrubs, as well as single and perennial grasses of plants with efir oil, and efir oils collect in their flowers, seeds, fruit, STEM, STEM, leaf or body. Among the more than 200 dorivor plants in Uzbekistan, it is possible to list dorivor lemonade, ordinary black cumin, mountain Ham, flax, black

currant, ordinary canakunjut, almonds, sorrel, lilac, mint, mint, aloe, licorice root, fennel, ordinary spruce, ordinary buckwheat, Wormwood, fragrant dill, ordinary mountain ash, currant, parsley, etc. From some efirium-bearing plants, dill, Ham, coriander, black cumin, mint capers are specially planted. Below are some medicinal plants and methods of extracting efir oils from them. For example: Peppermint (Mentha piperita L.) is a traditional and widely used plant in medical practice, occupies one of the leading places in the world production of essential oils and is one of the most important representatives of spicy-aromatic plants with antiseptic, antimicrobial, anti-inflammatory, antispasmodic and choleretic effects. In recent years, mint has attracted special attention of specialists as a medium-sized phytoncidal plant that improves the ecology of large cities and indoor interiors, as well as as an ornamental plant. Peppermint (cold mint or English mint) Mentha piperita L. (Latin piperitus, a, um burning, from piper pepper). Cultivated perennial herbaceous plant of hybrid origin of the family. It is considered a hybrid of two species: water mint (M. aquatica L.) and spearmint (green) M. spicata Gilib. (M. viridis L.). Spearmint, in turn, is considered a hybrid formed from forest mint M. sylvestris L. and round-leaved mint M. rotundifolia Huds. [1].

Fig. 1. Appearance of peppermint

Peppermint is a perennial herbaceous plant up to 30-55 cm tall. It grows in the form of a sprawling, non-compact bush. The rhizome is horizontal, with a weakly banded root system penetrating into the soil to a depth of 60-80 cm. The stems are numerous, branched, tetrahedral, herbaceous, let down, painted in different colors

(depending on the variety). The branching is opposite, starting from the base of the stem [2]. The leaves are opposite, short-stemmed, ovate-oblong or lanceolate, of different sizes, uneven, short-haired, dark green from below along the veins. The central stem and lateral shoots end in a ring-shaped inflorescence. The flowers are small, almost sterile (fruits are formed very rarely), the calyx is regular, five-toothed, with ten longitudinal veins; the corolla is slightly irregular, with a blunt four- or five-lobed bend, red-purple, with a whitish tube. The whole plant has a characteristic strong aromatic-cooling smell and taste. Blooms in June-July [3]. The menthol content in them reaches 60-70%. There are two forms of peppermint: black and white. Black mint has stems, petioles and leaf veins of a dark reddish-purple hue. White mint has light green stems and leaves without anthocyanin coloring. Both forms of peppermint are cultivated in the CIS countries. Black mint serves as an industrial source of menthol. Breeders have bred valuable high-grade industrial varieties of this form, the leaves of which contain up to 5% oil and menthol in oil 65-70%. White mint is a valuable raw material for the needs of the perfume and food industry, where the aroma of oil is most important. Fertile lowland and floodplain areas are more suitable for mint. Open high areas with steep slopes, heavy clay salt marshes and sandy soils are less suitable. On heavy structureless soils, poor in organic substances and with a lack of moisture, mint develops poorly, forms few rhizomes and winters poorly [3]. The distinguishing features of peppermint from other varieties of mint are the degree of pubescence (much denser pubescent mint raw materials), the color of the leaves and stem (the leaves are dark green, and the stem is light green).

CONCLUSION

The main component in most varieties and hybrids of representatives of peppermint is menthol. High menthol content was found in Peppermint and varieties "Zagrava" and "Ukrainian peppermint", low content – in Bergamot Mint and varieties "Prilukskaya", "Karvonnaya" and "Velvet", but they were distinguished by a high content of mentone and its isomers. 90.75 linalool was detected in the composition of the essential oil of the Velvety variety, the sum of minor components did not exceed 10% [3]. Significant differences in the studied varieties and hybrids of mint in the level of accumulation of individual components of essential oil suggest that they differ in the genetic structure that controls the biosynthesis of essential oil and its composition. Most of the essential oil is contained in peppermint inflorescences – 4-6%, in leaves - from 2.5 to 3%, in stems - up to 0.3%. Menthol is the main active ingredient of mint oil. Its content depends on the mint variety, and it happens from 50 to 70 percent. The composition of mint essential oil, as well as other essential oils,

depends on the variety of the plant, on what weather conditions were in the year of harvest, what were the storage conditions of raw materials, on the method of extraction of essential oil, as well as on the duration of its storage.

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