

SIBERIAN SALTPETER IN COUNTRIES

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In our last couple of posts, we saw the basics of saltpeter extraction and also an insight into the bacterial and chemical processes involved. As we saw previously, it was the job of saltpeter men to go around the country and locate soils rich in nitrates, so that saltpeter could be extracted from them. They often found these lands close to places where organic materials decomposed, which were sheltered from rain and sun. This usually meant digging in cellars and stables of various farms. However, the formation of saltpeter in these areas was a slow process and the supplies could not keep up with the demand. Therefore, people began to prepare special areas to produce saltpeter. These areas were called niter beds (or nitre beds, if you're used to British spelling). Other names for these include nitreries and saltpeter plantations. We will study how these worked in today's post.

Workers would prepare long trenches lined with clay and pile on heaps of manure, rotting leaves, plants and urine, arranged with layers of limestone and ash in between, and small twigs, branches and straws in the middle, to give the mixture sufficient porosity. Such heaps can be seen as C in the image above. The sides of the various heaps protect each other to some degree from wind and weather. Every week, the workers would keep the heaps moist by adding more urine, dung water, water from drains etc. The idea was to keep the heaps moist, but not too wet. Urine from drinkers of beer and wine were in much demand, as it was thought that this resulted in superior quality of saltpeter. The process needed to be somewhat carefully controlled because if it was overdone, the production rate of saltpeter would actually decrease. Meanwhile, the workers would collect pure rainwater in a large vat (A in the image above), as it is a relatively pure source of water without any minerals dissolved in it. They would also collect wood (D in the image) to be used to prepare ashes and for boiling the liquids later on. After about a year, the heaps would be ripened enough and a saltpeter digger (E in the image above) would dig into them and take them into buildings B and A for processing.

Inside, they would use the pure rainwater to dissolve and leach the saltpeter crystals from the compost heap and then use the wood to boil the water and extract the crystals from it, as described in the posts previously.

As can be imagined, running a nitrary (saltpeter plantation) meant that the smell was very nauseating. In fact, one of the major qualifications to be a nitrary manager or worker was to be able to tolerate the incredible stench produced. That's why many of these operations were located out in the countryside, away from most people. The history of saltpeter deals with the economic cycle that occurred in Bolivia, Chile and Peru with the discovery of deposits of saltpeter (ornitrate) in the Atacama desert, in the current Chilean regions of Tarapacá and Antofagasta. In 1873, the Peruvian government tried to control the Peruvian saltpeter trade by means of a tobacco tax, but failed due to the lack of fiscal employees with knowledge in the matter, the resistance of Tarapacan producers and the strength of Valparaíso as a saltpeter trading center.

The exploitation of nitrate in the Peruvian stage was in the hands of national and foreign companies, but from 1875 the Peruvian state tried to control production through the nationalization of the nitrate companies, which was only incompletely achieved. When these nitrate works passed into the hands of Chile, the latter gave them to companies created by mostly English capital and, to a lesser extent, German and American capital; The saltpeter of the old Bolivian coast was always in the hands of Chilean capitals ("Salar del Carmen" and "Salinas") and Peruvians ("El Toco").

REFERENCES

1. Ahmatovich R. A. et al. In biocenosis the degree of appearing entomophagous types of vermins which suck tomatoey sowings // *Austrian Journal of Technical and Natural Sciences*. – 2018. – №. 9-10. – С. 3-5.
2. Сулаймонов Б. А. и др. Фитофаги и виды энтомофагов, встречающиеся в лесном биоценозе // *Актуальные проблемы современной науки*. – 2021. – №. 1. – С. 64-69.
3. Кимсанбаев Х. Х., Жумаев Р. А. К вопросу размножения *Trichograma evanescens* для биологической защиты растений // *Международная научная школа "Парадигма"*. Лето-2015. – 2015. – С. 34-41.

4.Жумаев Р. А. Биолобораторияда трихограммани in vitro усулида ўстириш технологияси. Трихограммани сунъий озикада ўстириш курси (1)(Hymenoptera: Trichogrammatidae). – 2016.

5.Sulaymonov B. A. et al. Effectiveness of Application of Parasitic Entomophages against Plant Bits in Vegetable Agrobiotensensis //Solid State Technology. – 2020. – Т. 63. – №. 4. – С. 355-363.

6.Kimsanbaev X. X., Jumaev R. A., Abduvosiqova L. A. Determination Of Effective Parasite-Entomofag Species In The Management Of The Number Of Family Representatives In Pieridae //The American Journal of Agriculture and Biomedical Engineering. – 2021. – Т. 3. – №. 06. – С. 135-143.

7.Jumaev R. Invitro rearing of parasitoids //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 371.

8.Кимсанбаев Х. Х. и др. Биоценозда ўсимлик зараркунандалари паразит энтомофаглари ривожланиши.« //O'zbekiston» НМИУ,–Тошкент. – 2016.

9.Сулаймонов Б. А. и др. Ўрмон биоценозида фитофаг турлари ва улар миқдорини бошқариш //O'zbekiston» НМИУ,–Тошкент. – 2018.

10.Jumaev R., Rakhimova A. Analysis of scientific research on reproduction of species of Trichograms in Biolaboratory //The American Journal of Agriculture and Biomedical Engineering. – 2020. – Т. 2. – №. 08. – С. 148-152.

11.Axmatovich J. R. In vitro rearing of trichogramma (Hymenoptera: Trichogrammatidae) //European science review. – 2016. – №. 9-10. – С. 11-13.

12.Jumaev R. A. et al. The technology of rearing Braconidae in vitro in biolaboratory //European Science Review. – 2017. – №. 3-4. – С. 3-5.

13.Жумаев Р. А. Массовое размножение трихограммы на яйцах хлопковой совки в условиях биолоборатории и ее применение в агробиоценозах //Халқаро илмий-амалий конференция “Ўзбекистон мева-сабзавот маҳсулотларининг устунлиги” мақолалар тўплами. Тошкент. – 2016. – С. 193-196.

14.Жумаев Р. А. Значение представителей семейства BRACONIDAE в регулировании численности совок в агробиоценозах //ЎЗМУ Хабарлари. – 2017. – Т. 3. – №. 1.

15.Жумаев Р. А. РАЗМНОЖЕНИЯ ИН ВИТРО BACON НАВЕТОР SAY И BRACON GREENI ASHMEAD //Актуальные проблемы современной науки. – 2017. – №. 3. – С. 215-218.

16. Axmatovich J. R. In Vitro Rearing of Parasitoids (Hymenoptera: Trichogrammatidae and Braconidae) // Texas Journal of Agriculture and Biological Sciences. – 2022. – T. 4. – C. 33-37.

17. Suleymanov B. A., Jumaev R. A., Abduvosiqova L. A. Lepidoptera Found In Cabbage Agrobiocenosis The Dominant Types Of Representatives Of The Category Are Bioecology // The American Journal of Agriculture and Biomedical Engineering. – 2021. – T. 3. – №. 06. – C. 125-134.

18. Raimova M. M., Mamatova S. A., Yedgarova U. G. The clinical polymorphism of extrapyramidal disorders after acute cerebrovascular accident // Asian Journal of Multidimensional Research. – 2021. – T. 10. – №. 8. – C. 257-263.

19. Nabieva N. V., Mamatova M. M. Reforms in The Republic of Uzbekistan on protected areas // Archive of Conferences. – 2021. – T. 28. – №. 1. – C. 4-5.

20. Mamatova M. N. STUDY OF THE BIOLOGICAL PROPERTIES OF RABIES BY THE METHOD OF DIAGNOSIS OF THE " GOLD STANDARD " // GOLDEN BRAIN. – 2024. – T. 2. – №. 4. – C. 129-144.