Experimental data on the optimization of the growth properties of lactobacilli by their energy-informational transfer of known and necessary properties

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The experiment was carried out at the State Scientific Center of the Russian Federation, the Institute of Biomedical Problems of the Russian Academy of Sciences, with a tripartite interest.

Purpose of the study: optimization of the growth properties of lactobacilli by means of transmission of the energy-information signal from the "microbe-substrate" systems, where the growth properties were optimized for a conventional system to obtain the same optimized growth properties.

MRS medium (a special medium for germination and study of some microorganisms - the characteristics and properties of the medium are not disclosed by the company), containing water treated with hard ultraviolet light, was used as a model. In previous studies, it was found that when using such a medium for the restoration of bacterial cultures from lyophilisates, the cell recovery was significantly higher than when using a similar medium, in which specially treated water is not used, by about 1–2 orders of magnitude; 10-100 times.

Methodology

Phase one The research consisted in checking the previously noted phenomenology of microbial growth optimization on a medium containing a modified nutrient medium. The studies included preparation of a nutrient medium and inoculation of a reconstituted culture of lactobacilli. For this purpose, lyophilized cultures of lactobacilli were dissolved in saline, after which serial dilutions were prepared in MRS medium based on water treated with hard ultraviolet light, as well as on the basis of ordinary distilled water. Studies have confirmed an increase in the number of colonies grown on media containing water treated with harsh ultraviolet light.

Second phase research consisted in the selection of the dose of inoculum for introduction into culture media for the main part of the experiment. For this purpose, the growth of bacterial cultures in various dilutions on MRS medium was evaluated. Based on the studies carried out, the inoculum dose was determined as 1x10five colony-forming units of lactobacilli in one ml. Wednesday.

Third phase research included the actual setting of the experiment.

Additional electrodes were installed on standard glass vials, connected to the corresponding containers of the device for adaptive bioresonance therapy using BAT and BAZ: "IMEDIS-BRT-A": a bottle with MRS medium in a volume of 100 ml, in which water was treated with hard ultraviolet light. Two vials were filled with standard MPC medium with ordinary distilled water. A standard amount of inoculum prepared according to the results of phase 2 studies was added to the MRS medium. One of them was connected to container # 2. The following modes were set on the device: automatic, type of therapy - "golden section", order - sequential search of meridians, time regulator for min, i.e. 0.05 s, potentiometer / coefficient. to "7". The device was turned on for 24 hours.

The flasks were placed in separate thermostats. Incubated for 24 hours at a temperature of 37oC. During this period, energy-informational transfer of signals from the bottle with the MRS medium containing water treated with hard ultraviolet light was carried out, and their translation to the bottle with the MRS medium containing ordinary distilled water.

A bottle with MPC medium and with ordinary distilled water and with the same dose of lactobacillus inoculum was placed in a thermostat at the other end of the building.

At the end of the studies, the cultures grown in the flasks were resuspended and their contents were titrated into tubes containing MRS medium to assess the culture growth under experimental and control conditions. The tubes were incubated at 37oC, after which the intensity of growth was assessed under experimental and control conditions.

The frequency of setting up experiments is 5.

Research results are presented in table 1

Table 1

Characterization of bacterial growth in the experiment

Study number	Wednesday MRS with water, processing tannu tough ultraviolet	Wednesday MRS, to which was broadcast signal	Control Environment MRS
Experiment 1	7.5 x 10_{eight}	2.1 x 10_{eight}	1.1 x 10^7
Experiment 2	4.7 x 10_{eight}	3.4 x 10_{eight}	3.2 x 10^7
Experiment 3	6.1 x 10_{eight}	3.5 x 10_{eight}	3.4 x 10^7
Experiment 4	4.1 x 10_{eight}	2.5 x 10_{eight}	6.2 x 10^7
Experiment 5	3.0 x 10_{eight}	3.4 x 10_{eight}	5.1 x 10^7

As follows from the data presented in the table, the culture growth in flasks, which were exposed to a signal from a medium containing factors that optimize bacterial growth, was similar in intensity to the growth in the latter and differed from the growth rate in the usual control medium.

In addition, in the last 5 experiment, on the recommendation of Yu.V. Gotovsky, potentiality / coefficient regulator was set to the number "10". The result in terms of quantity was the same, but the lactobacillus colonies had a significantly greater mass.

Conclusion: The transmission of energy-information signals with specified properties on the equipment created at the IMEDIS Center has experimental confirmation. In addition, it is possible to enhance some characteristics of biosystems.

Literature

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