

School of Gastronomy: SibFU Hydroponic Farm

The School of Gastronomy of Siberian Federal University announced the start of the university vertical farm operation and presented it to scholars of SibFU and Krasnoyarsk Scientific Centre (SB RAS) who will join the development of high-tech prototypes.



Shortly, the farm will become an interdisciplinary research site for testing new technologies in growing cultivated plants. Thus, the School of Engineering Physics and Radio Electronics will contribute by introducing experimental new high-power lamps with a variable spectrum affecting the growing speed and quality of seedlings. At the same time, the School of Fundamental Biology and Biotechnology will join efforts with the Institute of Biophysics (Krasnoyarsk Scientific Centre SB RAS) to develop an original formulation of nutrient solutions for hydroponics.

“The project is already in progress. We have prepared several prototypes based on phosphor technology, which significantly reduces the production cost. Prototypes are now under test and demonstrate good performance. As soon as we get results with no failures in the operation, the devices will be introduced to the experiments with different cultures,” said **Maksim Molokeev**, assistant professor, School of Engineering Physics and Radio Electronics (SibFU).



“Each growing season requires the specific nutrient solution containing certain elements, while the spectrum of lamps varies the growth conditions. This means that we need to work through all interdisciplinary aspects of applying new technologies to the farm. That is, another area for experiments is opening up within the walls of Siberian Federal University,” shared **Nikolai Gaevsky**, professor at the Department of Aquatic and Terrestrial Ecosystems, School of Fundamental Biology and Biotechnology (SibFU).



An automated multi-tiered grow rack system (the vertical farm of the university) was purchased with a grant for updating the instrumentation base of leading organizations provided by the Ministry of Science and Higher Education of the Russian Federation. Within Gastronomic R&D Park as a part of Priority 2030 project, the laboratory-farm is meant to become a unique innovative platform for collective use to synchronize research activities, educational content, and innovative activities that would result in breakthrough technologies for city farming. The research site will provide the necessary conditions to advance in progressive plant growing by the means of hydroponics and training highly qualified research specialists in food engineering and the agricultural sector of the economy.

“The School of Gastronomy aims to create the latest production technologies for food in the broadest sense. We are talking about food security, more efficient use of territories and resources to obtain a high-quality crop,” said **Aleksey Gorensky**, director of the School of Gastronomy.



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