

ANNOTATION
of report on Research Practice of a two-year student, group BT-51m
specialty 8.05140101 - Industrial Biotechnology
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on the topic «Establishment of technological parameters for microbial
biosynthesis of landomycin A antibiotic»

Report on Research Practice is written on 23 pages of printed text. The report consists of: introduction, two chapters, conclusion, list of references and contains 3 figures and 4 tables.

The report on Research Practice includes:

1. Review of the literature on the topic "Effect of cultivation conditions on the biosynthesis of antibiotics by streptomycetes";
2. Experimental part.

The introduction proved the relevance of the chosen topic of the research, described the goal of practice and its problems.

The object of the research was a culture of actinomycetes *Streptomyces cyanogenus* S136-MO19, which produces antibiotic landomycin A.

The work used materials and methods that allowed determining the concentration of antibiotic and productivity of the culture based on the composition of culture media and / or parameters of the biosynthesis.

The main results are determination of the effect of the temperature and stirring intensity on biosynthetic ability of the culture; establishment of the optimal duration of the biosynthesis and differences in the process of using different media; determination of the productivity of the culture and optimum concentration of the inoculum. In addition, an analysis of the cost of culture media components was made.

According to the results of Research Practice the following conclusion was made:

1. The optimum set parameters for the synthesis of the antibiotic culture *Streptomyces cyanogenus* S136-MO19 is 25 ± 1 °C temperature and stirring 230-250 / min.
2. Duration of the biosynthesis depends on the nutrient medium determined within 50-60 hours.
3. The ability of producers to the disposal of a number of alternative nutrition components was shown, including an extract of soy flour and maize flour cornmeal determine the high biosynthetic activity of the culture.
4. Defined the level of the antibiotic accumulation has shown that 7-9% of the inoculum causes the maximum content of antibiotics.
5. Confirmed the feasibility of the usage of the alternative nutrient medium based on an extract of soy flour, due to reducing in 2-3 times the cost of the initial version at a high level synthesis product.