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RESEARCH ARTICLE

EFFECT OF TEMPERATURE IN GROWTH OF *E. COLI*.

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ABSTRACT

E.coli growth was good in 37°C, This bacteria was indicator of water pollution, This was present in human intestine, If temperature was increase it was create infection of abdomen and indication of infection of abdomen *Escherichia coli* cells will grow over a temperature range of about 40°C, and remarkably, the cell growth rate increases in response to increasing temperature like a simple chemical reaction in a central normal range of its growth temperatures.

INTRODUCTION

Experiment Study had been completed in distinguished Temperature, were in room temperature 27 C, Incubation chamber 37 C and hot air oven 47 different media was using in this growth pattern study Nutrient agar and Luria –Bertan agar. *E.coli* has a type of fecal coliform bacteria mostly it was present in the intestines of animals and humans. *E. coli* is short form of *Escherichia coli*. Animal waste contamination contain many types of disease-causing organisms.

MATERIALS AND METHODS

Medium were used for the subculture growth of bacteria were Nutrient Agar, Mac Conkey agar

Methods: Nutrient Agar,

Nutrient agar-Nutrient agar was used as a general purpose medium for the growth of a wide variety of non-fastidious microorganisms. It consists of peptone, beef extract and agar. This relatively simple formulation provides the nutrients necessary for the replication of a large number of non-fastidious microorganisms.

Mac Conkey Agar was used for the gram negative bacteria and differentiation of lactose fermenting from lactose non fermenting gram negative bacteria. Pancreatic digest of gelatin and peptones had given important essential nutrients. Vitamins and nitrogenous factors it was necessary for the growth of microorganism. Lactose monohydrate was the fermentable source of carbohydrates. Crystal violet and bile salts, this was inhibitory to most species of gram –positive bacteria. Sodium Chloride had maintained the osmotic balance in the medium, neutral red is a pH indicator that turns red at a pH below 6.8 and is colorless at any pH greater than 6.8. Agar was solidifying agent.

RESULTS

Effect of temperature growth concentration in temperature were explorer *E.coli* growth was not good in 44 to 45 C temperature growth were stressed in different high temperature. Affect of temperature in previous cell concentration was low. and room temperature was not good for growth. The best suitable growth of bacteria was 37 C. the high cell density growth was 37 C. *E.coli* survival rates are known to dependent on temperature (Faust *et al*, 1975; Vasconcelos and Swartz, 1976; Flint, 1987; Craig *et al*, 2004; Jamieson *et al* 2004).

DISCUSSION

Range of elevated temperatures was observed. Growth at temperatures increased 43°C it were observed by an irregular growth curve.

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Ingredients	Quantity (1000 mL)
Peptone	5 g
Yeast Extract	2 g
Sodium Chloride	5 g
Agar	15 g
pH	7

Ingredients	Amount
Peptone (Pancreatic digest of gelatin)	17 gm
Proteose peptone (meat and casein)	3 gm
Lactose monohydrate	10 gm
Bile salts	1.5 gm
Sodium chloride	5 gm
Neutral red	0.03 gm
Crystal Violet	0.001 g
Agar	13.5 gm
Distilled Water	Add to make 1 Liter

pH 7.1 +/- 0.2 at 25 degrees.

Growth phase at 44°C was only less observed. Growth was 45 C retained. More than 46 °C, growth was inactivated. High temperature growth was deactivate word protein this is great cause of cell death. High temperature was denature proetien. Stressing temperature was denature protein.

Conclusion

E.coli was a gram negative bacteria and it was indicator of infection of abdomen bacteria, growth of bacteria , bacterial growth was maintained in 37 C.

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