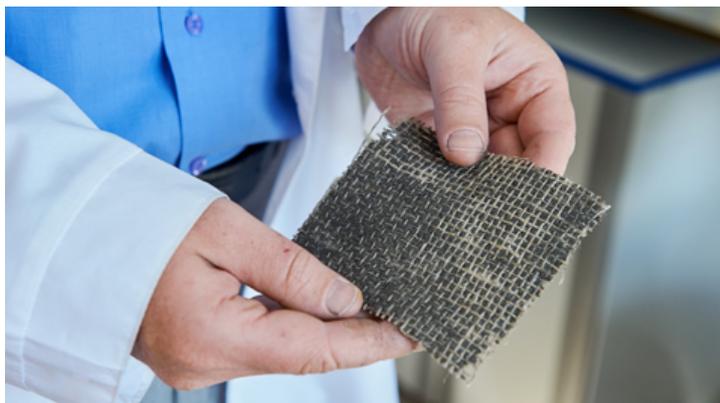


Scientists of SibFU will make trees grow faster

Scientists of Siberian Federal University created a fertile surface layer of soil in the laboratory — a biomass that will significantly simplify and accelerate the process of reclamation in disturbed lands, including northern territories, where the biological stage of reclamation is greatly hampered by considerable remoteness and inaccessibility, severe climatic conditions and hydrothermal regime of soils.



“The main advantage of the biomat is that it completely decomposes within 4-5 years. The products of its decomposition become a part of the soil humus, ensuring plants growth. In addition, the biomass is produced by glueing, which is much more technologically advanced than, for example, piercing. The artificial soil looks like a carpet, it is light and it can be spread almost anywhere. Biomats can not only help ecologists restore damaged lands, but they can also be used for city streets greening, for example, in suburban areas”, said **Alina Burnova**, a Master's student at the School of Ecology and Geography of SibFU.

Biomat is a natural fiber base, which is saturated with a special inert composition based on polyvinyl acetate maintaining mechanical strength. Organic fillers containing biologically active additives and binders of natural origin are applied to the base. In some cases, the biomat is injected with strongly swelling hydrogels, which significantly increase the water-retaining capacity of the artificial soil and, consequently, facilitate the seedlings - the plants independently extract moisture from the hydrogels, it requires less watering.

As the seed material, fast-growing sod grasses and seeds of some bushes and trees are used, including pre-inhibited ones. Since this year, researchers have also tested the effectiveness of the biomat in the sowing of tree species, in particular Scots Pine, which is distinguished by its unpretentiousness and high suitability for reclamation of sandy soils. Experiments have shown that the seeds as well as their survival have improved. Moreover, for 6 months, pine trees planted on biomats grew twice as fast as the control ones. The representatives of oil and gas companies are already interested in the work of young researchers.

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