



**CHEMICAL COMPOSITION OF RADISH WASTES (PEEL AND LEAVES)
AND THEIR HEALING PROPERTIES**

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Radish (*Raphanus sativus L.*) is a biennial plant belonging to the cabbage family. It was cultivated in Egypt, Greece and Rome 5 thousand years ago. Currently, it is cultivated in all countries of the world. In the first year, it forms a ball of leaves and a root crop consisting of dissected, hairy leaves. In the second year, after planting, it produces a flower stalk and blooms in 35-40 days. Flowering lasts up to a month. The flower cluster is paniculate. Cultivated radish easily crosses with radish and wild radish. Radish is grown only in open ground. Its seeds germinate at 2-4°C. It develops well at 13-20°C, and temperatures above 20°C negatively affect the growth of root crops. Radish is a heat-loving plant. If there is a lack of moisture, the root crop does not grow well. It contains an average of 1.92% protein, 1.58% sugar, 1.55% fiber, 8–29 mg of vitamin C and other vitamins. It improves metabolism and digestion. Radish is grown in the central regions of Uzbekistan in late July and early August, and in the southern regions in late August. In Uzbekistan, the Margilan and Andijan early-ripening varieties



of radish are included in the state register. The yield of the Margilan variety is up to 350-360 s/, and the Andijan variety is up to 480-500 s/.

The leaves of the radish plant are usually thrown away as waste, but they are a valuable raw material rich in biologically active substances. The leaves are green, have a sharp taste, and are considered to be the part of the plant with high photosynthetic activity. In folk medicine, radish leaves are used as a means of cleansing the body, anti-inflammatory, antibacterial and immunity-boosting.

Radish leaves contain organic acids, vitamins, minerals and phytochemical compounds. Radish leaves contain Vitamin C (ascorbic acid) 80–100 mg/%, a powerful antioxidant, increases immunity, reduces inflammation. Vitamin A (in the form of carotene) – 3–5 mg/100 g, improves vision and skin health. Vitamin K – normalizes blood clotting. Vitamin B group (B1, B2, B6, folate) – stimulates metabolism. Calcium (Ca) – ensures bone and tooth strength. Iron (Fe) – important for hemoglobin synthesis. Potassium (K) – supports heart function, reduces swelling. Flavonoids (quercetin, kaempferol) – have antioxidant, anti-inflammatory effects. Glucosinolates (sinigrin, raphanin) – have antibacterial and antitumor properties. Moisture content – 85–90%, proteins – 2.5–3.0%, carbohydrates – 3–5%, fibers – 1.5–2%.

In folk medicine, a warm decoction of radish peel is drunk for nervous tension, insomnia and stress. 1 tablespoon of crushed peel is added to 1 glass of water, boiled for 10 minutes and drunk in the evening. It dissolves subcutaneous fat. Radish peel and root waste contain a substance called sulforaphane, which slows down the growth of fat cells. Folic acid and iron in radish waste are important for women. Radish leaf decoction has been used to normalize the menstrual cycle, reduce anemia and restore energy. It is recommended to brew 1 teaspoon of dried leaves in 200 ml of boiling water and drink it once a day. Radish root and peel residues contain diuretic and stone-dissolving substances, a decoction made from these wastes reduces salt deposits in the kidneys and bladder. Natural fibers and glucosinolates in radish leaves restore intestinal microflora. In folk medicine, drinking a decoction of radish waste has been used for diarrhea, colitis, and intestinal gas.

In conclusion, it can be said that the peel and leaves of radish, which are discarded by humans, are rich in vitamins and minerals. The beneficial properties of radish waste are manifested due to the presence of natural, biologically active substances in their chemical composition. Therefore, if radish peel and leaves are not thrown away as waste, but are used wisely, they will help improve human health.



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