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Green Belarus News & Events in Belarus



BELARUS RAISES OVER \$6.7M IN INTERNATIONAL AID FOR ENVIRONMENTAL PROJECTS IN 2016

More than \$6.7 million was raised as part of international technical assistance for Belarus-

pation fees in these organizations," he noted.

According to the minister, in 2016 Belarus was among the first states to sign the Paris Climate Agreement and undertake commitments to cut its greenhouse gas emissions. "Last year Belarus signed agreements on cooperation with the environment departments of France, Armenia, and Georgia, resumed joint activity in environmental



environmental projects in 2016, Belarusian Minister of Natural Resources and Environmental Protection Andrei Kovkhuto said at the ministerial board meeting on 10 February, BelTA has learned.

"Last year the focus was on international cooperation. The efforts resulted in raising more than \$6.7 million in international technical assistance," the minister stressed. The amount of technical aid totaled \$4.5 million in 2014, and \$5 million in 2015.

protection with Poland and Austria, launched cooperation with Egypt," he said.

Andrei Kovkhuto added that in 2016 Belarus worked with Vietnam on a draft bilateral memorandum in environmental protection. The parties are set to sign the document in 2017.

BELTA,
10.02.2017

BELARUS APPROVES YEAR OF SCIENCE ACTION PLAN SOCIETY

The plan of action for 2017 Year of Science was approved by Belarus' Council of Ministers Resolution No.125 of 14 February 2017, BelTA learned from the website of the Belarusian government.

The major focus will be on innovative scientific activity and international cooperation. The plan will



"The plan of action is a so-called roadmap for the maximum involvement of the scientific sector as the most important driving force of the country's social and economic development in promoting Belarus' competitive ability on the global market," says the statement on the Belarusian government's website.

cover all aspects of interaction of science with the society and economic sectors.

The National Academy of Sciences of Belarus has been authorized to coordinate the implementation of the nationwide plan

The plan includes nearly 70 events which are aimed at improving the legal and methodological support of science; the media coverage of Belarusian scientific achievements; publishing activities of scientists; academic and research events (conferences, seminars, roundtable sessions, etc.) and others.

of action. The events of the nationwide plan of action will be financed through the funds allocated from the national and local budgets for these purposes in 2017, and also with the help of locally available resources.

BELTA,
15.02.2017

[Plans to set up national ecological network in Belarus](#)

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BELARUS TO DEVELOP NATIONAL STRATEGIES ON CLIMATE CHANGE AND LOW CARBON DEVELOPMENT

Belarus will develop the national strategies on climate change and low carbon development, Sergei Zavyalov, the head of the department for control over impacts on air and water resources quality at the Ministry of Natural Resources and Environmental Protection, said when speaking at a roundtable on renewables, BelTA has learned.

"The government approved a plan of measures to implement the Paris agreement. It involves the development of two major documents: on climate change and low carbon development. We will aggressively promote the use of renewable energy and increasing its share by 2030 and even more so 2050," Sergei Zavyalov noted.

In Belarus there is a great potential for the development of renewable energy. By 2020 the

share of renewables in the energy production is expected to make up at least 6% in the gross consumption of fuel and energy.

Twenty-two promising sites have been identified in the north-eastern, central and western parts of Belarus for the development of wind energy. These areas can host more than 1,900 wind turbines.

According to Sergei Zavyalov, the potential of solar energy that can be technically converted into electricity is more than 600 billion kWh proceeding from the available areas of unused land. The aggregate capacity of the stations built in Belarus is more than 50 Mw.

With regard to water energy, Grodno, Vitebsk and Mogilev regions look the most potential for the development of hydropower engineering. To update the information on hydro-

power potential the Ministry of Natural Resources and Environmental Protection has commissioned a research which will be completed within two years.

The Paris Agreement to curb climate-warming emissions entered into force on 4 November 2016 when at least 55 countries accounting for 55% of global greenhouse gas emissions ratified, adopted, approved or joined it. As of 5 October 2016, 72 countries producing 56% of global greenhouse approved it. The United States and China, simultaneously ratified the Paris agreement. These are the world's two biggest economies accounting for 38% of greenhouse emissions.

BELTA,
8.02.2017

REFORESTATION, EXPORT GROWTH NAMED BELARUS' FORESTRY PRIORITIES IN 2017

Reforestation, improvement of the grade of different wood production facilities, utilities and construction companies and boiler houses. "The plans are vast and ambitious, but I believe that the forestry specialists of the region will fulfill them and improve their performance in the near future," Mikhail Amelyanovich said.

Forest maintenance and protection were named among the priority tasks for forestry specialists in Mogilev Oblast and across the country for 2017.

The country has developed a large-scale program for modernization of the woodworking industry. Considerable efforts were made to implement this task in 2016, and the effort will be continued in 2017. Mogilev Oblast is working hard to mechanize the wood production processes through the application of special equipment at key forest use sites and the up-



Plans have been made to purchase splitting equipment, timber dryers, machinery for the manufacture of wood chips to be supplied to

He noted that the Mogilev State Industrial Forestry Association was the second best performing regional association in the country in 2016. "Over the past year, the association fulfilled all the social and economic development targets. That was thanks to the great performance of the forestry sector, the increase in the industrial output, and the development of hunting tourism. Considerable economic results were achieved," Mikhail Amelyanovich noted.

www.BELTA.BY

BELTA,
10.02.2017

BELARUS' VEHICLE POLLUTION DOWN BY 5% IN 2016

Vehicle-related air pollution in Belarus decreased by 5% in 2016 over last year, Belarusian Minister of Natural Resources and Environmental Protection Andrei Kovkhuto said in an interview with the SB. Belarus Segodnya newspaper on 25 February, BelTA has learned.



"We see that the measures we take bring positive results. For instance, gross emissions produced by vehicles decreased by 5% last year. Although 760,000 tonnes is still a lot. But, on the other hand, the number of vehicles is also growing. Still we have managed to slightly decrease air pollution. Total

emissions to the atmosphere exceeded 1 million tonnes," Andrei Kovkhuto noted.

One of the ways to resolve the problem is setting up more park and ride facilities. According to the minister, the public transport system should also be developed further. "Belarusians are not likely to electromobility any time soon. Though, if we readjust the car rental system, the idea can be quite viable," Andrei Kovkhuto clarified.

BELTA,
27.02.2017

BELARUS, RUSSIA TO SET UP CROSS-BORDER BIOSPHERE RESERVE

Belarus and Russia intend to set up a cross-border biosphere reserve Osveya-Krasny Bor-Sebezshsky. The relevant draft agreement will be high on the agenda of a meeting of the Belarusian-Russian working group on cooperation in conservation and sustainable use of biological and landscape diversity. The meeting will be held in the National Landscape Reserve Krasny Bor, Vitebsk Oblast on 21-22 February, BelTA has learned from the press service of Russian



Ministry of Natural Resources and Environment. The parties will also discuss the ways to enhance

bilateral collaboration in the field of conservation and sustainable use of natural resources.

The parties intend to sign a joint plan of action to boost cooperation, including in ecotourism, between specially protected natural areas of Belarus (Berezinsky Biosphere Reserve and national parks) and the Association of Reserves and National Parks of Russia's North-West for 2017-2020.

BELTA,
20.02.2017

STATE PROPERTY COMMITTEE DONE REGISTERING FOREST LANDS IN BELARUS

The State Property Committee has finished registering forest lands, BelTA learned from the Committee's Deputy Chairman Vyacheslav Abramov on 21 February.

The official said: "We finished registering all the forest lands in the last two years. We are close to completing the registration of land plots that consist of agricultural lands." In



his words, the registration of agricultural lands has yet to end in Minsk Oblast and Vitebsk Oblast only.

The development of new approaches to inventorying real estate and examining real estate parameters was finished in 2016. "It is important that new software was developed. It allows setting up a dedicated website to list technical parameters of real estate properties. Every technical inventorying specialist that works with the properties does so via a central database. The approach has allowed improving our instruments and technology. We are close to reducing the cost of the work by 5-20% in comparison with 2015," explained Vyacheslav Abramov.

The State Property Committee is busy building up the system of state registration of real estate on the basis of plans. The third five-year program is now in progress. "The measures and projects scheduled for 2016 are fully completed. We are confident about future work in 2017-2018," said the Deputy Chairman of the State Property Committee of Belarus.

BELTA,
21.02.2017

PUSHCHA IS EAGER TO SHARE ITS SECRETS

By Valentina Kozlovich During monitoring of the Belovezhskaya Pushcha forest, Polish scientists have found unknown archaeological sites on the border with Belarus — stone constructions that are about 2m wide and up to 20cm high.

Ruslan Kniga, a research officer of the Belovezhskaya Pushcha National Park, said that research has been conducted using laser scanning of the Earth's surface. "The items discovered are primarily located on the hills. Digs have been conducted and stone constructions unearthed. According to our Polish colleagues, they

are hand-made and are likely to be the remains of borders of agricultural fields. Inter-

estingly, in some places these constructions lie under burial places and mounds from the early Middle Ages. It means they are older than the trees growing in the Pushcha. Of course, it's interesting to determine the exact dating of these objects and their functions. Researchers plan to study in detail the inside of the

lineal constructions which will give new information about the history of the ancient forest."

Starting from 2008, archaeological research has been conducted on the Belarusian part of the Belovezhskaya Pushcha annually. During the digs, scientists have uncovered more than 50 archaeological items from

the Stone, Bronze and Iron Ages. Some artefacts can be seen in the Nature Museum.

Mr. Kniga described the construction of the museum-skansen in the National Park, "The museum is being built as part of the 2016-2020 state programme for the environment and sustainable use of natural resources. The project for the skansen is already prepared. In 2017, Br100,000 is being allocated for the construction of communications lines and a parking area in front."

The Minsk Times, № 7(677) Thursday, February 16, 2017

THE MINSK TIMES,
16.02.2017

GRODNO EXPECTS TO WELCOME 5,000TH VISA-FREE VISITOR TO AUGUSTOW CANAL ON 27 FEBRUARY

The 5,000th visa-free tourist to the Augustow Canal will be welcomed on 27 February, Oleg Andreichik, the head of the sports and tourism office of the Grodno Oblast Executive Committee, told BelTA.

As of the morning of 27 February, there were 4,998 visa-free visitors to the tourism and recreation park Augustow Canal and its surroundings. "The 5,000 mark will be certainly beaten by the end of the day. By the way, last



Oleg Andreichik said.

week we registered an increase in visa-free arrivals against the weekly average number of visitors. We believe this is a result of the temperature rise and recent celebration events.

We think that the average weekly number of tourists will be growing steadily, and we expect it to hit its highest in May. People are already actively booking hotels and tours for the month of May,"

He noted that over 4,500 registered tourists have entered Belarus visa-free as of today. Those were nationals of 30 countries. Oleg Andreichik believes that the city of Grodno will welcome guests from many other countries in the future.

Decree No. 318 of the Belarusian head of state on the introduction of the visa-free travel to the Augustow Canal for foreigners came into force on 26 October. The document permits foreign nationals to stay on the territory of the park and its surroundings for a period of up to five days.

BELTA,
27.02.2017

BELOVEZHSKAYA PUSHCHA IN TOP 25 TRAVEL DESTINATIONS OF EASTERN EUROPE

Belovezhskaya Pushcha was named among top 25 travel destinations of Eastern Europe, BelTA learned from the website of the national park.

The rating of places every traveler must visit was published by The Telegraph. Alongside with Tallinn, Riga, Saint Petersburg, Danube Delta Biosphere Reserve and other travel destinations, the Belarusian national park ranked 18th in the list.

Today Belovezhskaya Pushcha is the largest and best remaining fragment of ancient woodland in Europe, the newspaper notes. "There are more than 2,000 types of plants and fungi, more than 200 bird species and mammals long lost elsewhere, such as lynx, beaver, red squirrel, pine marten, wild boar, wildcat, and wolf, as well as the biggest beast of them all — the European bison," the British tabloid describes the unique natural landmark.

In 1992 the most preserved part of the oldest flora of the national park was named the UNESCO World Heritage Site. Belovezhskaya Pushcha became the first object on the territory of the former Soviet Union to receive this high status. A year later, in 1993, Belovezhskaya Pushcha got the status of a biosphere reserve. In the late 1997 the Council of Europe award-

ed the European Diploma for Protected Areas to the national park. In 2012 the European Diploma was renewed for five years until 2018.



In 2013 Belovezhskaya Pushcha National Park associated with the European PAN Parks Foundation and received the Wilderness Diploma. In 2014 Belovezhskaya Pushcha became a cross-border World Heritage Site collectively known as Bialowieza Forest.

BELTA,
7.02.2017

BELARUS, LAOS PLAN TO SET UP JOINT LAB FOR QUALITY ANALYSIS OF NATURAL RESOURCES

Belarus and Laos have plans to set up a joint laboratory for quality analysis of natural resources. Ambassador Extraordinary and Plenipotentiary of Belarus to Vietnam and concurrently to Laos Vladimir Goshin met with Lao Minister of Science and Technology Boviengkham Vongdara to discuss the plans, BelTA learned from the Ministry of Foreign Affairs of Belarus.

"The parties discussed plans to establish a joint laboratory for quality analysis of natural resources in Laos," the ministry said.

The Belarusian diplomat also held talks with Minister of Foreign Affairs Saleumxay Kommasith. The parties emphasized the high level of political cooperation between the countries and considered the prospects for boosting the bilateral trade.

Vladimir Goshin presented his credentials to Lao President Bounnhang Vorachith on 14 February. "The parties discussed a wide range of matters of bilateral cooperation, stressed the need to intensify the trade and economic ties and expand the legal framework of the cooperation," the ministry added.

BELTA,
14.02.2017

FORMULA FOR ENERGY SAVING

While travelling across Belarus for work, I often see new wind turbines springing up. You can't miss their huge rotating blades. New wind farms are being created in the Grodno and Minsk regions, alongside an increasing number of solar power plants. However, we have some way to go to compare with Denmark, which leads in generating renewable energy. Over 40 percent of its electricity is generated by wind.

MT REFERENCE:

The technical potential of renewable energy sources in Belarus is estimated at 80 million tonnes of oil equivalent, which is more than the total energy consumption in the country. By 2020, the share of renewable energy generation should reach at least 6 percent.

By Yevgeny Kononov : What's preventing us from progressing faster, and what are our immediate plans? Experts, parliamentarians and ministry representatives recently met for a round table discussion, at which renewable energy sources (RES) were discussed. Belarus may appear to lack enough wind or sunlight but specialists say that Belarus' potential to use solar panels would create almost 20 percent more solar power than in Germany, Belgium, Denmark and the UK. Meanwhile, wind energy at a height of between 50 and 150 metres is significant: quite different from how we experience it on the ground. As regards wind potential, Belarus is similar to Poland and other EU

countries. Yet, the country lags behind Poland more than a hundred times regarding wind plants.

Belarus' lack of innovation in this sphere, and its state subsidy mechanism, are hampering the development of renewable energy. It seems that the country does not fully appreciate the role of wind energy: just 11MW of electricity is expected to come from this source from 2017 through until 2019. This is not enough to attract major investment. References to the high cost of such projects and their long-term return are untenable.

"Figures speak for themselves. In 2004, states invested \$60-70 billion into renewable energy projects. Today, the figure stands at \$300-350 billion. This is leading to the development of technology and is reducing the cost of such energy," concludes the Chairman of the Parliamentary Commission for Industry, Fuel and Energy Complex, Transport and Communication, Andrey Rybak. "In view of the potential of our science and engineering, we could independently develop equipment and power plants,

for export. This would involve huge funds but would bring tremendous opportunities."

The Ministry of Natural Resources and Environmental Protection's Departmental Head, Sergey Zavyalov, agrees, saying, "Nearly 400,000 hectares of land in Belarus could be allocated to solar stations. This is expensive but, over the past decade, technology has stepped forward, so that the pay-back period has dropped from fifteen to five years. This enables us to put aside elevated ratios, which the country pays to investors for the implementation of renewable energy sources. Tariffs could be lowered."

The Executive Director of the Renewable Energy Association, Vladimir Nistyuk, stresses the ecological angle, commenting, "A single wind turbine of 1MW makes it possible to annually reduce carbon dioxide emissions by 1,800 tonnes. The whole world is progressing along a path we've joined only recently. If the state, business, science and civil society work together to solve this problem, we'll succeed."

The Minsk Times,
10.02.2017



SECRETS OF LOW TEMPERATURES

A 14-year-old Briton — dying from a rare form of cancer — has ordered that her body be frozen in the hope that humanity will someday defeat the deadly disease and learn how to return people from the ice alive. She is not alone in her desire: the cryo-storage facilities created in the United States and Russia already have several hundred customers, while the list of those wishing to take advantage of the service is over a thousand. The prospect of getting a new life is illusory: so far, there is no technology allowing for the revival of organs after freezing. However, progress has already been made regarding cells and tissues. The cryobank of the Republican Scientific-Medical Centre for Cell Technologies (at the Belarusian National Academy of Sciences' Institute of Biophysics and Cell Engineering) offers some freezing services.

By Yulia Vasilieva: The key feature of this cryobank is that it is focused on the storage of adult cells. Two other banks — operating at Minsk's 9th Clinical

Hospital and the Republican Scientific-Practical Centre of Paediatric Oncology, Haematology and Immunology in Borovlyany — specialize in cord blood stem cells. The material — which a foetus uses while growing and developing — is obtained at birth. Of course, not everyone has an opportunity to use this new technology and take out 'insurance' for the future. With this in mind, the Centre for Cell Technologies has turned to cryo-conservation and the individual storage of adult stem cells and fibroblasts (skin cells).

Lyudmila Dubovskaya, the Director of the Institute of Biophysics and Cell Engineering, explains why it was decided to concentrate on this material, "Mesenchymal stem cells is a universal medicine; it can be used for a whole range of diseases. In Belarus, around 30 new treatments have been approved: pulmonary (including tuberculosis) and haematological

diseases and multiple sclerosis. Some others are in the pipeline for dentistry, traumatology and neurology; these will join the market in the next three years. In our Centre, for example, therapy for venous ulcers is being conducted with the help of stem cells. Jointly with other medical organisations, we are developing new technologies for the treatment of cartilage and bone tissue defects, gingival and periodontal eye corneal ulcers, burns, wounds, pressure ulcers and female urinary problems. These will also become available for patients in the near future. Fibroblasts are responsible for the condition of the skin."

Any work at cellular level is very complicated. It is based on the Institute's own developments — including the long development of cryoprotectants which protect cells from damage during freezing. Initially, cryo-storage was conducted exclusively for scientific purposes but, in 2014 (when the bank was established), it opened for anyone. At the moment, over a billion stem cells are frozen here — including on a commercial basis (for the patients who received treatment of venous ulcers in the Centre). Among them was an old lady who had suffered from the disease for over three decades.

"It's necessary to understand that these ulcers produce not only cosmetic effects. They generate terrible pain which force patients to take painkillers that destroy the liver and kidneys. We twice transplanted over two million stem cells for that lady — which was enough. After the first operation, the pain decreased and a month later the wound began heal. It took six months for complete restoration of the skin," the Head of the Production of Biomedical Cell Products Department — Sergey Pinchuk — says. "Our employees worked hard to preserve each cell and transplant the most active of them — even though, with age, the quality is declining."

Thus, the patient, who attended consultations jointly with her son, decided to store her cells in case the disease returns. So, did the

young Emergency Ministry officer who, after years of suffering, received relief after cell therapy. The first patient who addressed the cryobank was a Belarusian doctor working in the United States. After coming to Belarus to visit his parents, he learnt of our cryo-storage and froze his cells. This is normal practice in America and Europe; the key is that cells are more active if frozen at a younger age. In case of an emergency, there is no need to spend several weeks preparing a cure: this might be crucial in the case of injuries and burns. The medicine would be ready in a couple of days. Most importantly, there will be no rejection as the patient's own cells are used.

Stem cells can be stored virtually endlessly under conditions of extremely low temperatures and in liquid nitrogen. Experiments at the Institute of Biophysics demonstrate that around 70-90 percent of cells completely recover after cryo-freezing; these can be used for transplanting. Production at the Centre for Cell Technologies is certified according to the international quality standard GMP and looks quite futuristic — though it's only possible to see it through a small window. All rooms ensure purity class A; admission is possible only through a system of locks and in special uniform. Meanwhile, the procedure of taking the material is simple: to get fibroblasts, a piece of skin (few millimetres) is needed. A surgeon takes it under anaesthesia from the inner side of the forearm or thigh area around the navel, or behind the ear... Stem cells are obtained from adipose tissue: the required 2-5ml are 'extracted' using lipoplasty, with the help of a special cannula-tube, with minimum discomfort.

It is quite possible these manipulations will soon become natural — like vaccinations (to prevent diseases). The seemingly emerging growth of cellular technologies — aimed at preserving health and beauty — is likely to contribute to the process.

The Minsk Times,
16.02.2017



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GOOD DRIVING WITH RECHARGE

Belarusian electric car to undergo tests by end of this year.

By Yevgeny Bogomazov: One of the Belarusian institutes is currently working on the rechargeable car project. The Belarusian electric car will be based on a Bel-Gee vehicle. "We should have a prototype by autumn and have it trialled in Belarus. I hope that by late 2017 we'll have the results of the testing," noted Alexander Kilchevsky, Chief Scientific Secretary of the National Academy of Sciences of Belarus.

The exploration of new scientific prospects, including the development of Belarusian electric vehicles, will become more feasible once the Belarusian nuclear power station is in operation.

"This is a landmark event for Belarus. One of the tasks of the Academy of Sciences is the provision of scientific support. Just imagine that after the Belarusian nuclear power station is launched the country's supply of electricity will increase by 50 percent. This means that we'll be able to use cheaper electric energy. We'll be able to start the development of one of Belarus' first houses that will function almost completely using electricity. On the one hand, this will save gas consumption while, on the other hand, we'll need to build heat pipelines and other infrastructure," explained the scientist.

The Minsk Times, № 5(675) Thursday, February 2, 2017

www.belta.by www.belta.by
The Minsk Times,
16.02.2017

SPECIAL REPORT: FROM A GENGINEERED GOAT TO LACTOFERRIN-BASED MEDICATIONS

An experimental facility to make human lactoferrin out of milk produced by transgenic goats operates in Minsk. Lactoferrin is a beneficial protein with many qualities with a lot of promise for making lactoferrin-based food, biologically active supplements, medications, perfumery, and cosmetics. BELTA reporters visited the enterprise to learn what products exactly will be made in Belarus out of the unique protein.

For the first time ever Belarusian and Russian scientists have created herds of transgenic goats that can produce recombinant human lactoferrin. Human genes are now part of the goat DNA. The project was implemented as part of the Belarus-Russia Union State programs BelRosTransgen and BelRosTransgen 2. Lactoferrin boasts antibacterial, antiviral, antimicrobial, anticarcinogenic, anti-inflammatory, immunomodulatory, antioxidative, and regenerative qualities. The global demand for lactoferrin is estimated at 90 tonnes per annum.

The Belarusian and Russian scientists spent about 15 years working towards the establishment of the experimental lab that can make lactoferrin. At long last the facility was opened in the Microbiology Institute of the National Academy of Sciences of Belarus on 26 October 2016.

Alexander Kostenevich, head of the protein lab and the lactoferrin-manufacturing facility in the Microbiology Institute, noted: "It is an absolutely unique project. Japan and America use lactoferrin made out of cow milk. That kind of lactoferrin is used to make food and biologically active supplements. There is another variety made out of human breast milk. However, it is prohibitively expensive and the raw materials are hard to come by. Industrial production out of that kind of milk is impossible. We've managed to distill human lactoferrin out of milk produced by transgenic goats, which DNA now implements human genes. The transgenic goat lactoferrin differs from the cow milk lactoferrin in content and boasts action mechanism advantages. Transgenic goat lactoferrin can be used for industrial production. It is possible to make and export products based on this kind of lactoferrin." There are plans to make up to 5kg of lactoferrin per annum.

The scientists are busy working on a project to make baby formulas based on lactoferrin and some additional whey proteins. The formulas are expected to have a favorable effect on hu-

man organism. The project will be finished within two years. "It will be an absolutely new product for our country. I should note that the product cannot be described as genetically modified although it will be made out of transgenic goat milk," stressed Alexander Kostenevich.

There are plans to make biologically active supplements because lactoferrin boasts antimicrobial and antiviral qualities. It will be possible to make a lactoferrin-powered medication in the more distant future. "However, medics will have to spend many years doing clinical trials in order to find out all the peculiarities the medication may have," said the lab head. Making lactoferrin involves several stages. The transgenic goats are taken care of by personnel of the animal husbandry R&D center of the National Academy of Sciences of Belarus. Goat milk is frozen and delivered to the experimental manufacturing facility. Here milk is unfrozen and defatted using a separator.

After that milk is subjected to microfiltration to remove bacteria and casein proteins, which final product does not need. Whey is the result. Lactoferrin is one of the proteins this whey contains.

Chromatography comes next. A chromatographer can separate lactoferrin from other whey proteins and produce lactoferrin as reddish liquid that also contains water and salts. An ultrafiltration plant is used to remove water and salts in order to increase lactoferrin content.

High-vacuum freeze drying is the final part of the process. The dryer can produce lactoferrin as rosy powder.

Shortly after the startup and commissioning operations and the first run of the equipment the scientists managed to produce 24g of lactoferrin. Some is being examined in the Microbiology Institute. Some has been handed over to other organizations of the National Academy of Sciences of Belarus. The scientists are studying antimicrobial, immunopotentiating, physical parameters and other qualities of the product. "We are constantly working to improve the lactoferrin manufacturing technology, optimizing it and making it better," said Alexander Kostenevich.

Human lactoferrin made out of transgenic goat milk and the unique lactoferrin manufacturing facility will be presented during Foodex Japan 2017 in March. Negotiations on exporting lactoferrin to Japan are already in progress.

BELTA,
27.02.2017

