WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 3, Issue 6, June, 2022

BIOLOGY OF SILK WORM BREEDERS GROUP

Rustamova Lobarkhon Kahramon qizi
Namangan State University, Faculty of Biotechnology,
Biology, 2nd Year Student

Abstract
In this article, the role of silkworm breeds in world silkworm breeding, their practical significance, the division of breeds into 15 taxonomic groups according to their origin, the bio-morpho-physiological-anatomical properties of monovoltin strains, bivoltin strains and polyvoltin strains.

Keywords Collection, breed, selection, monovoltin, bivoltin, polyvoltin, worm, cocoon, hybridization.

Аннотация
В данной статье рассмотрены роль пород тутового шелкопряда в мировом шелководстве, их практическое значение, разделение пород на 15 таксономических групп по их происхождению, биоморфофизиолого-анатомические свойства моновольтинных штаммов, бивольтиновых штаммов и поливольтиновых штаммов.

Ключевые слова Коллекция, порода, селекция, моновольтин, бивольтин, поливольтин, червь, кокон, гибридизация.

Introduction

Silkworm breeding is one of the main branches of agriculture in Uzbekistan and provides the textile industry with raw materials. As the economy and living standards of the population improve, the demand for jewelry and a variety of silk garments is growing every year. Several thousand species of silkworms are known in the world silk industry. However, only a few of them are of practical importance. All species are the result of popular selection of wild silkworms that have inhabited the forests of tropical and subtropical countries since ancient times. Modern breeds differ in the variety of worms, cocoon skin, size and shape of the cocoon, and their biological and economic characteristics. Some silkworm cocoons have a lot of silk and are very economically valuable, while some cocoons have very little silk and have no practical value in silk production. In order to further develop silkworm breeding on a scientific basis, due to natural conditions in our country in 1927 on the basis of the Central Asian Silkworm

Station and the Department of Silk Culture of the Turkshelk Administration, the Central Asian Institute of Silk and Silk Science, later the Central Asian Silk Science research institute (SANIISH) was established. Samarkand and Fergana breeding stations have been set up to improve production. The breeds created by scientists were transferred to the stations, and the stations began to produce super-elite eggs on their farms, producing egg yolks for themselves.

Literature Analysis and Methodology

The collection of silkworms was established in 1922 and was called the Tashkent Silkworm Station, and at its opening there were 36 breeds. After that, the Central Asian Silk Research Institute was established on the basis of the station, which was founded in 1927. Gradually, the composition of the collection increased due to new breeds, mainly due to the replacement of breeds. The collection grew, especially in 1946, when a group of specialists visited Japan. N. S. Stroychuk, A.I. Emmanuilov, A.1. Fedorov, R. A. Guseynov and others, for example, I. A. Sherbakov, I.F. Lukyanov et al., N. G. Bogautdinov (1952) to Korea, R.A. Guseynov, M.M. Zaliznyak, M.G. Silantyeva I In 952-1958, 14 breeds of silkworms were imported from China. Since then, the collection has been dominated by members of the Chinese group. In 1965, eggs from 22 breeds were imported from Bulgaria, six of which were hybrids from Poland. In recent years, the collection has been supplemented by 2 Indian breeds and 5 Romanian breeds.

Topic Research and Results

Silkworm breeds monovoltin, bivoltin, and polyvoltin differ in their response to changes in the environment. Each of them has its own morphological and physiological features.

The larvae of the monovoltin silkworm have a long lifespan, which requires additional labor and food. One of the biggest disadvantages of the monovoltin breed is its intolerance to infectious diseases and its inability to withstand adverse climatic conditions. Therefore, if monovoltin breeds are turned off only in the spring and cared for in good conditions, high yields can be obtained from 1 box of seeds up to 75-80 kg, for example, if the food quality is poor, the worm feeding area is narrow or the worm temperature is too high. they develop various diseases and many silkworms begin to die. Monovoltines are resistant to hot summer weather and usually die during the summer.

Monovoltin SANIISH-8 breed. This breed has been in production for many years. It is a component of Tetrahybrid-3 and Tetrahybrid-4 hybrids, the appearance of the

cocoon is long, with a curved waist (Figure 1). SANIISH-9 monovoltin is oval in shape. This breed is also called Tetrahybrid-3, Tetrahybrid-4, along with other breeds and has a clear white cocoon (Figure 2).

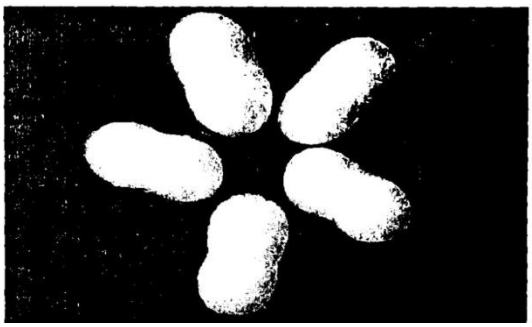

Figure 1. SANISH-8 monovoltin breed

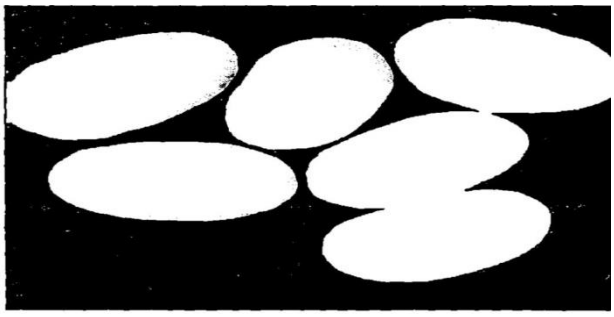

Figure 2. SANISH-9 monovoltin breed

In all their biological and economic characteristics, bivoltines are intermediate between monovoltins and polyvoltines. If bivoltin seeds are incubated by hot incubation at 25-26 ° C with increased humidity (75-80%) and electric light for 8 hours in addition to daylight, all childhood seeds are winterized. becomes a seed.

When bivoltin seeds are incubated at intermediate temperatures (19-20 ° C) or in conditions of poor lighting or humidity, they produce mixed, self-regenerating and overwintering seeds in childhood generation. The quantity ratio of worm seeds in the two categories is affected not only by the incubation conditions but also by the care of the worm. High temperatures (not less than 25 ° C) are good for the first age of silkworms, low temperatures are good for the last two years, as well as during germination, and vice versa. A very valuable feature of this breed is its extreme resistance to adverse climatic conditions, especially the summer heat, infectious diseases, and the short development period.

The very viability of Bivoltin breeds is widely used in hybridization. Most of the valuable white cocoons currently bred on farms are obtained by mixing bivoltin with monovoltin. The cocoons of bivoltin breeds are much smaller, and they are involved in hybridization with monovoltin breeds and re-feeding of worms.

Polyvoltin strains are the complete opposite of monovoltin strains. The development period of polyvoltin breeds is very short. Their worm period lasts from 15 to 20 days, while that of monovoltin breeds lasts 25-30 days. Polyvoltin worms have very small cocoons (up to 1 g) and low silk content. Polyvoltin breed silkworms are more resistant to heat and infectious diseases than monovoltin breeds. These breeds are fed in small quantities in tropical countries (India, southern China and other countries). In the islands of Java and Sumatra, wildlife of these worms can be found. In many

prefectures of Japan, polyvoltine breeds are fed in small quantities and have no practical value due to low yields.

The viability and short development period of polyvoltin silkworms are very resistant to various diseases and adverse conditions, which makes it necessary to select short-lived breeds. When the maternal offspring are incubated at low temperatures, the seed worms are cared for under the desired conditions, or when they are fed at the same high temperature throughout their development, it is difficult to obtain non-overwintering seeds of the polyvoltine breed. Wintering seeds are obtained by incubation at high temperatures and feeding at low temperatures during the last period of maternal generation [2].

Conclusion

The most widely used in manufacturing is monovoltins. The cocoon is large, the silk is very rich, it gives 25-30% of silk. Bivoltin breeds are few, and hybrids are fed by mixing monovoltin with repeated worm feeding. The peculiarity of biwoltin breeds is that they are more susceptible to disease. Because it is more resistant than monovoltines, its eggs have a high silkworm yield of about 90% twice a year. The viability of polyvoltin breeds is high, yielding up to 3-4 times a year.

Due to independence, due to the rapid development of silkworm breeding in our country, the collection has expanded to include people from different regions. The Uzbek silkworm gene pool used to have 185 system breeds, which have been used by scientific institutes and institutions specializing in silkworm breeding. Today, the gene pool includes 105 breeds from a variety of ecological climates.

List of Used Literature

1. Abdurahmonov A, Rojdestvenskiy K.M. “Ipak qurti naslchiligi va urug‘chiligi” – Toshkent. “Mehnat” 1991. B.201
2. Ahmedov N, Yakubov A.B. Daniyarov U.T. “Ipak qurti seleksiyasi” – Toshkent “Cho‘lpon nomidagi nashriyot-matbaa ijodiy uyi” 2014. B.218
3. https://fayllar.org/m-u-o-k-638-21-075-kbk-46-92-i-70-a-90-taqrizchilar.html?page=3.