

# Siberian beauties take root in Polesie

## First crop of cedar cones gathered in Vetka District of Gomel Region

By Andrey Smolsky

Remarkably, Siberian cedars have begun to grow in various corners of Belarus, in small numbers — even bearing fruit. Clearly, the Siberian beauties are able to thrive here. Forests may soon be planted to take advantage of the situation, with thanks most due to Vetka resident Gennady Asanov, a native of Siberia. Destiny brought him to Belarus — as his wife is from the Vetka District. Many decades ago, having read the Soviet magazine *Wood and Man*, about cedars being able to grow and bear fruit beyond Siberia and the Far East, he decided to try his hand, bringing back cones from a trip East.

Of course, Belarus is located on the same parallel as Altai but imagine his surprise on seeing shots begin to grow. In time, the first sapling grew stronger and Gennady realised that his attempts to grow Siberian giants here might not be hopeless. Mr. Asanov then planted a small area in the village of Pobuzhie, in the Vetka District.



Harvesting of cedar cones. In the centre — Gennady Asanov

In 2010, after 35 years, some of the trees were mature enough to produce cones: a real wonder since

they don't usually do so until aged about 60. Mr. Asanov still views the success as a minor miracle, having rec-

onciled himself to perhaps never seeing them bear fruit. This May, he noticed that every tree is now bearing

cones, with the trees achieving an average height of 14-15m.

Vetka's forestry enter-

prise has helped Mr. Asanov in gathering the cedar cones, using an ordinary fruit gathering machine. Of course, few people in our country have experience in this field. The first crop appeared modest — just a few kilograms — but they offer the chance for future planting, so are being kept safely in Gennady's home.

Ivan Gorelikov, the Deputy Director of Vetka's forestry enterprise actually has some knowledge of Siberia and cedars, so has been supporting Mr. Asanov's work. He notes, "Regarding making a plantation, our enterprise intends to cultivate cedars across the district. I think that our arboretum being planted in autumn will attract visitors and local residents; we'll repeat the process in spring. Gennady has already planted a walnut avenue, having bought seeds and planted them; 18 seedlings have taken root."

The Wood Institute of the National Academy of Sciences of Belarus is keen to grow cedars also, opening wide horizons for the species in our country.

# Orange sky asks for help

## Unique device makes its début in Antarctica

By Dmitry Patolichev

The main atmospheric pollutant, toxic orange-brown nitrogen dioxide gas, comprises up to 8 percent of all pollutants emitted into the air by transport and industry. However, in its strength of toxic influence and active participation in photochemical reactions it significantly outstrips all other pollutants — all put together. It may seem to be present in small concentrations but it plays a key role in forming harmful acid rain, reducing the planet's ozone layer.

It has been a few years since the leading countries of the world organised a special network monitoring nitrogen dioxide, using fixed spectral apparatus, and continuously publishing the results. Sadly, Belarus appears as a black spot regarding such data; despite daily observations being carried out since 2010, we lack regular communication with foreign scientists, and the equipment used by Belarusian physicists does not fully meet international requirements.

The situation is soon to change, thanks to new and original spectral apparatus for monitoring nitrogen di-

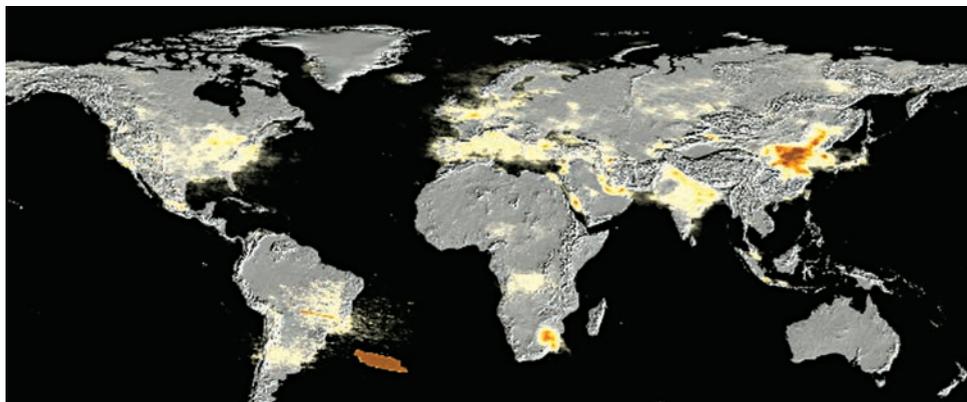
oxide created by the National Research Centre for ozone monitoring and the Belarusian State University, with support from the Institute of Atmospheric Physics, of the Russian Academy of Sciences. The all-weather spectral

National Research Centre of Ozonosphere monitoring and a post-graduate of the Physics Department of the Belarusian State University. "I'll go there in November of this year as a member of the Belarusian expedition and I hope that it

less sky, our spectral module is a passive remote sensing device, able to operate in almost any weather. It registers the spectral brightness of areas of the sky, by directing its lens and singling out specific signals. It calculates the dis-

tribution of nitrogen dioxide throughout the height of the sky with high precision, as multiple measurements are performed at different elevations of the telescope. It is most sensitive in the lower atmosphere — up to 5-6km — where most nitrogen dioxide is concentrated; at dusk, it can carry out measurements in the higher layers of the troposphere."

Unlike its foreign counterparts, the Belarusian device has no need of a fibre optic light guide, where the signal is delivered from a receiver to a spectrograph. This is advantageous, since this method can significantly reduce 'noise' levels and allow measurements to be taken more quickly. In addition, as the optical fibres used by foreign devices absorb some of the ultraviolet area of the spectrum, they cannot fully determine the level of trace gases in the ultraviolet area. The BSU device has no such drawback, allowing full monitoring on the ozone layer and its levels of nitrogen dioxide. "It's vital to measure nitrogen dioxide in the atmosphere across various regions of the country, as this gas is short-lived, converting quickly into other chemical compounds. Some aerosol gases then attach to these, so the information we capture is mostly of local origin," emphasises Alexander Krasovskiy, a leading researcher at the National Research Centre of Ozonosphere Monitoring, and candidate of physical and mathematical sciences. "It is possible not only to measure pollution, but to take measures against the emission source, which can be easily determined by the spectral method on a loop in the atmosphere."



Monitoring of planet's ozone layer will be conducted in Belarus

module has an NO<sub>2</sub> meter, with a multilevel input system for radiation; undergoing international calibration in Germany, at the Chemical Institute of Max Planck, it has been given a certificate of compliance with international standards and will soon return to Minsk.

"However, before the spectral module can be used to monitor the atmosphere in Belarus, it will be tested in Antarctica," says Ilya Bruchkovskiy, the device developer: a junior researcher at the

will help to clarify the picture of the distribution of nitrogen dioxide over this continent. There's a peculiar distribution of atmospheric layers, temperature and pressure there; we expect to learn how all this affects the object of our interest. Such equipment will be used in Antarctica for the first time, and it gives our mission particular importance. Unlike LIDAR — laser radar, collecting information on the composition of the atmosphere through reflected pulses — which requires a cloud-

tribution of nitrogen dioxide throughout the height of the sky with high precision, as multiple measurements are performed at different elevations of the telescope. It is most sensitive in the lower atmosphere — up to 5-6km — where most nitrogen dioxide is concentrated; at dusk, it can carry out measurements in the higher layers of the troposphere."

Unlike its foreign counterparts, the Belarusian device has no need of a fibre optic light guide, where the

## Quality of life

By Natalia Svetlova

### Belarus to produce own medications to treat HIV infection

"HIV diagnosis is not a death sentence," asserts Dmitry Paduto, the Deputy Chief Doctor at Minsk's City Clinical Infective Hospital. "Today, HIV is a chronic yet controllable illness. Treatment is similar to that for diabetes mellitus: a fixed regimen, while taking medicine. Importantly, we need patients to come to us in the early stages, when the disease can be managed more easily."

Belarus provides for free treatment, thanks to the Global Fund to Fight AIDS, Tuberculosis and Malaria. Medicines cost just \$200 annually, with the state now aiming to produce its own, to save money spent on imports. By the end of the year, packaging will take place in country, saving 10-20 percent, judging from international experience.

Information campaigns are a vital tool in tackling HIV awareness and public perception. Young designers have created original posters and booklets, for distribution at universities and polyclinics. These aim to reduce the stigma of the disease, to encourage people to be tested, and to better inform the public of how to prevent the spread of infection.