

Intensive Growing Technology of Pomegranate Plants from Green Cuttings

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Annotation: The article is devoted to research growing process of pomegranate plants from green cuttings of several pomegranate varieties in Uzbekistan by experimental method.

Keywords: green cuttings of pomegranate, peat, biostimulants, solution, temperature, humidity, cuttings, leaves, callus, root.

INTRODUCTION.

Establishment of pomegranate farms in Fergana region of Uzbekistan and assistance to the private sector engaged in this activity, conducting research in cooperation with research institutes, cultivation of pomegranate plants and products based on innovative resource-saving technologies, integrated development of its processing, further raising of export potential, increasing the level of employment and income of population, in particular, establishing unified organizational system that provides a mechanism for creating new jobs in rural areas were aimed in the Decree of the Cabinet of Ministers adopted in October 4, 2018.

Pomegranate lives 100 years or more. Today, one of the important factors is to create modern pomegranate plantations and emphasis greatly on the intensive growing of seedlings of high-yielding varieties. It is necessary to pay more attention to the establishment of intensive plantgrowing, pomegranate plantations and the provision of pomegranate farms with quality pomegranate plants.

Literature review.

Fogel F.A. [5. Pages 7-9] noted that under the influence of growth-regulating active substances metabolism accelerates in plants, physicochemical metabolism happens in tissues, tissue activity increases, respiration and photosynthesis processes intensify. In cuttings treated with active substances, the flow of plastic substances into the root-forming part is increased and callus formation is accelerated.

Research methodology. The experiments were conducted in 2020-2021 on the experimental ground of the Extension Center of the Tashkent State Agrarian University in Qibray district of Tashkent region.

As an object of research, Bitter pomegranate, White pomegranate, Red pomegranate, Koziki pomegranate varieties growing in Uzbekistan and growth control substances were used. In each variant of the experiment, separate varieties were used. The experiment has repeated three times.

Variant 1 - Cuttings made of green twigs of bitter pomegranate;

Variant 2 - Cuttings made of green twigs of white grain pomegranate;

Variant 3 - Cuttings made of green twigs of red pomegranate;

Variant 4 - Cuttings made of green twigs of koziki pomegranate.

Research results: Pomegranate plants are grown mainly by root cuttings, cuttings and twigs. To grow pomegranate plants from green twigs, first of all, healthy, vigorous branches are selected. Branches selected from parts of mother plants are cut into green twigs 30-40 cm long by using a sharp cutter. Cuttings are made in the size of 10–12 cm in length. It was observed during the experiments that the closer joint of the prepared cuttings, the faster rooting and development of the cuttings. After cutting, the lower leaf is carefully cut with a band. The lower part of the removed twig with a leaf is cut at right angles. It should be care not to scratch the skin during cutting. At the top of the stem is left one leaf blade. This measure allows the cuttings to evaporate less water and be placed more densely when planting. Planting is done in the morning or evening to prevent the branches from drying out during the preparation, pruning and processing of the twigs, and bundle of twigs are placed in cold water.

The 40-80pieces bundle of cuttings prepared for sowing in order to rapid rooting are soaked in a special solution prepared for the experiment for 8-10 hours. (Epin) 1 ampoule is used to prepare concentrated solution in 5 liters of water. An ampoule have 40 drops. After that, the prepared cuttings are transplanted into cassettes filled with peat in the greenhouse. The interior of the greenhouse and the substrates are treated with a 2% solution of formalin for prophylaxis 8–10 days before planting cuttings.

Temperature and relative humidity in the greenhouse are important for the rapid rooting of cuttings. To provide a microclimate and feed the cuttings, it will be need a special device for spraying water. This device provides humidity and microclimate in the greenhouse. The device is automated what the cuttings are sprayed with water for 1 minute from the time of planting until the appearance of calos, in every 8-10 minutes. The timing of spraying is determined by the appearance of root callus on the cuttings and root development. Root callus appears on the cuttings in 8-10 days. First roots begin to develop in 18-22 days.





Conclusion and recommendations

1. In the phenological observation of the formation of kalos in lemon cuttings and the stages of development of the root system, the 20-22 °C air temperature in the building, 85-90% relative humidity and substrates for the development of roots are the most optimal.
2. Rapid rooting was observed in 0,7-0,8 cm cuttings made of twigs, mainly from the middle and lower parts of lemon trees.
3. The use of Epen and Energen growth regulators in cuttings showed positive results.
4. In a short time under the influence of growth regulators, rapid development of twigs and leaves in cuttings was observed.

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