

Study of the Productivity of Varietal Mulberry with Double Exploitation in the Conditions of the Syrdarya Region

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Annotation: In the conditions of the Syrdarya region, with double exploitation, the varietal mulberry yields from 74 to 110.6 centners of leaf per hectare, i.e. almost 1.5 times more than with single exploitation. The highest yield is characterized by variety No. 5-02 (110.6 centners / ha), yielding 26.1% more than in the control Tajik seedless.

Based on a three-year study of leaf formation of various combinations of mulberry with double exploitation, it can be concluded that fodder plantations on newly developed gray soils of the Syrdarya region should be laid with varietal mulberry No. 5-02.

Keywords: variety, selection, shoot, leaf, yield, combination, feeding, double exploitation.

There are wide opportunities for the development of sericulture in the Syrdarya region. We tested a series of mulberry varieties to select the best ones for cultivation on saline soils. The experiment was conducted on a farm in the Syrdarya district on newly developed lands. The soil composition is typical gray soil with a chloride-sulfite type of medium salinity. The experimental material was promising mulberry varieties. Zhararyk-9, No. 4-02, No. 5-02, Zhararyk 10, Tajik seedless.

The plantation was established in 2006 according to the 4x0.5 m scheme. In 2013-2015, two-fold exploitation was carried out annually: in the spring - complete cutting of branches for mid-spring feeding and in the fall - cutting of 1/3 of the shoot length.

During the spring exploitation, the size, weight and number of leaves were determined on the growth shoots of the main branches. 100 leaves were measured (25 four-fold replication). The area of each leaf was determined based on the length, width and constant coefficient.

On the growth shoots of the tested varieties, 9-11 leaves were counted (in the control - 12). In terms of the number of leaves on one growth shoot, all varietal combinations are inferior to the control - the Tajik seedless variety - by 8.2-24.6%. In terms of the weight of one leaf in spring, two varieties stand out: No. 5-02 (2.64 g) Zhararyk-10 (2.32 g), exceeding the control by 7.9-22.8%. Varieties Zhararyk-9 and No. 4-02 are inferior to the control in terms of spring leaf weight. Summer leaves of four combinations have a weight of 2.89-3.54 g, i.e. 10.7-35.6% more than in the control (2.61). The plants of varietal combinations No. 5-02 (3.54 g) and No. 4-02 (3.51 g) are characterized by the largest weight of one leaf in summer. In terms of the area of one leaf in the spring growing season, two varieties Zhararyk-10 and No. 5-02 exceed the control by 4.6-11.3% (Table 1).

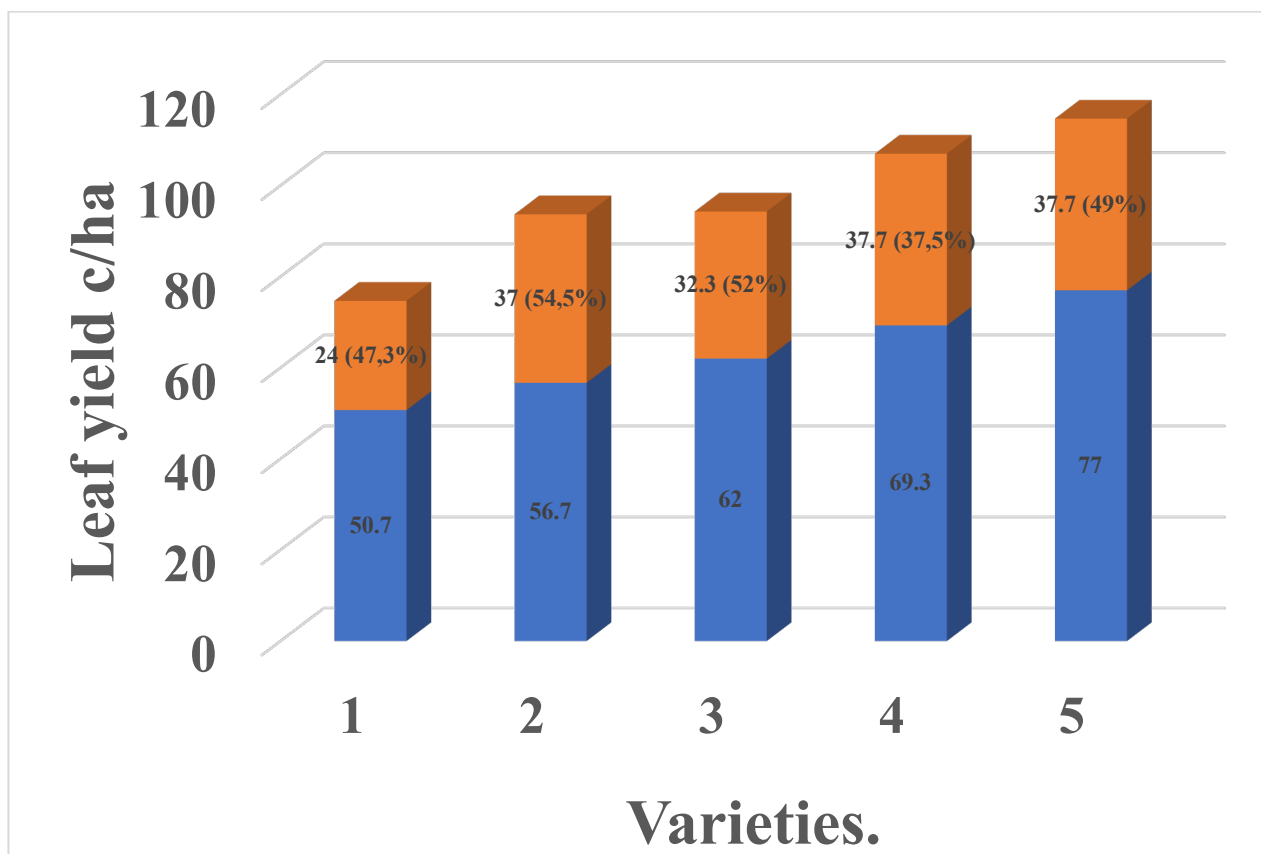
The area of summer leaves is 102.7-140.3 cm², i.e. 3.2-41.0% more than in the control. The largest leaf area is observed in plants of the varietal combinations No. 5-02 (140.3 cm²) and Zhararyk-10 (130.2 cm). It exceeds the control by 30-8-41.0%. Thus, in terms of weight and area of one leaf in spring and summer, mulberry varieties No. 5-02 and Zhararyk-10 stand out.

Table 1. Leaf area in mulberry cultivars

Selective varieties	Spring		Summer	
	cm ²	% to control	cm ²	% to control
Zhararyk -9	76,5±2,5	88,43	102,7±6,1	103,21
№4-02	70,0±4,0	80,92	126,1±7,1	126,73
№5-02	90,5±3,0	104,62	140,3±8,9	141,00
Zhararyk -10	96,3±6,5	111,32	130±9,0	130,85
Tajik seedless (control)	86,5±5,5	100,0	99,5±11,5	100,0

Table 2

Selective varieties	Leaf yield, c/ha			
	in spring	in autumn	Total	% to control
Zhararyk -9	50,66	24,0	74,0	84,4
№4-02	69,32	26,0	95,3	108,6
№5-02	77,0	37,70	110,6	126,1
Zhararyk -10	62,0	32,3	94,3	107,5
Tajik seedless (control)	56,7	36,0	87,7	



Ratio (c/ha) of spring (lower rectangle) and autumn (upper rectangle) leaf yield with double exploitation in the conditions of the Syrdarya region for mulberry varieties 1.-Zhararyk-9; 2.-Tajik seedless (control); 3.-No. 4-02; 4.-Zhararyk-10; 5.-No. 5-02.

In spring (May 8-10) and autumn (September 25-30), the leaf yield of these varieties was taken into account.

During spring exploitation, 1.52-2.31 kg of leaf were obtained from one bush, the leaf yield was 33.8-40.18 %, in the control - 1.7 kg and 31.8 %, respectively, during autumn - 0.72-1.13 kg and 55.1-63.2 %, respectively (in the control 0.93 kg and 58.99%). Comparative yield of varietal mulberry during double exploitation is given in Table 2.

The leaf yield from 1 ha of a widely inter-row plantation, depending on the varietal combination, varies in spring from 50.7 to 77.0 c/ha, in autumn from 24 to 37.7 c. in autumn with repeated exploitation by cutting off 1/3 of the shoot length, a yield of 37.5-54.6% of the spring yield was obtained (Figure). Thus, in the conditions of the Syrdarya region, with double exploitation, the varietal mulberry yields from 74 to 110.6 centners of leaves per hectare, i.e. almost 1.5 times more than with a single exploitation.

The highest yield is characteristic of varietal mulberry No. 5-02 (110.6 centners/ha), yielding 26.1 % more than in the control Tajik seedless.

Based on a three-year study of leaf formation of various mulberry combinations with double exploitation, it can be concluded that fodder plantations on newly developed sierozem soils of the Syrdarya region should be laid with varietal mulberry No. 5-02.

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