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Title: **QUALITY INDICATORS OF FRUIT OF PROMISING WALNUT FORMS IN WESTERN TIAN-SHAN REGIONS**

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Table-1
Evaluation scale for fruit dimension of walnut

№	Fruit size, mm			Points
	Length	Diameter along the ring	Side diameter	
1	Above 41,1	Above 34,1	Above 34,1	5
2	38,1-41,0	32,1-34,0	32,1-34,0	4
3	35,1-38,0	30,1-32,0	30,1-32,0	3
4	32,1-35,0	28,1-30,0	28,1-30,0	2
5	Up to 32,0	Up to 28,0	Up to 28,0	1

DETERMING FRUIT WEIGHT AND KERNEL YIELD OF PERSIAN WALNUT. After dimension determination of Persian walnut fruit in selected forms, measurements were carried out on the scale

to find the weight of 1 piece of walnut and kernel yield rate. Selected forms were evaluated with a 5-point scale on the base of obtained measuring results.

Table-2
The scale for evaluating fruit weight and kernel yield rate of one walnut

groups	Weight of 1 piece of walnut, g	point	groups	Kernel yield, %	point
Too small	6,1-8,0	1	With too much kernel	Above 56,0	5
Small	8,1-10,0	2	With much kernel	53,1-56,0	4
Medium	10,1-12,0	3	With medium kernel	49,1-53,0	3
large	12,1-14,0	4	With less kernel	45,1-49,0	2
Too large	Above 14,1	5	With too less kernel	Below 45,0	1

Based on the results obtained, the forms with 4 and 5 points on kernel yield can be recommended to production as promising forms

Results and Discussion

Walnut is naturally widespread in Central Asian countries and has already been cultivated by the local population. In the natural and cultivated forests of the walnut, it has produced different forms depending on the fruit shape and size. Therefore, they play an important role in the production of varieties as a huge selection area for choosing and breeding valuable forms. For this reason, the walnut gene pool

years [7].

At the Uzbek Research Institute of Forestry, many forms of walnut have been selected and studied [5,6].

The selection of promising forms was carried out on the selected forms from the existing walnut orchards in Bostanlyk and Parkent districts of Tashkent region.

As a result of the research, new plus trees were selected from the existing walnut orchards. Among these plus trees, 4 forms (Khumson-1, Khumson-2, Khumson-5, Parkent-2) were selected for evaluation.

Figure-1. Indicators of length and mean diameter of selected walnut forms, mm

When the fruit sizes of the selected forms were analyzed, their length was 32–35mm, and it was $32 \pm 0,10$ mm (1 point) in the form Khumson-5, $34 \pm 0,12$ mm (2 points) in the form Khumson-1, in the remaining forms (Khumson-5 and Parkent-2) the indicator was $35 \pm 0,06$ mm (3 points). Based on these indicators of the fruits of the selected forms, we can see that they have a round appearance. Indicators of mean diameter of walnut fruit constituted 29–31 mm, particularly, in Khumson-1 form it

was $29 \pm 0,02$ (2 point), in Khumson-2, Khumson-5 forms $30 \pm 0,07$ mm (3 point) and in Parkent-2 form $31 \pm 0,04$ mm (3 point) (fig-1). When the indicators of these forms are compared to the varieties Sadko, Yakisniy-1, Porig, Suzirya, Petlura and Shukhevich [12] grown in the Ukraine (fruit length 35 mm, mean diameter 30 mm) the fruit length and mean diameter of the forms Parkent-2 and Khumson-5 can be noted to be good enough.

Figure-2. The weight of 1 piece of walnut and its kernel in the selected forms, g

When the fruit weight of selected forms was analyzed, Khumson-1 and Khumson-2 forms performed higher indicators on this regard compared to other forms (fruit weight 9,4-9,7 gr). Their fruit weight indicators were noted to be 1,1-1,17 times higher than other selected forms. Selected forms Khumson-5 and Parkent-2

had the lowest indicators by their fruit weight, 8,3-8,8 gr. It means their selection point is equal to 2 point. By kernel weight, the indicators of the forms made 4,7-6,3 gr. If the nut weight of the varieties grown in the Ukraine made 11,01 g, and kernel weight 5,4 g, the kernel yield of selected forms are found out to be better enough.

Figure-3. Kernel yield rate of Persian walnut selected forms, %

Due to the high biodiversity in walnut orchards, it is necessary to study and then to select promising forms. One of the main indicators in the selection of nut forms is the yielding rate of walnut kernels. In terms of the yield of walnut kernels, it is very important to choose forms with a value higher than 56,0%. When analyzing all the selected forms indicators by kernel, the indicators of the selected forms from the Tashkent oasis ranged from 58,0% to 63,3%. The forms being grown in Tashkent oasis Khumson-5 and Parkent-2 showed $58,0 \pm 1,40$ and $63,3 \pm 1,53$ results by kernel yield. Considering that the rate of varieties in the Ukraine in terms of kernel yield is

49%, these forms (Khumson-5 and Parkent-2) can be studied as a promising form due to the high kernel yield rate (56,0 and above).

Conclusion

Biodiversity is very high in natural nut forests of our republic, and it is very important to choose the most valuable forms among them. Like in other species, the selection of promising forms of walnut requires an assessment of the yield of walnut kernels. In this regard, Khumson-5 ($58,0 \pm 1,40$) and Parkent-2 ($63,3 \pm 1,53$) forms with 5 point indicator (56,0% and above) can be recommended to production as a promising form.

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