



On the block. Founded by N. I. Vavilov in 1926, the Pavlovsk station could be dismantled soon.



PLANT SCIENCE

Pavlovsk's Hopes Hang on a Tweet

A Russian research center with a unique collection of European fruits and berries could be bulldozed for housing unless a legal decision is reversed

MOSCOW—Scientists trying to save a unique gene bank of thousands of fruit and berry crops in Russia have taken heart from a surprise intervention last week by Russian President Dmitry Medvedev. He sent out a “tweet” from his Twitter account saying that he wants to review a court decision that threatens to destroy the collection. Medvedev’s note came amid an international campaign to rescue the Pavlovsk Experimental Station of the N. I. Vavilov Institute of Plant Industry near St. Petersburg, whose lands have been approved for bulldozing by property developers.

More than 6000 varieties of apples, plums, strawberries, and other fruits could be obliterated in what scientists say would be a significant blow to global food security. The station is the largest repository in the world of European fruits and berries. Its value lies in the immense diversity of its collection and the opportunities it offers plant breeders to screen for beneficial traits that can help crops adapt to climate change, pests, and disease. Up to 90% of its varieties—including more than 1000 strains of strawberries—are not held anywhere else. Many no longer exist in the wild.

The station was dealt a blow on 11 August when Moscow’s arbitration court approved a decision to pass 71 hectares of the station’s state-owned land to the Russian Housing Development Foundation. An appeal concerning a separate 19-hectare plot was rejected in April, and some of the land is expected to go on sale as early as 23 September. But Presi-

dent Medvedev signaled a possible change of fortune 2 days after the arbitration court’s decision, with a tweet that said: “Received the Civic Chamber’s appeal over the Pavlovsk Experimental Station. Gave the instruction for this issue to be scrutinised.” That message appeared to vindicate the tactics of campaigners who had sent hundreds of tweets to Medvedev and lobbied Russian agencies such as the Civic Chamber, a Kremlin-appointed public watchdog.

“This is excellent news,” says Emile Frison of Bioversity International, which has collaborated with Pavlovsk on researching the nutritional benefits of its collection. “I hope President Medvedev will look at it seriously and decide to save this invaluable resource, not only for Russia but for the entire world.” Before the tweet, Pavlovsk station director Fyodor Mikhovich had all but given up hope, telling *Science*, “Our legal options are almost exhausted. ... We need to find some way to stop this madness.”

Pavlovsk Experimental Station was created in 1926 by Nikolai Vavilov, the Soviet botanist and geneticist who is credited with inventing the seed bank. It is a field collection of plants that cannot be stored frozen as seeds. Because they are propagated by grafting, it would take a minimum of 10 years to relocate the collection. “You could say, why not just save the best apple or the best blackcurrant?” says Cary Fowler, executive director of the Global Crop Diversity Trust (GCDT) in Rome. “But there is no such thing as ‘the best’ in an evolutionary,

biological world. Today’s best variety is tomorrow’s lunch for a new insect.”

GCDT is working with the Vavilov Institute to translate and digitize its records and hopes to add them to Genesys, a new software system giving access to information from gene banks all over the world. Fowler says not many foreign breeders and researchers have visited the institute to date because of the difficulties of accessing data in Russia. “The upshot of Genesys is that this collection, which is the biggest in Europe, is about to become visible to Europe and everywhere else in the world.”

Fowler adds: “If Pavlovsk is destroyed, it’ll be the biggest 1-day tragedy in my 30-year professional life. We’ve lost a few collections on the way, from neglect, civil strife, war. But this is preventable. A conscious decision is being made by human beings to destroy this diversity. It’ll be gone forever.”

Russian officials have taken little interest in the repository, even as the worst drought in 130 years has wiped out at least a quarter of the country’s grain harvest. “With Europe experiencing unprecedented fluctuations in weather, it brings into sharp focus the need to have a flexible response, to have places like Pavlovsk to underpin crop improvement for the future,” says Mike Ambrose of the John Innes Institute, Britain’s leading center for crop research.

Pablo Eyzaguirre, a senior scientist with the nutrition program of Bioversity International, says the potential health benefits of the Pavlovsk collection are enormous. His organization has been working in partnership with the station and the Gabriel Lippmann Center for Public Research in Belvaux, Luxembourg, to investigate micronutrients in edible honeysuckle and berry varieties.

“They have many northern berries that are tremendously important for functional diets where there isn’t great access to a diversity of fruit and vegetables,” says Eyzaguirre. “So it’s ironic that a country like Russia that is facing a major health crisis from chronic diseases would contemplate destroying such a resource. In fact, it’s barbaric.”

—TOM PARFITT

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