THE MEDICINAL PROPERTIES OF FERULA ASSA-FOETIDA AND ITS ROLE IN TRADITIONAL MEDICINE

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Annotation: *This article discusses the medicinal properties of the sachratqi plant (Ferula assa-foetida), its traditional use in folk medicine, and its scientifically studied pharmacological effects. The chemical composition, methods of application (infusion, decoction), and its role in treating various ailments are analyzed within the framework of modern research.*

Keywords: *Ferula assa-foetida, medicinal plant, folk medicine, chemical composition, infusion, pharmacological effect, phytotherapy*

Relevance of the Topic: Natural medicinal sources play a vital role in restoring and maintaining human health. In particular, the global demand for plant-based pharmaceuticals is steadily increasing. Although *Ferula assa-foetida*, a plant found in Uzbekistan's rich flora, has long been used in traditional medicine, its modern scientific exploration is becoming increasingly relevant. The furanocoumarins, essential oils, and other biologically active compounds it contains serve as natural alternatives for the treatment of various diseases.

Main Body

1. Morphological and Ecological Characteristics. *Ferula assa-foetida*, belonging to the family **Umbelliferae**, is a perennial herbaceous plant. It can grow up to 1.5–2.5 meters in height. Its underground part consists of a large, fleshy root that accumulates medicinal resin. The plant primarily grows in Uzbekistan's foothill and semi-desert zones, thriving in sandy and rocky soils.

2. Chemical Composition. Scientific research has revealed that *F. assa-foetida* is rich in the following compounds:

Essential oils (10–20%) – possess antimicrobial and spasmolytic properties

Resin (40–60%) – exhibits antiseptic and anti-inflammatory effects

Furanocoumarins – known for antifungal, antiviral, and anti-inflammatory activities

Organic acids – aid in digestion

Terpenoids and flavonoids – have antioxidant and immunomodulatory effects

More than 30 biologically active components have been identified using gas chromatography techniques (Wang et al., 2021).

3. Use in Traditional Medicine. In Uzbek traditional medicine, *F. assa-foetida* has been commonly used as follows:

Internal Applications: Infusions or decoctions are used to treat abdominal pain, colds, and cardiac discomfort

Traditionally employed to eliminate intestinal parasites

Decoctions are consumed in cases of gastritis and flatulence

External Applications: Applied to purulent wounds, rashes, and ulcers for antiseptic purposes

Used as a gargle for sore throat relief

4. Scientific and Pharmacological Studies

Antibacterial Activity: Extracts of *F. assa-foetida* have demonstrated strong antibacterial effects against *E. coli* and *Staphylococcus aureus*. According to a study published in *J. Ethnopharmacol.* (2022), the essential oil inhibited 90% of bacterial growth.

Anti-inflammatory Properties: Furanocoumarins have been shown to reduce inflammatory markers such as IL-6 and TNF-α (Smith et al., 2022), suggesting their potential use in treating conditions like arthritis and bronchitis.

Spasmolytic Effect: Animal studies have confirmed its ability to relax smooth muscles of internal organs, indicating its usefulness in gastrointestinal disorders.

Antioxidant and Immunostimulatory Effects: Flavonoids and terpenoids help neutralize free radicals and promote cellular regeneration, supporting the immune system.

Conclusion.

Ferula assa-foetida is notable for its rich chemical composition, multifaceted pharmacological effects, and longstanding use in traditional medicine. Scientific studies confirm its potential as an antiseptic, anti-inflammatory, and spasmolytic agent. Given its natural origin and low side-effect profile, the plant is gaining recognition in international phytotherapy as an effective alternative remedy. The development of pharmaceutical products based on *F. assa-foetida* holds great promise for the future.

References.

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