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## Economic efficiency of introduced peach varieties

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### Abstract

The article contains information on the productivity indicators of introduced peach varieties, cost per hectare, cost per hectare, net income per hectare, cost per quintal of product, profitability and economic evaluation. Melox-26, Melox-31, Melox-37, Netix-25, Netix-28, Netix-30, Netix-34, Redix-25, Redix-27, Redix-30, Redix- 2-110, Malix-25, Malix-36, introduced in the conditions of Guba-Khachmaz region It was carried out on Malix- 145, Guayox-30, Guayox-35, Gartairo, Gardeta peach varieties. The study envisages the study of agrobiological characteristics, development indicators and adaptation of these varieties to soil and climatic conditions of the region. In the study, the productivity indicators of the varieties were compared using the Fadai variety taken as a control variety. The cost of cultivating 1 ha of garden of introduced peach and nectarine varieties varied between 1868-1900 AZN, the cost of one quintal of product varied between 19.0-27.3 AZN. The yield on the research varieties ranged from 229 to 372%. From the varieties Netix-25 (348%), Redix-25 (339%), Netix-30 (330%), Melox-31 (372%), Guayox-35 (328%) and Gardeta (342%) control variety for yield It was significantly higher compared to Fadai (285%).

**Keywords:** Introduction, peach, nectarine, variety, net income, profitability, economic evaluation, Guba- Khachmaz economic region

### Introduction

Ensuring the dynamic development of fruit growing, increasing the interest of farmers and productivity per hectare, the main direction of growing fruit in accordance with market requirements is the study of new, more productive, profitable, disease and pest, as well as frost-resistant varieties of fruit crops. The study of these features facilitates the implementation of all necessary agro-technical measures to obtain a regular, abundant harvest. Low quality of fruits, non-production of varieties that meet the requirements of foreign markets, shortcomings in the period from production to consumption, are considered to be the main reasons for the lack of exports at the desired level [1, s.35]. For this reason, the creation and introduction of new fruit varieties that meet modern market requirements is an important issue. The study, increase of agrobiological properties of newly introduced peach varieties, their use in fruit growing and the acquisition of competitive varieties, their introduction to the world market is a very important issue today.

In the field of fruit growing, as in other agricultural sectors, one of the important conditions is to increase productivity per hectare and the resulting net income, profitability and high economic efficiency. To this end, many agricultural breeders, farmers and farm managers have for many years been able to obtain varieties that meet modern market requirements, have high agrobiological characteristics, are profitable and cost-effective, including planting schemes that increase productivity per hectare. worked on shaping and pruning methods. Thus, A.V. Provorchenko and Y.V. Kolcheva note the high yield of chlorophyll in the leaves of trees planted with 5 × 2.5m and 5 × 2m planting schemes and 7.3-8.4 kg of wood. According to its productivity, a higher yield was obtained from the garden planted with a 5 × 1.5 m planting scheme and using VVA-1 seedlings [4 p. 51, 3 p. 61].

A. Trofanyuk and L. Yershov (1974) confirm that the most ideal peach plant for light, aerated soils in the south of Ukraine are Poleskiy, Salvey and Zafran. As a result of the use of almond x peach hybrids, they noted the high development and productivity of peach varieties planted on these hybrids.

As a result of research conducted by N.Y. Smagin in 2007-2018, peach varieties with more high-quality and promising, productive, high-quality fruits - Medin Red, Early Blou, Redhaven, Larisa, Summerset, etc. selected varieties [6 p. 344].

A.J. Rajabli notes that 7 varieties of peach plants were studied and 5 varieties were selected from them. The fruits of the selected varieties ripened on August 24-25. In terms of productivity, Salami took the first place with a productivity of 30 kg/ha. In the book "Fruit plants of Azerbaijan" A.J. Rajabli gave the characteristics of widespread and promising varieties. These varieties include Salami, Amber, White Coy, Orange and others includes.

Cansu Dolek (2014) studied the effect of Sunfire nectarine variety on productivity and quality of pruning and breeding systems in greenhouses. The pomological features of the variety indicate that thinning of fruits, winter and summer pruning are carried out, and the conditions give the best results in each of the V and Y breeding systems.

Evaluation of orchards is calculated by some experts for fruit trees, while others include the assessment of soil characteristics of the area. Many experts estimate the productivity of orchards in terms of annual net income [2 p. 145]. Important varieties of fruit crops for industrial horticulture are selected as a result of a comprehensive assessment of key economic indicators. The study of economic and biological characteristics of the newly introduced peach varieties in the Guba-Khachmaz economic region has resulted in the selection of several varieties that are better adapted to the soil-climatic characteristics due to one or another feature.

### Materials and Methodology

The research work is carried out on 18 peach and nectarine varieties planted in a 5x3m sowing scheme in an area of 0.17 ha, introduced from Spain in the ETB named after Zardabi of MCHETI. Under observation Melox-26, Melox-31, Melox-37, Netix-25, Netix-28, Netix-30, Netix-34, Redix-25, Redix-27, Redix-30, Redix-2-110, Malix- 25, Malix-36, Malix-145, Guayox-30, Guayox-35, Gartairo, Gardeta varieties.

The research was carried out on the basis of "Program and methodology of fruit, berry and berry crops" (1999) [5]. The selection of the institute's "Fadai" variety was used as a control in the comparative study of the pomological characteristics of the varieties introduced in the research work.

### The purpose of the study

Study of agrobiological features of newly introduced peach varieties in Guba-Khachmaz region, as well as active development phases of varieties and selection of high-efficiency and productive varieties adapted to the soil and climatic conditions of the region.

### Experimental part

We have identified indicators of economic efficiency of newly introduced peach varieties, and these indicators are reflected in Table 1. The average productivity for the research years was 68.37-99.67 sen/ha. As can be seen from the table, Netix-25 (94.34 cent/ha), Redix-25 (92.35 cent/ha), Netix-30 (90, 35 cent/ha), Melox-31 (99.67 cent/ha), Guayox-35 (89.91 cent/ha) and Gardeta (93.01 cent/ha). The cost of 1 quintal of varieties selected for high productivity compared to Fadai (23.3 AZN) varieties Netix-25 (20.1 AZN), Redix-25 (20.4 AZN), Netix-30 (20.9 AZN), Melox-31 (19.0 AZN), Guayox-35 (21.0 AZN) and Gardeta (20.3 AZN) were relatively low (-2.3... -4.3 AZN).

The main indicators of economic efficiency are the net income and profitability of 1 hectare of peach orchard. It is clear from Table 1 that the level of profitability by varieties and the net income from 1 ha of garden are different. Compared to the control variety Fadai (5371 AZN), the net income from 1 ha of newly introduced varieties selected for their economic and biological characteristics is Netix-25 (6596 AZN), Redix-25 (6419 AZN), Netix-30 (6241 AZN), Melox- 31 (7070 AZN), Guayox-35 (6201 AZN) and Gardeta (6477 AZN).

The cost of cultivating 1 ha of garden of introduced peach and nectarine varieties varied between 1868-1900 AZN, the cost of one quintal of product varied between 19.0-27.3 AZN. The level of profitability of research varieties fluctuated between 229-372%. From the varieties Netix-25 (348%), Redix-25 (339%), Netix-30 (330%), Melox-31 (372%), Guayox-35 (328%) and Gardeta (342%) control variety for yield It was significantly higher compared to Fadai (285%). The lowest yield was recorded in Melox-26 with 229%, and the highest in Melox-31 with 372%. Based on the results of the research, economic evaluation of the varieties was conducted. Thus, the economic efficiency of research varieties varies between 80.4% -130.5%, compared to the Fadai (c) variety Netix-25 (22.1%), Redix-25 (18.9%), Netix-30 (15.7%), Melox-31 (30.5%), Guayox-35 (15.0%) and Gardeta (20.0%) varieties had relatively high economic efficiency, while other varieties were relatively low.

**Table 1:** Economic efficiency of introduced peach varieties

Variety	Productivity, cents/ha	Cost per hectare, AZN	The cost of the product per hectare, AZN	Net income from one hectare, AZN	The cost of one quintal of product, AZN	Profitability, %	Economic evaluation in comparison with varieties, %
1	2	3	4	5	6	7	8
Fadai (c)	80,58	1881	7252	5371	23,3	285	100
Melox-26	68,37	1868	6153	4285	27,3	229	80,4
Netix-25	94,34	1894	8490	6596	20,1	348	122,1
Redix-25	92,35	1892	8311	6419	20,4	339	118,9
Malix-25	75,70	1876	6813	4937	24,7	263	92,2
Redix-27	76,58	1877	6892	5015	24,5	267	93,6
Netix-28	77,25	1877	6952	5075	24,2	270	94,7
Netix-30	90,35	1890	8131	6241	20,9	330	115,7
Guayox-30	73,48	1873	6613	4740	25,4	253	88,7
Redix-30	69,26	1869	6233	4364	26,9	233	81,7
Malix-145	74,37	1874	6693	4819	25,1	257	90,2

Melox-31	99,67	1900	7973	7070	19,0	372	130,5
Melox-37	77,47	1878	6972	5094	24,2	271	95,0
Redix-2-110	73,03	1873	6572	4699	25,6	250	87,7
Netix-34	71,70	1872	6453	4581	26,1	244	85,6
Malix-36	73,48	1874	6613	4739	25,5	252	88,4
Guayox-35	89,91	1890	8091	6201	21,0	328	115,0
Gartairo	70,59	1871	6353	4482	26,5	239	84,7
Gardeta	93,01	1893	8370	6477	20,3	342	120,0

## Conclusion

The agrobiological characteristics of peach plant varieties introduced in Guba-Khachmaz region, as well as the study of economic efficiency indicators of varieties in 2018-2020 were identified in the research work:

1. Control over average productivity was relatively high in Netix-25, Redix-25, Netix-30, Melox-31, Guayox-35 and Gardeta varieties compared to Fadai variety;
2. The cost of 1 quintal of high-yielding varieties compared to Fadai (23.3 AZN) is Netix-25 (20.1 AZN), Redix-25 (20.4 AZN), Netix-30 (20.9 AZN), Melox -31 (19.0 AZN), Guayox-35 (21.0 AZN) and Gardeta (20.3 AZN) were relatively low (-2.3... -4.3 AZN) and yield growth was 9.3-13.8 center formed;
3. Net income from 1 ha of newly introduced varieties compared to Fadai variety (5371 AZN) is 6596 AZN in Netix-25 variety, 6419 AZN in Redix-25 variety, 6241 AZN in Netix-30 variety, 7070 AZN in Melox-31 variety, Guayox-35 variety 6201 AZN and Gardeta variety was 6477 AZN, depending on the varieties, the increase in net income varied between 830-1225 AZN, the highest rate was recorded in Netix-25 variety.
4. The cost of cultivating 1 hectare of introduced peach and nectarine varieties varied between 1868-1900 AZN and the cost of one quintal of product fluctuated between 19.0-27.3 AZN depending on the varieties.
5. The level of profitability in the varieties involved in the study varied between 229-372%. The highest level of profitability was introduced compared to the control variety Fadai (285%), Netix-25 (348%), Redix-25 (339%), Netix-30 (330%), Melox-31 (372%), Guayox-35 (328%) It was registered in and Gardeta (342%) varieties.

## References

1. Hasanov ZM, Aliyev JM - Fruit growing, Baku; c2011. p. 519.
2. Okan N. A Study on the Income Valuation of Peach Gardens in Selcuk District of Izmir / Nazli Okan Sait Engindeniz//Ege. Üniv. Ziraat. Fak. Derg. 2016:53(2):139-146. DOI: 10.20289 / zfdergi.388861
3. Provorchenko AV Productivity of peach trees on a clonal base BBA - 1 in dependence on the formation of crowns and planting schemes / Provorchenko AV, Kolcheva EV // Assessment and ways of realization of biological potential of garden plants in the south of Russia, Collection of scientific works. Krasnodar; c2015. p. 58-62.
4. Provorchenko AV. Photosynthetic activity of leaves and productivity of intensive plantings of peaches in clonal pods BBA-1 / Provorchenko AV, Kolcheva EV // Assessment and ways of realization of biological potential of garden plants in the south of Russia, Collection of scientific works. Krasnodar; c2015. p. 48-52.

5. Sedov EN, Ogoltsova TP. Program and methods of sorting of fruit, berry and nut crops, Publishing House of the All-Russian Research Institute of Fruit Breeding; c1999. p. 608.
6. Smagin NE. Analysis of the most productive varieties of peaches in the collection of Vniitsisk//Scientific support of sustainable development of fruit growing and ornamental horticulture Materials of the International Scientific-Practical Conference of September. 2014:23-V:342-345.