

## ASALARI ZAXRI – (APITOKSINOTERAPIYA). O‘ZBEKISTONDA BU USULNI RIVOJLANTIRISHNING AHAMIYATI VA ISTIQBOLLARI

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### Annotatsiya:

Asalarilar maxsuloti ichida asalari zaxri – (apitoksin) eng qimmatlisi hisoblanadi. Asalari nishi a‘zolari to‘g‘risida ancha chuqurroq malumotlarni birinchi bo‘lib Golland vrachi Jean Swammerdam yozib qoldirgan. Lekin u asalari tanasidagi kichik zaxar bezi to‘g‘risida xech qanday malumot keltirmagan. Asalari nish azosi asosida ikki xil zaxar bezlari bo‘lib, ular katta zaxar bezi va kichik zaxar bezlaridan iborat. Ishchi asalari katta zaxar bezining uzunligi 9-20 mm, ona asalari esa 30-49 mm bo‘ladi. Asalarilarning zaxar qopidagi zaxar moddasi to‘planishi bu asalarning zotiga, yil fasilariga va uning oziqasining tarkibiga bog‘liqligi to‘g‘risidagi ma‘lumotlar keltirilgan.

**Kalit so‘zlar:** asalari zaxari, apitoksin, asalari nishi, kichik zaxar bezi, kata zaxar bezi, asal, mum, prapolis, suv, zaxarli protein (zaxarli oqsil), xlorid ortofosfat kislata, chumoli kislata, ateraskleroz, xalestin, asalari nishi, gistamin, fosfolipaza, kasseta, elektrofarez, ionofarez.

## ПЧЕЛИНЫЙ ЯД-(АПИТОКСИНОТЕРАПИЯ). ЗНАЧЕНИЕ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ДАННОГО МЕТОДА В УЗБЕКИСТАНЕ.

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**Аннотация:**

Среди продуктов пчеловодства наиболее ценным является пчелиный яд (апитоксин). Джин Сваммердам, голландский врач, первым записал более подробную информацию о членах улья. Но он не сообщил никакой информации о маленькой ядовитой железе в теле пчелы. У пчел есть два типа ядовитых желез в зависимости от их ульев, и они состоят из большой ядовитой железы и малой ядовитой железы. Длина большой ядовитой железы рабочих пчел 9—20 мм, маток 30-49 мм. Информация о накоплении токсических веществ в ядовитом мешочке пчел зависит от породы пчелы, времени года и состава ее пищи.

**Ключевые слова:** пчелиный яд, апитоксин, пчелиный улей, малая ядовитая железа, большая ядовитая железа, мед, воск, прополис, вода, ядовитый белок (ядовитый белок), хлорид ортофосфатная кислота, муравьиная кислота, атеросклероз, холестерин, пчелиный улей, гистамин, фосфолипаза, кассета, электрофорез, ионтофорез.

**BEE VENOM - (APITOXYNOTHERAPY). THE SIGNIFICANCE AND  
PROSPECTS OF THE DEVELOPMENT OF THIS METHOD IN  
UZBEKISTAN**

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### Abstract:

Among bee products, bee venom (apitoxin) is the most valuable. Jean Swammerdam, a Dutch doctor, was the first to write down more detailed information about the members of the beehive. But he did not provide any information about the small poison gland in the body of the bee. Bees have two types of venom glands based on their hives, and they consist of a large venom gland and a minor venom gland. The length of the large venom gland of worker bees is 9-20 mm, and that of queen bees is 30-49 mm. The information on the accumulation of toxic substances in the bees' venom sac depends on the breed of bees, seasons of the year and the composition of its food.

**Keywords:** bee venom, apitoxin, bee hive, small venom gland, large venom gland, honey, wax, propolis, water, toxic protein (toxic protein), chloride orthophosphate acid, formic acid, atherosclerosis, cholesterol, bee hive, histamine, phospholipase, cassette, electrophoresis, iontophoresis.

### INTRODUCTION

It is known from the pages of history that people who got acquainted with bees and talked with them in ancient times also had the concept of bee venom. In addition, they noticed that bee venom improves sleep and appetite in various neurology, joint inflammation, improves the patient's condition. Later, bee venom, like many other tools used in folk medicine, came under the control of scientific medicine. Currently, this method is recognized as Apitoxinotherapy and is developing quite widely. Abu Ali ibn Sina connected the science of treatment more with bee products, it is stated in his manuscripts that more than 1000 medicines were prepared with the help of honey, wax, propolis.

In later times, the concept of apitoxin therapy was somewhat forgotten in Uzbekistan. Today, in medicine, this direction has come forward again, that is, the use of herbal products in medicine is getting deeper and deeper. Due to this, on October 16, 2017, the President of our Republic, Sh. Mirziyoyev, adopted Decision No. PK-3327 "On measures to further develop the beekeeping industry in our Republic".



### Research materials and methodology:

Among bee products, bee venom (apitoxin) is the most valuable. Jean Swammerdam, a Dutch doctor, was the first to write down more detailed information about the members of the beehive. But he did not provide any information about the small poison gland in the body of the bee. Accurate and complete information about the anatomical structure of bee niches was fully described only in the monograph of Dufour (1841) and he wrote down a lot of valuable information about the small venom gland of bees.

Bees have two types of venom glands based on their hives, and they consist of a large venom gland and a minor venom gland. The length of the large venom gland of worker bees is 9-20 mm, and that of queen bees is 30-49 mm. Accumulation of poison in the bee sac depends on the breed of the bee, the time of year and the composition of its food. The average amount of poison in one bee sting is 0.4-0.8 mg. Bee venom is an almost colorless, clear liquid that resembles honey star, has a very aromatic smell and a bitter sour taste, and has acidic properties. The weight of the comparison is equal to 1.1313. The poison dries quickly in the air and looks like dried glue.

Poison contains water, poisonous protein (poisonous protein), chloride orthophosphate acid, formic acid, essential oils, these substances mainly hurt and irritate the human body. In addition, substances such as K, Ca, P, Fe, Mg, Cu, Ru, Li, Mn, Cl, I, S, histamine and phospholipase-A have been found. Bee venom can be stored in a dry place for many years. Even temperatures of -7, +2, -15 C are considered a good environment for storing poison. Among the many methods of poisoning, the most effective method is the elector method.

Bee venom strengthens the work of the heart muscle, allows lowering arterial blood pressure. Bee venom has a particularly effective effect on metabolism, which is especially important in atherosclerosis, when it is necessary to reduce the amount of cholesterol in the blood.

Results of research: When a bee stings, the stylet, i.e. the spear part, moves out along the stinger and stings the body. After a bee stings, the hooks of the bees located opposite to the movement of the sting in the bees' spear do not allow the sting to be pulled out, and as a result, when the bees try to fly, its sting ends break off at the point of sting. At this time, 0.2-0.3 mg of poison flows out of the bee nest. Bees die after 3-4 hours when their stinger is injured.

Bee venom is produced by the venom glands of worker bees, stored in the venom sac, and the excess venom is absorbed into the body when the bees sting. Bee venom contains up to 60 percent water, and it is a yellowish liquid with a bitter and burning taste that hardens quickly in air. Dry sugar contains a lot of proteins, amino acids, sugar, fat, formic acid, and more magnesium than inorganic compounds. Adult bees secrete 0.4-0.8 mg of poison, the poison glands produce the most poison on the 12-14th day of a bee's life. Industrially, there is a special electric device for collecting bee venom, which is poured between the brood frames in the bee colony or on the shoulders above the brood frames. Cried. About 0.1 mg of dry venom can be obtained from one bee. About 1 gram of poison can be obtained from 10,000 bees. (Kakhramonov B., Isamuhamedov A., Ballasov U. 2009. R. Jamolov., O. Torayev., D. Khatamova "Fundamentals of beekeeping". 2022.)

A bee sting device - a stinger cassette has a wire wrapped around the glass, and the end of the wire is connected to a power supply device and a battery. The middle of the window is carved. The length of the wood is 470 mm, the length of the bottom rail is 435 mm, it is made of 14 mm oak board. Adult bees secrete 0.4-0.8 mg of poison, the venom glands produce the most venom liquid on the 12-14th day of the bee's life, Bee venom is mainly taken before the time of collecting juice, because in this period there is a lot of bees in the hives. Iadi The poison extraction device (cassettes) is placed away from the worm frames, and 2 centimeters from the honey frames. About 0.1 mg of dry venom can be obtained from one bee. 1 g of poison can be obtained from 10,000 bees. The rails have an 8 mm groove on the inside. The groove is 8 mm wide by 5 mm deep, and the top of the rail has a 1 mm grooved line for wire drawing every 5 mm. A space of 50 mm is left from the top side of the wire. Wire used for beekeepers is used to wire the rail. 59-60 rows of 0.2 mm wire are wound around one poison receiving device. About 40 meters of wire will be needed for this. The wire pulled to the device should not touch the glass by 2 mm. The electric power is 12 volts and its power should not exceed 9 volts. The output current pulse sequence should provide  $0.5-0.5\pm0.1$  Gs, 1 12 volt battery can last 6-8 hours. When the intake device is poured into the slot, the wire pulled to it should be 20 mm away from the solid frame. These poison extraction devices are placed in the nest in the middle of the day and the current is connected for 3 hours. If it is connected for more than 4 hours, bees will die. It is not recommended to take poison on cold days, because after connecting the vine, the bees often fly out and may die in the cold. 10-

15 minutes after taking the poison, the poison starts to harden. After that, you can uninstall the device. If poison is taken from bee colonies by this method every 12-15 days, it will have little effect on the productivity of the colony. In early spring, after honey is taken from a weak family, it is forbidden to take poison when they are raising larvae and before leaving for winter. (796-801 p. S. 43-49)

### Summary:

Treatment with bee venom was carried out on the basis of guidelines approved by the former Union Ministry of Health on March 10, 1959. In medicine, treatment with bee venom is carried out in several different ways. (Askarov I.R. "Mysterious Medicine" 2021. B.A. Temnov 1984)

Including:

- 1) By natural stinging of bees.
- 2) By subcutaneous injection of liquid drugs in bee venom ampoules.
- 3) Electrophoresis, iontophoresis and inhalation of drugs prepared from bee venom.
- 4) With the help of various diluted ointments prepared from bee venom.
- 5) By various pills made from bee venom.

The beekeeping sector in the republic is only focused on the production of commodity honey, which has a negative impact on the development of the industry. For example: bee farms in our republic have the opportunity to get more than 390-400 kg of bee venom per year, each gram of this venom is worth more than 100 US dollars on the world market, and based on this, it is possible to have an additional income of 39-40 million dollars per year. . It should not be forgotten. 10-25 bee venom is a full (poisonous) dose for an adult. 500 or more bee stings can kill a person.

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