

## Economic Efficiency of Growing Cherry Seedlings in Clone Grafts

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**Abstract:** *The article presents the results of the research conducted within the study of the economic efficiency of growing cherry seedlings in clone grafts. Also, the economic efficiency of grafting cherry Lapinz variety on Krimsky-5 (VSL-2) rootstock in a favorable period is defended in the article.*

**Keywords:** *clone graft, cherry seedling, pome fruits, green cuttings, disease, and pests.*

The efficiency of any measure used in the sustainable development of agricultural production, whether it is agrotechnical or organizational, depends on its final economic indicators. Determining the economic indicators of propagation of vegetatively propagated cherry cuttings from green cuttings was carried out in accordance with the generally accepted values in nursery farms of our republic.

In order to determine how much economic efficiency can be achieved when the time of grafting is optimized, we compared the option of grafting in the period when the shoots kept the best with the control - the generally accepted period (the last ten days of July for grain fruits). In this case, control - in the variant grafted in the period of 21-31/VII, the yield of I-type seedlings was 47,715 units per hectare, while in the variant grafted in the third ten days of August (11-20/VIII), our recommended period, that is, 59,644, and in the case of winter grafting It was 59,858 units.

We calculate the cost of growing this number of seedlings. The planting pattern of grafts planted per hectare is 71430 pieces when it is 70x20 cm, the cost of this graft is 500 soums, so the total cost of 71430 grafts is 35,715,000 soums.

The analysis of the costs of growing cherry seedlings showed that their total volume increased significantly due to additional work in the first and second fields of the nursery, as well as due to the costs of digging and sorting additional seedlings, which were obtained due to the large number of seedlings.

In the technological card introduced in the farms and scientific research institutions of our republic specializing in nursery farming, the main expenses include the costs of processing the first and second fields of the nursery in late autumn and early spring, digging seedlings and cuttings, replanting, combating diseases and pests in spring, fertilizing, and watering.

According to this technology card, 200,000 soums are expected to be spent on 100 liters of oil per hectare and two plantings between rows. If we take into account that the price of one liter of oil is 4800 soums according to the data of the Commodity Exchange [4], the total cost is 480000 for oil and 400000 soums for processing, totaling 880000 soums.

28,572,000 soums per hectare were spent on grafting (71,430 buds at 300 soums).



During the season, the seedlings were watered eight times and it cost 1,200,000 soums, and in early spring, two times in the fight against diseases and pests, the costs were 500,000 to 1 million soums. was soum.

According to the horticulture technology card, 60 kg of nitrogen, 30 kg of phosphorus and 20 kg of potassium salt are prescribed per hectare. According to the commodity exchange, nitrogen (ammonium sulfate) costs 4,150 soums, phosphorus (ammophos) costs 1,720 soums, and potassium chloride (Dehganabad potash plant UK) costs 1,630 soums. So, the total costs spent on grafting buds and growing ready-made seedlings are 39,876,500 soums (Table 1).

**Table 1 Economic efficiency of grafting Lapinz variety of cherry on Krimsky-5 (VSL-2) rootstock at a convenient time, soums/ha**

Production costs and economic indicators	Duration of graft		
	21-31/VII – control	11-20/VIII	winter grafting
<b>Costs:</b>			
Care of plants in fields 1 and 2 of the nursery	39876500	39876500	39876500
Digging and sorting seedlings	9543000	11928000	11972000
<b>Total cost</b>	49419500	51804500	51848500
Output of standard seedlings, units/ha	47715	59644	59858
Seedling cost, soums/piece	1035	868	866
Sale price of seedlings, soum	3500	3500	3500
Gross profit from the sale of seedlings	167002500	208754000	209503000
Net income, thousand soums	117583000	156949500	157654500
Profitability, %	237	303	304

The costs of digging and sorting ready seedlings in the control option amounted to 9,543,000 soums (a total of 47,715 seedlings were dug from 200 soums). The bud was grafted on time in the optimal period, and due to the large number of seedlings (59,644 and 59,858) in the experimental option when grafting was done in winter, the costs were slightly higher, i.e. 11,928,000 soums and 11,972,000 soums.

As can be seen from the table data, when grafting Lapinz cherry buds on Krimsky-5 (VSL-2) grafts in a favorable period (21-00/VIII and winter pen grafting in February) due to the high yield of seedlings, from the realization of such number of seedlings, 157,654,000 soums/ You can get a net profit of up to . In the control option (21-31/VII), this indicator was somewhat lower, that is, it was 117,583,000 soums/ha.

The cost of Lapinz cherry seedlings grown in the best option was 866 soums/piece. In the control option, this indicator was equal to 1035 soums/piece.

### Conclusions

It is clear from the analysis of the economic indicators presented above that carrying out grafting in a favorable period allows to significantly increase the yield of seedlings, and as a result, the yield of seedling production compared to grafting in the traditional period can be increased to 304%.

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