

using sulfate soap, the main component of which is lignin. Sulfate soap is accumulated as a waste of pulp and paper production and requires mandatory disposal. This approach allows to significantly reduce the working pressure in the equipment where the pellets are formed, and to involve in the production of low-grade wood waste. In the process of extrusion method of obtaining granules, to improve their quality, we used a lignin binder. Thus, it is proved that one of the ways to reduce the pollution of the river system with wood waste can be the creation of the production of fuel pellets and briquettes - a valuable energy product.

As a result of research, two types of environmental threats to surface waters of the region were identified: microbiological pollution of streams and watercourses and pollution of the hydrosphere by effluents of processing enterprises, which are a common industry in the study region. A number of engineering and technical solutions to increase the level of ecological safety of the mountain ecosystem are proposed.

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MICROBIOME OF THE COLON CAVITY OF THE ADULT POPULATION IN BUKOVYNA REGION

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The colon is the main reservoir of the symbiotic human microbiota. About 60% of symbiotic microorganisms of the human body persist in the distal parts of the intestine. The colon microbiome completes the fermentation of undigested food residues, participates in the process of peristalsis, secretion of biologically active substances, food absorption and protection of the mucous membrane against pathogenic microbiota, forming its colonization resistance.

The understanding of the complexity of the polytaxonomic structure of the intestinal microbiome has greatly expanded in recent decades after the development and implementation of highly productive bacteriological, molecular and metagenomic research methods. Due to their use in 2011 by a group of scientists from the European Laboratory of Molecular Biology, the intestinal microbiome is classified into three main variants or enterotypes, which are determined by the dominant bacteria in the microbiota. Each enterotype appeared to have not only its own genus of bacteria (*Bacteroides*, *Prevotella*, *Ruminococcus*), but also differs in the ratio of individual representatives of this taxon.

Study of taxonomic composition, population level and microecological indicators of "host-microbiome" ecosystems, by the index of permanence, frequency of occurrence, Margalef indices of species richness, Whittaker species diversity, Simson, Berger-Polydaker and Parker indices of species dominance found that leading microorganisms in the Bukovynan region are bacteria of the genus *Bacteroides*, which were found in all subjects not only among healthy people, but also in patients with various diseases of the intestines and other organs.

Bacteria of the genus *Bacteroides* in all healthy people were found in a high population level (from 8.97 ± 0.47 to 9.98 ± 0.81 lg CFU/g), which confirms their dominant role in the microbiome in taxonomic composition, as well as the coefficient of quantitative dominance both in healthy and sick. *Bacteroides* in the intestine have a high coefficient of quantitative dominance, a coefficient of significance and one of the key taxa involved in the self-regulation of the intestinal microbiome. It should be noted that this enterotype among the inhabitants of Bukovyna region was formed due to a specific diet. The latter includes foods rich in animal fats.

Rotar D.V.

SENSITIVITY OF P. FREUDENREICHII TO SUBSTANCES FOR THE SORTING OF FABRICS IN THE TEXTILE INDUSTRY

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The human skin is in constant direct contact with the environment, including exogenous microflora. The concentration and species composition of the skin microflora depend on the content

of sebum, humidity and acidity of the environment. The secretion of sweat glands, neutral pH and heat increase the degree of seeding by microorganisms. The most common representatives of the skin microflora are various species of the genera *Corynebacterium*, *Staphylococcus*, *Micrococcus* and *Propionibacterium*.

Sometimes the representatives of the normal microflora can be dangerous to the immunosuppressive organism or in the background of quantitative and qualitative disorders in the microbiocenosis, becoming pathogens. Thus, a representative of the normoflora of human skin *Propionibacterium* may have pathogenicity in excessive colonization in the background of disorders in the skin microbiome. A typical species of the genus *Propionibacterium* is *P. freudenreichii*.

Our skin is in constant contact with clothing, that is open areas have a more volatile microflora, and closed areas are dependent on textiles and conditions of its use. The purpose of our study is to determine the effect of substances for fabric sorting on the representative of the normal microflora of human skin *P. freudenreichii*.

The aim of the study was to determine the sensitivity of *P. freudenreichii* to substances treated with the studied flaps of different textures. The task of the study was to determine the effect of the studied flaps on the number and viability of *P. freudenreichii* and to establish the ability of the culture of *P. freudenreichii* to recover after interaction with the sample examined.

12 samples of different textile flaps were taken for the study treated with different substances to organize them. All the samples were coded. Flaps 1 cm² were cut from the fabric under aseptic conditions. The experimental study is aimed at determining the effect of substances the textile flaps are treated with on the representative of the normal microflora of the human body *P. freudenreichii*. The study is divided into two stages: the first aims to determine the impact of the studied flap on the number and viability of *P. freudenreichii*, the second - to determine the ability of the culture of *P. freudenreichii* to recover after changing the nutrient medium. *P. freudenreichii* reference strain of the microorganism is a member of the family of propionic acid bacteria. Thioglycol sterility control medium was used for its cultivation.

Thus, the experimental study found the effect of the studied flaps of fabrics treated with various substances on the number and viability of *P. freudenreichii*. The test culture was mostly affected by 10⁷ CFU/ml 3, 5 and 9, which reduced the number of bacteria on 5 orders, with the recovery of cultures was at a minimum level - 10²-10³ cells/ml, which indicates irreversible changes in the vital processes of *P. freudenreichii*. The experiment with 10⁸ CFU/ml *P. freudenreichii* also isolated samples 3, 5 and 9, namely substances with which these samples were treated were effective even at an order of magnitude higher microbial load. The most promising was the sample 9, because it acted equally in the first and second microbial load, and significantly disturbed the vital activity of the reference culture and limited the opportunities for its recovery. The next step was to determine the toxicity of substances for textile treatment and to determine the sensitivity of other test cultures of microorganisms to the studied tissue samples. The obtained results are of practical importance in the manufacture of medical textiles and patient care products.

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TAXONOMIC COMPOSITION AND MICROBIOLOGICAL INDICATORS OF MICROBIOTA OF INFECTIOUS-INFLAMMATORY PROCESSES OF SOFT TISSUES

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Microbiological examination was performed in III patients with infectious-inflammatory processes of the soft tissues: post-infectious abscess (32.43 %), carbuncle (16.21 %), panaritium (10.81 %), appendicular filtrates, purulent cyst and phlegmon (8.11 %), mastitis (7.21 %) and others. The test material was purulent-serous exudate of the focus, in some patients with their consent, the wall of the inflammatory focus was selected to determine the concentration of microbiota in the exudate and tissue.