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OBTAINING AND CLASSIFYING PRODUCTS FOR FOLK MEDICINE FROM THE BLACKBERRY (RUBUS) PLANT

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Abstract. This article explores the collection, classification, and application of blackberry (Rubus spp.) plant materials in traditional (folk) medicine. Emphasis is placed on the therapeutic potential of various parts of the plant—berries, leaves, roots, and seeds—based on their phytochemical composition and pharmacological effects. Drawing on contemporary scientific literature and traditional practices, the article highlights the role of blackberry-derived products in gastrointestinal treatment, respiratory ailments, dermatological conditions, and metabolic regulation. It also discusses techniques for harvesting and preparing medicinal forms and reviews promising elite cultivars with enhanced bioactive profiles. The study incorporates findings from research on biochemical content and breeding trends of elite blackberry genotypes for improved medicinal efficacy.

Keywords: blackberry, Rubus, folk medicine, phytotherapy, herbal remedies, anthocyanins, elite cultivars.

INTRODUCTION

Blackberries, botanically classified under the genus Rubus, are not only a valuable fruit crop but also a long-standing staple in traditional medicine across various cultures. Known for their distinctive flavor and rich phytochemical composition, blackberries have been used to treat ailments ranging from gastrointestinal disorders to skin infections and nervous system imbalances. The resurgence of interest in natural remedies and functional foods has led to a re-examination of blackberries not only as nutritional sources but as pharmacologically active botanicals.

Traditional uses have often involved the whole plant: berries for their astringent and antioxidant effects, leaves for gastrointestinal and anti-inflammatory applications, and roots for bleeding disorders and diuresis. Recent scientific advancements have validated many of these uses and have also identified new bioactivities, such as anti-tumor and neuroprotective properties, linked to the plant's polyphenolic and anthocyanin content [1].

MATERIALS AND METHODS

The medicinal utility of blackberry products is directly tied to their complex biochemical profile. The fruit is particularly rich in vitamins C, E, and K, as well as minerals such as potassium, manganese, and magnesium. The leaves contain tannins, flavonoids, and organic acids (including salicylic, malic, and citric acids), while the seeds are notable for their fatty oil content (9–12%).

Blackberries exhibit significant antioxidant properties due to their anthocyanin and polyphenol content, which aid in scavenging free radicals, stabilizing capillary membranes, and protecting cellular structures from oxidative damage. In vitro and in vivo studies have confirmed their effectiveness in inhibiting tumor cell proliferation, particularly in breast, colon, and prostate cancer models. Additionally, their anti-inflammatory, antibacterial, antidiabetic, and anticoagulant effects support their continued use in phytotherapy [2].

RESULTS AND DISCUSSION

For medicinal purposes, leaves and berries are collected during peak summer months. Leaves are air-dried in shade or gently heated to preserve their bioactivity. A traditional method involves fermenting leaves slightly before drying to enrich their flavor and medicinal potency. Roots are harvested in late autumn, washed, chopped, and boiled or infused. Storage in glass containers and low humidity environments is recommended to retain the medicinal integrity of the plant material.

Recent advances in blackberry breeding have led to the development of elite cultivars with improved phytochemical properties, such as higher anthocyanin and vitamin C content, better disease resistance, and early maturation. According to research conducted at the Russian VNIISPK institute, elite genotypes derived from ‘Loch Ness’ and ‘Cheyenne’ cultivars have demonstrated significantly higher levels of biologically active compounds (up to 1050 mg/100g of R-active substances) compared to conventional varieties [3].

These improvements directly affect the medicinal potential of the berries. Breeding efforts focused on larger berry mass, increased content of polyphenols, and enhanced flavor profiles also benefit folk medicine applications, as more potent raw material becomes available. Additionally, the move towards thornless and more winter-hardy cultivars enhances the feasibility of sustainable collection for herbal use in colder climates.

An important aspect of using blackberry (Rubus) in folk medicine lies not only in identifying the curative properties of individual plant parts, but also in understanding the interplay of environmental, genetic, and technological factors that influence the accumulation of bioactive compounds. While traditional healers often relied on empirical experience to determine the timing and form of plant use, modern phytopharmacology demands a more structured classification based on botanical, biochemical, and therapeutic criteria. In this regard, obtaining and systematizing blackberry-derived products requires a multifactorial approach.

One of the critical factors influencing the medicinal quality of blackberry raw materials is the genetic variety or cultivar used. Studies conducted at the VNIISPK Institute in Russia have shown that elite genotypes, particularly those derived from 'Loch Ness' and 'Cheyenne' parent lines, exhibit higher levels of flavonoids, anthocyanins, and ascorbic acid compared to standard cultivars like 'Thornfree' or 'Agawam'. These differences underscore the importance of cultivar selection in folk medicine preparations—elite forms not only provide greater yields but also offer increased therapeutic potency due to a richer biochemical profile [4].

CONCLUSION

Blackberries offer a broad and scientifically supported basis for their continued use in folk medicine. Their diverse range of bioactive components, along with their accessibility and safety profile, make them an invaluable component in traditional therapeutic systems. As modern science continues to validate and refine their applications, particularly through the selection of elite cultivars with enhanced medicinal properties, the role of blackberry-based products in natural medicine is poised for expansion. It is essential that future work bridges ethnobotanical knowledge with agronomic and pharmacological research to ensure the preservation and advancement of this valuable plant's medicinal legacy.

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