



Separation of Casein from Buffalo Milk

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Abstract:

The weight of precipitate give the amount of Casein present in a milk. This procedure is repeated for different samples of milk. For analysis of amount protein present in milk done by adding the small amount of calcium oxide to 5 drops of milk in a test tube and 3 drops of water check the sample with litmus then heated the test tube in flame precipitate is obtained and filter the precipitate, dry weigh. The weight of precipitate give the amount of protein present in milk. This procedure is repeated for different samples of milk.

Key word: Buffalo Milk, Butyrometer.

Introduction:

Milk is a white liquid produced by the mammary glands of mammals. All mammals, including humans, will normally produce milk to feed their offspring, weaning those offspring onto solid food as they get older. Since milk is generally viewed as a nutritious food with lots of vitamins, minerals, fats, proteins etc. thus used for drinking purpose. There are different sources of milk samples available, however sufficient information regarding their mineral present, especially protein, fat etc. Milk is processed into a variety of dairy products such as cream, butter, yogurt, kefir, ice cream, and cheese.

Materials and Methods:

Materials: Beaker, Filter Paper, Conical Flask, Glass Rod and Funnel. Saturated Ammonium sulphate, 1% Acetic Acid, Distilled Water and Different Sample of Milk.

Procedure:

Take a clean dry beaker put into it 20cc of cow's milks and 25 ml of saturated ammonium sulphate solution slowly and with stirring. Fat along with casein will precipitate out. Filter the solution and transfer the precipitates in another beaker. Add about 35 ml of water to the precipitate. Only casein dissolves in water forming milky

solution leaving fat undissolved. Heat the milky solution to about 40 C and add 1% acetic acid solution drop wise, when casein gets precipitated. Filter the reprecipitate, wash with water and let the precipitate dry. Weigh the dry solid mass in a previously weighed watch glass. Repeat the experiment with other samples of milk.

Materials: Beaker, Centrifuge, Butyrometer, Funnel and Glass Rod. Sulphuric Acid, Amyl Alcohol, Distil Water and Different Sample of Milk.

Procedure: Put 10 ml of sulphuric acid in butyrometer. Add 12 ml of milk from the average sample. Add 1 ml of Amyl alcohol. Shake the Butyrometer to dissolve the milk elements. Put the Butyrometer in the centrifuge.

Materials: Beaker, Test Tube, Litmus Paper and Burner.

Procedure: Calcium Oxide, Distil Water and Different Sample of Milk. Add a small amount of calcium oxide and 5 drops of milk to a test tube. Add 3-5 drops of water. Dampen the litmus paper with water. Carefully heat the test tube in a flame. If protein is present in a food (positive test for protein), the litmus paper will change colour from red to blue.

Result:

Sl. No.	Types of Milk	Volume of Milk	Weight of Milk W1gm.	Weight of Casein W2gm.	% of Casein
1	Buffalo Milk	25 ml	19.1	0.65	4.3%

Conclusion:

This study observably shown that the amount of casein precipitated from the Buffalo milk was higher than that of the other milk samples.

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