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METHODS OF USING AND DETERMINING THE YIELD OF MULBERRY LEAVES

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Annatatsiya
Baland tanali tutlarning oralig'i 4 m. bo'lsa, buta tutlarning oralig'i 0,5 m qator oralig'i ikkilasiniki ham bir xil. Yuqorida aytilgandan tashqari baland tanali tutlar sovuqqa va kasallikga chidamli, hamda uzoq yashaydi. 60 - 70 yil yaxshi parvarish qilinib, bargidan to'g'ri foydalanilsa ko'proq ham yashashi mumkin. Buta tutzor 25 - 30 yildan qarib hosildan qoladi.

АННАТАЦИЯ
Высота высокорослых ягод шелковицы 4 м. расстояние между кустами 0,5 м и междурядье одинаковое у обоих. Помимо вышеперечисленного, шелковица высокорослая устойчива к холодам и болезням, а также долгожительна. При правильном уходе и правильном использовании он может прожить от 60 до 70 лет. Тутовый куст собирают через 25-30 лет.

Annotation
The height of tall mulberries is 4 m. the distance between the bushes is 0.5 m and the row spacing is the same for both. In addition to the above, tall-bodied mulberries are resistant to cold and disease, as well as long-lived. It can live for 60 to 70 years if it is well cared for and used properly. The mulberry bush will be harvested in 25-30 years.

Keywords: Mulberry seeds, mulberry seedlings, mulberry seedlings, mulberry tree, mulberry leaves.

Introduction

Just as tall and bushy mulberries are planted, they also differ in the year of their first use, leaf yield, and lifespan. Tall mulberries are first planted 4 to 5 years after planting in a permanent place, and if their leaves are used, shrub mulberries after 2 or 3 years. Leaf yields per hectare are also several times higher in shrub mulberries, but the nutrient quality of the leaves is better in high-body mulberries because of the light and air compared to mulberry shrubs.

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The leaves of tall-bodied mulberries are 0.83 t when first used; 3.0 t in the bush mulberry, in the fifth year in the tall trunk - 3.32 t; in the bush mulberry - 7.0 t. In both cases, the leaf yield increases from year to year. However, the leaf yield of shrub mulberry begins to decrease after 13-14 years, and in tall mulberry trees it decreases after 30-35 years.

Used properly, mulberry leaves have a long shelf life and high yields and quality. What is meant by proper use is that mulberries should be pruned, regardless of whether they are planted tall or low, in which year their leaves should be used.

Mulberry seedlings are grown in tall mulberry trees for 3-4 years and mulberry bushes for 2 years. Use of mulberry leaf in feeding silkworms. The fact that the silkworm feeds only on mulberry leaves differs from other trees in that this mulberry leaf is very rare and valuable. However, because mulberry branches are cut every year, they need to use a special agronomic method.

Depending on the age of the silkworm, the timing, methods and care of mulberry twigs, depending on the age of the silkworm and the number of repeated worms in a season, the necessary work should be done.

Depending on the age of the silkworm, mulberry leaf consumption is different for a box of worms: 1 - 6 - 8 kg at the age of 2, 20 - 22 kg at the age of 2, 65 - 70 kg at the age of 3, 165 - 175 kg at the age of 4, 5 - At the age of 750 - 800 kg of leaves are consumed. The use of mulberry leaves to feed silkworms is a prerequisite for the longevity and healthy growth of mulberry varieties and mulberry varieties. is achieved through cultivation. The first use of planted mulberry leaves. The number of years in which mulberry twigs are cut for the first time after the establishment of a mulberry tree is determined primarily by the climatic conditions of each geographical region, the type of mulberry, the method of growing seedlings and the level of mulberry care.

The majority of the food base of silkworms in Central Asia, including the Republic of Uzbekistan (87 %) consists of local hybrids, 10% Khasak mulberry and 2.2% navdar mulberry. Currently, only 3.26 % of mulberry seedlings in the region are cultivated.

It can be seen that in almost 97% of farms in Uzbekistan, food mulberries are hybrids and Khasak mulberries. The leaves of such mulberries should be used 1-2 years later than those of cultivated mulberries.

To bring the mulberry to this level, it is necessary to take care of the mulberry trees planted in rows for 3-4 years and the bush mulberry trees for 1-2 years. In general, before the branches of mulberry trees or shrubs are cut for the first time, their root system should be well developed and the branches should grow vigorously. To bring the mulberry to this level, it is necessary to take care of the mulberry trees planted in rows for 3-4 years and the bush mulberry trees for 1-2 years. If mulberry seedlings are formed by grafting and cuttings, it will take 3 years for tall trees and 1-2 years for mulberry bushes.

In particular, the rapid maturation of mulberries depends on the level of agro-techniques used in mulberry cultivation. In addition, in the southern hot and partly temperate regions of Uzbekistan, mulberries are harvested faster than in the northern regions. If mulberry branches are cut after this period, fewer leaves will be obtained from the trees in the first year of use, as the tree will branch in several order as it begins to grow. The more branches a tree has, the smaller the leaves. For example, when the leafy branches of the bush mulberry were first cut for worm feeding (in the second growing year), the leaf yield from one bush was 0.56 kg, in the third year - 1.20 kg, and in the fourth year - 0.93 kg. Yields in the second and fourth years were 2.1 and 1.3 times lower than in the third year.

Shrub mulberry seedlings made of hybrid seeds give the best results after the third year after planting, grafted and cuttings propagated by seedlings in the second year, and tall trees in the fourth and fifth years.

Shrubs are a quick way to grow mulberry leaves, and silkworms play an important role in building a food base in a short period of time. Site selection and preparation for planting mulberry bushes will be similar to that of tall mulberry trees.

Currently, 98% of hybrid seedlings and saplings are planted on shrubs. Mulberry bushes are planted with one-and-a-half-year-old hybrid seedlings of high-yielding varieties or substandard hybrid seedlings. In order for the mulberry bushes to bear fruit quickly and produce abundant leaves, it is advisable to arrange them with seedlings grafted with regionalized varieties and directly cut rings.

It is advisable to plant annual crops (cotton, potatoes, beets, etc.) that are suitable for mulberry cultivation and mulberry between rows. Narrow-row shrubs are planted in the first 1-2 years of growth, and between broad-leaved shrubs every year.

Table 1 Placement of mulberry bushes and number of seedlings per 1 ha of land

Shrub mulberry species	The scheme of planting mulberries, in terms of m	Number of seedlings per 1, in units	Recommended year	Recommended by
Narrow line -“- -“- -“- Broad line -“-	 1x0,5 3x0,5 2,5x0,5 6x0,5 9x0,5	5000 6666 8000 3333 2222	1928 1928 1979 1952 1957	SANIISH-14 -“- -“- M.Bigashev U.Abdullaev

If the bush is grown from cuttings or grafted seedlings, the leaves are used to feed the worms in the second year, and the leaves of the hybrid seedlings are used in the third or fourth year of growth. In each of them, 3 or 4 twigs are cut, leaving 0.5 m long from the ground, and at the same time the twigs coming out from the bottom and sides of these twigs are also cut. In the following years, the newly emerging annual branches of the bush mulberry are cut with a fist (head) for silkworms. Annual intercropping of intercropped mulberry bushes yields a rich harvest of both mulberry and intermediate crops as a result of agro-technical measures taken for planting and caring for intermediate crops. Due to the widespread use of mechanization in the care of mulberries, very little manual labor is required. Improvements in agronomic

techniques for growing mulberries from cuttings, the establishment of special native mulberry groves and the development of ringing techniques since the 1960s have introduced this method into production, making it possible to build direct mulberry groves.

Branches of seedlings planted in broad-leaved mulberry bushes are cut in early spring, leaving 5 - 6 cm long. The leaves of these mulberries are used to feed spring worms in the 2nd or 3rd year of growth. The branches are cut to fit the body left in the first year. In subsequent years, the branches are cut in the same way. This allows the mulberry tree to grow abundantly and to work between rows with tractor units. Trees that grow on tall trees and shrubs have their own advantages and disadvantages.

High-bodied mulberries are distinguished by their longevity (up to 60-70 years), the possibility of double-sided processing with the help of mechanisms between the rows, the fact that the body is tall, not damaged by cattle, resistant to cold and disease. But they come into fruition in the fifth or sixth year after planting, making it very difficult to cut the branches and fight diseases and pests. Shrub mulberries are fast-growing (2-3 years). The first 5 to 6 years produce 2 to 3 times more leaves than tall trees. The advantage of short mulberries is the ability to make full use of the mechanisms for cutting branches and control of diseases and pests.

Therefore, the expansion of shrub mulberries plays an important role in strengthening the silkworm food base. When these varieties of mulberries are grown from grafted seedlings and especially cuttings of deciduous mulberries, their leaves can be fed to worms in the second year of growth.

Experiments show that when the cuttings were planted in a 4 x 0.5 m scheme, the mulberry germination rate was 70-95% depending on the navigation. Their leaves were used during the second growing season. For this purpose, 3-4 tons of mulberry leaves per hectare and 12-14 tons of leaves for the second time (third growing year). Thus, mulberry seedlings are harvested 2 years earlier than when the seeds were grown, the cost of mulberry is almost 2 times lower, and the leaf yield is 3-4 times higher.

The cultivation of fodder mulberries in the form of shrubs has more advantages, due to the short-term increase of the silkworm food base and regular planting of intermediate plants between rows, especially broad-leaved mulberry bushes consisting of varietal mulberries. The leaves can be grown at a price. This will increase the profitability of the silk industry.

Since the system and technique of using mulberry leaves requires the transition of silkworm breeding to an industrial basis, the development of its food base on the basis of accelerated technology, taking into account the feeding of worms several times a season, the worms need to provide adequate quality leaves. To do this, it is necessary to spend less labor, to grow more nutritious leaves, to take measures to ripen mulberry branches during the season, to ensure that they survive the autumn-winter frosts.

The system of mulberry tree leaf use includes the age of the silkworm, the timing, methods and techniques of pruning mulberry twigs, depending on the number of times the worms are fed per season, as well as the care of mulberry trees.

Repeated feeding of worms is carried out in summer and early autumn, during which time the weather is warm and the moisture and nutrients in the leaves are slightly lower than in spring. It is also important to keep in mind that repeated feeding of worms should never reduce the

amount of nutrients needed to feed the main worm in the coming spring. Proper organization of re-worm feeding requires the availability of separate mulberry bushes for each worm-feeding period or the judicious use of mulberry leaves.

In the context of Central Asia, the most acceptable of these methods is G. Bobojonov. In this method, for spring worms, all the branches are cut close to the head, and in repeated feeding, the upper third or fourth of the newly sprouted branches are cut after the spring worm has been cut. Even if some of the branches are left uncut, they can be hit by the winter cold, and when cut, the mulberry leaves are used to the full.

When this method is used for repeated feeding of worms, the worm's demand for leaves is fully met. This is because the leaves at the top of the twig have enough moisture, protein and other nutrients. At the same time, tall mulberry trees or shrubs always have a deciduous branch during the summer growing season, which ensures that the tree grows well and gives abundant leaves in the coming years.

Trees that have had their upper branches cut off by summer worms will produce more leaves. To use the above methods for repeated worm feeding, mulberry trees should be fertilized 1.5 times more than intended to continuously increase leaf yield. All pure phosphorus fertilizer per hectare (90 kg) and 120 kg of nitrogen should be applied in early spring, and the remaining 60 kg of nitrogen should be applied 15-20 days before pruning the branches. Manure is applied in the fall before plowing between rows (10-15 t). At the same time mulberry should be watered 1 time - April 1 - May, June 2 - July, August - 2 times, and between rows of mulberry should be watered continuously during the growing season.

It is very inconvenient to feed worms in the summer, when the weather is very hot and the humidity is low. Although it is more convenient to feed the worms in the fall, the leaves also lose moisture, protein and other nutrients. To normalize this, before feeding the worms, it is recommended to water and process the mulberry 1-2 times and use the leaves of mulberry bushes that grow as well as possible.

Table 2 Changes in the yield of hybrid shrub mulberry depending on the method of using the leaves for feeding worms

Methods of using the leaves	Leaf yield over the years					In relation to control, in %
	1st year	2 nd year	3rd year	In total 3 years	Average 1 year	
When the twigs are cut around the body for the blue worm (control)	39,0	49,6	4,5	143	47	100,0
In spring, as above, and in summer, 20% of the branches are cut from the bottom	42,0	55,0	2,0	169	56	119,1
In the spring, as above, and in July, when the upper 1/3 of the branches are cut	44,0	59,0	8,0	171	57	121,3
n the spring, as above, and in August, when the upper 1/3 of the branches are cut	53,0	61,7	9,0	194	66	140,4
In the spring, as above, and in the summer when the branches are cut with the support	51,0	63,4	6,0	190	63	134

From the data in this table it can be seen that mulberry twigs are used twice a season, in the spring by covering the head and in late summer or early autumn by cutting the upper 1/2 or 1/3 of the leafy twigs. was almost twice (192 -202%) more than the one-time control. When mulberry leaves were cut in early summer (June) and mid-autumn (September), the yield doubled. Cutting the branches changes the nutritional quality of the leaves.

Table 3 Increased yield due to double use of mulberry leaves during the season (Tajikistan seedless mulberry variety)

Methods of using the leaves depending on the period of feeding worms	Leaf yield, ha / ts			In total, in 1 year	
	In the spring	In the summer	In the fall	ts	Nazoratga nisbatan, %
1. In mid-spring (May 3) on the head and in late summer (August) when the upper ½ part of the branches is cut.	54	00	-	54	192
2. In late spring (May 15) the head is covered and in early autumn (September) the upper 1/3 of the branches are cut.	82	-	0	2	202
3. In early summer (June) on the head and in mid-autumn (September) when the branches are cut with a support of 30 cm	-	7	0	7	197
Once in the middle of spring (May 3) when the head is cut (control)	80	-	-	0	100

The table shows that when mulberry leaves are used once a season in spring control, twice in spring and summer or autumn, they are almost indistinguishable in terms of moisture and protein content in the leaves. During the summer and autumn feeding of worms, the high content of nutrients in the leaves depends on the methods of their use, the amount of fertilizers and the timing of their application.

Depending on the amount of mulberry leaves used and the long and short pruning of the branches, mulberry fertilizers are applied in three periods at the rate of 120-240 kg of pure nitrogen per hectare, 60-90 kg of phosphorus and 30-45 kg of potassium fertilizers per hectare. before cutting the twigs in the clam, the twigs are given after the spring worm is cut and 25 - 30 days before feeding the summer-autumn worm. Using the above methods, it is possible to use mulberry leaves 6 times a year, including twice in spring, summer and autumn.

When the worms graze in the spring, the twigs are tied to the head, and in summer 20% of the small twigs are cut from the bottom, and in autumn the upper third of all twigs are cut.

Experiments have shown that worms fed on the leaves of Summer x Pioneer hybrid mulberry gave good results among several hybrid mulberries during the summer-autumn worm feeding season. Summer x Pioneer hybrid mulberry leaf with mulberry summer-autumn complex (Tashkent - 10 x Tashkent - l1, Soviet 5 x SANIISH 21) tetrahybrid and SANIISH 9, Tashkent-2 hybrid worms cocoon for control (SANIISH 15 x Pioneer) The yield was 13% more and of better quality.

Summer x Pioneer hybrids differ from other mulberries in that their leaves are slow-growing, soft, rich in nutrients, and less susceptible to unshudring disease in summer and autumn. Therefore, this hybrid mulberry is recom mended to feed summer - autumn worms.

Table 4 Changes in moisture and protein content of leaves (in%) when mulberry branches are cut twice a season (spring, summer and autumn)

Methods of using the leaves	In the spring		In the summer		In the fall	
	Total humidity	Crude protein	Total humidity	Crude protein	Total humidity	Crude protein
1. In spring, when the branches are attached to the body, and in early summer the upper part of the branches is cut off.	76,0	22,8	70,7	21,3	-	-
2. When the upper part of the branches is cut in the spring and in early autumn	74,9	22,4	-	-	69,6	21,6
3. In mid-summer, when the branches are cut on the head and in mid-autumn, leaving a 30 cm support	-	-	2,6	21,7	72,6	20,7
4. Ko'klamda bir marta kallakka taqab kesilganda (nazorat)	74,4	20,8	-	-	-	-

In short, when the above methods are used for feeding worms many times (spring, summer and autumn), mulberry trees grow normally during the growing season and the leaf yield increases steadily in the following years. At the same time, re-worm-fed mulberries should be composed of deciduous and hybrid mulberries that meet the requirements of the worm.

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