

Varieties of Mulberries Imported From Foreign Countries and Their Description

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Abstract: The further development of one of the important sectors of agriculture in Uzbekistan, sericulture, requires continuous strengthening of its food base.

When the mulberry tree is planted in a mix with other trees, it acts as a shelter base and protects the crops from the effects of heat and cold winds. The leaves of the planted mulberries of this type can be partially used as food for silkworms, and seeds can be taken from the fruits and seedlings can be grown. On the other hand, mulberry trees and other surrounding trees are very important in reducing the level of flood waters, improving land reclamation, and against salinity and waterlogging.

Key words: Varieties imported from Japan M.Bombycis, M.alba, M.multicalis, M.Kagayamae, M.acidosa, M.bombucis gxM. Bombucis, M. alba x M.bombucis, SANIISH-6 varieties of Uzbekistan.

Introduction

At present, life itself confirms that farms are the most effective form of organizing the production of agricultural products. Therefore, the further development of one of the important sectors of agriculture in Uzbekistan, sericulture, requires continuous strengthening of its food base.

Therefore, the most economically important part of the mulberry tree is the leaf, which is the only food of the silkworm. Mulberry leaf contains nutrients such as sugar, protein, fat, water, enzymes and various vitamins that fully meet the needs of the silkworm.

As soon as the silkworm seed comes to life, it feeds on the mulberry leaf and eventually spins a cocoon.

In fact, the more mulberry leaves there are, the more worms can be fed and the more cocoons can be produced. Accordingly, the main factors of strengthening and improving the cocooning food base in farmers and sericulture farms of our Republic are as follows: expansion of farms; transplanting mulberry seedlings to the edges of fields, roadsides, ditches; reducing the cost of mulberry leaves based on the rational use of organic and mineral fertilizers and mechanization to increase leaf yield due to their good care; organization of mulberry plantations from fertile seedlings grown by cuttings and grafting of mulberry trees is of great importance in improving the quality of leaves. In particular, the natural climate and soil conditions of Uzbekistan are favorable in all respects for the development of the cocooning feed base, which requires proper planning of the mulberry varieties.

In addition, when the mulberry tree is planted mixed with other trees, it acts as a shelter base and protects the crops from the effects of heat and cold winds. The leaves of the planted mulberries of this type can be partially used as food for silkworms, and seeds can be taken from the fruits and seedlings can be grown. On the other hand, mulberry trees and other surrounding trees are very important in reducing the level of flood waters, improving land reclamation, and against salinity and waterlogging.

Imported mulberry varieties play an important role in mulberry breeding. In 1930-1931, 33 varieties of the 5th type of mulberry trees were brought from Japan to Uzbekistan. These varieties play an important role in the development of selection work.

The names of mulberries imported from Japan and the cultivars grown from them are listed in Table 1.

Table 1

Species introduced from Japan and varieties grown from them

Species	Grown varieties
M.Bombycis	Akachi, Tsiruda, Murasaki-Wase,

	Kairio-wase, etc
M.alba	Nezumi-gaesi, Kairio-nezumi
M.multicalis	Kasuga, raso, siziso, fisamaru
M.Kagayamae	Kinriu
M.acidosa	Simaguwa Kokuso #13
M.bombucis gxM. Bombucis	Kokuso #70
M.alba x M.bombucis	Infey

Among the 33 varieties imported from Japan, Kokuso No. 13, Kokuso No. 70, Shiozso and Fisamaru are selected as elite varieties for use in production. The leaf yield differences of these cultivars with respect to Khasak mulberry are shown in Table 2 below.

Table 2

Differences in leaf yield in different mulberry varieties compared to Khasak mulberry (in %)

Varieties	Leaf yield,%
Khasak	100,0
Kokuso #13	220,6
Nezumi-Gaesi	249,7
Kokuso #70	248,0
Siosis	236,5
Fusomaru	261,0

However, the varieties imported from Japan also had a downside. Observations conducted at the Jarariq collection site of UzIScR showed that they are absolutely resistant to cold, when Kokuso #13 and Kokuso #70 varieties were grafted on Khasak mulberry, their cold resistance was 50 and 90 percent. Among the seedlings that are resistant to this kind of cold and have received frost up to the root system, there are also one or two seedlings that have survived the winter well. This type was found in Zharqorgan (Surkhandarya region) and partially in Tashkent, in areas where mulberries were thickly planted and irrigation was stopped early, or among trees that were shaped into tall trunks.

By comparing the climatic conditions in which mulberry trees grow in Japan with the climate of the silk-growing districts of Central Asia, it is possible to see how much these varieties have been exposed to changed conditions.

Table 3

Climatic conditions in districts where mulberry varieties are grown

Districts where mulberry varieties are grown	Average number of days without cold
Northern Japan	286
Central Japan	293
Southern Japan	343
Zarafshan Valley	170
Subtropical districts of Fergana, Kyrgyzstan, Turkmenistan and Tajikistan	214-245

When it comes to the mulberry tree's susceptibility to frost, they are resistant to late spring and early fall frosts. Conditions in most parts of Central Asia are unfavorable, even compared to northern Japan, as temperatures can drop into the 0°C in early October. In Tashkent, the first frost usually falls at the end of September. But in the period of growth and development of mulberry trees, in addition to external conditions, their care also plays a big role. Replacing Japan's natural rainfall with artificial irrigation would make the job much easier. In improving the frost resistance of the varieties brought from Japan, shortening the irrigation period and selecting the varieties that survived the cold have helped a lot in this area. Currently, most of the varieties that are widely used in production are mixed with varieties imported from Japan.

As a result of growing varieties brought from Japan in grafted hay and pollination with Khasak mulberry, not only their cold resistance increased, but the leaf plates of the new hybrid increased in size and morphological characteristics were improved. Thus, the introduction made it possible to pollinate varieties

grown in distant lands. In the following years, our selection nurseries and collection plots were enriched with funds brought from various regions of Russia, as well as from foreign countries such as China, Korea, India, and Bulgaria. Michurin's pollination of geographically distant varieties, pollen diversity, Mentor's method and other works play a major role in the synthetic methods of tobacco selection.

I.V.Michurin says that creating a variety by pollinating varieties located far from each other depends on the quality of the reproductive organs. But pollination and its consequences cannot be considered a random event. For this, before pollination, all the characteristics of the parent trees, including the ability to leave offspring, should be checked. Re-pollination is now used in mulberry to strengthen the mother trees with pollen, which allows the mother trees to be fully pollinated and selectively pollinated. During mulberry breeding, mutational forms are created by exposing the tissues to various rays and preparations. In addition to the above-mentioned methods, promising forms were found in mulberry breeding by mass selection from hybrid seeds prepared as a result of natural pollination of Khasak mulberry and other varieties. For example: SANIISH-6, varieties of Uzbekistan.

Conclusion. The fact that the soil and climatic conditions of our republic are different requires the cultivation of mulberry varieties adapted to the biological and economic characteristics and environment of each region. Increasing the sericulture food base through fertile misted mulberry cultivars is effective in increasing cocoon yield in a short period of time.

In order to evaluate the regionalized varieties, it is necessary to measure their leaf yield by weighing for at least 3-4 years and to determine the productivity of the variety by worm feeding for two years.

References

1. U.Abdullaev "Mulberry breeding" Tashkent "Mehnat" - 1991.
2. K.Rakhmonberdiev, Sh.Mukhammadjonova "Mulberry selection" Tashkent "Mehnat" - 1988.
3. K.Rakhmonberdiev "Biological basis for the accelerated creation of sericulture fodder fund by cutting mulberry" Tashkent "Fan" -1980
4. M.F.Bigashev "Wide row mulberry plantation" J: "Agriculture of Uzbekistan" No. 12, 1962