



Assessment of Adulteration Found in Skimed Milk Samples Collected From Akola City.

Thakre Deepti

Research Student, Dept. of Zoology, Shri Shivaji College of Arts, Commerce and Science, Akola.

ABSTRACT

The establishment of Regional Rural Banks (RRBs) is one of the major steps taken by Government of India to make the financial system all inclusive. RRBs can reach the doorstep of the poor rural people who do not have access to formal financial services in the form of savings, Milk is extracted from mammals and used as food for humans. Worldwide, dairy farms produced about 730 million tonnes of milk in 2011. India is the world's largest producer and consumer of milk, yet neither exports nor imports milk. New Zealand, the European Union's 27 member states, Australia, and the United States are the world's largest exporters of milk and milk products. China and Russia are the world's largest importers of milk and milk products. In almost all mammals, milk is fed to infants through breastfeeding, either directly or by expressing the milk to be stored and consumed later. For humans, the World Health Organization recommends exclusive breastfeeding for six months and breastfeeding in addition to other food for two years or more. Glass of milk in the morning we may consume many other things unknowingly as it may contain water, starch, detergent, glucose, formalin, soda, urea which ultimately leads to gastrointestinal problems, food poisoning, nausea, vomiting and many health hazards. oans, insurance, remittance facilities etc. Assam Gramin Vikash Bank (AGVB), the largest RRB in North east India, ranks at the top in the Country in terms of number of districts covered. Following the directives of RBI, AGVB has been taking different initiatives towards financial inclusion. In the present paper, an attempt is made to overview the initiatives undertaken and progress made so far in the field of financial inclusion by AGVB. The paper is descriptive and analytical in nature with secondary sources of database.

KEYWORDS

milk samples, Adulteration, Akola.

1. Introduction:-

Milk is a white liquid produced by the mammary glands of mammals. It is the primary source of nutrition for young mammals before they are able to digest other types of food. Early-lactation milk contains colostrum, which carries the mother's antibodies to the baby and can reduce the risk of many diseases in the baby. It also contains many other nutrients. As an agricultural product, milk is extracted from mammals and used as food for humans. Worldwide, dairy farms produced about 730 million tonnes of milk in 2011. India is the world's largest producer and consumer of milk, yet neither exports nor imports milk. New Zealand, the European Union's 27 member states, Australia, and the United States are the world's largest exporters of milk and milk products. China and Russia are the world's largest importers of milk and milk products. In almost all mammals, milk is fed to infants through breastfeeding, either directly or by expressing the milk to be stored and consumed later. For humans, the World Health Organization recommends exclusive breastfeeding for six months and breastfeeding in addition to other food for two years or more. In some cultures it is common to breastfeed children for three to five years, and the period may be even longer.

Purpose of study:- The Food Safety and Standards Authority of India found that 70% of the milk sold in the country is adulterated. In urban areas, 68.9% of milk samples had been adulterated, compared to 31% of samples in rural areas. The regulator found that 70% of the samples collected in India contained substances other than milk. Although buying packed milk was a safer bet than loose milk, the regulator found that one in three packed milk samples in cities were adulterated. There are various ways and means of adulteration that are encountered in the market milk. However, the chances of adulteration are much more in loose milk than in packaged milk.

A glass full of milk a day is healthy for overall health but what if it is adulterated? Milk adulteration is increasing day by day and many. People are not even aware that they are

having adulterated milk. When we have a glass of milk in the morning we may consume many other things unknowingly as it may contain water, starch, detergent, glucose, formalin, soda, urea which ultimately leads to gastrointestinal problems, food poisoning, nausea, vomiting and many health hazards.

Among all these water is the most common adulterant, but problem is not only with its dilution but the major problem occurs when they use contaminated water which affects our health.

2:- Material and Methods

Kit Method:- Different milk samples, from different company were collected for analysis from the various dairy of akola district and were brought to the Research Laboratory, Dept. of Zoology, Shri Shivaji College Akola for analysis. Different methods were used for different parameters by using adulteration testing kit supplied by Himedia. By observing colour changes we can decide presence or absence of different parameters.

Total 17 parameters were studied such as follows:-

- 1))
- 2) Alizarin
- 3) Formaline
- 4) Urea
- 5) Starch
- 6) Neutralizers
- 7) Dtergent
- 8) Sodium Chloride
- 9) Skim milk Powder
- 10) Sugar
- 11) Glucose
- 12) Hydrogen Peroxide
- 13) Cellulose
- 14) Maltose
- 15) Ammonium Sulphate
- 16) Protein
- 17) Boric acid
- 18) Pond water / Nitrate

3. Observation and result
Detection of different parameters

	Parameters	Milk Sample from different company pouch									
		1	2	3	4	5	6	7	8	9	10
1	pH	Alk	Alk	Alk	Norm	Norm	Alk	Alk	Alk	Alk	Norm
2	Formaline	x	x	x	x	x	x	x	x	x	x
3	Urea	x	x	P	x		x	x			
4	Starch	x	x	x	x	x	x	x	x	x	x
5	Neutralizers	P	x	x	x	x	x	x	x	x	x
6	Detergent	x	x	x	x	P	P	x	x	x	P
	Sampoo	x	P	x	x	x	x	x	x	x	x
7	Sodium Chloride	P	x	P	P	x	P	x	x	P	x
8	Skim milk Powder	x	x	x	P	x	x	x	x	x	P
9	Sugar	x	x	x	x	P	P	x	x	P	x
10	Glucose	x			P	P	P	x	x	X	x
11	Hydrogen Peroxide	x	x	x	x	x	x	x	x	x	x
12	Cellulose	x	x	x	x	x	x	x	x	x	x
13	Maltodextrin	x	x	x	x	x	x	x	x	x	
14	Ammonium Sulphate	x	P	P	x	x	x	x	x	x	x
15	Proteins	% is more	% is more	N	N	% is more	N	Norm	Nor	N	N
16	Boric Acid	x	x	x	x	x	x	x	x	x	x
17	Pond water/Nitrate	P			x	x	x	x		x	x



Greyish blue – abs. of Detergent
 Red – abs. of sodium chloride
 Light green-abs. of Skim milk powder
 Brick red- Presence of sugar
 Bluish Green-Presence Of Glu



Pink –More value of Protein Orange paper – Pres. Of Boric acid



Light grey- abs. of Hydro.peroxide
 Yellow – abs. of cellulose
 Golden ring –abs. of Maltose
 Pink – normal Protein
 Albaster –Pres. Of Amm.Sulphate

Conclusion

(1) The study indicates that addition of water to milk is most common adulterant. Addition of water not only reduces the nutritional value of milk but contaminated water may also pose health risk to the consumers.

(2) It also shows that powdered milk is reconstituted to meet the demand of milk supply. All state enforcement authorities may specifically check whether the declaration of new FSSAI rules is being complied to.

(3) The study also indicated the presence of detergent in some cases. Consumption of milk with detergent may cause health hazards and indicates lack of hygiene and sanitation in the milk handling.

(4) Need more information on water quality -bacteria and other hazards (heavy metals, pesticides, residues).

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