

# Obtaining proteins from yeasts

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## 1. Introduction:

The continuous growth of the need of protein for human and animal alimentation determined the development of new possibilities in obtaining proteinins with superior properties. An important objective of biotechnological revolution, it is to support solutioning two important crises (provision and energetic)[1]. Recent studies estimate that at the end of this century, the proteinic deficit will be much bigger than in the present[1]. The purpose of this project is to find an alternative for replacing the animal proteins for people who do not want to or can not consume them.

## 2. Experimental Setup:

The experiment went through 4 important steps.

Steps:

A. Processing the soil

B. Obtaining the yeast

C. Simple staining

D. Observing at the optical microscope after the simple coloring

A . To process the soil , the first thing which needs to be done is to weigh it. After weighing the soil, it is processed after leaving it a short period of time with water. In this procedure, vine soil from Tohani was used. After weighining, soil dilution is next. Diluting the soil many times, improves the interpretation of the data and the development of a bigger number of cells can be obtained [2]. Dilutions are also made, so that the next step, which in this case is seeding and counting of the colonies, can be realized.

In figure 1, seeding the medium with soil dilutions is represented, which consists in plotting along the agar, once, in zig-zag [2]. After the seeding process took place, the vials are incubated for 24-48 hours, at temperature of 25° C [2].



Figure 1- Seeding the medium

B. Obtaining the yeast is the next important step after processing the soil. After we obtained the yeast, because of their reduced dimensions, the study of microbial morphology is possible only with the help of the microscope [2]. Microorganisms can be studied fresh(live) or long-lasting (smear) preparations and in this case smear(microscope blade with microbial material on its

surface) [2]. The technique of smear execution requires going through 4 steps (displaying, drying, fixing and staining) [2]. After the experiment went through the first 3 steps, the following is the simple staining. In this experiment, simple staining was used, meaning the use of a single dye [2].

## 3. Results

For the experiment, there were prepared 3 mediums with different concentration of methanol as in figure 1. As the concentration of methanol rises, the colony-forming units number lowers.

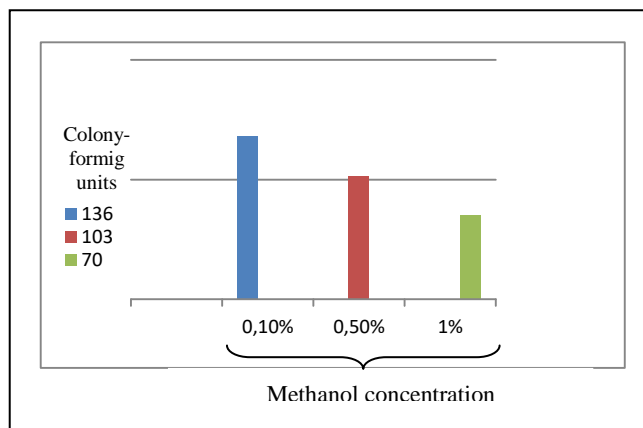


Figure 2- Methanol concentration on different mediums

## 4. Conclusion

Soil and medium processing are one of the most important stages.If the soil and the medium is properly processed, the seeding takes place, which leads to the obtaining of the yeast.Yeast being obtained, protein production is possible.

This process depends on concentration of methanol. When the concentration of methanol is a lower value, as in the graphic, 0,1 %, the number of colony-forming units rises.

## 5. References

[1] I. Anghel, A. Vamanu, Liliana Mitrache. “ Biology and Tehnology of yeasts”

[2] Rodica Pop. “General Microbiology”

