IN VITRO PROPAGATION OF ALLIUM KARATAVIENSE REGEL

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Abstract: *The study of medicinal and ornamental Allim carataviense Regel species, their morphology, geography and medicinal physiology and in vitro are reported.*

Key words: *Allium karataviense R., in vitro, organogenesis, culture.*

Allium karataviense R. is a plant belonging to the Amaryllidaceae family, distributed in Central Asia. It is commonly known as Turkestan onion or ornamental onion. It is native to Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Afghanistan) and is cultivated as an ornamental plant in other places. Allium carataviense R. is listed as Great Plant Picks. [1.4.7]

The study of wild onion species appeared in the III century BC, and the scientist who lived in that period named it Allium. According to the results of our research, it has been studied that there are 800 to 900 species in all regions except Australia. Therefore, it became known that perennial onion is of special importance as a food and decorative plant for humans. In our research, the ornamental onion Allium karataviense R. was studied. The study of wild onion species appeared in the III century BC, and the scientist who lived in that period named it Allium. According to the results of our research, it has been studied that there are 800 to 900 species in all regions except Australia. Therefore, it became known that perennial onion is of special importance as a food and decorative plant for humans. In our research, the ornamental onion Allium karataviense R. was studied. [2.5]

Allium carataviense Regel. usually known as a high decorative plant.

In its morphology, widely paired, green leaves are tinged with purple, especially below, star-shaped, pink-white flowers form round inflorescences. This species is rare and endemic. It is distributed in Tien-Shan and Pamir mountains. Germination rate and germination of unfit seeds. is of great importance in in vitro culture.

The aim of this study was to analyze the initial stages of Allium carataviense in vitro. The use of flower buds at different stages of development as a source of explants in in vitro culture was studied.

In this process, the material was alcohol sterilized with 0.2% mercuric chloride (HgCl2) for 7-9 minutes. Epidermal cells of primary shoots were washed 3 times with sterile distilled water. BDS medium supplemented with 2.0 mg l-1 BA (6-benzylaminopurine) and 2.0 mg l-1 NAA (α-naphthalene acetic acid) was inoculated onto

isolated shoots to induce bud break. was used. In order to study the initial stages of organogenesis, initial shoots were established at an interval of 1-3 days. This procedure was performed by Pausheva (1986) according to the method of standard cytological procedures.

The opening of flower buds was manifested on the 3-5th day during planting in the nutrient medium.

Morphological changes were observed in tissue proliferation at the base of buds. After two weeks of culture, histological markers showed early cellular changes. In the next 3 days. the histological analysis revealed the presence of small epidermal cells in the culture.

On the 3rd day of the growth process, epidermal cells of the filament undergo anticlinal divisions, and as a result of these cell divisions, new meristematic centers appear in the epidermis and form outgrowths on the surface of flower seedlings. [3.5.7]

The present study of morphogenesis from flower buds of Allium carataviense revealed that new buds emerged from epidermal layers of filaments in the field of in vitro culture.

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