GOVTERNMENT DEGREE COLLEGE

ZAHEERABAD

JIGNASA PROGRAMME OF CHEMISTRY

RESEARCH PROJECT ON

ADULTERATION OF MILK

PROJECTED BY

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UNDER THE SUPERVISION OF

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ABSTRACT

The study was carried out keeping in view recently emerging of adulteration of natural milk with various illegal substances to increase its marketability. This study explains in details the hygienic status of milk supply to various cafes, small hotels and other public.

CERTIFICATE

This is hereby certify that, this the original and genuine investigation work has been carried out to investigate about the subject matter and the related data collection and investigation has been completed solely , sincerely and satisfaction by participations students studying BSC in this college under the guidance of assistant professor of chemistry S.D BHAWANI and MASARRATH BEGUM lecturer in chemistry, GOVERNMENT DEGREE COLLEGE, zaheeradad T.S regarding this project titled as"adulteration of milk".

ACKNOWLEDGMENT

We would like to express our sincere thanks to our assistant professor S.D BHAWANI and MASARRATH BEGUM lecturer in chemistry providing a helping hand in this project. Their valuable guidance, support and supervision all through this project " adulteration of milk".

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PURPOSE

In recent days, milk brand were put into questions regarding their purity. They contain harmful pesticides and chemical which is very dangerous for health. I wanted to confirm that whether the imposed on some selected brand are true or not.

And I wanted to check the qualitative analysis whose knowledge with other factors helped me to do so.

KEYWORDS

Milk adulteration; dairy; qualitative analysis of milk

INTRODUCTION

Milk in its natural form has high food value. It supplies nutrients like proteins, fats, carbohydrates, vitamins and minerals in moderate amounts in an easily digestible form. Due to its nutritive value, milk, is significant to young and old people

MILK ADULTRATION may be defined as any change caused in the natural level of milk ingredients. These changes may be brought about by addition of sun foreign matter to milk or by removing some more valuable ingredients e.g. fat out of it.

The nature adulterants generally encountered in milk are water, removal of fat, addition of skim milk powder, reconstituted milk, thickening agents such as starch, flour, glucose, urea, salt, chlorine. Preservatives such as neutralizers which usually consist of sodium bicarbonate, sodium carbonate, sodium hydroxide and calcium hydroxide.

Thus it is obvious that apart from less harmful adulterants toxic and potentially injurious substance also are being added to milk.

Here are a few examples of what adulterants can be added to milk in order to maintain its freshness and market value which in turn is harmful to the consumer leaving them clueless of what direct effect these adulterants have on them. some few examples of adulterants are;

- water
- detergent
- urea
- hydrogen peroxide
- starch
- carbonates and bicarbonates

Objectives

To identify the adulterants present in the samples and compare with the standard products.

DISCUSSION

Determination of the extent of different adulteration of milk samples.

Detection of milk adulteration

Various milk adulterants and method used to detect those adulterants present in samples.

QUALITATIVE DETECTION OF THE DIFFERENT ADULTERANTS IN MILK.

s.no	ADULTERANTS	Procedure	Observation	Limit of detection
1	Sugar	Take 10ml milk sample in the test tube. Add 5ml conc.HCl and 0.1gm resorcinol. Place the test tube in water bath for 5 mins.	Appearance of red colour indicates the presence of added sugar.	
2	Starch	Take 3ml of milk sample in a test tube. After boiling it thoroughly, cool it to room temperature. Add 2 to 3 drops of 1% iodine solution.	Appearance of blue colour indicates the presence of starch.	
3	Glucose	Take 1ml of milk sample into a test tube. Add 1ml of modified barfords reagent. Heat the mixture exact 3 min in a boiling water bath. Rapidly cool under tap water.	Immediately appearance of deep blue colour indicates the presence of glucose.	

		Add 1ml of phospomolybdic acid and shake well.		
4	Neutralizers	Take 5ml of milk in a test tube and add 5ml alcohol followed by4-5 drops of rosalic acid.	If the colour of the milk changes to pinkish red, then it's positive for sodium carbonate/ bicarbonates.	
5	Urea	Take 5ml of milk sample in a test tube. Add 5ml of p-Dimethyl amino benzaldehyde reagent	Appearance of distinct yellow colour indicates presence of added urea.	
6	Ammonium sulphate	5ml of hot milk is taken in a test tube and added with a suitable acid for e.g. citric acid and the whey thus separated is filtered. Collect the whey in another test tube and 0,5ml of 5% barium chloride.	Appearance of precipitate indicates the presence of ammonium sulphate in milk.	
7	Detergent	Take 5ml of milk in test tube and add 0.1ml of bromocresol purple solution.	Appearance of violet colour indicates the presence of detergent.	

CONCLUSION

On the basis of the above information, we can conclude that, the milk adulteration is becoming serious problem. Although financial gain is considered to be one of the major reason for milk adulteration. Consumption of lower quality adulterated milk may lead to serious human health issue. Hence it is important to have an efficient and reliable quality control system. The human and technology interface, awareness of milk adulteration.