

APPLICATION OF ULTRASONICS IN DETECTION OF ADULTERATION IN MILK

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Abstract

An ultrasonic sensor has been utilized for detecting the amount of adulteration with water, in a sample of full cream milk. The sample under test is kept in a rectangular perplex glass cell, containing ultrasonic transmitter and receiver. The transmitter is used in through transmitter mode for generating the ultrasonic waves. The acoustic waves passing through the sample get attenuated. The level of attenuation in ultrasonic waves varies with the amount of adulteration present in the sample of milk. Hence, the measured attenuation is related to the amount of adulteration. The calibration is carried out with standard adulterated milk samples with water at room temperature. The salient feature of the technique is that the amount of adulteration in milk is found to be linearly varying with the attenuation of ultrasonic waves passing through it. The method is having the advantage of an easy and quick detection of adulteration in milk at a low cost. The method is applicable to synthetic milk Detection also.

Keywords: Milk-adulteration; Ultrasonic-transducer; Attenuation.