

DIFFERENT VEGETABLE OIL SOURCES EFFECTS ON BIOMASS PRODUCTION OF YEAST

M. MURUGANANDAM*¹ AND V.TAMIZHAZHAGAN¹

Department of Zoology, Syed Ammal arts and Science College, Ramanathapuram-623513.Tamilnadu, India.
Email: vaccine.m@gmail.com

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ABSTRACT

Background: Oil is an important fat source of all organisms. Yeast is a unicellular fungus, very much useful in various industries, especially used in food industry. Methods: In this work, various vegetable oils such as coconut oil, gingili oil, neem oil, Castrol oil and sunflower oil were used to test their influence on biomass production of yeast. First 10% of various oils are mixed with freshly prepared yeast broth medium, and then yeast were inoculated and incubated at 37°C. After 48 hours, biomass production was studied in all the treatment. **Results:** The maximum biomass production was observed in gingili oil, least production was observed in control treatment. Because distilled water was used as control and another least production was observed in Castrol oil, because it may due to its viscosity. Conclusion: If develop low cost culture medium for yeast biomass production. These results will be very much useful to yeast production industry.

Key words: Oil, Yeast, Biomass production.

INTRODUCTION

Inappropriate prescribing of antibiotics has been attributed to a number of causes, including: people who insist on antibiotics, physicians simply prescribe them as they feel they do not have time to explain why they are not necessary, physicians who do not know when to prescribe antibiotics or else are overly cautious for medical legal reasons [1]. The yeast *saccharomyces crevicea* is useful to food industry in man and animals. It contains more RNA [2]. It enhances the phagocytic activity and serum lysozyme levels in fish and It is also effectively enhance the functions of Immune system of fish [3]. Quality can be defined as the status of a drug that is determined by identity, purity, content and other chemical, physical, or biological properties, or by the manufacturing processes. Quality control is a term that refers to processes involved in sustaining the quality and validity of a manufactured product[4]. If develop low cost culture medium to yeast, it is easily reduce the production cost. In this study various vegetable oils effect on Biomass production was studied. The most significance soil

factors affecting the distribution of various species of earthworms square measure the C/N quantitative relation, pH, and contents of Al, Ca, Mg, organic matter, soil, and coarse sand. Although molecular methods have been accustomed study soil bacterial communities, very little analysis has been undertaken for soil fungi[5]. The vegetable oils are good source of lipid. The cost is very reasonable and universally available. The transport and maintains is also very easy. In this study various vegetable oils effect on Biomass production of yeast was studied.

MATERIALS AND METHODS

Lipid is an essential molecule in all living cell. In this study, various sources of conventional plant lipid sources used and studied their effect on Biomass production of yeast the vegetable oils such as coconut oil gingili oil, Neem oil, Castrol oil, sunflower oil were used in this experiment on control treatment was always maintained. First take 1ml of oil individually then mixed with 8ml of 3% sterilized peptone water, after 1ml of 24 hours yeast culture mixed. These were put in incubated at 37°C up to 48 hours. After that Biomass production was studied in all the treatment. In all the treatment triplicate was maintained.

RESULTS AND DISCUSSION

In this study, various vegetable oils effect on yeast biomass production was observed. The highest biomass production was

observed in Gingili oil treatment compared to all other treatment. The second highest biomass production was observed in Neem oil and Sunflower oil; they have more or less produced equal biomass production. The very least biomass production was observed in Control treatment. Because instead of oil, distilled water was used, so it produces least biomass production. Another least biomass production was observed in Castrol oil, because it may due to its viscosity.

Table 1: Various oils influence of Biomass production of yeast

S.No	Oils	Biomass production(mg)
1	Coconut oil	100
2	Gingili oil	155
3	Neem oil	135
4	Castrol oil	85
5	Sunflower oil	130
6	Control	60

Yeast is used in many Industries. In last few decades the yeast biomass production industry has developed with many advanced techniques for improve the higher production[6]. Sometimes some stresses at low intensity level induce positive influence on growth performance. In our previous study [7], proves that -10 °C cold shock treatment for 20 minutes enhances the biomass production of yeast cells, compared to normal and other shock treatments. This technique is very much useful to yeast industries. Another studies were conducted with the help of various nutrients effect on yeast biomass production [4, 8]. First various carbohydrate sources effect on yeast biomass production was studied.[2].

This response localizes and eliminates altered cells, foreign particles, microorganisms, and antigens and paves the way for the return to normal structure and function [9]. The higher biomass production was observed in maize and millet flour compared to other treatments. Another experiment was conducted for protein sources effect on biomass production of yeast fish immune system, important for defence against a variety of harmful pathogens is very sensitive to homeostatic adjustments via endocrine regulation and is influenced by the biochemical profile of the nervous system [10]. In the same way various lipid sources (vegetable oils) effect on biomass production (Table 1) was studied in this attempt. Vegetables oils are good sources of

lipid. They also easily available in anywhere, in this study, highest biomass production were observed in gingili oil, compared to other treatments. The neem oil and sunflower oil have produced equal range of biomass production. These both oils produce second highest range of biomass production. If use low cost ingredients, leads to less expenses and more profit in yeast biomass production industry.

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