

BREEDS AND HYBRIDS OF SILKWORM, PROSPECTIVE FOR INTRODUCTION IN SILK BREEDING OF KARAKALPAKSTAN

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ABSTRACT

To correctly assess the quality of the hybrids proposed for introduction, you should familiarize yourself with the results of cocoon harvesting in the Republic of Karakalpakstan, the revitalization of the grena, the viability of caterpillars and technological indicators, the main productive characteristics of clonal-breed hybrids - viability and silkiness, the properties of produced cocoons, the creation and introduction of silkworm hybrids that meet the requirements of the processing industry.

KEYWORD: Cocoon blanks, grains, caterpillars, clonal-breed, hybrid, cocoons.

INTRODUCTION

Today, more than twenty countries all over the world are engaged in the production of silkworms, receiving 840-860 tons of cocoon raw materials. More than 60 countries are engaged in the production of silkworms and silk.

In recent years, special attention has been paid to the quality of raw silk. The most realistic method for improving the technological properties of produced cocoons is the creation and introduction of silkworm hybrids that meet the requirements of the processing industry.

In countries developed by silkworm breeding, it gives the primary knowledge of breeding and reproduction of breeds with the best technological properties.

A number of scientists [124, c 31], [125, c 16-30], [92, c 24-45], [95, c 18], [14, c 25] of Uzbekistan in the study of the textile properties of cocoons have suggested the introduction of several hybrids with good technological performance.

Sericulture of Karakalpakstan also needs silkworm hybrids with high technological indicators of cocoon thread. Therefore, we considered it possible to consider other hybrids with interesting properties.

RESEARCH METHODS

The following methods were used in this research: - traditional selection at the all stages of development of the silkworm, taking into account, the properties of sex-marked breeds and parthenogenetic clones. According to the "Basic methodological rules for working with silkworm breeds"; Selection based on the activity of the silkworm at the stage of revitalizing caterpillars and male butterflies, the method of activation of the unfertilized grains to parthenogenetic development and the method of E.K. Merkuryeva for biometric data processing.

RESEARCH RESULTS

Taking into account the demands of the industry for the supply of breeds and hybrids with a high yield of silk products and increased unwinding of cocoons, silkworm scientists have created a number of breeds and promising hybrids of silkworm with high textile properties. These are silkworm breeder 3 and Line 22 breeds. Cocoons of silkworm breeder 3 are white, elongated with a slight interception, fine-grained revitalization of grain-96.98%, viability of caterpillars-88.91%.

The breed was bred by the means of synthetic selection by hybridization of foreign breeds with local ones, and it is distinguished by the uniformity of development of caterpillars and the friendly curling of cocoons.



Figure 1, Cocoons of the breed, silkworm breeder 3.

Cocoons Line 22 are white, oval-rounded, fine-grained (Figure 3.8.2), the revitalization of the silkworm's eggs is 96%, and the viability of caterpillars is 89%. The breed, brought-out by the method of synthetic selection is distinguished by the amicability of cocoon curling.

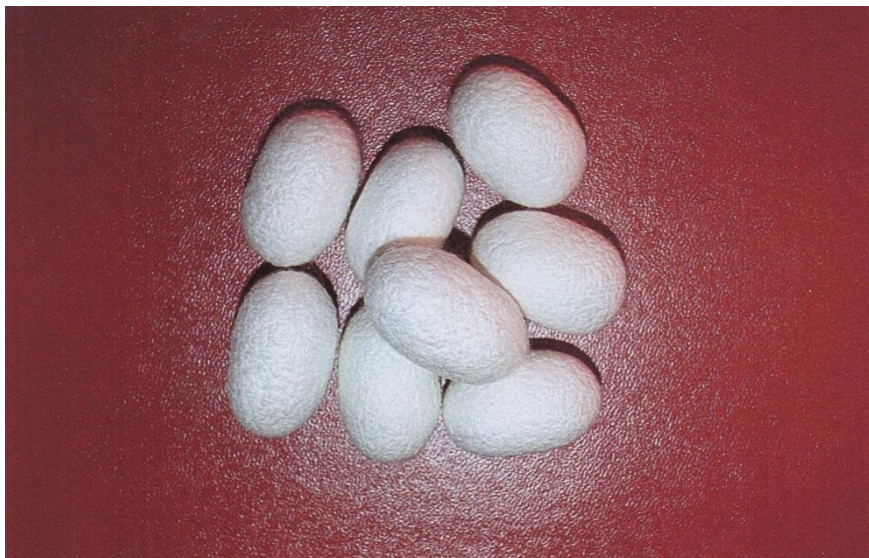


Figure: 2. Cocoons of the breed, Line 22

The hybrids among breeds L-22, Silkworm breeder 3 were named Navruz-1, the reverse combination, Navruz-2.

The Navruz-1 hybrid was created at NIISH, in the laboratory of genetics and silkworm breeding. This is a simple hybrid gotten from crossing Line 22 x Silkworm breeder 3. Grain is gray ash in color, the number of eggs in one gram is 1723 pieces. Percentage of revitalization of silkworm's eggs is 98%, the number of caterpillars in 1 gram is 2420 pieces. Caterpillars develop evenly, together they ascend to cocoons. Cocoons are oval, the viability of caterpillars is 90.1%, the yield of cocoons per 1 gram of caterpillar's ranges from 4.0 to 4.3 kg, the silk-bearing capacity of dry cocoons is 56.8%, and the unwinding of the shell is 88%. The output

of raw silk is 45.7%. The average length of the cocoon thread is 1008 m, the length of the continuously unwinding thread is 957 m. The metric number of the thread is 3500 units.

The Navruz-2 hybrid was created at the NIISH in the silkworm genetics and breeding laboratory. A simple hybrid gotten from crossing the breed Silkworm breeder 3 and Line-22. Grain is in gray-ash color, the number of eggs in one gram is 1708 pieces, on the first day of revival, 97.5% of the eggs come to life, the number of caterpillars in one gram is 2391 pieces, the caterpillars develop evenly, grow together on cocoons, the viability of the caterpillars is 89.9%. Cocoons are oval with a weak interception, fine-grained, white without shades (Figure 3.8.4), the yield of cocoons from 1 gram of caterpillars is 4.73 kg, from 1 grain box - 70-75 kg. The silkiness of dry cocoons is 55.7%, the unwinding of the cocoon shell is 88.4%, the yield of raw silk is 45.0, the average length of the cocoon thread is 1058 meters, and the length of the continuously unwound thread is 948 m.

Hybrids Navruz-1, Navruz-2 do not require special zootechnical measures when feeding. The hybrids are distinguished by a high fineness of the cocoon thread - the metric number of Navruz-1 is 3400 units, Navruz-2 is 3300 units.

By the decision of the State Administration of Uzbekistan in 2013, the Navruz-1 and Navruz-2 hybrids were recognized as promising, included in the State Register of Uzbekistan and recommended for implementation in Samarkand, Surkhandarya and Kashkadarya regions and others.

CONCLUSIONS

In small volumes, hybrids Navruz 1, Navruz 2 were bred in Karakalpakstan. The results are encouraging (table 3.7.2). The high yield of hybrids Navruz 1, Navruz 2 - 58.0 and 62.0 kg in comparison with control - 45.1 kg gives reason to recommend them for feeding in the industrial conditions of Karakalpakstan.

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