

VEGETATIVE PROPAGATION OF ARTICHOKE PRICKLY (CYNARASCOLYMUSL.) BY CAUDEX IN CONDITIONS OF UZBEKISTAN

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Abstract. The article contains new information about vegetative propagation of artichoke by cuttings from its caudex, conducted at the Experimental Station of the Tashkent State Agrarian University. The results of vegetative propagation of artichoke prickly by the method of caudex particulation are given. It was ascertained acclimation rate of particulated caudices in open soil, without applying root formation stimulants.

Key words: Cynara scolymus L., vegetative propagation, plants aging, particulation, caudex.

Objective. To study the possibility of vegetative propagation of artichoke prickly by the method of caudex particulation. Vegetative propagation of plants is widely spread in nature and has big importance in plant growing practice and agriculture [1,2,5,6].

It provides complete transfer of inherited features of the variety or the form of propagated plant to the new generation. At the experimental plantation of the fourth year of growing artichoke prickly in the SRS of TSAU we paid attention to the fact that many plants at plantation began to particulate. It is one of the indications of plants' aging. Particulation, as a rule, is accompanied by caudex formation [3,4,5,6]. All particules have well developed caudex. It is the sum of perennial part of new shoot so far as creasing or der with great number of renewal buds, the part of those can be latent [3,6]. In considerable development of caudex it can be conducted dividing the plant into particules not only by bushes but caudex itself. This problem in literature in artichoke prickly has not been described and studied.

Methods of research. On April 28-29, 2014 80 four-year plants were dug up, separation and calculation of all developed caudices was made:

30 plants had one caudex, 46 - by two, 4 - by three caudices. Then caudex was length wise with acute knife, from above down, with required presence on each cut part (cutting) not less than 1-2 renewal buds and 1-2 lateral roots. Experiment on studying possibility of propagation of artichoke prickly by the method of caudex particulation were conducted without applying stimulants of growth. Caudices with capitulum in diameter of 6-7 cm were cut into 3-4 parts with length of 10-12 cm, diameter of 4-5 cm, cut into 2 parts with length of 6-8 cm. Parts of caudex (cuttings) cut length wise were immediately transplanted on before hand prepared place for growing: into vegetative vessels (40 pieces) by two cuttings into the vessel, with defined composition of soil according to the project. Other cuttings were transplanted into open soil, in beds of experimental lots of TSAU and TashPharmI. Transplanted cuttings were immediately watered from garden watering can, further, in open soil was conducted watering according to irrigation channel system. Spots with planted cuttings were plentifully mulched with garden humus.

Results of research. In planted cuttings, both in open soil and vegetative vessels renewal buds began to grow at 7-8 day after planting, simultaneously with formation of lateral additional roots. Calculation of acclimatized cuttings showed that cuttings taken from the plants with diameter of caudex capitulum more than 6-7 cm was 85 %, and in cuttings taken from the plants with diameter of capitulum of 4-5 cm was 65 %, and less than 3-4 cm in total 43 %. Latter, evidently is related to connection with large number of renewal buds and more developed cambium in cuttings taken from caudex of more than 6-7 cm in diameter. For June 25, 2015 in one plant planted into open soil, in average formed from 3 to 5 leaves with length of 35-40 cm. All plants grown from caudex particules began to blossom in May 2015.

Conclusion. 1. For the first time in Uzbekistan was studied the possibility of propagation artichoke prickly by the method of caudex particulation. 2. It was obtained high acclimation rate (85%) of caudex particules from plants having caudex capitulum of more than 6-7 cm. 3. This method of vegetative propagation of artichoke should be applied in plantations after the fourth year of their exploitation with the purpose of preservation of varietal qualities of grown artichoke plants.

References

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