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# MICRO- AND MACRO ELEMENTS OF THE SHOOT PART OF OXYTROPIS ROSEA PLANT

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Plants are an inexhaustible source of natural compounds with a diverse chemical structure and high biological activity.

There are 606 species of the Oxytropis plant in the flora of the world. About 164 species grow in Central Asia, 28 in Uzbekistan, and about 15 species grow in the Fergana Valley.

About 127 substances have been isolated from *Oxytropis*, and these substances include: flavanoids, flavanones, chalcones, isoflavonones, gyroflavonones, alkaloids, saponins, lignans and other substances. Many plants are used in folk medicine to treat colds, skin swelling or ulcers, and various types of bleeding. In addition, it has been proven to be effective against swelling, inflammation, effects of the neuroendocrine system, and immune suppression.

According to the research of ecologists, in the former Soviet Union, in particular, Siberia is the center of origin and distribution of *Oxytropis* on a global scale. More than 90% of *oxytropis* can be found in this area, and 30% of the species are endemic. At the same time, China, especially the Qinghai-Tibet region and the Himalayas are centers of distribution of other species [1]. There are about 150 species in China, and more than 80 species are distributed in the northwestern and northern parts of Gansu, Qinghai, Tibet, Inner Mongolia, Ningxia, and Sichuan [2-3].

*Oxytropis* is mainly distributed in temperate climates with temperatures below 150C and rainfall less than 400 mm. Plants of the *Oxytropis* species are widespread and grow in marshes and among gravels as a well-adapted and thin-layered clump. Some *Oxytropis* can be used as animal feed, but most are classified as one of the harmful plants for livestock. At the same time, many plants are used as medicine for colds, skin swelling, and various types of bleeding. The research conducted by pharmacists on these plants shows the effects of anti-inflammatory antiseptics, excitability, and the immune system in the functioning of the nervous system [4].

Pharmacological studies on this plant have shown its antiseptic, anti-inflammatory, and neuroendocrine effects. Phytochemical studies have shown that alkaloids, flavonoids, saponins, lignans, volatile substances and polysaccharides can be isolated [5].

The purpose of this study is to study the elemental composition of the plant *Oxytropis rosea.* The research object was collected during the flowering period of the plant from the foothills of Kasansay district, Namangan region of the Republic of Uzbekistan.

First, the moisture in the stem of the plant *Oxytorpis rosea* was determined.

*Oxytorpis rosea* was found to contain 8.64% of water in the above-ground part of the plant.

Ash, like moisture, is an indicator that helps determine product quality. The ash content of the above-ground part of the *Oxytorpis rosea* plant was 10.6 percent. The composition of micro and macro elements of plant ash was determined in a high-efficiency energy dispersive X-ray fluorescence spectrometric device (Japan Rigaku NEX CG EDXRF Analyzer with Polarization in set – 9022 19 000 0) and the following results were obtained.

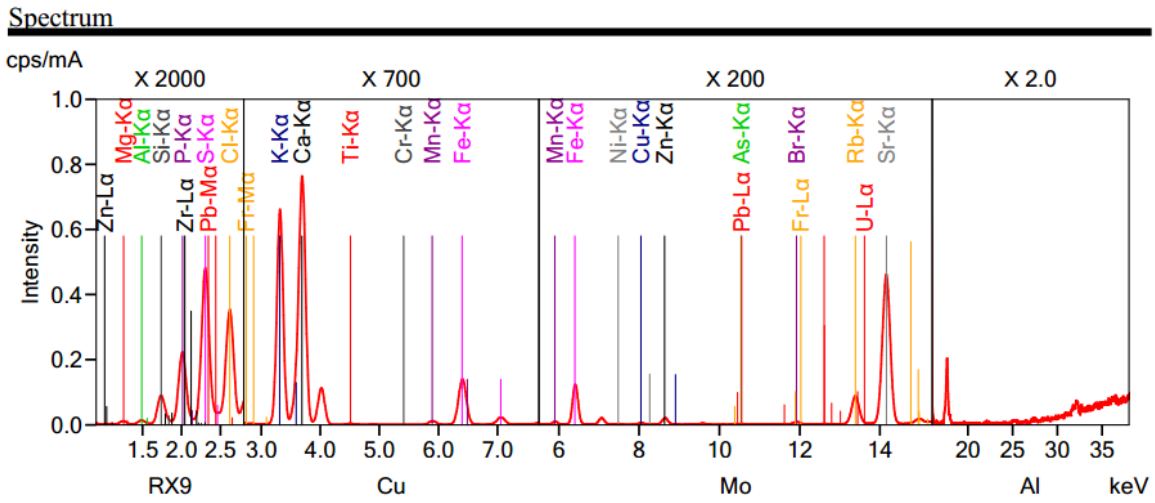


**Figure 1. Spectral appearance of shoot ash of *Oxytropis rosea* plant.**

The root of *Oxytropis rosea* is rich in micro- and macro elements and contains K (potassium) – 16.1%; P(phosphorus) – 2.12%; Si (silicon) – 2.70%; Ca (calcium) – 20.4%; Mg (magnesium) – 2.50 %. The mass fraction of its elements is high. Magnesium, calcium, potassium, silicon and phosphorus elements are vital elements. Magnesium element is especially important in internal cells. It participates in metabolic processes, acts as an activator for many enzymatic reactions together with potassium and calcium. These elements strengthen the body's immune system and have normalizing properties.

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