

## Medicinal Properties of *Taraxacum Officinale* L. Plant and Growing Technology

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**Abstract:** The article analyzes information on the botanical description, chemical composition, use for diseases, preparations and agrotechnology of the medicinal plant *Taraxacum officinale* L. The flowers and leaves of the plant contain taraxanthin, flavoxanthin, vitamins C, A, V2, E, PP, choline, saponins, resins, manganese salts, iron, calcium, phosphorus, up to 5% protein, which make nutritious food. The dried roots contain triterpene compounds. The seeds of the plant ripen in early July and are harvested. 3-4 kg of seeds are used per hectare.

**Keywords:** *Taraxacum officinale* L., medicinal plant, chemical composition, fruit, flower, reproduction, diseases, agrotechnology.

Today, the demand for medicinal plants and medicinal raw materials obtained from them is increasing day by day. Plant raw materials containing compounds that regulate lipid and carbohydrate metabolism in the human body are being investigated. *Taraxacum officinale* L. is a plant whose consumption affects the regulation of lipid and sugar metabolism. We are carrying out our scientific research in order to carry out experiments on this plant of such great importance, to carry out planting research in experimental areas of its propagation.

*Taraxacum officinale* L.- (Medicinal gorse herb-Uzb.)- perennial herbaceous plant, 15-60 cm tall, belonging to the Asteraceae family. All the leaves are short-banded, star-shaped or long star-shaped, feather-like cut edges, consisting of a root ball, 10-25 cm long and 1.5-5 cm wide. The flower axis is cylindrical, hollow, 15-30 cm long, and at its end there is a basket flower cluster consisting of tongue-shaped flowers of golden yellow color. The fruit is a three-pointed pistachio. It blooms and bears fruit from April-May until frost. The plant produces leaves and strong roots in the first year and blossoms in the second year. The inflorescence is one basket, 3-5 cm in diameter, brown-green in color. The outer leaves are shorter than the inner ones, bent down; the insides are vertical, located in a row. The flowers are golden-yellow, with five-pronged stems. The fruit is gray-brown, 3-4 mm long, covered with white, fine, soft hairs with a long thin nose. It blooms in May-July[4,5].

Chemical composition of the plant, taraxacin and taraxarin in the milky juice, 2-3% rubber substances, taraxanthin, flavoxanthin, vitamins C, A, V2, E, PP in the flowers and leaves of the plant, choline, saponins, resins, manganese salts, iron, calcium, phosphorus, up to 5% protein, making them nutritious meals. The dried roots contain triterpene compounds: taraxasterol, taraxerol, pseudotaraxasterol,  $\beta$ -amyryn; sterols:  $\beta$ -cytosterol, stigmasterol, taraxol; carbohydrates: up to 40% inulin; fatty oil containing glycerides of palmitic, lemon balsamic, linoleic, oleic and serotic acids; taraxanthin, flavoxanthin, lutein, triterpene alcohols, arnidiol, faradiol were found in the flower baskets and leaves of rubber, proteins, mucus, resins, etc.[1,2,3,4].

Root leaves, herbs and juice are used for medicinal purposes. Leaves, herbs and juice are harvested in June, roots - in early spring or late autumn at the stage of leaf wilting, dried in dryers at a temperature of 40-50 ° C. In the spring, during the flowering period, honey provides bees with pollen containing a large amount of sugar, proteins and fats. The plant has choleric, antipyretic, laxative, expectorant, sedative, antispasmodic and mild hypnotic effects.

Aqueous infusion of roots and leaves improves digestion, appetite and general metabolism, increases milk secretion in lactating women and increases the general tone of the body[4,5].

Due to the presence of biologically active substances, dandelion food gruel passes through the intestine faster, which helps to reduce fermentation processes in colitis.

Experimental chemical and pharmacological studies of the plant have confirmed antituberculosis, antiviral, fungicidal, anthelmintic, anticarcinogenic and antidiabetic properties[2,3].

The plant is recommended for diabetes, as a tonic for general weakness and to treat anemia. The powder obtained from the dried roots is used as an anti-sclerotic agent for gout and rheumatism, to increase the removal of harmful substances from the body through sweat and urine. A decoction, a thick extract, is used as a bitter and choleric agent to increase the secretion of the digestive glands[3,4].

Dandelion extracted from the plant is used to treat hepatitis, cholecystitis, cholelithiasis, jaundice, gastritis, colitis, cystitis, improve appetite and digestion, for constipation, flatulence, and as an anthelmintic [1,2,3].

Fresh leaves and leaf juice are recommended for the treatment of atherosclerosis, skin diseases, vitamin C deficiency and anemia.

The infusion of the herb with its roots is used for various diseases of the liver and gall bladder, tumors, dropsy, urolithiasis and hemorrhoids. The infusion of the herb is used for vitamin deficiency, as well as for various skin diseases: rashes, acne, furunculosis.

In Chinese folk medicine, all parts of the plant are used as antipyretic, diaphoretic, tonic, as well as for reducing appetite, snakebite, increasing lactation in nursing mothers, inflammation of lymph nodes, furunculosis and other skin diseases [1,2].

The plant is also used internally and externally for furunculosis, eczema and skin rashes. An oil tincture of the roots is used to treat burns, and the milky juice of the plant is used to remove warts and calluses. Sometimes an ointment is prepared from dandelion root powder and honey in a ratio of 1:2 to treat eczema.

This plant has long been used as a food by various peoples, including the ancient Chinese and the first settlers in the Americas[1].

Its young leaves are often used in Europe to prepare a salad known as "pissali" in French (in this case, the leaves are soaked in a salt solution for 30-40 minutes to significantly reduce the bitterness), and borsch made from dandelion flowers, they make jam and wine, opened "dandelion honey" is made from the buds and a coffee surrogate is made from the roasted roots. Boiled leaves are used like spinach[1,2,3].

In the British Isles, wine has long been produced from the flowers of a plant that is very popular in England. This wine is made by R. Bradbury sang in the story "Dandelion Wine". In some countries, the leaves are fermented like cabbage or spring leaves are pickled[2,3,4].

It is also used in cosmetics: a mask of its fresh leaves nourishes, moisturizes and rejuvenates the skin, and the infusion of flowers whitens freckles and age spots.

As for the cultivation technology, the seeds of the plant ripen and are harvested in early July. 3-4 kg of seeds are used per hectare. The seed germinated in the first decade of March. The fertility of the soil is 25%. The plant is located on both sides of the connected parts at an interval of 60

cm. During the growing season of the plant, agrotechnical measures are carried out up to 20-25 cm. During the first vegetation, 2000-2500 m<sup>3</sup> of water is required when the plant is watered 4-5 times. During the first vegetation, the area is cleaned of weeds 2 times and restored. In the first growing year of the plant, some bushes bloom in late May and early June. From the second growing year, the plants look gross in the field and bloom in May. During this period, the above-ground part of the plant is harvested and seeds are taken for a part of the field. Seeds are harvested in early June. This situation will continue for the third year. At the end of the third growing year (in June), the underground part of the plant (raw material) is dug up.

The above-ground part makes 2-3 centners, and the underground part makes 3-4 centners per productive area.

Medicinal grass is a plant that can be grown even in soils with low fertility. Therefore, it does not need excessive fertilization. The requirement of nitrogen is higher than that of other nutrients. Nitrogen increases seed yield mainly by increasing the number of plant baskets. Phosphorus needs of the medicinal gorse plant are moderate. Makhisar needs phosphoric fertilizers to accelerate plant development. There is no need to give potash fertilizers to mahsar, except for soils that are not supplied with potassium. 6-8 kg/ha of nitrogen and 10 kg/ha of phosphorus are sufficient in dry lands, depending on the regions and soil conditions. Fertilizer consumption is 25% higher in irrigated conditions.

Medicinal gourd is a plant grown in grassland and irrigated fields. But when grown in irrigated areas, the water requirement is high. Therefore, if irrigation is available, it should be irrigated during the germination period if the required amount of precipitation is not sufficient for germination. In addition, yields are higher if irrigated before stem formation and flowering.

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