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MEDICINAL PROPERTIES OF GREATER PLANTAIN (PLANTAGO MAJOR)

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Abstract

This article discusses the importance of greater plantain in folk medicine. It examines various medicinal forms of plantain, including crushed plantain leaves in packages, crushed leaves in filter bags, plantain tincture, plantain juice, plantain extract, plantain ointment, plantain cough syrup, and other preparations.

Keywords: Flower, stem, spike, fruit, leaf, seed, vitamins, carotene, substances, infusion, gastrointestinal tract, diseases, wounds, laxative.

Introduction

Resolution No. PQ-251 of the President of the Republic of Uzbekistan dated May 20, 2022, defines priority tasks for 2022–2026 concerning the protection of wild medicinal plants growing in the Republic of Karakalpakstan and the regions, their artificial propagation, the efficient use of raw material resources, and increasing the production of locally manufactured medicines. The flora of Uzbekistan is rich in medicinal plant resources, among which greater plantain (*Plantago major*) is of particular scientific and practical importance. Plantain is a perennial herbaceous plant that has long been widely used in folk medicine as well as in modern scientific phytotherapy.

Greater plantain (*Plantago major*) belongs to the family Plantaginaceae and has distinctive morphological and biological characteristics. All of its organs –



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including the flower, stem, spike inflorescence, fruit (capsule), leaves, and seeds –contain various biologically active compounds [4].

Leaves: The leaves contain a broad spectrum of biologically active substances, including iridoid glycosides such as aucubin and catalpol, flavonoids (luteolin and apigenin), polysaccharides and mucilage (up to 11%), organic acids, tannins, phytoncides, vitamin C, vitamin K, and provitamin A (carotene).

Seeds: The seeds are rich in mucilage (20–40%), fixed oils, and carbohydrate compounds, and have a specific effect on the functioning of the digestive system.

Pharmacological Effects and Medicinal Forms

Various medicinal preparations obtained from plantain raw materials are distinguished by their broad therapeutic effects.

Crushed leaves in packages and filter bags: Standardized and dosed crushed leaves are intended for the preparation of infusions and decoctions at home. They are used as soothing and anti-inflammatory agents for inflammation of the upper respiratory tract and irritation of the gastrointestinal mucosa.

Plantain infusion and plantain juice: Juice and infusions prepared from freshly harvested leaves stimulate the secretory function of the gastrointestinal tract. They are particularly useful in cases of hypoacid gastritis, colitis, and reduced gastric acidity, where they improve digestion and accelerate the regeneration of the mucous membrane.

Plantain extract and plantain ointment: The extract and the “Plantain” ointment prepared on its basis are used in the treatment of purulent skin wounds, cuts, injuries, burns, and long-healing wounds. They significantly accelerate tissue epithelialization and regeneration while also producing an antiseptic effect.

Plantain cough syrup: The mucilage and polysaccharides contained in plantain help soften sputum and facilitate its expectoration. Therefore, plantain syrup is



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used as an expectorant and cough-relieving preparation for bronchitis, tracheitis, and common colds[1].

Laxative properties of the seeds: The mucilage contained in plantain seeds absorbs water and increases in volume through swelling. This mechanically stimulates intestinal peristalsis and produces a mild laxative effect in cases of chronic constipation.

The results of this research and scientific analyses demonstrate that greater plantain (*Plantago major* L.), owing to its rich and unique chemical composition, complex biological activity, and broad range of physiological effects, is a valuable source of medicinal raw materials with significant potential for the pharmaceutical industry and practical medicine.

All vegetative and generative organs of the plant—including its flowers, stems, spike inflorescences, fruits, leaves, and seeds—contain iridoid glycosides (aucubin and catalpol), flavonoids, polysaccharides, mucilage and tannins, as well as essential vitamins (C and K) and provitamin A (carotene). These compounds contribute to its high therapeutic potential[2].

In conclusion, based on the objectives established by Resolution No. PQ-251 of the President of the Republic of Uzbekistan, the cultivation and domestication of greater plantain (*Plantago major*), establishment of industrial plantations, and expansion of the production of comprehensive phytopharmaceutical preparations (syrups, ointments, and extracts) from locally sourced raw materials that meet international standards and can substitute imported products represent a relevant and promising area of scientific and practical research.



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